

SAVE OUR CITY SYMBOL

Activities for Students of All Ages

BIRMINGHAM HISTORICAL SOCIETY

1999



VIVE VULCAN!

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On the cover: *VULCAN AT THE FAIR*. Missouri Historical Society 1035; photographer: Dept. Of Mines & Metallurgy, 1904, St. Louis, Missouri.

Cast of iron in Birmingham, Vulcan served as the Birmingham and Alabama exhibit for the St. Louis World's Fair. As god of the forge, he holds a spearpoint he has just made on his anvil. The spearpoint is of polished steel.

In a gesture of triumph, the colossal smith extends his arm upward. About his feet, piles of mineral resources extol Alabama's mineral wealth and its capability of making colossal quantities of iron, such as that showcased in the statue, and of steel (as demonstrated with the spearpoint). Vulcan represents the materialistic qualities of mankind, the head of Christ cast in white Alabama marble and placed in front of the statue represents man's spiritual nature. Sculptor Moretti supervised the installation, smoothing rough castings and finishing the statue to a rich patina. (The statue should be restored to this 1904 condition.)

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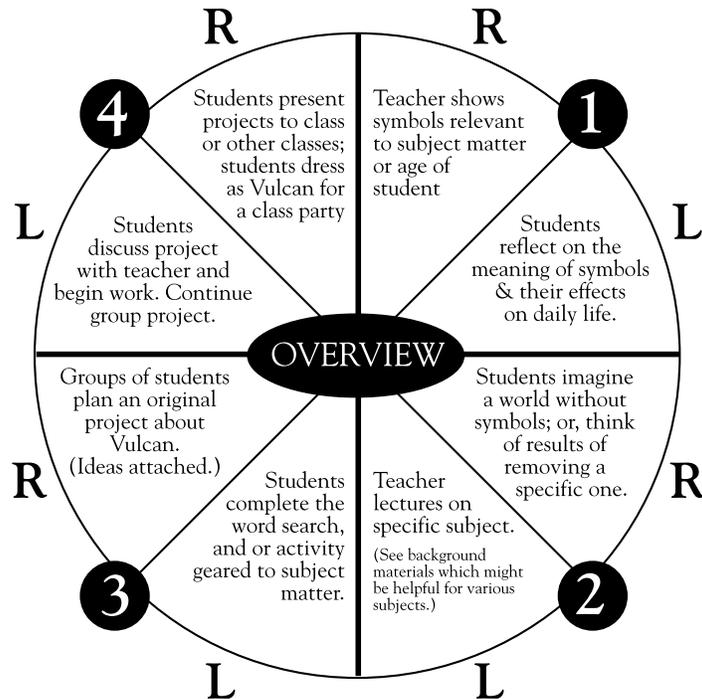
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For information on membership or to purchase copies of *VULCAN & HIS TIMES* and other Society publications, please contact the Society's offices at Duncan House located on the grounds of Sloss Furnaces National Historic Landmark.

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OVERVIEW



Title	Vulcan: A Symbol Worth Saving
Grade Level	Adaptable
Subject	Adaptable
Authors	Karyn Emison and Beverly Miller
Concept	Symbols
Duration	One to four weeks, depending upon culminating activities
Objective	To introduce the idea that Vulcan is a symbol of our city and deserves our help
Required resources	Attached supplementary material

QUADRANT 1

LEFT MODE

- Objective:** Students will reflect individually on the importance of symbols.
- Activity:** Students list symbols they find important in their daily lives. Students also begin a daily log in which they write down their thoughts about Vulcan throughout the unit.
- Evaluation:** Students share their lists with the class. The teacher categorizes the symbols on the board.

RIGHT MODE - Make a connection

- Objective:** Students will be aware of the importance of symbols.
- Activity:** The teacher displays or draws images of various symbols. The symbols may be geared to the specific subject matter, i.e., punctuation marks in English or mathematical symbols for math. (Other suggestions for more general symbols: peace sign, Nike swoosh, Olympic rings, U.S. flag & eagle, cross, or see p. 20 of attachments.) If the teacher wishes to define "symbol," some possible meanings are: something that stands for or suggests something else, especially a visible sign of something invisible; an object having cultural significance and the ability to elicit a response.
- Evaluation:** Students participate in a class discussion on the meanings of the symbols.

QUADRANT 2

LEFT MODE

Objective: Students will learn important facts about Vulcan.

Activity: The teacher lectures on Vulcan, using the appropriate attached material to gear the lecture to the subject matter and to the students' ability level.

Evaluation: The teacher randomly selects students to check their understanding of the facts presented in the lecture.

RIGHT MODE

Objective: Students will agree that symbols are important.

Activity: The teacher leads a discussion on what the world would be like without any symbols. Or, the discussion can center around the consequences of the removal of a particular symbol. The teacher may also wish to display an image of Vulcan at this point.

Evaluation: Students participate in class discussion.

QUADRANT 3

LEFT MODE

Objective: Students will use their knowledge of Vulcan to complete various activities.

Activity: Students complete attached Vulcan word search, or another relevant activity. The teacher may also use the attached list of questions and answers about Vulcan to play "Vulcan Trivial Pursuit" with the class.

Evaluation: The teacher uses the accuracy of students' work to gauge their mastery of the facts.

RIGHT MODE

Objective: Students will develop an idea for an original Vulcan project.

Activity: Students, either individually or in small groups, choose one of the following projects: 1) imagine you're on top of Vulcan and make a poster or mural of what the city looks like below; 2) make a model of Vulcan; 3) write a descriptive paragraph, a poem, or a song about Vulcan; 4) create a newscast that chronicles Vulcan's history. Students may also wish to design their own original projects. (Also see attached list of additional ideas, including fundraising activities.)

Evaluation: The teacher gauges the students' involvement in planning a project.

QUADRANT 4

LEFT MODE

Objective: The students begin work on their projects.

Activity: Each group or individual meets with the teacher to get the projects approved.

Evaluation: The teacher gives necessary guidance and students begin their work.

RIGHT MODE - Culminating Activity

Objective: Students share and celebrate their knowledge of Vulcan.

Activity: Students present their projects to the class and have a class party with a Vulcan theme. Students may choose to dress in turn-of-the-century costumes. The teacher may want to arrange an in-school field trip as well.

Evaluation: The teacher assesses the quality of the students' projects.

ACTIVITIES IDEAS

(Keyed to Activity Pages)

Mrs. Miller's Advent Day School 4th Grade Class, Spring 1999

SCIENCE: (See activity pages 10, 12, 15, 21)

- Discuss the problem of the differences in the expansion and contraction rates of the concrete and iron that are causing the problem.
- Design a science project involving putting concrete and iron in the freezer, out in the sun, etc., and examining the changes in each.
- Study the manufacturing processes for iron and steel, as well as concrete.
- Determine how many pounds of pressure Vulcan exerts on the base.
- Investigate how Vulcan is able to stay up during storms without blowing over.
- Research the reasons Vulcan was filled with concrete.
- Design better ways to affix Vulcan to his base.

LANGUAGE ARTS: (See activity pages 18, 19)

- Write a composition describing ideas of how Vulcan could be fixed.
- Write a persuasive letter to the mayor describing the need to help Vulcan and the ways this can be done.
- Design an ad campaign to rescue Vulcan. Give a prize for the best slogan. Examples: "Vulcan is Cracking Up;" "If We Lose Vulcan, We'll Be Sulkin."
- Put the winning slogan on T-shirts.
- Interview people about their first impressions of Vulcan. (Ask older people about their memories of him as children, etc.) Create a book of these oral histories involving Vulcan.
- Create a comic strip, with Vulcan as the main character, describing his plight.
- Write a letter to the editor of the paper explaining the need to save Vulcan.
- Write letters to the principals of other schools telling them how our school is involved, asking them to join in.
- Write a poem about Vulcan's history and problems.
- Create a Vulcan trivia game.
- Write and act out a play about Vulcan the statue, or Vulcan the Roman god.
- Write a petition outlining Vulcan's needs and what should be done, and get as many signatures as you can. Send it to the mayor. Have a contest to see who can get the most signatures.
- Write letters to famous and influential people you know generating their interest and asking for their help.
- Write a poem about Vulcan and his problems.
- Write and deliver a speech explaining why and how to save Vulcan.
- Write a biography of Moretti.

