

University of Alabama in Huntsville

LOUIS

---

Intro to Honors Research Class Projects:  
Huntsville's Hidden History

Intro to Honors Research Class Projects

---

2022

## Huntsville's Hidden History, vol. 1

Deklan Wilder

*The University of Alabama in Huntsville*

Aidan Pittman

*The University of Alabama in Huntsville*

Abigail Henson

*The University of Alabama in Huntsville*

Dhruv Patel

*The University of Alabama in Huntsville*

Daniel Higdon

*The University of Alabama in Huntsville*

*See next page for additional authors*

Follow this and additional works at: <https://louis.uah.edu/honors-101-fall22>



Part of the [History of Science, Technology, and Medicine Commons](#), [Public History Commons](#), [Social History Commons](#), and the [United States History Commons](#)

---

### Recommended Citation

Wilder, Deklan; Pittman, Aidan; Henson, Abigail; Patel, Dhruv; Higdon, Daniel; Garcia-Segura, Roberto; Cox, Will; Rodriguez, Tommy; Krieger, Madilyn; Thrasher, Drake; Phillips, Emmi; Stewart, Jordan; Chambliss, Laura; Fowler, Diana; Lowery, Shawna; Gray, Juno; McClure, Davis; Garrison, Peter; Sims, Maxwell; Abrams, Matt; Blankenship, Aaron; Willis, Ethan; Longhurst, August; Sitlinger, Lydia; Greeny, Ja'Mya; Kriegermeier, Brody; Walker, Drue; Kim, Nicholas; and Seliner, Evan, "Huntsville's Hidden History, vol. 1" (2022). *Intro to Honors Research Class Projects: Huntsville's Hidden History*. 17.  
<https://louis.uah.edu/honors-101-fall22/17>

This Book is brought to you for free and open access by the Intro to Honors Research Class Projects at LOUIS. It has been accepted for inclusion in Intro to Honors Research Class Projects: Huntsville's Hidden History by an authorized administrator of LOUIS.

---

## Authors

Deklan Wilder, Aidan Pittman, Abigail Henson, Dhruv Patel, Daniel Higdon, Roberto Garcia-Segura, Will Cox, Tommy Rodriguez, Madilyn Krieger, Drake Thrasher, Emmi Phillips, Jordan Stewart, Laura Chambliss, Diana Fowler, Shawna Lowery, Juno Gray, Davis McClure, Peter Garrison, Maxwell Sims, Matt Abrams, Aaron Blankenship, Ethan Willis, August Longhurst, Lydia Sitlinger, Ja'Mya Greeny, Brody Kriegermeier, Drue Walker, Nicholas Kim, and Evan Seliner

# Huntsville's Hidden History

Written by the students of Dr. Susan Friedman's HON 101, Fall 2022

Edited and Consolidated by Ethan Trapolino



**HONORS COLLEGE**

THE UNIVERSITY OF ALABAMA IN HUNTSVILLE

Cover Image AI generated by Ethan Trapolino using DALL-E 2.

Thank you to the following University of Alabama in Huntsville Archivists who helped make this magazine a reality:

Drew Adan, Archivist

Charlie Gibbons, Digital Archivist

Reagan Grimsley, Head of Archives and Special Collections

Sam Keiser, Archives Technician

Michael Manasco, Government Documents & Instructional Coordinator

John O'Brien, Graduate Research Assistant



## Table of Contents

People.....	5
Lunar Drilling John Bensko Jr.....	6
By Deklan Wilder and Aidan Pittman.....	
Nearest Perfect Human .....	8
By Abigail Henson and Dhruv Patel.....	
George Steele.....	10
By Daniel Higdon and Roberto Garcia-Segura.....	
Colonel John C. Nickerson .....	13
By Will Cox and Tommy Rodriguez.....	
John Rison Jones: Holocaust Witness of Huntsville.....	15
By Madilyn Krieger and Drake Thrasher .....	
Elizabeth Dale-Gibbons-Flanagan-Jeffries-High-Brown-Routt.....	18
By Emmi Phillips and Jordan Stewart .....	
Places.....	20
The Monte Sano Railway .....	21
By Laura Chambliss .....	
Beneath the Surface .....	25
By Diana Fowler and Shawna Lowery .....	
Revisiting the Huntsville Female College.....	28
By Juno Gray and Davis McClure .....	
Space City USA.....	30
By Peter Garrison and Maxwell Sims .....	
Dallas Manufacturing Co.....	32
By Matt Abrams and Aaron Blankenship.....	
Things .....	33
Skylab and its Importance to Human Settlement in Space.....	34
By Ethan Willis and August Longhurst.....	
Lunar Roving Vehicle .....	37
By Lydia Sitlinger and Ja'Mya Greeny .....	
Keller Mobile.....	40
By Brody Kriegermeier and Drue Walker.....	

Neutral Buoyancy Tanks .....	42
By Nicholas Kim and Evan Seliner .....	

# People

# Lunar Drilling John Bensko Jr.

By Deklan Wilder and Aidan Pittman

Spectacular feats, unbelievable accomplishments, and noteworthy inventions—all these events usually have a name attached to them and their significance. However, when it comes to an Alabama-born geologist and engineer, John Bensko Jr., his breakthroughs and leadership positions are not as known or recognized when it comes to the multifaceted topic of the missions to the moon and lunar drilling, or the mining of moon geology for study. He contributed much to the development of the lunar drilling program through Redstone Arsenal, Marshall Space Flight Center, and even NASA, yet he does not yield many (or sometimes any for that matter) search results on common search engines, as well as NASA's own website. The cause for this was researched, and through the studying of personal documents, the contributions of Bensko are more easily understood.

John Bensko Jr. was born in Brookside, Alabama, a town right outside of Birmingham, to John and Julia Bensko. Brookside was a city settled by mostly immigrants from Austro-Hungary and Slovakia, many of which came from a mining town which later speaks to Bensko's concentration in education. John married Patricia Blanton in 1948, and graduated from Birmingham Southern College with a geology degree in 1949. After graduation, Bensko worked as an engineer around the coal mines of Birmingham until 1959, when they took their son, John R., and moved to Tulsa, Oklahoma for Bensko to work in the oil business. Later on, they moved to Manchester, Kentucky for independent work, and then, finally, Decatur, Alabama in 1957, where Bensko would work for Redstone Arsenal and Marshall Space Flight Center. This is where Bensko would direct many different lunar drilling rigs and their development.

Among the contracts given out in 1965 for a lunar drill design to be used in the Apollo missions, one was given to Northrop. They decided on a percussive drill design, while the other contract that was given to Marshall Space Flight Center—and by extension John Bensko—focused on a wire line rotary design. While there was not too much difference between the two designs, Bensko's proposal featured a diamond drilling bit. Both drills mostly contained the same parts, yet used them in different ways, mainly relating to how energy was stored and used while mining.

Bensko's proposal for the drilling done during the Apollo missions had a much different scope originally than what was actually accomplished on the moon. The plan was for a more power-efficient drill session while on the moon, totaling to about 100 feet of drilling. The actual Apollo missions which carried the drill accomplished a more realistic 10 feet worth of drilling. Though Bensko's main drill design did not persist to the final drill model, he maintained his position as director of the project from 1961 to 1970, when the Apollo program was canceled. Thus, he had a hand in every design proposal that was developed. The final design seems to have taken the most inspiration from the Northrop drill proposal— a percussive-type drill with a tungsten carbide drill bit.



It was made public that the lunar drill projects were a success, and yielded good results. From the first moon landing onward, the project looked toward the future, and planned out drilling missions for the next five years. However, the cancellation of the Apollo program in 1970 ended the prospects of the expansion of the lunar drill project, and subsequently Bensko's visions for the project leading into the 70's.

It was made public that the lunar drill projects were a success, and yielded good results. From the first moon landing onward, the project looked toward the future, and planned out drilling missions for the next five years. However, the cancellation of the Apollo program in 1970 ended the prospects of the expansion of the lunar drill project, and subsequently Bensko's visions for the project leading into the 70's.

The most remarkable thing Bensko showed throughout his career was his complete lack of personal character or information, other than his astute commitment to the lunar drill project. His surviving son, also named John Bensko, is a well-known creative writer and a modern poet. He presented the information to the University of Alabama, Huntsville (UAH) Archives and failed to provide any extra personal anecdotes or factoids. Even personal notes and letters did not sufficiently reveal any interesting information about Bensko. This trend of a lack of personal information is very common to see among those in fields similar to his, and he certainly exemplified the trait of being incredibly focused on his career's work. Perhaps if the Apollo program had some kind of continuation or any more missions involving the moon landing then the drill project would have been necessary for the further continuation of researching the moon. In terms of modern missions, which have supposedly been in the works, a drilling factor may be required, and the leading engineers may look to Bensko's previous work for inspiration.

# Nearest Perfect Human

By Abigail Henson and Dhruv Patel

In terms of achievements made within society, many people rise up to the plate as historical, bright-minded individuals. From inventors of machines or programs to explorers of new areas, these types of people are fondly remembered by the public for what they contributed to the world. Yet, there exist some historical citizens who have little information known about them. As a result, their history may grow lost among society, which proves to be detrimental if they accomplished something truly remarkable. One person who falls into this category, despite having some information known for curious people, is Louis Salmon, a man who contributed quite a lot to the public. Through his devotion to his state, his generosity to the public, and his love for those around him, Louis Salmon deserves to have his history and contribution known to society.

Born on August 30, 1923, Louis Salmon grew up in Mobile, Alabama with a relatively good childhood. His father was a bookkeeper while his mother was a registered nurse. Around this time, Salmon also grew up with a younger brother, but a tragedy occurred in which he drowned in an accident. Despite this heart-breaking event, Louis would move on and receive great care from his parents, who taught him some valuable morals. Namely, they "instilled in [him] a love of learning and dedication to education, an unswerving standard of ethics and morality... and the highest sense of duty" (Who was M. Louis 1). These traits and values create the basis for the type of character Salmon was to most people: a dedicated man with a passionate heart. With these traits, Louis would receive his high school diploma from "Murphy High School of Mobile in 1940," soon receiving a "Bachelor of Science degree in 1943" from the "University of Alabama" (Who was M. Louis 1). Around this time, Salmon would enlist in the United States army, landing himself within the infantry section. Being "assigned to the Officer Candidate School at Ft. Benning, Georgia," where he rose up to the rank of "Second Lieutenant on May 23, 1944 and [was] assigned as Second Platoon Leader, Company I, 262nd Regiment, 66th Division at Camp Rucker, Alabama" ("Biographical Information and Obituaries"). At this point, some people may recognize his steady advancement within the military, but most would remember certain people that had advanced far more in their respective sections of the army. This fact certainly rings true for some veterans, but another factor plays a key role into Louis' military history: the Leopoldville Disaster.