MATH: (See activity pages 1, 15, 21)

- Study ratio, proportion and weight.
- Make a scale model of Vulcan.

MYTHOLOGY: (See activity pages 6, 8, 22)

- Study Vulcan's role in Roman mythology.
- Study Vulcan's mythological family.
- Research other mythological statuary.

GEOGRAPHY: (See activity page 17)

- Map Vulcan Park.
- Explore Red Mountain.
- Map the St. Louis World's Fair.

ART: (See activity pages 4, 15)

- Make a clay model of Vulcan, or one "before" and one "after."
- Make posters to put up around school, community, etc., to enlist help for Vulcan.
- Make posters to send to other schools.
- Take photographs of Vulcan and compare to past photos.
- Make a photo collage of Vulcan pictures.
- Draw or paint pictures of Vulcan.
- Paint T-shirts with pictures of Vulcan.
- Have a Vulcan photography or painting contest and put the winning entry on a T-shirt or poster.
- Make a scrapbook of drawings, articles and photos of Vulcan.
- Create a Vulcan bulletin board collage.
- Paint hats or create hats with model Vulcans on top.
- Make puppets and write a puppet show depicting Vulcan's troubles.
- Make videos of Vulcan's history or problems.
- Use the computer to design a flyer publicizing Vulcan's need for help. Distribute in the school and community.

CIVICS OR ECONOMICS:

Lots of ideas for items to make and sell or fund-raising ideas:

- Car wash.
- Bake sale.
- Book marks.
- Just go around collecting \$!
- Make and sell Beanie Baby T-shirts with Vulcan's picture on them.
- WWJD type bracelets with a slogan about Vulcan instead.
- Pencils with a "Save Vulcan" slogan.
- Contact Hitachi, our sister city in Japan, for help and publicity.
- Get your church involved.
- Have a Vulcan party and charge admission.
- Have a raffle and sell tickets.

HISTORY: (See activity pages 1, 2, 3, 5, 6, 7, 9, 11, 13, 14, 16, 18, 20)

- Study symbols of other cities and how they have been preserved.
- Research the history of the iron and steel industries in our city and why Vulcan is here.
- Study the life of Giuseppe Moretti.
- Research exactly how Vulcan was made.
- Make a time line of Vulcan's life with a "?" at the end.

ALL CLASSES:

- Start a campaign to have every child in the city bring change to help Vulcan.
- Have a costume day when everyone designs and wears a Vulcan costume.
- Develop a culminating activity to share with other classes, the press and perhaps the general public.

QUESTIONS & ANSWERS

When was Birmingham founded?

1871

What kind of a city was it founded to be?

Iron and steel center

Who created Vulcan?

The Birmingham Commercial Club (Chamber of Commerce)

When?

1903-1904

Why?

To send a symbol of Birmingham and its resources and industry to the St. Louis World's Fair in 1904

Who was Vulcan?

Roman god of the forge, a smith who made everything the mythological gods needed

Who sculpted him?

Giuseppe Moretti

How long did the sculptor have?

4 months

What was the World's Fair exhibit trying to widely promote?

Birmingham and its industrial resources

What are these resources?

Coal, coke, iron, limestone

Who sponsored the exhibit?

The Commercial Club

Where did Moretti make the plaster model for the statue?

Passaic, New Jersey, in an unfinished church; his New York studio was not big enough

Was Vulcan made in a single piece?

No, 21 pieces

Can a carriage pass through Vulcan's legs?

Yes

By what transportation did Vulcan arrive for casting?

By train

What piece of Vulcan arrived first in St. Louis?

A leg

At what Birmingham foundry was Vulcan cast?

Birmingham Steel & Iron – the McWane foundry

Of what iron is Vulcan made?

Sloss No. 2 pig iron

Where was the iron ore from which Vulcan was made mined?

Red Mountain

In what month were the final pieces of Vulcan shipped to St. Louis?

April 1904

Where was Vulcan exhibited at the World's Fair?

Palace of Mines and Metallurgy

How large was this Palace?

Nine acres

What was at his feet?

Mounds of mineral resources; coal, iron ore and limestone

Were Vulcan's ribs showing?

No, sculptor Moretti applied a finish coat of plaster for this presentation at the fair

How long did it take to make Vulcan?

4 months

How was Vulcan popularized at the fair?

Vulcan statuettes sold for \$2 each

How many visitors attended the World's Fair in St. Louis?

20,000,000

How did the Commercial Club finance the cost of creating Vulcan?

Opera performances by Moretti, Vulcan statuettes, and other public events and contributions

From 1906 to the early 1930s, what was Vulcan's Birmingham home?

Alabama State Fairgrounds

Was Vulcan correctly assembled there?

No, the arms were misassembled. No historic documentation guided the difficult assembly

What uses did he serve during those early years?

The promotion of ice cream, overalls and ketchup; lost and found for children

Where is Vulcan Park located?

At the corner of Valley Avenue and 20th Street South on Red Mountain

Describe the original Vulcan tower.

Stone

Did it fit into the natural setting?

Yes

What did Vulcan hold aloft in his hand at completion of the tower?

A new spear point, the original one was lost en route home from the World's Fair

What were the principal features of the 1930s park?

A natural landscape built from the rock of the mountain, views of and from Vulcan, cascades, open observation deck, tower in proportion to Vulcan himself; right on major paved highway

Who was Vulcan's sweetheart?

Electra, atop the Alabama Power Company Building

What was the principal reason Vulcan Park became a major tourist destination?

Vulcan was on the major U.S. highway, old U.S. 31-20th Street, the only all-paved four-lane highway in Alabama

Where did the stone for the Vulcan tower come from?

Quarries opened for construction of U.S. 31, cut by Italian masons

Who coordinated the original mountaintop park construction and when did it occur?

Kiwanis Club leaders, 1934-1938

As the statue was put into place on the top of the tower, with what was it filled to ballast it?

Concrete

What is creating Vulcan's crack up?

Disparity in expansion rates between iron and concrete. Also, water held by concrete weakens and rusts the statue

What is the preferred approach for restoring the statue?

To remove it in pieces, remove the concrete with solvent, recast ruined pieces and replace concrete with well-draining steel framework/armature

Will this tear up the park?

Yes, quite a bit. Road construction and cranes will be necessary for the take-down

Has such an armature been tried before?

Yes, Statue of Liberty

Does the original Vulcan Tower remain?

Yes, behind the marble cladding

Does the original cascade remain?

Hopefully

Can an elevator and a staircase be fitted into the original Vulcan tower?

Yes

How many stairs are there in the tower staircase?

157

Would a visitor center enhance and improve our understanding of Vulcan and of the city?

Yes

QUIZ & ANSWERS

The mythological god, Vulcan is the R O M A N god of T H E F O R G E. A S M I T H by profession, his S M I T H Y was located on the Sicilian Island of M T. A E T N A. Here, he and the C Y C L O P E S made E V E R Y T H I N G for T H E G O D S. His father J U P I T E R was so pleased with the T H U N D E R B O L T S Vulcan created that he gave his son V E N U S to be his wife.

The (original) statue of Vulcan

This statue depicts a male figure, his left foot forward and his right arm uplifted holding a S P E A R P O I N T. His left hand holds a H A M M E R. He wears sandals and is clothed (in the tradition of classical sculpture) with a blacksmith's A P R O N. He is standing at an A N V I L block. His gesture indicates a mood of T R I U M P H. He is proud to have just C R E A T E D S T E E L.

Birth/Creation

Birmingham's Vulcan was created by the city's B U S I N E S S leaders to promote the city to the W O R L D. Vulcan served as Alabama's E X H I B I T at the 1 9 0 4 (date) W O R L D ' S Fair in S T. L O U I S, M I S S O U R I.