During the events of World War II, Salmon and his group were moved to England and then to Cherbourg, France around December in order to participate in the Battle of the Bulge. The vessel they took for this journey was the Leopoldville, a massive aircraft capable of carrying his crew. While the journey itself seemed relatively fine, it all took a turn for the worse when they crossed the thick waters of the Channel. On Christmas Eve of 1944, "the Leopoldville was torpedoed several miles out of Cherbourg" by a German submarine ("Biographical Information and Obituaries"). Most casualties occurred within the lower decks of the ship, but Louis' division was exactly above deck when the attack began. Unfortunately for them, the lifeboats for the ship "were taken by the Leopoldville crew, leaving Louis and his men to fend for themselves" ("Biographical Information and Obituaries"). Through quick thinking, Salmon "climbed down a rope net and jumped into the water," enduring the icy cold atmosphere ("Survivors of the Leopoldville Disaster").

During his time in the water, Salmon once stated how he believed his mother would have to deal with another death in the family from drowning. Thankfully, Louis "saved himself by hooking his arm in a net dangling from a passing ship," getting pulled up in the process ("Biographical Information and Obituaries"). From that point, he eventually arrived at Cherbourg where he rested for a few days before being shipped off to combat.

Salmon proved himself as a capable "leader in combat under enemy fire... across France," represented by his advancing rank ("Biographical Information and Obituaries"). On April 1, 1945, Louis was promoted to First Lieutenant, followed by another promotion to Captain. Eventually, he was separated from duty on August 28, 1946, "decorated with the Purple Heart and the Combat Infantry Badge" ("Biographical Information and Obituaries"). The Leopold Disaster and Salmon's actions during and following it demonstrate both his devotion to his home in addition to his bright influence among people. On one point, he once stated how "[he] still [would] tear up" upon hearing "the National Anthem sung properly" ("Biographical Information and Obituaries"). Yet, even with his military life, Louis possesses another contribution to society: his generosity.

After returning back from his time at the military, Salmon continued his education at the University of Alabama, heading towards the School of Law section. He would pursue this education until his graduation "in 1948 with the degree Bachelor of Laws, later replaced with a Juris Doctorate" ("Biographical Information and Obituaries"). From there, he and his new wife Elizabeth Echols Watts moved to Mobile until June 1, 1950, where they chose to settle in Huntsville. Many years passed by with Salmon showcasing his dedication towards the University of Alabama, specifically their law school. For instance, he devoted himself to serving "as a member and President of the Law School Foundation, President of the Law School Alumni Association and General Chairman of the Law School Completion Campaign" ("Biographical Information and Obituaries"). This accomplishment represents Salmon's standard of ethics and morality, especially since he himself loved the concept of law. Even with his dedication to law, Louis also demonstrates "his keen appreciation of the vital importance of education... through long service as a trustee... of the University of Alabama Huntsville Foundation" ("Biographical Information and Obituaries").



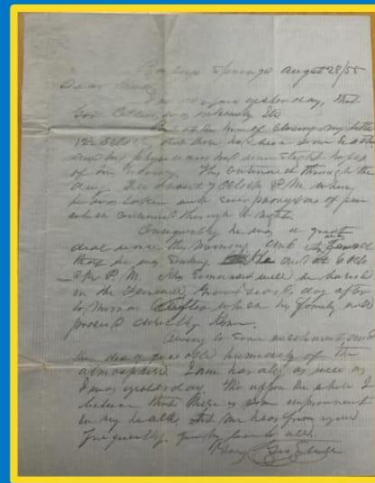
# George Steele

By Daniel Higdon and Roberto Garcia-Segura

George Gilliam Steele was born on April 1, 1798, in Bedford County, Virginia. His mother Sally Gilliam Steele died shortly after his birth. In 1818, George Steele moved to Huntsville—likely with others from Bedford, Virginia—where he would become a local architect in the area. The first architectural school was not built until 1867, so Huntsville was lucky enough to have one in town. He did not have a degree in architecture, but according to his obituary he was “self-educated.” (Bayer). Being the only architect made him rather influential and wealthy in Huntsville.



Portrait of George Gilliam  
George (“Steele,  
George”).



Letter to Matthew Steele  
From George Steele- August  
28, 1855 (Steele, George).

Steele’s first recorded work was his first home which is located on Randolph Street, Huntsville. He raised his eight kids at that home with his wife, Eliza Ann Weaver. Unfortunately, one child did not grow to maturity. Archival records from the University of Alabama in Huntsville show an exchange of letters between George Steele and his son, Matthew Steele. The letters are difficult to read due to the age and faintness of the document. However, we were able to decipher some keywords from a specific letter written on August 28, 1855. Words like “physician” and “moaning” (Steele, George) lead us to the conclusion that the Steeles are discussing the well-being of someone.

Steele is known for his usage of the Greek Revival style. He must have been drawn to the style since his first home also uses this style through small details like the porch, front doors, and the roof (Bayer).

Steele noticed that his family had grown and did not have enough space for all of them, so he decided to purchase 320 acres of land and began constructing a new home. Steele’s design for the house was based on Greek revival, but he was also able to experiment with the house since he was not limited by a client’s wants. The new house was located on a plantation where he raised vegetables, fruits, and grains, however, he did not raise cotton.

9 When he passed away, he owned 74 slaves.



This style of architecture was even more pronounced in two of his larger architectural accomplishments. For example, there is the Madison courthouse which replaced the original courthouse. However, the courthouse he designed is not standing today. The courthouse was decorated with stucco in order to attain the "smooth white texture of masonry construction so important to the Greek Revival" (Bayer). In contrast, the courthouse had a dome design to it which is Roman and not Greek. Domes were still used in Greek Revival architecture, but they were usually government buildings similar to the courthouse.

Key features of this design are the low-pitched roof, 6 columns at the entrance, the stone finish at the front of the building, and the bricks that are made to resemble masonry at the back and side walls.



"Oak Place, 808 Maysville" (Bayer).



"Madison County Courthouse..." (Bayer).



"Steele House, 519 Randolph" (Bayer).  
Before Renovations



"Steele House, 519 Randolph" (Bayer).  
After Renovations



"First Alabama Bank" (Bayer).

Steele's final two projects were school buildings that he designed. He designed the Huntsville Female College in 1852, which was constructed on land he owned located on Randolph. It was a large brick building consisting of two stories and having a noticeable six ionic column design at the facade. Unfortunately, the college was destroyed by fire in 1895. The other school he designed was the Huntsville Female Seminary, and it was the second building he designed in the Gothic Revival Style. It was, "constructed of brick, it was asymmetrical, towered, turreted, battlemented, and had pointed arches and drip moldings" (Bayer).

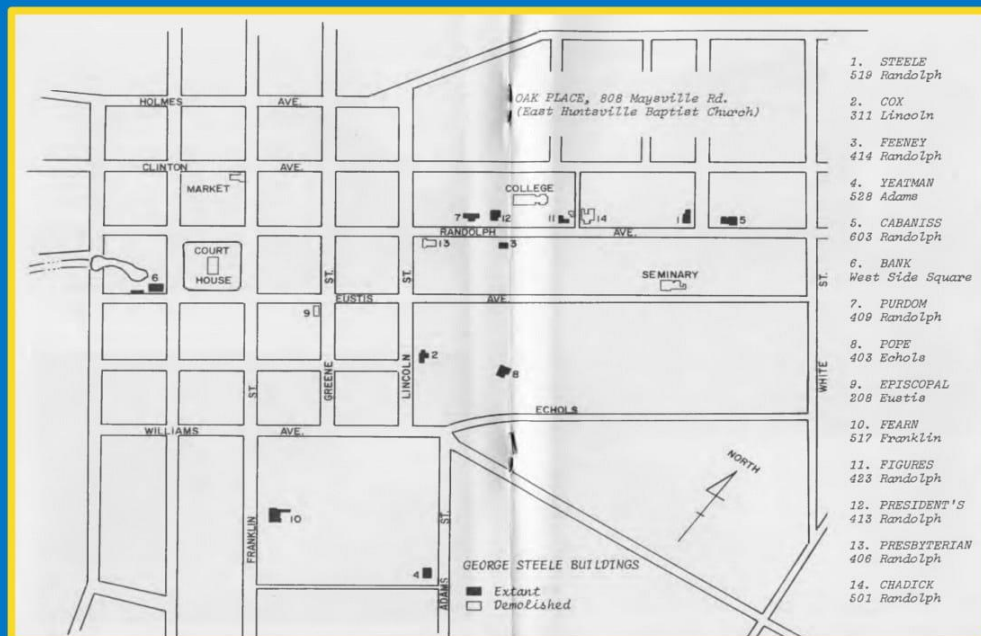
George Steele would die on October 21, 1855, and he would be buried in Maple Hill Cemetery in Huntsville. George Steele did a lot for the city of Huntsville as well as for the women in Alabama, making him one of the most influential men for Huntsville's beginning.



"Huntsville Female College..." (Bayer).



"Huntsville Female Seminary..." (Bayer).



Layout of buildings that George Steele designed in downtown Huntsville (Bayer).

# Colonel John C. Nickerson

By Will Cox and Tommy Rodriguez



## Early Life

- He was born November 18th, 1915, in Paris, Kentucky
- After high school, Nickerson attended University of Kentucky studying industrial chemistry.
- He joined the U.S. military academy, where he graduated in 1938 and then commissioned into artillery.

## Life in the Army

- Nickerson went through four posts before coming into command of a battery at Fort Jackson in South Carolina.
- Then, he got promoted to Lieutenant Colonel before he leaves to fight in WWII, facing the Invasion of Normandy and North Ireland, returning to the U.S. in 1945.
- Redstone Arsenal
- Afterwards, he obtained M.S. degree in Aeronautics from a California School.
- In the fall of 1945, he became Executive Officer for the Rocket Branch office of Research and Development and was then assigned to Redstone Arsenal.
- "I thought that one of the best and one of the most useful things that an officer could do in peace-time would be the pursuit of obtaining new weapons or application of scientific methods to warfare," (Nickerson 144).
- Thoroughly, he believed the Redstone Arsenal would fall to a second- or third-rate development agency without additional work.



## Considerations on the "Considerations on the Wilson Memorandum"

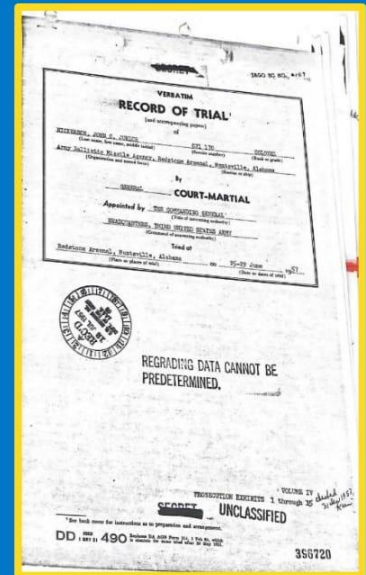
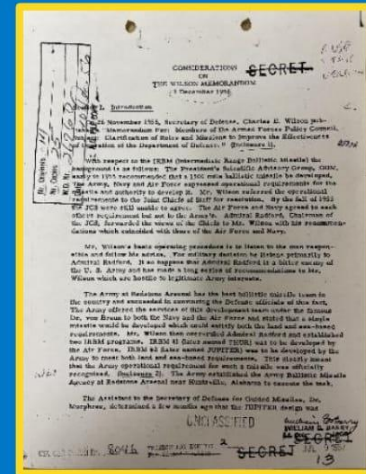
- Colonel John C. Nickerson wrote the "Considerations on the Wilson Memorandum" as what feels like a resume for the Army's Redstone Arsenal here in Huntsville, Alabama.
- Colonel John C. Nickerson believes that the Redstone arsenal is the best place for the creation of the Jupiter ballistic missile.
- He compares the Air Force's THOR missile to the Jupiter missile by using information on the missile ranges which is considered "Secret Information" under the Army's system for secret information.

## Trial Summary

- Colonel John C. Nickerson was court martialed and charged of leaking "secret information" and espionage.
- He was guilty of the charge of leaking secret information, but not found guilty of espionage.
- Nickerson's goal in the trial was to shed light on the Redstone Arsenal's missile program and why they needed to have access to building long range missiles.
- This means that he did not have to be proven not guilty. It meant that he had to prove that he was leaking information for the betterment of the United States.

## Trial Significance

- Even though he was found guilty of leaking secret information, he really won the trial and gave the Army access to build the new Jupiter missile.
- If Nickerson did not "win" his case, Redstone Arsenal would lose the ability to develop and implement missiles with a range of over 200 miles.
- This event solidified Redstone Arsenal as "the best ballistic missile team in the country"(Nickerson).





# John Rison Jones: Holocaust Witness of Huntsville

By Madilyn Krieger and Drake Thrasher

John Rison Jones Jr. was born in Huntsville, Alabama, on March 8, 1924 (Biography), to a successful family of builders, bankers, and educators. He completed his early education at the local public schools in Huntsville (Jewish Federation) and then attended Huntsville High School until his graduation in 1942. While attending the Alabama Polytechnic Institute, now known as Auburn, Jones enlisted in the United States Army on December 7, 1942, at the age of eighteen. He served as a private first class and was a member of the L-Company, 414th Regiment, 104th Infantry Division (Biography). Jones was called to active duty on May 23, 1943, and was sent to Fort McPherson, Georgia, on July 5 for training. His unit landed in France in late 1944, nearly three months after the invasion of Normandy. While in Europe, Jones and his unit fought in many "critical battles" throughout the Netherlands, Belgium, and Germany, eventually arriving at the place that would change Jones forever: Nordhausen (The War Years).

On the morning of April 11, 1945, Jones and his fellow soldiers encountered a scene for which no one was prepared and where "the full horror of man's ultimate inhumanity was revealed" (Jewish Federation). At Dora-Nordhausen, the unit discovered and liberated a concentration camp for slave laborers who worked in a massive underground facility where approximately 25,000 slaves were producing V-1 and V-2 bombs. In addition to the factory, they also found a crematorium in which a hundred individuals were burned daily. Throughout the camp, thousands of corpses in various stages of decay were scattered or stacked like wood on the ground and in the buildings. The soldiers took in the "overbearing" stench of burning and rotting flesh as they gazed at the starving prisoners who Jones described as "bones wrapped in skin" (Jewish Federation). With their rations, the soldiers tried to feed the prisoners who were still alive; however, to their horror, Jones and his unit witnessed many of the slaves choke to death on the food they had been given. Jones described the week he spent at Nordhausen as his "most profound life experience" (Jewish Federation). He said, "I thought I had no more tears to shed. I could keep no food in my stomach for days" (Jewish Federation).

Jones returned to the United States when he was twenty-one years old, but he was a deeply troubled young man. The war had torn him apart and left him with many questions about life. He struggled with the reality of the ongoing segregated South. He said, "We went out to rid the world of evil, and we were perpetrating our own evil at home." Jones finished his undergraduate studies at the University of the South, now known as Sewanee. He said that it took two understanding professors there to take him apart and put him back together so he could become a "decent" human. He then completed his master's and doctorate studies in history at the University of North Carolina and as a Fulbright scholar at the University of Paris.

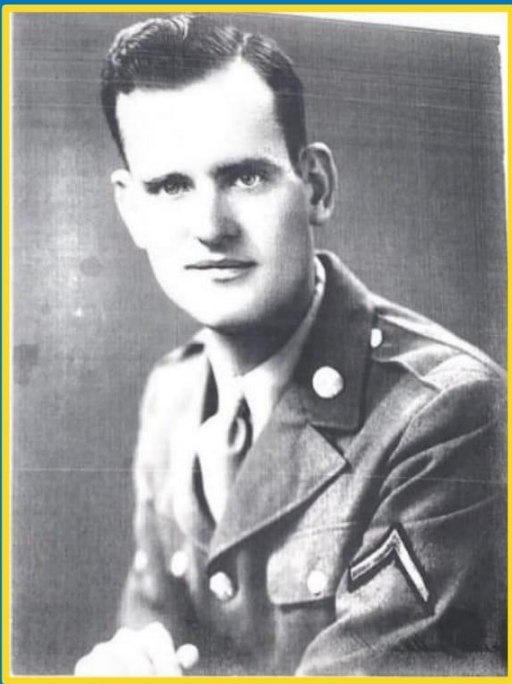
After college, Jones began working in the historical section of the State Department and then later taught history at Washington and Lee University in Virginia and Southern Methodist University in Texas.

After becoming disillusioned with curriculum education, Jones joined the Office of Economic Opportunity in 1966 and helped start a program called Upward Bound, which assisted disadvantaged youth (Huntsville Times Articles). He moved back to Huntsville in 1987 and became extremely active in the community. His list of community service endeavors include participation in The Historical Society, the Cemetery Pilgrimage, the Greater Huntsville Fund, and, most notably, Huntsville's Museum of Art. He served as an active board member for the museum and contributed a vast collection to the museum, becoming its largest contributor (Jewish Federation).

In the late twentieth century, a wave of "Holocaust revisionists" made an appearance and sought to rewrite history, an anti-Semitic effort to defend Adolf Hitler and deny the horrors of World War II. In 1993, two of these revisionists, local history professor Robert Countess and British speaker David Irving, held lectures at the Huntsville Public Library in a room they had rented for an evening at the University of Alabama in Huntsville (UAH). These speakers were originally invited by the UAH Association for Campus Entertainment (ACE) for a sponsored event; however, this invitation was withdrawn once the sponsors realized Countess and Irving's deceitful agenda. At the lectures, the speakers denounced the gravity of the Holocaust, saying that only a few hundred thousand Jews died "from all causes" rather than the widely accepted six million projections. They also claimed that the Germans did not use gas chambers during the war. Jones, armed with memories that he could never forget, attended the lecture at the library and was appalled by the lies being spread by Countess and Irving. Despite his efforts to bury his experience and pain from Nordhausen, Jones finally rose and spoke up powerfully to deny the deniers (Huntsville Times Articles). In that moment, he recognized and lived up to the truth of Elie Wiesel's words that are now engraved over the entrance to the United States Holocaust Memorial: "For the dead and the living we must bear witness" (Jewish Federation).

Because of the strength displayed by Jones when he defended what he knew to be true, he was asked to deliver the address at the Annual Holocaust Memorial Commemoration at the Temple B'nai Sholom in Huntsville on April 10, 1994. Jones gave a heart-wrenching speech about what he had witnessed during the war and let everyone know that the horrors they had heard of were very true. After this event, Jones became more involved in speaking out about his experiences. He was later invited to another Annual Holocaust Memorial in 2006 where he was given the honor of lighting the seventh candle, which was a symbol for his life's work, "Bringing light into a world darkened by one of the darkest points in mankind history- the Holocaust" (Jewish Federation). Jones passed away on November 5, 2008, at the age of eighty-four (Biography). From his life, one can learn the importance of defending the truth no matter how painful or difficult it might be. Jones protected his hometown of Huntsville from harmful lies being spread among its students and citizens. His actions showed his courage, strength, and care for his country and community, which are both indebted to him for his service. Jones, in an interview with the local newspaper, said to his fellow Americans, "If your country is wrong, you've got to speak up" (Huntsville Times Articles).





John Rison Jones Jr.  
(The War Years)



Jones posing with his  
gun at training camp  
(The War Years)



Jones with his family; pictured in  
the top row, third from the left  
(Jewish Federation)

# Elizabeth Dale-Gibbons-Flanagan-Jeffries-High-Brown-Routt

By Emmi Phillips and Jordan Stewart

Elizabeth Dale-Gibbons-Flanagan-Jeffries-High-Brown-Routt is known as "The Black Widow of Hazel Green." She is more commonly known as Elizabeth Dale.

Elizabeth Evans Dale was born in 1797 to her father and her mother, Adam Dale and Elizabeth Evans. She was described as "a beautiful and charming woman, with auburn hair, dark brown eyes and fair complexion. She was well educated, an aristocrat and had in her veins the blue blood of men who had followed in the steps of Lord Baltimore and Cecil Calvert. She loved fine clothes, fine horses, fine furnishings and all conveniences made possible by the considerable wealth of her family. Her appeal to men was unusual" (Virgil Carrington Jones 22).

For convenience, she will be referred to as Elizabeth Dale. Elizabeth Dale's first husband was Reverend Samuel G. Gibbons. They got married in the year 1812, when Elizabeth was only 14 years old. Soon after Elizabeth and Reverend Gibbons got married, they moved with Elizabeth's parents to Columbia, Tennessee. In 1816, Reverend Gibbons wrote and filed his will at the age of 23 years old. He signed away his assets and possessions to Elizabeth. Reverend Gibbons died 18 years after his marriage to Elizabeth, making it Elizabeth's longest marriage and the first of many.