Materials used in the statue

Vulcan is made of I R O N. The metal is made from I R O N O R E heated in furnaces such as the S L O S S F U R N A C E S (now closed and a National Historic Landmark). C O A L and limestone are also needed to make I R O N. (Steel is made from this metal.) Birmingham has these minerals in A B U N D A N C E. The City of Birmingham was established to mine these minerals and to make iron and steel products. That manufacturing industry formed the economic reason for the city's founding in 1871.

Cast from I R O N ore in a B I R M I N G H A M foundry, the statue was designed by an I T A L I A N (nationality) sculptor named G I U S E P P E M O R E T T I. He used an unfinished C H U R C H in Passaic, New Jersey, to build the P L A S T E R cast from which the statue was made.

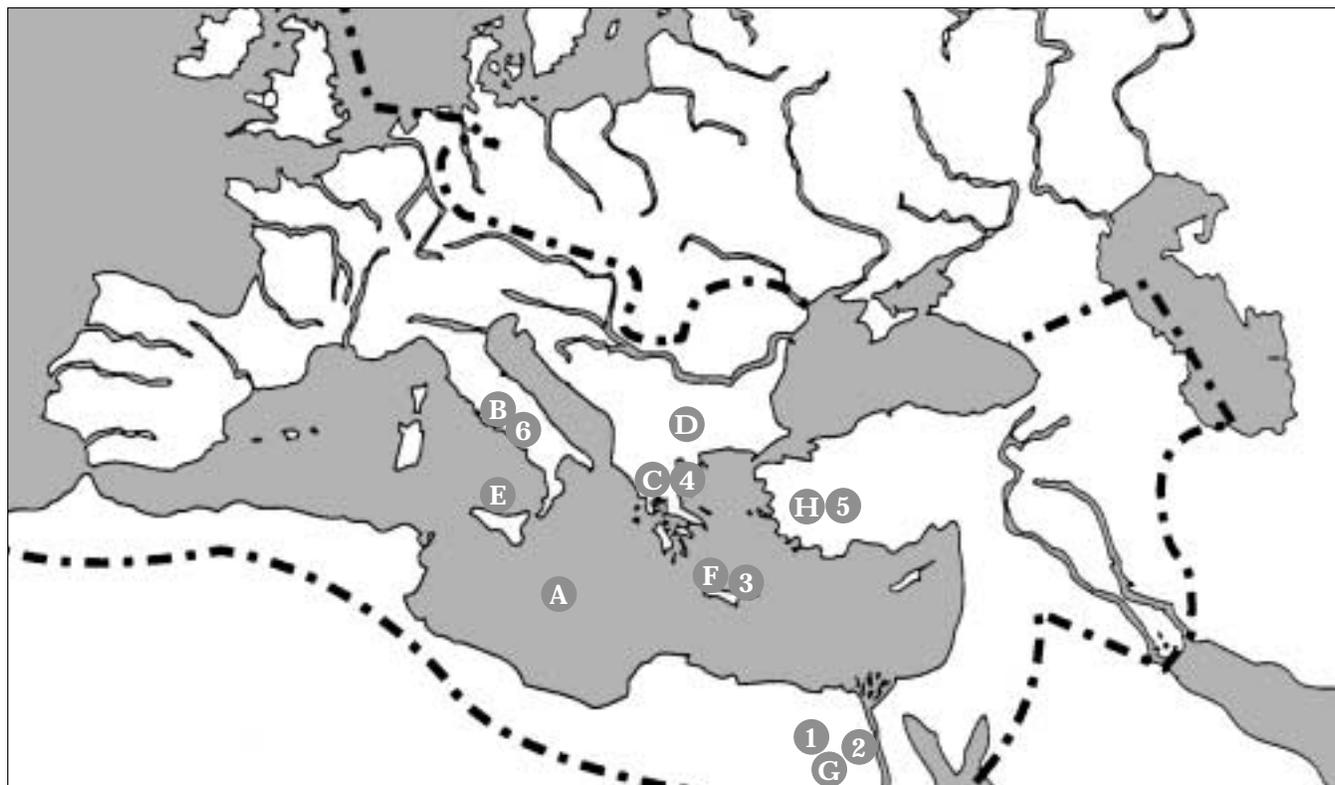
WORD SEARCH KEY



1. Vulcan spent 30 years here after leaving the World's Fair
2. Vulcan's mythological mother
3. Vulcan's mythological father
4. Birmingham's nickname
5. The sculptor who created our statue of Vulcan
6. Vulcan's current home
7. Vulcan is the _____ god of the forge
8. Site of the 1904 World's Fair
9. Vulcan is the largest _____ iron statue in the world
10. Vulcan's height
11. Item Vulcan now holds in his right hand
12. Vulcan's estimated weight
13. Item Vulcan originally held in his right hand

Courtesy Beverly and Abbey Miller

MAP OF THE ANCIENT WORLD KEY



INSTRUCTIONS: Place names below in appropriate locations on the map.

A. Mediterranean Sea

B. Rome, Italy

C. Athens, Greece

D. Mt. Olympus, Macedonia
(home of the mythological gods)

E. Mt. Aetna (on a volcanic isle off Sicily)

F. Rhodes (on the isle of) Crete

G. Thebes (Luxor) Egypt

H. Tarentum

Colossi

1. Colossi of Memnon

2. Colossi of Ramesses II

3. Colossus of Rhodes

4. Athena Parthenos

5. Heracles

6. Constantine The Great

----- boundary of the Roman Empire

THE RESUMÉ OF A MAN OF IRON



Conception: Vulcan was born from a burning desire on the part of Birmingham businessmen to promote the area's industrial potential at the 1904 St. Louis World's Fair. Presenting the world's largest cast metal structure — largest statue in the United States after the Statue of Liberty — would surely make an impression. And it did.

Gestation: A dramatic story, chronicled on the front pages of major New York newspapers: Sculptor Giuseppe Moretti, Italian immigrant, had 40 days to create the model of Vulcan in an unfinished New Jersey church in the dead of winter. Moretti, a popular figure on the art scene, shipped Vulcan's plaster cast "parts" to Birmingham foundries in segments. Meanwhile, the art world swooned with admiration over the work in progress.

D.O.B.: Birmingham Steel and Iron, operated by James R. McWane, went into action. The largest castings ever made, supported by money from the Birmingham public, began to form the Man of Iron. Time span from Vulcan's conception to his dedication at the World's Fair: 9 months. Total cost: \$20,000. A near miracle of technology and desire.

Triumph of the Fair: Vulcan "held court" in the center of the Palace of Mines and Metallurgy (a major pavilion), surrounded by other exhibits touting Alabama's minerals and industries. Fair attendance: 20 million. Awards: Best Exhibit in Palace (for Vulcan himself), silver medals for Moretti and McWane.

Homecoming: After 7 months in St. Louis, Vulcan returned to Birmingham. But where? Although Birmingham ladies objected to his bare bottomed torso, the Alabama State Fairgrounds warmly accepted him. For 30 years, he was a popular meeting place for families gathering at the fair.

Graduation: Finally, Vulcan truly returned home to the crest of Red Mountain from which his original materials had been mined. Perched atop a pedestal with a museum in his base, he became a highly visible landmark on the Birmingham skyline.

All Eyes on Vulcan: Once moved, he became the man to visit in Birmingham, the city's only real tourist attraction, and the premier place for first kisses and marriage proposals. The neon torch (shining green in times of traffic safety, red when fatalities occur) was added in the 1940s. Vulcan is the city symbol to all.

A Victim of Age: Following the common practice of the 1930s, Vulcan's interior was filled with concrete, a substance which expands at a rate 20% greater than iron. With the passage of time, contracting with the cold, expanding with the heat, Vulcan's exterior cracked. He must now be repaired so that his long life may continue.

Help on the Way: Measures will be taken to repair Vulcan by removing him — temporarily — from his high perch over Birmingham, extracting the concrete, and stabilizing his structure. At the same time, his base will also be strengthened with a new steel frame.

STATS AT BIRTH

Claims to fame: Largest cast metal statue in world; second-largest U.S. statue

Height of statue: 56 feet

Birth: Difficult and heroic; iron molders worked night and day

Weight: 120,000 lbs.

Foot size: 6 feet (can sleep one reclining person)

Circumference of chest: 22 feet, 6 inches

Circumference of waist: 18 feet, 3 inches

Sum of his parts: Cast of iron in 21 pieces with connecting flanges

Height of pedestal: 123 feet

Height above Birmingham: 390 feet in elevation

— Carolanne Roberts, *Southern Living* editor and Birmingham Historical Society volunteer

BIRMINGHAM AT THE TURN OF THE 20TH CENTURY



This 1908 view looks north on 20th Street toward Linn Park. The First National Bank skyscraper (now the Frank Nelson

Building) is on the right, bursting above the late-19th century buildings of the city center. Alvin Hudson Collection.

For Alabama and the South, Birmingham at the turn of the 20th century was certainly an upstart.

Minerals for a promising future had lain underground for eons, but the mapping of these resources and the development of railroads connecting the sparsely settled area to distant markets came after the Civil War. After the city's founding in 1871, the new

industrial area struggled. In the 1880s, growth began in earnest and, by 1900, this out-of-nowhere "Magic City" had become the state's largest with a population of more than 38,000, not counting the soon-to-be-consolidated suburbs and other settlements across the emerging region. By 1910, Birmingham's population had risen to 132,685.

THE BIG IDEA



“Birth of a Birmingham Pig” These photographs show the stages of pig iron production at Woodward Iron Company — from mining the ore within Red Mountain (top left) to tapping the furnaces and casting the pig iron (bottom right). The photographs appeared in The Birmingham News-The Birmingham

Age-Herald on July 24, 1938 as the Vulcan Monument on Red Mountain was nearing completion. In the 1930s, Birmingham was America’s leading foundry ironmaker. Birmingham Public Library Archives.

In the fall of 1903, industry in Birmingham and in the entire nation was in full bloom. The Birmingham District was proven as a major producer of iron and had begun to produce steel rail.

The opportunity to advertise Birmingham to the nation and the world with an exhibit at the 1904 St. Louis World’s Fair was presented to the Commercial

Club (predecessor of the Chamber of Commerce). Journalist and promoter, James MacKnight suggested a sculpture of iron, the largest in the world, as an appropriate means of attracting “wide attention . . . and to symbolize Alabama’s supremacy in the production of iron.”

THE ART SCENE

In the art world, the turn of the 20th century was a period of heroic sculpture. Frederic Bartholdi's Statue of Liberty was completed in 1886. Such large statues were frequently commissioned for homes and public parks, and especially for world fairs.

For Birmingham's heroic statue, the Commercial Club chose a most unheroic figure: Vulcan, the Roman god of the forge, a working man, usually pictured in

sooty, dirty surroundings and engaged in hard labor. Perhaps because Vulcan reflects reality and industrial Birmingham, rather than unworldly mythology, he has been a popular sculpture through the years. His image appeals to everyone. Birmingham experienced much favorable publicity during 1903 and 1904, as the world was introduced to Vulcan, the new symbol of the city's industrial success and potential.



Sculpture was in high demand. Italian firms marketed these pieces in the St. Louis Palace of Mines and Metallurgy, the

same place where the Vulcan statue was displayed. Everything in this photograph was for sale. Birmingham Public Library

TIME LINE

VULCAN

October 13, 1903
Commercial Club chooses Vulcan to represent Birmingham.

November 24, 1903
Moretti commissioned to sculpt the colossal iron man.

January-February, 1904
Full-size plaster casts poured at St. Stephen's Church, Passaic, New Jersey.

March 12-May 7, 1904
Birmingham Steel and Iron foundry casts the Iron Man of Sloss No.2 Pig Iron.

May 1-December 1, 1904
Vulcan reigns in the Palace of Mines and Metallurgy, St. Louis World's Fair.

October 1906-1935
Vulcan at the Alabama State Fairgrounds.

1935-1938
Kiwanis Club spearheads public-private campaign to build the Red Mountain monument, museum and park

1968-1971
Vulcan Park modernized as part of Birmingham's Bicentennial Celebration.

1993-94
The Historic American Engineering Record-National Park Service documents the statue and park as a possible National Historic Landmark site.

1999
Statue in peril.

2004
Vulcan turns 100.

BIRMINGHAM

1871
December 19, 1871
City established by southerners as a "Magic City" that would grow from the ashes for the Civil War into the industrial and transportation center of a mineral rich region. Population 0.

1880
By the late 1880s
Iron furnaces and foundries flourish, population grows to 26,178.

1890
By 1900
Birmingham becomes the world's largest producer of pig iron and pipe and also makes steel for rails. Population; 38,415.

1900
1910
Annexation of surrounding industrial communities makes Birmingham the industrial center of the South and one of the fastest growing cities in America. Population: 132,685.

1910
1920s
Jones Valley from Bessemer to Roebuck fills with residences as Jefferson County grows to 431,493. Birmingham population: 259,678.

1920
1930s
Alabama's first all-paved four-lane highway U. S. 31 extends across the city and to Vulcan Park. Nucleus of today's University of Alabama at Birmingham medical center established.

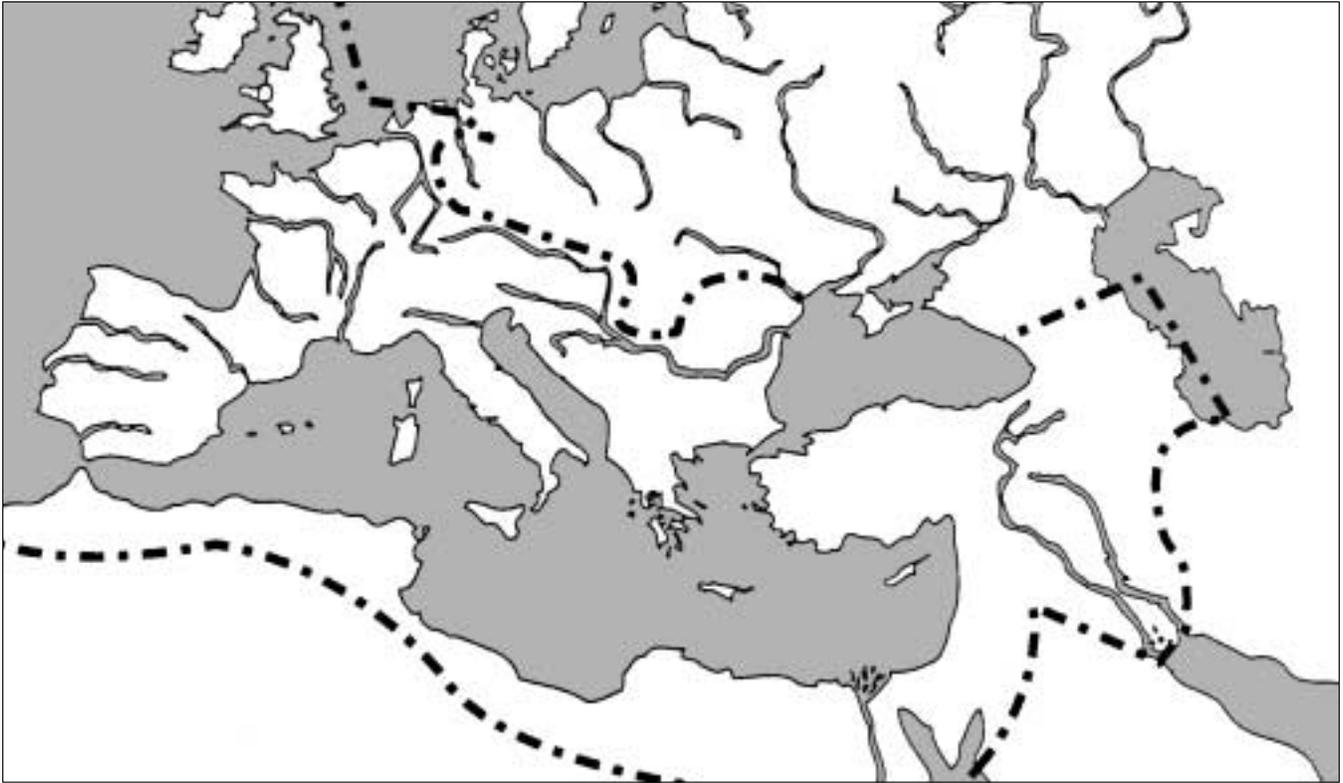
1930
1940
1950
1960
1956-1964
Rev. Fred Shuttlesworth and the Alabama Christian Movement for Human Rights test segregation laws and win Civil Rights for all Americans.