Elizabeth Dale's second husband was Mr. Philip Flanagan. They wed in October of 1831, approximately eleven years after the death of Reverend Gibbons. He died roughly five months later in 1832 of an unrecorded cause. Interestingly, it is recorded that Mr. Flanagan owned a carriage-making business and was deeply in debt. This fact was only discovered later by historians viewing the accounts of his business.

She married her third husband in 1833 and remained with him for five years. Mr. Alexander Jefferies was a plantation owner, and his property would later become home to the famous haunted house of Hazel Green because of his new bride. Jefferies and Elizabeth would have two children in their time together: a son and a daughter. Unfortunately, their daughter would die young at seven years old. Jefferies died in 1838, discovered dead on the property. His corpse was so severely swollen that it was decided he would need to be buried the very same day. He was laid to rest on the grounds of the plantation, and later his daughter would be buried next to him.

Elizabeth Dale's fourth husband was Robert A. High. The couple married in 1939, one year after the death of Jefferies. Together, they stayed on the plantation, which Elizabeth had since taken over.



High was a former member of the Alabama state legislature and spent much time during their marriage traveling. Two years later, he died suddenly of an unrecorded cause.

Her fifth marriage was to a man named Absolom Brown, roughly five years after the death of High in 1846. This marriage lasted approximately a year, just enough time for Brown to build the family a grand and lavish home on the property Elizabeth had inherited from her second marriage. Quickly after the completion of the home, though, Brown died suddenly in 1847. His body was allegedly so swollen following his death that he was buried that night in the darkness by Elizabeth Dale and several of her slaves. The only people to have ever seen his corpse were these slaves and Elizabeth Dale.

The final husband was Mr. Willis Routt. Very little is known about this husband other than the fact that he married Elizabeth in 1848, one year after the death of Brown, and he died three years later in 1851 of an unrecorded cause. Elizabeth Dale is most well known for her home in Hazel Green, Alabama. Alexander Jeffries, Elizabeth's fourth husband, started the plantation where the home was built before meeting Elizabeth. Jeffries cleared the property and built a log house with 4 rooms. After Jeffries died, Elizabeth took over the plantation. The construction of her mansion did not begin until after Elizabeth married her fifth husband Absolom Brown. This mansion consisted of 4 large rooms on the top floor and 4 large rooms on the bottom floor. Two staircases connected the top and bottom floors and led to a front hall. Elizabeth Dale held many gatherings in this mansion. She filled the house with rich and lavish furniture. In 1855, Elizabeth Dale sold the mansion to Levi Donaldson. Also, her daughter and her fourth husband's graves stayed at the property even after Elizabeth moved out. The mansion was later burned down by an arsonist in 1968.

The rumors concerning the case of Elizabeth Dale were scathing. These rumors emerged as early as the death of her second husband Mr. Jefferies. The children of Jefferies—from a previous marriage of the widower—allegedly blamed Elizabeth for the death of their father. However, the suspicious death of her fifth husband Absolom Brown only magnified these conversations. One rumor was that Elizabeth throughout her marriages kept a hat rack by the door to the home with hats from each of her previous husbands. A later rumor was the speculation that later conflicts involving Abner Tate all stemmed from the widow rejecting romantic advances from the man.

After the death of Elizabeth Dale's sixth husband, Abner Tate accused and charged Elizabeth of murdering her husband. Abner Tate and Elizabeth Dale had prior controversies about her plantation and livestock since they were neighbors. In response to this charge, a possible suitor of Elizabeth Dale, D.H. Bingham, fired back at Tate. D.H. Bingham accused Tate of murder because Tate allegedly had a person from Kentucky die on his property. Thus, this led Tate to write a book called *Defense of Abner Tate Against Charges of Murder Preferred by D. H. Bingham*. Quotes about Elizabeth from this book led her to file a \$50,000 defamation lawsuit against Tate. The court record also shows that Elizabeth tried to sue Tate and Jacob H. Pierce for \$1,400 because she believed "they owed her for her cotton crop," which she later dropped (Jones 26). She was never convicted because the case dropped at the beginning of the civil war, and Elizabeth then sold the house and moved to Mississippi.

After Elizabeth sold her house in 1855, she moved with her son William A. Jeffries to Marshall County, Mississippi. In 1866, Elizabeth would die in Marshall County, Mississippi. The cause of death is unknown. Elizabeth Dale does not have a known gravestone. To this day, tales of her being a "husband-killing witch" are still told to children. There are ghost stories about "The Haunted House of Hazel Green" and "The 'Black Widow' of Hazel Green."

# Places

# The Monte Sano Railway

By Laura Chambliss

The Monte Sano Railway consisted of one train: a twenty-six-ton Baldwin locomotive. This locomotive was specially designed by the Baldwin Locomotive Company with a body resembling a streetcar and special noise reducers to keep the appearance and sounds of the train from scaring the horses that the townspeople used for their carriages and wagons, as well as to avoid disturbing the people that lived near the railway's tracks.

The train had two flat cars and six passenger coaches, which were designed by the St. Charles Car Company to be 42 feet long, rather than the typical 50 or 60 feet long so the train could navigate the sharp curves on its path. One of these coaches had three compartments: a compartment refrigerated with ice to hold fresh produce, a compartment meant for storing the passengers' luggage, and a compartment where the passengers could smoke. The Monte Sano Railway connected with the Memphis and Charleston Railroad—which is the predecessor to the Southern Railway—as well as the Nashville, Chattanooga, and St. Louis Railway ("Monte Sano Railway").

The Monte Sano Railway was built by Col. James F. O'Shaughnessy and his brother, Major Michael J. O'Shaughnessy after founding the North Alabama Improvement Company in January of 1886 and building a lavish hotel atop Monte Sano Mountain ("Monte Sano Hotel"). James O'Shaughnessy was an entrepreneur from Ireland who decided to capitalize on Huntsville's booming economy after the Civil War (*Monte Sano RR Talk*).

The hotel opened on June 1, 1887. The three-story, Queen Anne style hotel boasted 233 guest suites, as well as automatic fire alarms, electric bells, a ballroom, a wraparound porch with decorative woodwork, a barber shop, a saloon, a pool room, two bowling alleys, and double-decked, bell-roofed observatory that extended above the third story. The hotel also included another building known as "Memphis Row," which had 33 suites for adult guests when the hotel became too crowded; this building was named due to the number of patrons from Memphis, Tennessee, who visited to avoid contracting malaria and yellow fever from outbreaks along the Mississippi River (*The Huntsville Times*).

The Monte Sano Mountain was a perfect location to build a resort, as the name "Monte Sano" means "Mountain of Health" in Latin; this name was earned because patrons saw a drastic improvement in their health during their time at the Monte Sano Hotel. Guests of the hotel were prominent people or from affluent families (*The Huntsville Times*), many of whom wanted to escape the harsh weather, unsanitary conditions, or the local epidemics affecting their homes (*Hotel Sano Breeze*).

One reason the mountain gained the reputation as a place of restoration is due the presence of multiple "medicinal" water springs, which supply the water with minerals the body benefits from, lowering the possibility of getting cholera and diphtheria and preventing mosquito-spread illnesses such as yellow fever and malaria ("Grand Old Mountain").

Another reason for the mountain's reputation is the cool, consistent temperatures, which allowed people to escape the brutality of summers in the south to prevent heat-related ailments and avoid the drastic change in temperature during the change of seasons, which weakens the immune system ("Monte Sano: 'Health Mountain'").



Before the construction of the Monte Sano, the only way to get to the top of the mountain was by a tally-ho—a carriage drawn by four to six horses—that ran from Huntsville's town square east along Randolph Avenue to the mountain turnpike, then up the winding toll road after paying at the toll gate (*Monte Sano RR Talk*). Though, this journey often took multiple hours and was not ideal for patrons of the hotel who were already sick and were visiting the hotel to improve their condition. Therefore, the North Alabama Improvement Company proposed the creation of a railway. However, there was controversy regarding the route that would be built. One proposition was to use the already existing streetcar tracks running south from the Huntsville Depot to the downtown square and Maple Hill Cemetery, then to Fagan Spring and up the mountain, while the other proposition was a more scenic route north of town, which was ultimately chosen due to the congestion in town. On June 13, 1888, Arthur Owen Wilson advocated for the "dummy" or muted railway line at a board meeting and asked to use the track of the streetcar line to connect with the Monte Sano line; he also proposed to remove the track on Randolph Street to lay it on Clinton Street at the close of the first season (*Monte Sano RR Talk*). The first step towards the construction of the railway occurred a few days later, on June 30, 1888, when Huntsville Belt Line and Monte Sano Railroad Company obtained the right of way for the tracks ("Railway Route Bought").

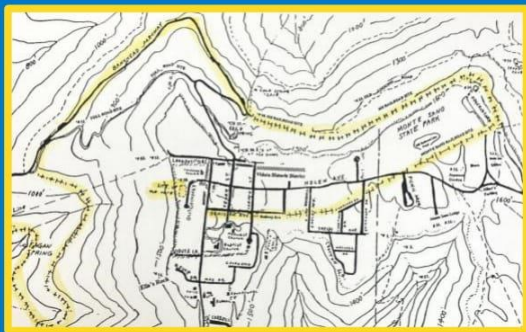


Fig. 1. Section of the Monte Sano map courtesy W. W. Varnedoe, Jr. 1956 for the Monte Sano Civic Association. Section of revised: Monte Sano Mountain Heritage Map 1996/2005 by Jane Barr for the Monte Sano Historical Association. Photocopy from Monte Sano Historical Collection.

Fig. 2. 1890's brochure advertising the Monte Sano Railway. Photocopy from the Monte Sano Historical Collection. The South Pub. Co. Engravers & Printers, 78 Park Place, New York.



Fig 3. Newspaper Clipping from sometime between 1888-1896 advertising the prices and schedule of the Monte Sano Railway. Photocopy from Monte Sano Historical Collection.



The railway was constructed by railway workers of the Huntsville Belt Line and the Monte Sano Railroad Company hired by the North Alabama Improvement Company, and it was completed on August 7, 1889 (Wilson).

The Monte Sano Railway began at the Huntsville Depot on Church Street. From there, it went south to Jefferson Street, then east on Clinton Street passed Steele Grove and Calhoun Grove towards the mountain. The path dropped down into Fagan Hollow and stopped for water at Fagan Spring. Next, the path ascended around the Button Hole and exited near the intersection of the toll road, turning northeast. It continued east into what became Monte Sano State Park, then turned west at the Overlook. It crossed Nolen Avenue, then to Shelby Avenue with a stop at Laura's View Station. Finally, it went along Denison Avenue to the intersection of Hotel Monte Sano, where the tracks were later extended to (Fig. 1).