1960
1970
1971
Birmingham turns 100.

1970
1980
1980s-1990s
While retaining its strong base in heavy industry, city grows as a center of medicine, engineering, banking, insurance and historic preservation.

1980
1990
1999
Community unites to save our symbol and plan the full restoration of the statue and park.

MAP OF THE ANCIENT WORLD



INSTRUCTIONS: Place names below in appropriate locations on the map.

- A. Mediterranean Sea
- B. Rome, Italy
- C. Athens, Greece
- D. Mt. Olympus, Macedonia
(home of the mythological gods)
- E. Mt. Aetna *(on a volcanic isle off Sicily)*
- F. Rhodes *(on the isle of) Crete*
- G. Thebes *(Luxor) Egypt*
- H. Tarentum

Colossi

1. Colossi of Memnon
2. Colossi of Ramesses II
3. Colossus of Rhodes
4. Athena Parthenos
5. Heracles
6. Constantine The Great

— — — — — boundary of the Roman Empire

VULCAN'S FAMILY



Vulcan, being the Roman god of the forge, was a popular classical theme pursued in art beginning with the Renaissance. Here, the muscular Vulcan is shown at his forge by Flemish painter Hendrick Van Balen. About him are spread things he

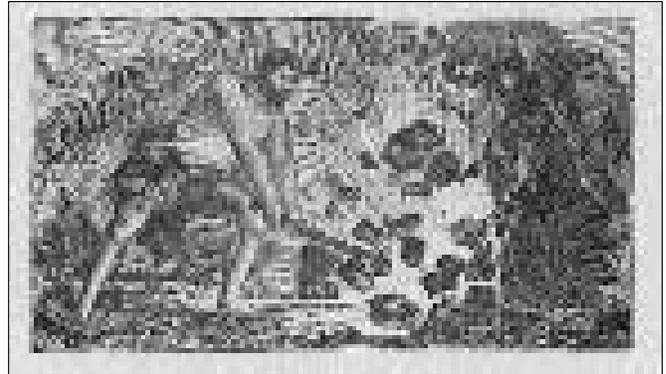
has made. In classical tradition, the gods were draped, but seldom clothed. Venus at the Forge of Vulcan, based on a work by Jan Brueghel, the Younger (1568-1625), John Woodman Higgins Armory, Worcester, MA, photographed by Don Eaton.

In ancient Roman mythology, Vulcan stood out for being useful. Born of Jupiter and Juno, he was, depending on the account, thrown from Mt. Olympus by his mother because he was lame and ugly, or by Jupiter

because he sided with Juno in an argument. After falling a whole day, he landed on an Mediterranean island and, assisted by the Cyclopes, worked his forge of volcanoes to produce shields, weapons and chariots for the gods.

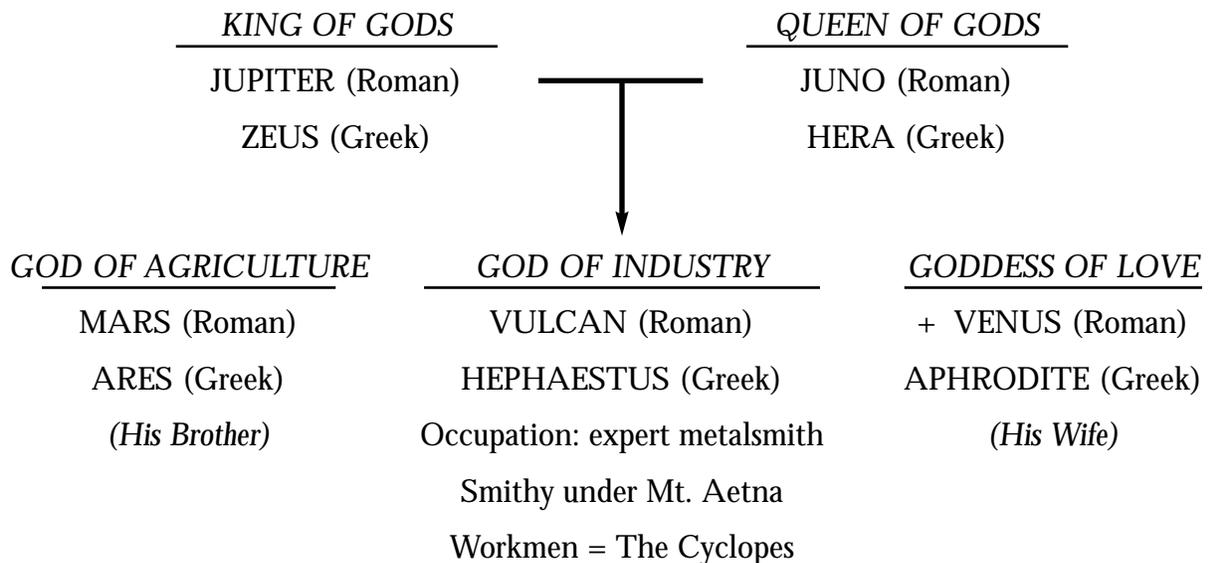


The mythological Vulcan, assisted by his labor force of one-eyed Cyclopes, harnessed the volcanoes of Mt. Aetna to produce everything the gods needed — from spear points to buildings, golden ornament to thunderbolts. Vulcan was the one useful god: the workingman. Drawing by Scott Fuller.



An 1886 book promoting the region, *The Mineral Wealth of Alabama and Birmingham*, contains this advertisement, the first-known local use of what appears to be a figure of Vulcan. Birmingham Historical Society.

Vulcan's Family Tree



MORETTI TO THE RESCUE



Sculptor Giuseppe Moretti, in a portrait with a miniature model of Vulcan, was in his mid-forties when he accepted the Birmingham commission, a physically demanding project that Moretti executed with unheard-of speed. Birmingham Public Library Archives.

Born in Sienna, Italy in 1859, Giuseppe Moretti was the nephew of an Italian cardinal and art patron. Moretti studied art at the Academy of Fine Arts in Florence. After an initial career in Austria, he emigrated to the United States in 1888. His first American commission was for statuary and friezes at the W. K. Vanderbilt Residence, Newport, Rhode Island, and work on the base of the Statue of Liberty.



A formal portrait of the upper portion of the plaster cast of Vulcan was taken in the partially built St. Stephen's Church in Passaic, New Jersey used by sculptor Giuseppe Moretti as a studio. This photograph was published on the front page of The Birmingham News on January 30, 1904. Moretti leans back above his skilled crew while Vulcan's press agent James MacKnight stands at lower left. Birmingham Public Library Archives.



In the years prior to Birmingham's Vulcan, Moretti had created major public monuments in Pittsburgh, including the 56-foot-tall Welcome, and the gates to Highland Park. Birmingham Public Library Archives.