The entire venture on the Monte Sano Railway was approximately eight miles long and took half an hour. The route was described by a brochure from the 1890's as "picturesque and grand, winding its way with comparatively easy grades along the mountain side" (Fig. 2). The train made six trips per day, and it backed down the mountain rather than turning around. Adult passengers paid for tickets at Mr. P. R Stahl that were 25 cents for one way or 50 cents for a round trip; children's tickets for a one-way trip were only 15 cents. Passengers also paid an additional 50 cents for their baggage to be delivered to the hotel (fig. 3).

The Monte Sano Railway ran successfully until an incident during the train's return trip down the mountain. The engineer was idling the train when he applied the brakes to test the natural speed of the train. Unfortunately, this caused the "sand-box" responsible for creating traction between the wheels and the track to become choked and stop throwing sand onto the tracks. Without the sand on the tracks, the tracks became "slick" and, despite the fact that the wheels had locked, the train slid almost all the way down the mountain. Near the bottom of the mountain where the railroad crossed the highway, the wheels derailed and the train stopped. No one was injured and the train was not damaged ("Monte Sano Railway"). Even still, this incident enticed fear among guests of the Monte Sano Hotel and, alongside the recession of the 1890's, led to the decline and closure of the hotel in 1900 (The Huntsville Times). Despite the multiple attempts to keep the railway profitable, the railroad was not opened in 1893 or 1895. In 1896, the abandoned railroad was sold after going bankrupt, and during the following year the steel rails were scrapped for supplies (Brinkley).

After the Monte Sano Railway closed, the Monte Sano Hotel and the 27 acres it resided on were bought to be used as a private summer home. Later, in 1944, the hotel was bought again and dismantled for resources (The Huntsville Times). The only part left of the hotel is the chimney, which can be seen on Old Chimney Road ("Monte Sano Railway"). Meanwhile, the development on Monte Sano Mountain before the Great Depression progressed greatly. Using the slogan "Live life longer on Monte Sano," a corporation interested in promoting the Monte Sano Mountain was established to landscape and create streets, as well as provide electric lighting, a reservoir and water system, and telephone service. The first road designed for automobiles was constructed with a connection to the streets of Viduta. The road was opened on July 4, 1927, and it is known today as Bankhead Parkway ("Monte Sano: 'Health Mountain'"). Under the "New Deal" Administration, the next use for the roadbed was during the Great Depression when the Civilian Conservation Corps built the Monte Sano State Park over a period of three years ("Monte Sano: 'Who Built the Park'").



**Fig. 4. Members of the North Alabama Railroad Museum (NARM) rebuilding the track left behind in 1998 after the Monte Sano Railway was dismantled**

After much of the track was dismantled, the old railway bed left behind became one of the first 500 projects by Rails-to-Trails, a nonprofit organization that transforms unused railway beds into a shared-path trail. Some of the tracks near the picnic area of the park are still there ("Monte Sano Railway"). The North Alabama Railroad Museum replaced this track in 1998 (fig. 4). On August 14 of the same year, the Monte Sano Railway worker's house, which was originally constructed in 1888 for the foreman in charge of construction of the rail line then used by the men who maintained the line and train, was added to the National Registrar of Historic Places (Brinkley). Laura's View Train Station was established as an archaeological site and was added to the Alabama Register of Landmarks and Heritage on May 21, 2001 (Warner).



# Beneath the Surface

By Diana Fowler and Shawna Lowery

Lying dormant and unexplored for decades, rests a little-known cave underneath the streets of Huntsville. Big Spring Cave is a phrase not even most locals have heard before. This unassuming cave plays an important role in not only the founding, but the creation of Huntsville itself. It is important to know about this cave because it is so relevant to Huntsville's history through its founding, its contributions towards different innovations, its configuration, and the legacy it has left today.

Huntsville's very origin can be tied back to Big Spring Cave. John Hunt—the man of whom Huntsville was named after—decided to lodge his cabin close to the cave system as it proved itself to be a sustainable water source (Varnedoe and Lundquist). His lodging was the foundation of Huntsville. From this little cabin emerged one of the fastest-growing cities in America, and it is all thanks to the water that Big Spring Cave produced.

With Big Spring producing the city's main water supply at the time, a water mill was built for the use of pumping water into the reservoir located on the Madison County Courthouse square and then to Echols Hill (Varnedoe and Lundquist 13). Later on, this water wheel was replaced with a steam driven pump and pump house (Varnedoe and Lundquist 13). The steam pump was used to create electricity within the city as well. Along with these things, the water produced from the cave would often be used by churches to conduct public baptisms within the community.



Baptisms taking place at Big Spring



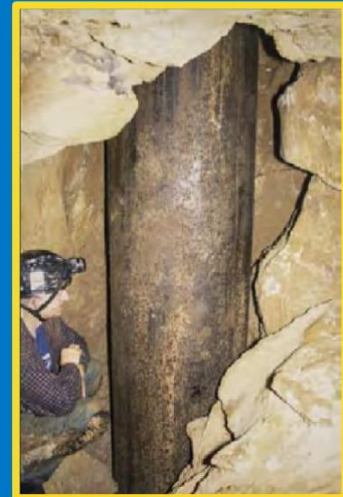
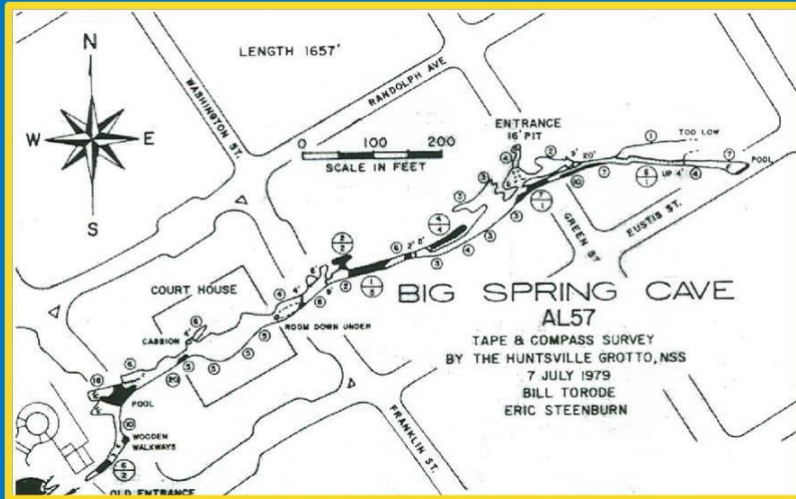
Early Waterwheel Water Works at Big Spring



Steam Water Works at Big Spring



Throughout Huntsville's history, there have been many times where people have entered the cave. The first recorded instance of entering the cave was in 1916. The water that flowed from inside the cave was still the city's main source of water, and an expedition took place to check the water quality. To access the more remote parts of the cave, "a wooden catwalk was built" and left inside the cave (Varnedoe and Lundquist 16). Later during the Cuban Missile Crisis in the 1960's, the Huntsville Grotto, a part of the National Speleological Society, was authorized to survey and map Big Spring Cave. This was led because the city wanted to know if the cave would be a suitable fallout shelter. It is known today that caves are not good as shelters because of their air and water circulation that would easily let in

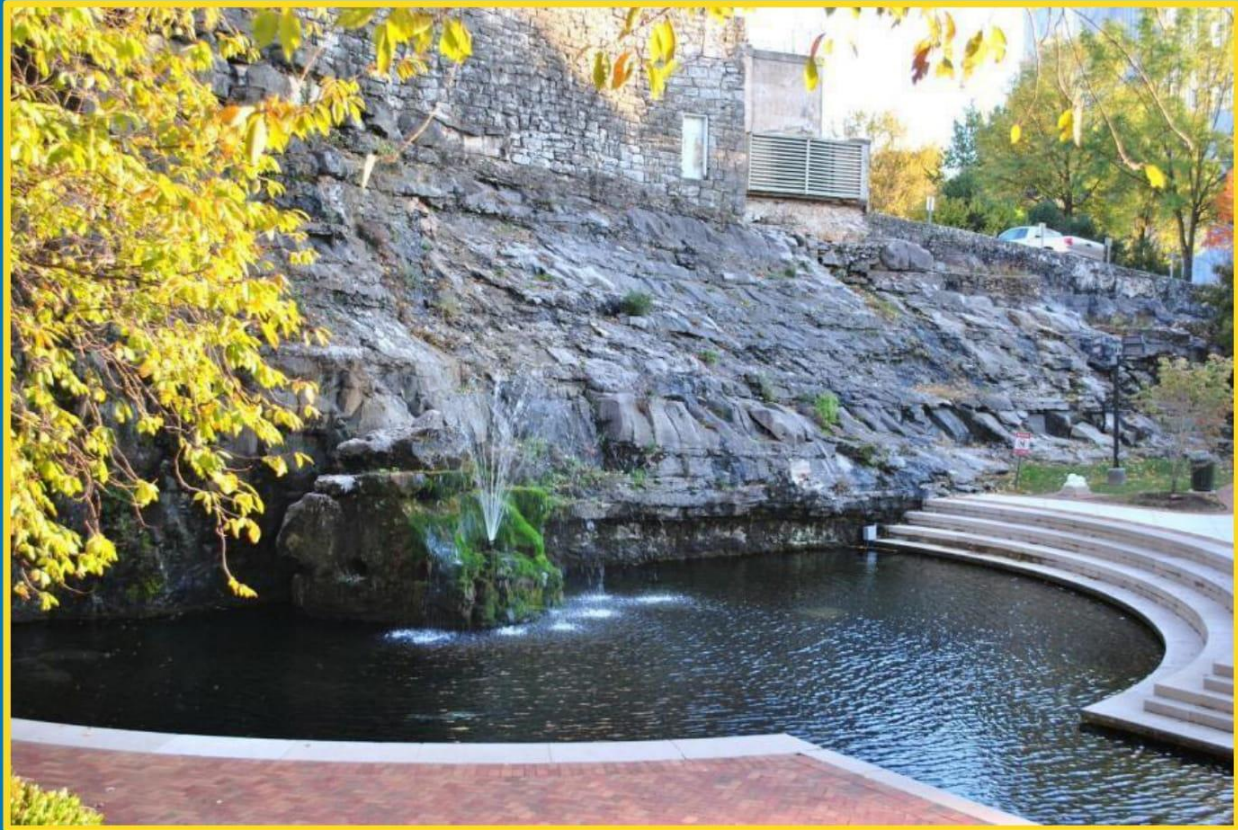


radiation. The most important survey of the cave, and the one that produced the most documents, was in 1962 to see if the cave was structurally sound enough to have the Madison County Courthouse built atop it. Out of this survey came the most accurate topographical maps and measurement and test results. The map shown in Fig.X is one of the documents that resulted from this specific study. The cave is only 0.2 miles, or a little over 1,050 feet,

long and is more so just a fissure rather than an expansive cave (Report on the Foundation Studies County Courthouse Square Madison County). The water inside the cave gets deep. There are not any concrete measurements, but the men that conducted the inspection would not just have to tread waters, but swim through parts of the cave where the waters reached up to their necks. It was deemed structurally sound, and the building of the courthouse commenced. It is still standing mighty atop Big Spring Cave.