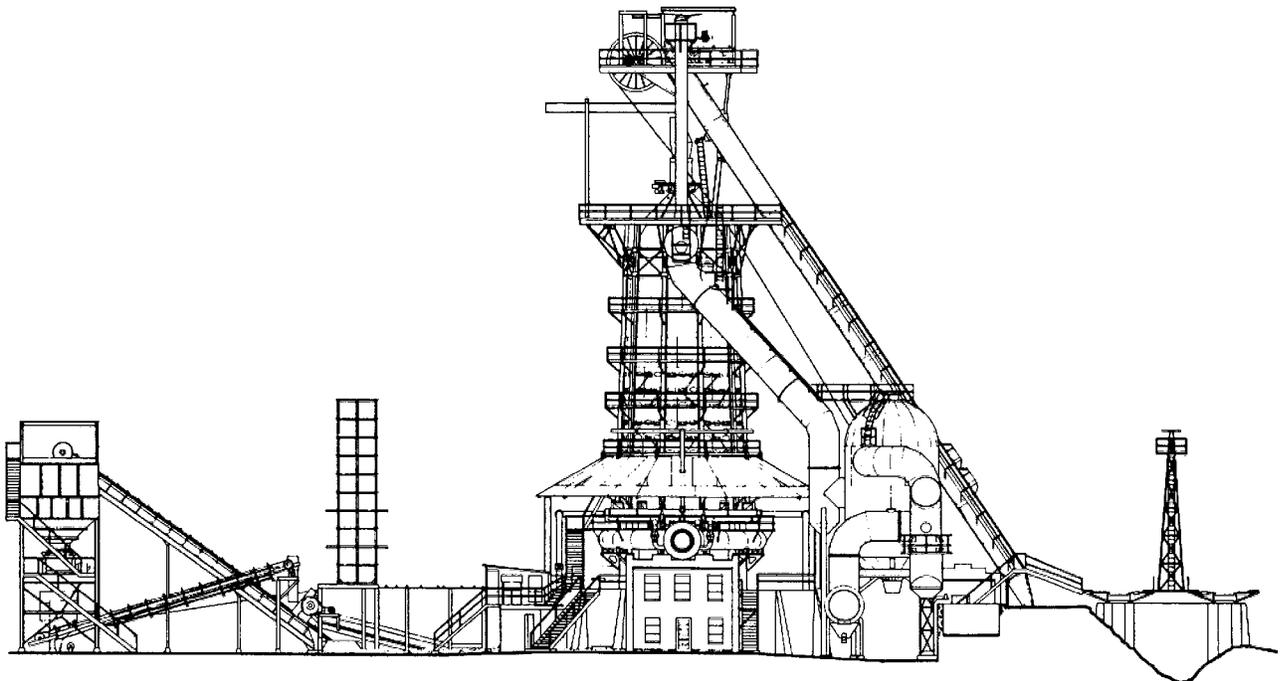
Though his studio was located in New York City from 1888 to 1904, his major work during the 1890s consisted of monumental bronze statuary for Pittsburgh parks. Prior to the Vulcan commission, Moretti had won a bronze medal at the Paris Exposition of 1900. In 1903, he completed a statue of Cornelius Vanderbilt erected at Vanderbilt University in Nashville.

While in Alabama, Moretti became enthusiastic about Sylacauga marble, sculpting a head of Christ also exhibited with Vulcan at the St. Louis World's Fair of 1904 and, in 1908, a memorial statue of teacher Mary Cahalan now located in Linn Park. In 1909, Moretti returned to Italy but was soon back in the U.S. creating World War I memorials for a number of cities as well as commissions for influential patrons across the Northeast. From 1916 to 1923, his studio was in Pittsburgh. Moretti returned again to Italy in 1925 where he died at San Remo in 1935 at the age of 76.

Moretti's first 24-inch clay model of his proposed Vulcan.
Birmingham Public Library Archives.

RECIPE FOR PIG IRON

RECIPE:	Sloss No. 2 Pig Iron
SERVES:	60 tons, sufficient for casting Vulcan
FROM:	Sloss Furnaces National Historic Landmark Birmingham Historical Society One Sloss Quarters Birmingham, Alabama 35222
INGREDIENTS:	120 tons of iron ore 30 tons of limestone 60 tons of coke 90 tons of air - to heat the furnace 180 tons of water - to cool the furnace
COOKING TIME:	3-4 hours
MELTING POINT:	1,700°
TEMP. AT TOP:	2,800°
YIELD:	60 tons of iron and 60 tons of slag



THE FOUNDRYMEN'S CHALLENGE



Making iron at the American Cast Iron Pipe Company foundry are these unidentified men who pose as molten metal is poured

into molds for making pipe (top center). Birmingham View Co., 1906, Birmingham Public Library Archives

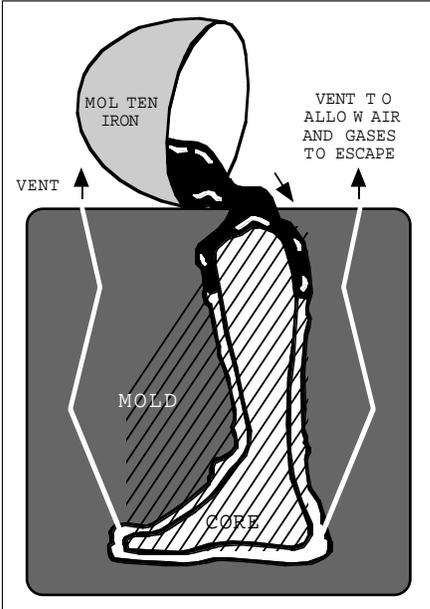
“It was decidedly the hardest casting ever made in Birmingham, and it taxed the ability of the foundrymen. Several who have visited the foundry have stated that they would never have known how to go about it,” reported the *Birmingham Age-Herald*, April 25, 1904, as the final work commenced. In a 1962 interview in *The Birmingham News*, 82-year-old Fred

Buettiker, the last remaining molder of Vulcan, said the men worked 60 hours a week for four months at 35 cents an hour. During the last six weeks, Buettiker, who had started foundry work at age 14, did not leave the plant at all, with castings made at 2 a.m. or anytime they were ready.

CASTING THE COLOSSUS



This photograph published in a 1905 American Machinist article shows the completed casting of Vulcan's head, which weighed approximately 15,000 lbs. Library of Congress.



The pouring of the iron took only minutes, but the making of the complicated molds from brick and sand took weeks at the hands of skilled foundrymen. This drawing roughly outlines the cavity between the outside mold and the interior core where the iron would be poured. Illustrator: Scott Fuller.

MEET ME IN ST. LOUIS



In this view of the St. Louis World's Fair of 1904, the nine-acre Palace of Mines and Metallurgy is visible on the left. A pair of giant obelisks flanks its grand entry. Fair buildings

were temporary structures, their exteriors covered in staff (a tough plaster). Birmingham Public Library Archives.

THE FAIR

To mark the 100th anniversary of the Louisiana Purchase, the St. Louis World's Fair should have opened April 30, 1903. But organizers realized early on they could not make that date, so the exposition was “dedicated” on that date and opened a year later. Attractions spread over 1,240 acres drew an average 100,000 visitors per day. Like most temporary fair structures of the era, ornate palace exteriors were shaped from staff (reinforced plaster). One permanent structure was the core of the Palace of Fine Arts, now part of the St. Louis Museum of Art. Vulcan, the great “Iron Man” from Birmingham, Alabama, remains one of the few other large, surviving artifacts of the fair.

ALABAMA'S EXHIBIT

Exposure at the St. Louis fair was seen as advertising and promotion for the industrial district, and viewed by visionary business leaders as a way to attract new manufacturers to Alabama. Instead of shipping raw metal north to be turned into products, they felt the city should develop home markets, adding jobs and dollars to the economy. At Vulcan's feet were exhibits of the state's raw materials and products made from them. Though international fairs in this period did provide amusement, great emphasis was placed on presenting goods and resources.

During the run of the fair, nearly 20 million visitors came. There were eight major exhibit palaces and acres of diversions ranging from the newly invented automobile to a tribe of pygmies, but Vulcan unquestionably stood out. More than 20,000 visitors signed the exhibit register and Vulcan statuettes sold out.