Big Spring Cave was officially recognized as a cave of Alabama on October 6, 1939, when brothers Dr. Walter B. Jones and Carl T. Jones visited and named it as "number 57 in the Catalog of Alabama Caves and Caverns" (Varnedoe and Lundquist 16). In modern day, the cave is sealed up to keep unwanted critters and curious teenagers out. The manhole in the street is sealed, and the entrance is blocked off. If the need to go back into the cave arises, it can still be accessed by tearing down the seal or barricade. Even though the actual cave cannot be entered, the cave's legacy lives on through one of Huntsville's national parks: Big Spring Park. Big Spring Park is a beautiful area filled with greenery, scenic pathways, contemporary art, and of course a beautiful pond courtesy of Big Spring Cave. It is a popular space for tourists and citizens of Huntsville alike to visit.

Through time, it has still produced the water that birthed the lifeforce of the city and welcomed its inhabitants. What lies beneath the very surface of Huntsville's streets has been a staple of the city since its founding and has proven time and time again its importance to the city and its people.





# Revisiting the Huntsville Female College

By Juno Gray and Davis McClure

The Huntsville Female College was a significant place in Huntsville, Alabama during the late 1800s. The school, originally called the Bascom Institute for Women, was established in 1845 by Mrs. J. Hamilton Childs under the Methodist Episcopal Church, South (Dickson, "Huntsville Female College" 2). It taught the daughters of some of Huntsville's most prominent men—including John Slaughter and John Wynn, both of which had roads named after them that still exist today ("Catalog" 18). Though the school no longer exists, the Huntsville Female College still remains an interesting aspect of Huntsville's history.



Fig. 1. Portrait of Mrs. J. Hamilton Childs from "Community-Backed Project" 8.



Fig. 1. Portrait of Mrs. J. Hamilton Childs from "Community-Backed Project" 8.

The Huntsville Female College had always represented ambition to the highest degree. Originally, the school operated out of the Masonic Temple. In February of 1851, a committee tasked with constructing an independent school building claimed they would raise \$10,000 and complete construction in time for classes to begin the following September. By May of the same year, \$9,000 in funds had been raised ("Community-Backed Project" 9). Later, in 1853, about \$35,000 were raised for a new building that would house both the students and their classes (Dickson, "Huntsville Female College" 1, 4).



The Huntsville Female College's ambitions did not end there. The college offered the best educational opportunity for women in the area and was proudly known as "woman's [sic] work for women." Uniquely, the college offered strictly secular classes, despite being established under the Church (Dickson, "History of the Huntsville Female College" 1). The students took classes over the course of five years (freshman, sophomore, junior, sub-senior, and senior) in a wide range of areas, including but not limited to literature, history, mathematics, science, and ancient languages. The opportunities the Huntsville Female College offered attracted students not only from Alabama, but Tennessee, Mississippi, Arkansas, Louisiana, and Texas, too ("Catalog" 6, 11-12).

While the students' coursework was strictly secular, the standards to which they were held reflected the moral values of the Church. The school was to be like a "well-ordered Christian family" and the students were monitored almost constantly. This included room inspections for neatness each morning and each night, as well as a room check after lights-out to ensure all students were in bed. Students were also prohibited from leaving campus without an escort, congregating in hallways, interacting with "young gentlemen," taking lessons outside of the school, or reading any unapproved materials. The college enforced a strict daily schedule which dictated the times students woke, ate, took classes, studied, and slept ("Catalog" 13-15). The nature of the school's rules and prohibitions were well known—a local newspaper referred to the rules as "spartan" ("Community-Backed Project" 9).

The Huntsville Female College had been facing hardship following closures during the Civil War and monetary issues with the Church before, finally closing its doors in 1895 after a fire destroyed the main building ("Community-Backed Project" 10). The cause of the fire is unknown. Notably, much of the material referenced in this research project was published in response to the fire as a means of preserving the school in public memory. The way the Huntsville Female College was run has many striking similarities to the way colleges are run today: the vast variety of topics to study, the styles of the buildings, and especially the drive and motivation of both students and staff to achieve academic excellence. More than anything else, the Huntsville Female College fought for the elevation and betterment of womankind in a time where a woman's options were limited, and in that way, the college was truly ahead of its time.

<p>I. SCHOOL OF ENGLISH LANGUAGE AND LITERATURE. Topics: Grammar, Analysis, Composition, Reading, Dictation, Penmanship, Rhetoric, Elocution and Literature.</p> <p>II. SCHOOL OF HISTORY AND GEOGRAPHY. Topics: Special Histories of Greece, Rome, England, France, United States, General Outlines of Ancient, Medieval and Modern History, with Geography and Map-Drawing.</p> <p>III. SCHOOL OF MATHEMATICS. Topics: Arithmetic—Mental and Written, Algebra, Geometry, Trigonometry and Mensuration.</p> <p>IV. SCHOOL OF NATURAL SCIENCES. Topics: Botany, Philosophy, Chemistry, Physiology, Geology, Physical Geography and Astronomy.</p> <p>V. SCHOOL OF MORAL PHILOSOPHY. Topics: Mental Philosophy, Logic, Ethics, Christian Evidences and Butler's Analogy.</p>	<p>VI. SCHOOL OF ANCIENT LANGUAGES. Topics: Latin—through GRAMMAR, CÆSAR, Virgil and Horace, Elements of Greek.</p> <p>VII. SCHOOL OF MODERN LANGUAGES. Topics: French—Reading and Composition, German—Reading and Writing.</p> <p>VIII. SCHOOL OF POETRY AND CRITICISM. Topics: Poetical Reading and Criticism, Rhetorical Praxis, Study of Thomson, Milton and other Standard Authors.</p> <p>IX. SCHOOL OF MUSIC. Topics: Instruction on Piano, Reed and Pipe Organ, Violin, Zithern; in Vocal Culture, Class Singing, Thorough Bass and Harmony.</p> <p>X. SCHOOL OF ART AND FANCY WORK. Topics: Drawing, Painting, Fancy Needle-Work, Wax and Leather Work.</p>
---	--

Fig. 3. Huntsville Female College areas of study from "Catalog" 11.

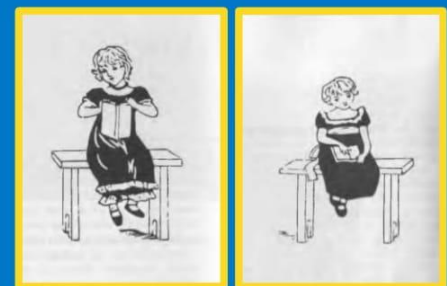


Fig. 3. Huntsville Female College areas of study from "Catalog" 11.



# Space City USA

By Peter Garrison and Maxwell Sims



## What is Space City?

- Planned to be opened in 1965, Space City USA was an amusement park to rival Disneyland.
- Plans started in 1959 with a proposed "space science exhibit" which changed to be focused more on entertainment.

## Park Layout

- Park was divided into segments, each with their own thematic element.
- Some of these areas were never constructed concepts, such as Dead Man's Island and Old Travel Town.





**A**



Lost World aimed to be a Prehistoric-themed segment of the park.

Features included:

- Caveman Ride
- Volcano Walk
- River Ride
- Dinosaur "Dark Ride"

**B**



Land of Oz was a fantasy-oriented segment of Space City.

Features included:

- Fantasy "Dark Ride"
- Carousel
- Small Train
- "Mad Mouse"
- Swan Ride
- Jack and the Beanstalk Slide

**C**



Old South was a nostalgic-feeling segment of the park.

Features included:

- Train Ride
- Steamboat Ride
- Antique Car Ride
- 3 Separate Raft/Canoe Rides
- "Gay Nineties" Saloon

**D**



Moon City was intended to be the futuristic section of the park.

Features included:

- Flying Saucer Ride
- "Space Bug" Sky Ride
- Space Platform Ride
- Jet Car Ride
- Space Station
- "Space Roll"
- Moon Shot Dark Ride

## Expectations

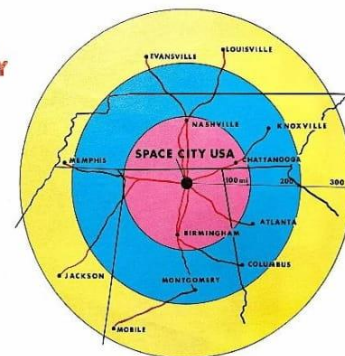
- Sphere of influence included Alabama, Georgia, Mississippi, Tennessee, and parts of Kentucky.
- Estimated expenditure of \$3.80 (\$35.94) per guest, with a total estimated income of \$1,801,800 (\$17,043,767).
- For comparison, attending

## ATTENDANCE FACTORS

### YEARLY ESTIMATED ATTENDEES

Market:	Total:	% of Total:	Attendance:
Regional	2,800,000	10	280,000
Week-end	4,000,000	5	120,000
Tourist	2,500,000	35	875,000
	9,300,000		1,275,000

## ATTENDANCE ACCESSABILITY



## Reality

- Due to poor management, timing, and weather, Space City USA would stop construction and assets would be sold in 1967.
- Leading up to the sale construction had halted and the park was in decay. Impacts and Legacy
- Space City Inc. reapplied for licenses after Apollo 11, but never culminated in anything.
- Space City's concepts may have inspired some parts of the U.S. Space and Rocket Center.

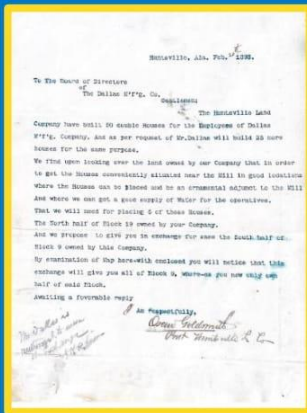
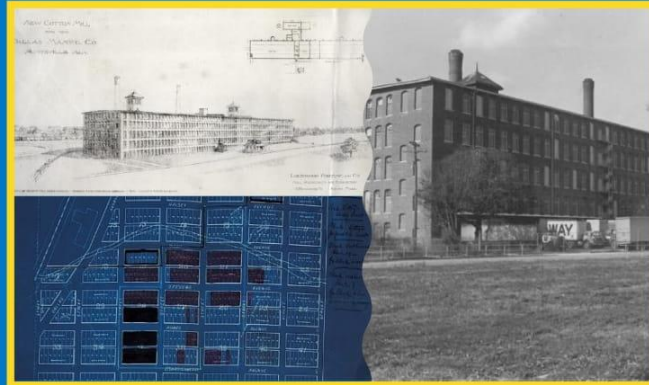


# Dallas Manufacturing Co.

By Matt Abrams and Aaron Blankenship

## Beginnings

- T. B. Dallas
- Seth M. Milliken
- President for a while
- Built in 1891
- City's first cotton mill



## Relationship w/Employees - The Good

- Elliot's recommendation letter
- Bounty publication
- Conform with overarching manufacturer guidelines
- Mill village and desire to expand

## **REWARD OF \$5,000.00**

On Sunday night, December 7, 1947, about midnight, when all decent, law-abiding citizens of this community were enjoying peaceful slumber in the quietness and security of their homes, some person or persons, sheltered by the cloak of darkness, fired several shots into the home of Steve E. Walker, an employee of The Dallas Manufacturing Company.

The Company intends to afford protection to its employees in cooperation with the law enforcement officers of Hattiesville. Those people who want and need to work will be given an opportunity to work free from interference and intimidation.

In order to carry out this policy, the Company offers a reward of \$5,000.00 on the following terms and conditions:

### **OFFER OF REWARD OF \$5,000.00**

The Dallas Manufacturing Company will pay to the person or persons furnishing evidence leading to the arrest and conviction of the party or parties found guilty of discharging live arms into the home of Steve E. Walker, Madison Street, on the night of December 7, 1947.

## Relationship w/Employees - The Bad

- Labor strikes - wanted to hire new pool of workers
- Graves conspiracy
- Ignored the CPA



## Fun Facts

- Ghost of 20'
- Paul Speake Connection
- Fire in 79 destroys Lincoln Mill
- Bounty Revocation
- Milliken now worth 4.4 B

## Liquidation

- Company auction
- Agreed upon by shareholders
- 1952 - official final liquidation date
- F.G. Kingsley was president at the time
- Historic Place
- Burns 1n 1991



# Things





## **Skylab's Main Purpose**

Skylab had many goals, but the most important was to establish how humans can live and operate in 0g over long periods of time. Skylab was America's guinea pig in this respect as we had never done anything like this before. It was intended to find what systems would be needed to maintain humans in space, how 0g would physically affect the human body, and what problems could occur in space. These would take form through experiments which included analyzing motor skills in 0g, the effects of 0g on sleep, and the cardiovascular system in 0g. The results from Skylab would be used to inform future, long-term missions such as the ISS and the Lunar Gateway.



Fig.2. A view of the Solar Parasol

## **Problems & Solutions**

There were a lot of problems the crew and the engineers ran into, but there were two main ones that stuck out. The first was the problem of the internal temperature. During the ascent of Skylab, aerodynamic forces tore off the micrometeor shield, exposing the station to solar radiation. This would heat the inside of the Saturn Workshop to over 135 degrees Fahrenheit, way past livable conditions. To solve this issue, NASA developed the Solar Parasol Shield (see Fig.2.), a thermal blanket which reflected incoming rays. A full mockup was tested in NASA's neutral buoyancy tank before being sent up on the sun-facing side of the Saturn Workshop with the first crew. This would lower the internal temperatures to sustainable living temperatures. However, there was still a second issue which was caused by the elevated internal temperatures. There was an insulating foam, lining the interior of the station. This foam was used to regulate the internal temperature, however, due to the micrometeor shield unexpectedly falling off due to aerodynamic forces, the internal temperature of the station reached temperatures that were enough to melt this insulating foam and decompose it. This not only caused problems with the first crew with regards to creating optimal living conditions but also released toxic gas due to the foam, which required repressurization of the Saturn Workshop. The crew would also enter the workshop with gas masks to ensure their safety.

## **Impact of Skylab**

Skylab was the first time the United States attempted to stay for long periods of time in space. As stated before, the crews, as well as the engineers really, were learning as they went. They faced a lot of problems and challenges, specifically with the insulating foam and heating issues. Despite this, they were able to push through, establish essential precedents, and collect important information about staying in space for long periods of time. Not only that, but it helped us learn how to solve problems in space, particularly regarding human health. We knew that there were specific issues that the human body would have to face, like the effects on the human cardiovascular and muscular systems, but we had no real clue what we were getting into. In the end, with the Skylab command now knowing that humans have the capability to stay in space for a long time (as we saw with the time progression with each crew), it has now allowed us today to carry out future missions beyond Earth with both confidence and experience. Skylab has set the foundation for these missions, like we see today with the ISS, and soon The Lunar Gateway.

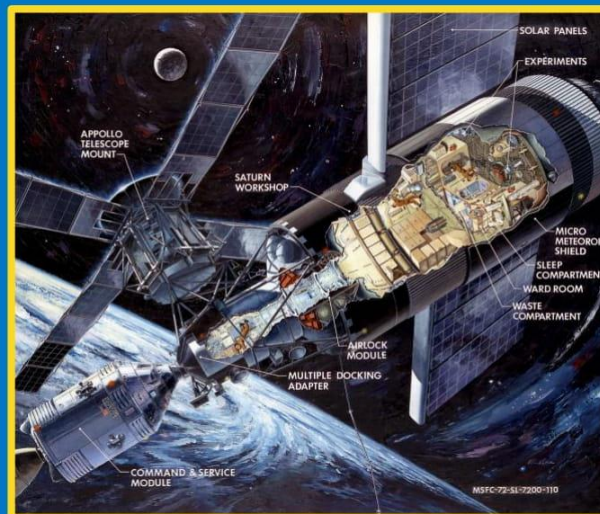


Fig.3. A drawn concept of Skylab with internals



# Lunar Roving Vehicle

By Lydia Sitlinger and Ja'Mya Green

## **Overview and Mission**

The lunar roving vehicle was a manually operated machine sent to explore the moon in hopes of better understanding its environment. Throughout our essay, we would like to give a glimpse of the development of the lunar rover vehicle. We'll be discussing further about what the lunar vehicle is, the expectations that were set, the testing procedures, abilities and goals, setbacks faced, and missions landed.

## **What is the Lunar Roving Vehicle (Box 2, Folder 61)**

The lunar roving vehicle, or LRV, was an exploration vehicle that was created to withstand the unique environment of the moon. Because it was the first vehicle the United States sent to the moon, it was very difficult to understand all of its expectations, however we were able to overcome the unknown pieces of construction based on previous research. It had been in the process of development for a span of 17 months throughout 1971 to 1972; it was then sent to the moon for the first time in late 1972. Its main goal was to collect data and samples from the moon's surface, run experiments on the samples, then send results back to Earth. A fun fact about the lunar rover is that it had many nicknames such as the 'moon buggy' and the 'moon-mobile.'



Fig.1

## **Mock-Ups (Box 1, Folder 3)**

The lunar roving vehicle was a manually operated machine sent to explore the moon in hopes of better understanding its environment. Throughout our essay, we would like to give a glimpse of the development of the lunar rover vehicle. We'll be discussing further about what the lunar vehicle is, the expectations that were set, the testing procedures, abilities and goals, setbacks faced, and missions landed.

1. Carriage Rover: Not much was said or known about this model. All that was known was that it would look like a modern-day carriage with large wheels.
2. Spherical Rover: This rover was designed for finding its way out of craters. This model would be operated by a crew of 4 individuals inside the rover, who would then rotate the rover as needed to have its solar panels face the sun. However, there was one major flaw with this model—the sphere would not be able to overcome the rim of the crater. (Fig.2)



3. Four-Legged Rover: This rover was quite unique and advanced for the time period it would have been developed, especially as scientists still have trouble creating such technology today (50 years in the future). This model would have been designed to where the rover would 'jump like a grasshopper.'
4. Drill Rover: This rover was designed to dig through the top layer of lunar soil to propel itself forward. There was also not much known about this model.
5. 'Tank-like' Rover: This rover was shaped like a modern-day tank and powered by electric engines supplied with compressed hydrogen. The exhaust fumes would then be regenerated at stationary nuclear reactors.



Fig. 2

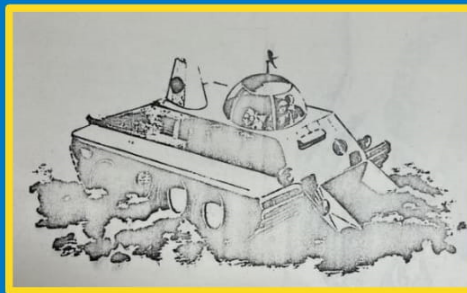


Fig. 3



Fig. 4

This model could travel for 24 hours at 40 km/hour without needing to be refueled. (Fig.3)

### **Expectations (Box 1, Folder 3)**

The lunar rover vehicle was expected to withstand the ranging temperatures of space, from -120 degrees Celsius to +130 degrees Celsius based on the course of night and day. Given the moon's surface being covered with rocky fragments, the lunar rover vehicle was expected to maintain the ability to traverse its surface without error. In addition, the lunar rover had to be heavy enough to stay on the surface of the moon due to the lack of a strong gravitational pull but also light enough to be transported by the rocket.

### **Testing Procedures/ What it Tested For (Box 1, Folder 3)**

During development, it was very important to test each of the rovers' operations in order to ensure that it would function properly. Several components had to be tested, including but not limited to soft soil mobility, obstacle performance, slope climbing, braking, steering, and dynamic performance. After many trials, each component had been optimized for its best performance.

### **Setbacks and Concerns (Box 1, Folder 107) & (Box 2, Folder 36)**

Throughout the development of the lunar rover, there were a few setbacks that delayed the completion of the vehicle. The project was only delayed by 1 to 2 months, and to prevent any further delays within the project, a "recovery" plan was developed to call immediate attention to any problems occurring. Due to the delay in the project, the Boeing company, one of NASA's contractors, had little confidence in the development of the lunar rover vehicle. In addition to their lack of confidence, they did not present enough depth in their plan to create an accurate assessment of how they would make up for the initial delay of the project.