TRIUMPH AT THE FAIR



“THOUSANDS ADMIRE THE GREAT STATUE OF VULCAN,” read the *Birmingham Age-Herald* headline of May 1, 1904, but their admiration could only reach as high as his knees. “Several parts of the statue are already in place, and this exhibit is attracting more attention than any other one thing in the exposition. . . People stood for an hour at a time studying the outlines of the legs to the knees and the piece immediately above the knees,” the reporter said (with, it must be assumed, some exaggeration).

Only Vulcan’s feet and lower legs were in place when the St. Louis World’s Fair opened on April 30, 1904, but by dedication in early June, the “Iron Man” was triumphantly dominating the huge Palace of Mines and Metallurgy. Exhibits at his feet featured raw materials and products from 20 Alabama counties. Fair officials named Vulcan the official Alabama exhibit, and an international panel of jurors awarded him a grand prize. Lettering on the anvil’s base reads, “Vulcan God Of Fire & Metals — Cast At — Birmingham, Alabama.” Missouri Historical Society WF 1035; photographer: Dept. of Mines & Metallurgy, 1904, St. Louis, MO.

THE RED MOUNTAIN REVIVAL

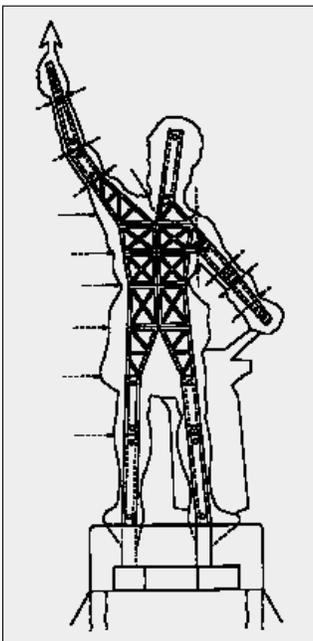
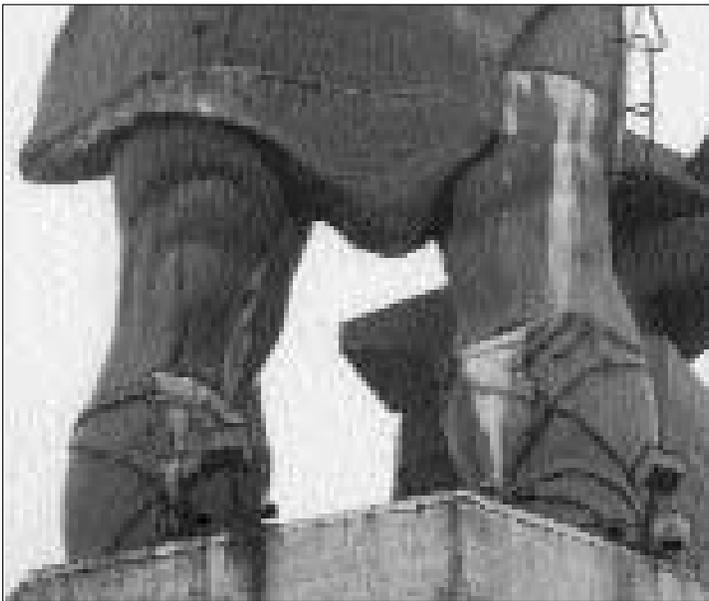


In his new, highly visible location on the ridge overlooking Birmingham, Vulcan was revived as a worthy symbol of the city. The number of local companies using “Vulcan” in their name jumped. And, as promoted in the campaign to move him, Vulcan quickly became a popular destination.

This photograph of Vulcan and his park captures the superb fit the 1930s-era stonework provides between the monument and its prominent natural setting atop the red ore vein that gave rise to Birmingham’s industry. Photographer: O.V. Hunt; Birmingham Public Library Archives.

RESTORING THE STATUE

The concrete poured into Vulcan up to his shoulders to help anchor him to his new perch in the late 1930s was effective in a make-do way. He was, and still is, stable, with metal rods extending from the concrete tower cap 10 feet into his legs, but concrete expands and contracts at a different rate than cast iron. The concrete also tends to trap moisture and create long-term deleterious effects on the iron plates and their connections. Vulcan is slowly cracking up.



Problems with Vulcan cracking and with the concrete poured inside him to help anchor him to his pedestal have been studied and various solutions proposed.
Photograph: Frank Couch,
The Birmingham News.

The comprehensive solution for the statue is to take it down in pieces, remove the concrete, restore parts that need it and reinstall them on a new steel armature mounted to the tower.
Robinson Iron, 1994.

Proposed Construction Sequence

Disassembly Preparation

Build ramp
Move 500-ton crane

Disassemble Pieces & Remove Concrete

Prepare to Exhibit Pieces for Public Viewing

Public Viewing of Pieces

Back to Foundry for Repairs

Build Steel Frame

Restore Monument

Put Vulcan Back Up, Piece by Piece

Restore Park Landscape, Including Waterfall

Build Visitor Center

Hold Celebration for the Restoration of Vulcan Park

Reopen Park and Enjoy It

A VISION FOR VULCAN



This watercolor suggests how Vulcan Park will appear when returned to the character of the 1930s period. With an interior elevator, the monument will, once again, have its slender profile and stonework exposed. The landscape will defer to the natural

setting and views of Vulcan will be improved. A new visitor center to tell Vulcan's story and the history of the city will be constructed at the site. Birmingham Historical Society; watercolor by Bob Moody, 1995.

AMERICAN LANDMARKS



Liberty Enlightening the World-The Statue of Liberty, sculptor Frederic-Auguste Bartholdi, copper on iron framework, 1874-1886, 151 feet, the tallest statue in the United States, New York Harbor.



Golden Gate Bridge, designer: Joseph B. Strauss, 1.86 miles of roadway long, the second-longest single-span bridge in the world, San Francisco.



St. Louis Arch, Eero Saarinen, 1961, 630 feet, St. Louis, Missouri.

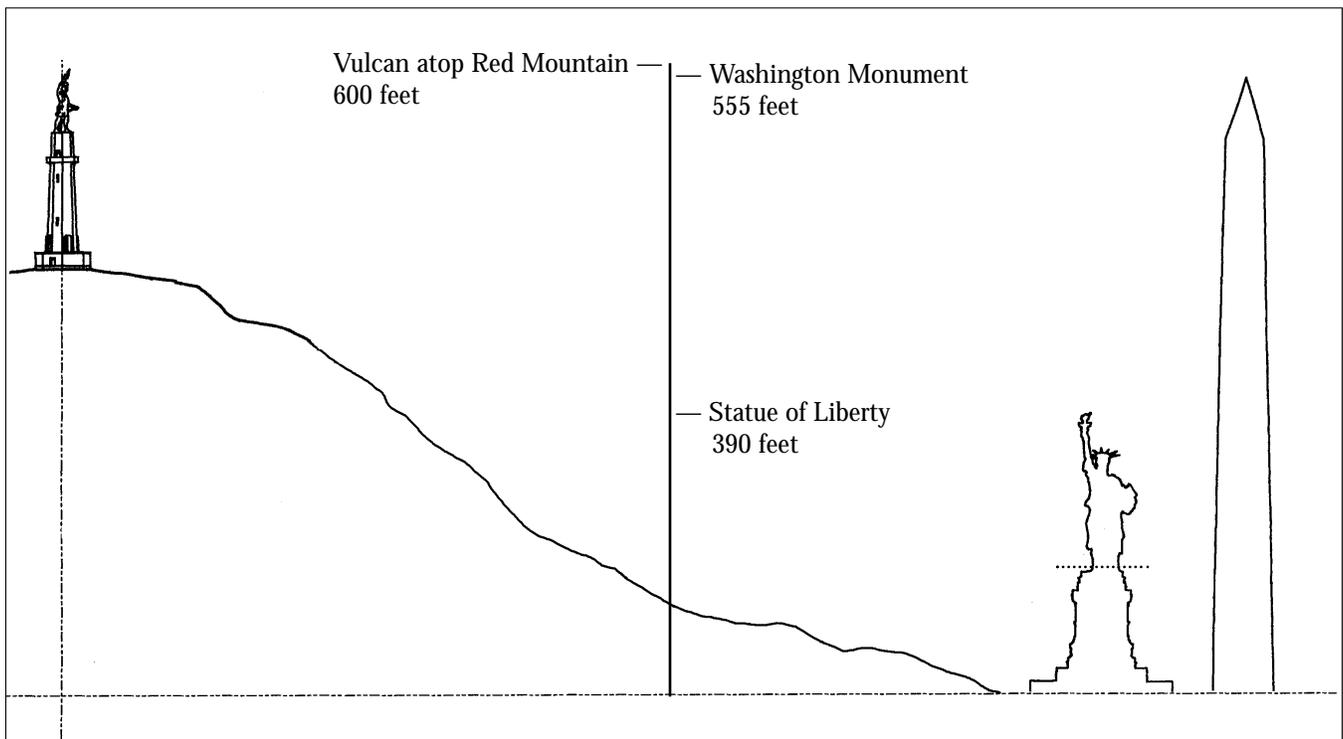


Washington Monument, by Robert Mills, 1848-1884, 555 feet tall, Washington D. C.; the tallest structure in the world at construction.