This could have potentially caused a 1 to 3 month delay in the first flight test unless immediate and adequate management actions were taken. In response to their delays, testing was done 24 hours a day, seven days a week.

Along with the setbacks, there were concerns regarding the project as well. These concerns regarded keeping schedule were valid as there were already setbacks happening throughout the program. The topic of cost was something that popped up when discussing their concerns. Many efforts were made to decrease costs, like decreasing personnel, to stay within their targeted budget of \$18,673,000. There were some issues about how the lunar rover vehicle would be designed, including the motor, controller, and drive designs.

### **Landing Missions (Box 2, Folder 67)**

There were three major landing missions made for testing purposes. Each of these missions would prove how capable the rover truly was. The first mission of the three was Marius Hill. This mission would serve to illustrate the effects of placing the landing sites away from the scientific sites. Once the rover was landed, it would be used to reach regions of interest then report back.

The second was the Hadley-Apennines mission; this mission was used to determine the origin of the sinuous rilles of the geography on the lunar surface. The last of the three missions was the Copernicus mission; this one was a crater surveying mission that would reach the extremes of the craters (peaks and depressions) while collecting samples for analysis. Each mission contributed a large amount of data on the running of the rover: mobility, sampling and surveying.

### **Conclusion**

The development of the lunar rover vehicle was a long and winding project. Even though NASA was forced to face several setbacks, their efforts to complete the lunar rover vehicle were not affected. Despite the concerns that came forth regarding the design requirements of the lunar rover vehicle, NASA and its team were able to come up with a design that went parallel to their desires of how the lunar rover should be. After its completion, the lunar rover was sent out and completed several missions, retrieving data and samples that would further inform the world about the mysteries of space. We could say that the process and development of the lunar rover could have sparked and helped advance the development of other rovers built today.

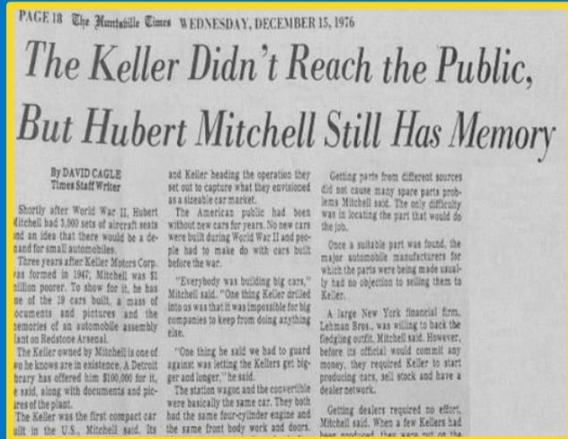


Fig. 4



# Keller Mobile

By Brody Kriegermeier and Drue Walker



## Origin of the "Bobbi-Kar"

- John Liefeld was a man who worked on planes in WWII.
- He was put out of the job when the war ended, so he looked for a job in the automotive industry.

## S. A. Williams

- He would buy gross, rundown restaurants and restore and resell them at huge profit.
- He did a lot of sketchy stuff.
- He took part in a lot of money-making schemes.
- He really wanted to start a car company for some odd reason.

## Making the First Bobby-Car

- It was made in a small shop on India street in San Diego. Liefeld called it "Iron Monster" while they officially named it after William's son. It was pretty bad, so they remodeled it.

## Williams Shines Through

- He contacted the top four newsreel studios at the time and got news clips in every one of them.
- Newspapers were talking about the Bobbi-Kar
- People were sending in MONEY for the cars.
- They hadn't even been producing Bobbi-Kars yet.

## Downfall of Bobbi Motor Kar Corporation

- Williams wasn't supposed to sell franchises before the cars were built, but he did anyway because the agreement specified the franchisees would handle the cars "if and when" they were built. The Commissioner of California Corporations didn't like that.



### **Aftermath**

- The investigation on the company revealed Williams had served prison time for another swindle.
- The company's operations in California pretty much ceased.
- Williams put out the news Bobbi-Kar was looking for a new location.

### **Move to Alabama**

- The Alabama Chamber of Commerce, desperate to lease the now vacant Redstone Arsenal, flew an Alabama Representative out to Williams' office.
- 800 Alabama investors bought out Williams' portion of Bobbi-Kar (which had been renamed to the Dixie Motor Car Company), and he was no longer in the picture.
- Shortly after the Dixie Motor Car Company was nearing bankruptcy, with the help of Hubert Mitchell's funding and George Keller's experience, the Keller Motor Car Company was born.

### **George D. Keller**

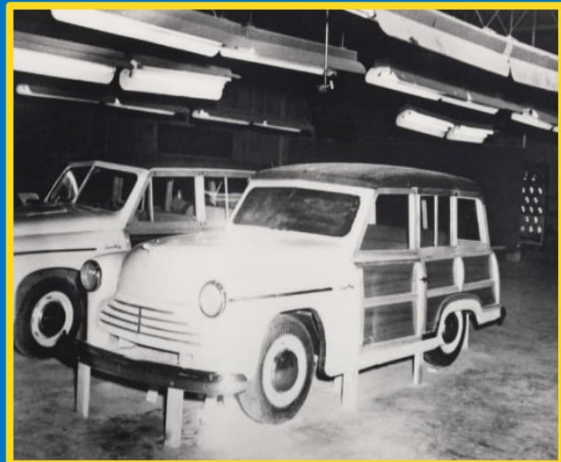
- He was the Vice President of Sales at Studebaker, an American wagon and automotive company.
- He was looking to capture the cheap car market.
- He got hired on while the company was still facing their Californian crisis.

### **Rough Start**

- He set up shop in Redstone Arsenal.
- The SEC was skeptical of the new "Keller Motor Corporation" due to its previous management under S.A. Williams for two and a half years.
- After two years, the company had to pay up a total of \$130,000 in attorney fees, and "the SEC said in effect, 'we're awfully sorry, fellows, you're clean as a whistle.'"

### **Swift End**

- The company began to sell shares of stock, and things seemed to finally be taking off.
- George Keller was soon after found dead of a heart attack.
- Keller's death subsequently led to the death of the company, as he was the core of their branding.
- Soon after Keller's death, the company announced a liquidation sale of their assets.
- After three years in business the company had only produced 18 cars, and the first auto manufacturer of Alabama was officially gone.

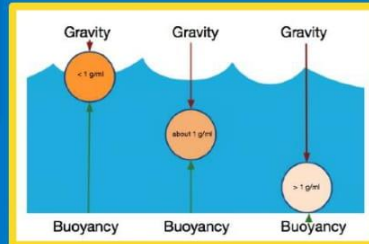


# Neutral Buoyancy Tanks

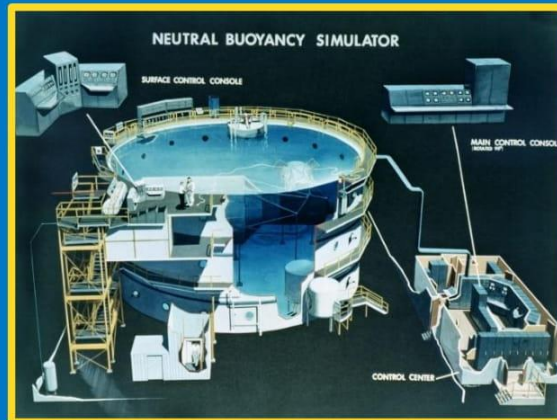
By Nicholas Kim and Evan Seliner

## What Are Neutral Buoyancy Tanks?

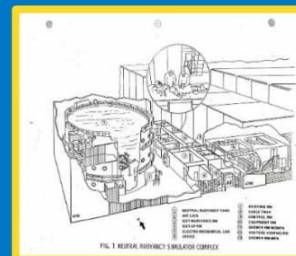
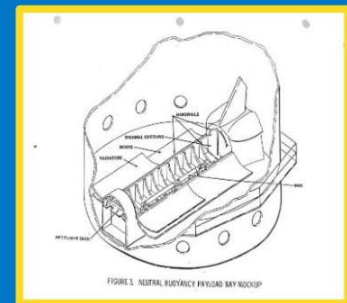
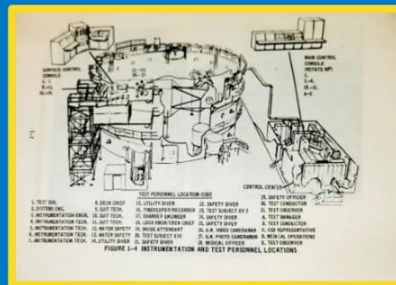
- Simulate Zero G
- Prepare/Train Astronauts



## Neutral Buoyancy



## Richard Heckman

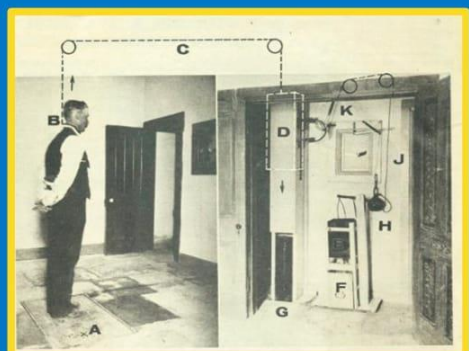
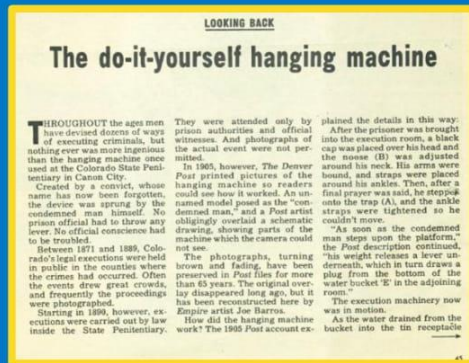
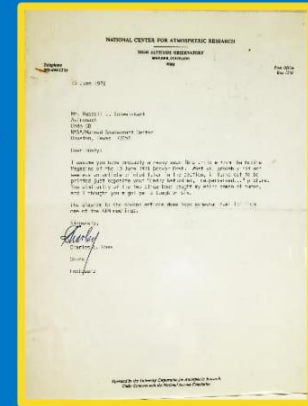




Dear Rusty:

I assume you have probably already seen this article from the Empire Magazine of the 13 June 1971 Denver Post. What you probably did not see was an article printed later in the section, it turns out to be printed just opposite your "Badly befuddled, inexperienced..." picture. The similarity of the two situations caught my weird sense of humor, and I thought you might get a laugh or six.

The diagram in the second article does look somewhat familiar from one of the ATM meetings.







  
THE UNIVERSITY OF  
ALABAMA IN HUNTSVILLE