TALLEST AMERICAN MONUMENT

The original claim that Vulcan is the largest cast iron statue in the world appears to hold true. At 56 feet high, Vulcan also stands tall as the second tallest statue in the United States, a distant second to Frederic Bartholdi's 151-foot-tall *Liberty Enlightening the World* in New York Harbor. Liberty is made of hammered copper over an iron framework. Further claims made for Vulcan in a 1938 publication, *Birmingham's*

Vulcan, stretch his monumental presence: "Vulcan stands atop a pedestal 124 feet high, so that the monument, as a whole, rises to a height of 179 feet, which is taller than Niagara Falls. Since the statue was planted on the crest of a mountain some 390 feet above Birmingham, Vulcan surveys the city center from an elevation of nearly 600 feet, just over the height of the Washington Monument, the tallest shaft in America."



Vulcan is what art historians call a monument, a work whose actual or apparent scale is vast and which is intended to be an enduring sign. It is the local expression of an international urge to give visual form to the aspirations of a particular place, made by

an artist sympathetic to the concept and bold enough to venture the technical challenge of the scale.

— Dr. John M. Schnorrenberg,
University of Alabama at Birmingham
Department of Art

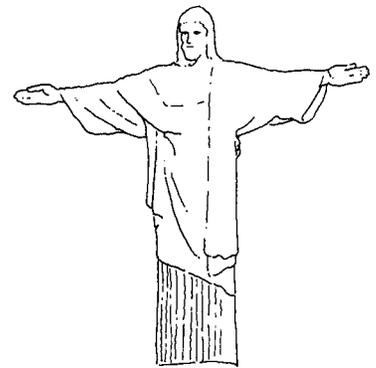
VULCAN'S GLOBAL FAMILY



A. Mother Russia, by Yevgenyi Vuchetich, 1967, 270 feet, Volgograd, Russia, reinforced concrete with stainless steel sword.



B. Statue of Liberty, by Frederic Bartholdi, 1874-1886, 151 feet, hammered copper over an iron framework.



C. Christ the Redeemer, 1931, 98.5 feet, Corcovado Mountain, 2,329 feet high, Rio De Janeiro, concrete and soapstone.



D. Bavaria, by Ludwig Michael Schwanthaler, 1848, 59 feet, Munich, Germany, cast bronze.



E. Vulcan, by Giuseppe Moretti, 1904, 57 feet, Birmingham, Alabama, cast iron with polished steel spearpoint



F. The Amida Buddha, 1252, 37 feet, Kamakura, Japan, bronze.

QUIZ

The mythological god, Vulcan is the _____ god of _____.

A _____ by profession, his _____ was located on the Sicilian Island of _____ Here, he and the _____ made _____ for _____ His father _____ was so pleased with the _____ Vulcan created, that he gave his son _____ to be his wife.

The (original) statue of Vulcan

This statue depicts a male figure, his left foot forward and his right arm uplifted holding a _____. His left hand holds a _____. He wears sandals and is clothed (in the tradition of classical sculpture) with a blacksmith's _____. He is standing at an _____ block. His gesture indicates a mood of _____. He is proud to have just _____.

Birth/Creation

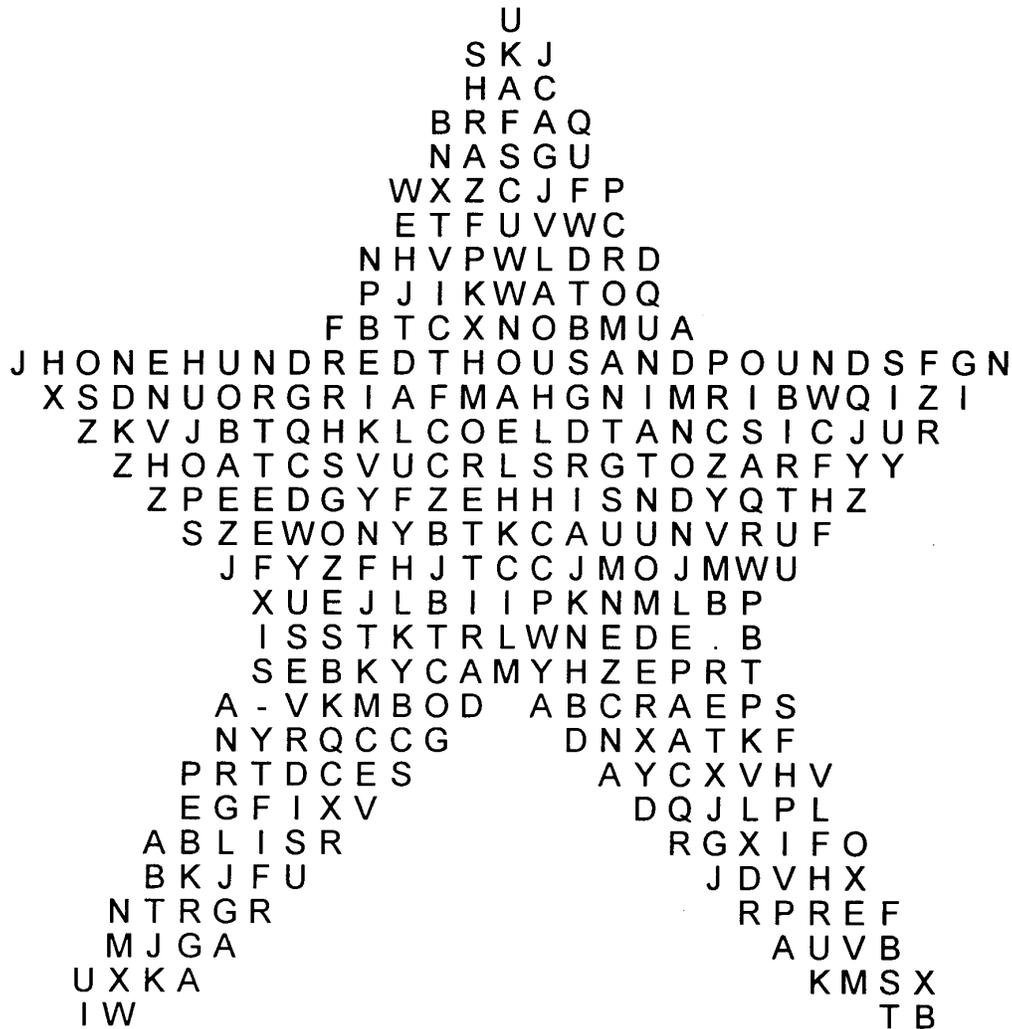
Birmingham's Vulcan was created by the city's _____ leaders to promote the city to the _____. Vulcan served as Alabama's _____ at the _____ (date) _____ Fair in _____.

Materials used in the statue

Vulcan is made of _____. The metal is made from _____ heated in furnaces such as the _____ (now closed and a National Historic Landmark). _____ and limestone are also needed to make _____. (Steel is made from this metal.) Birmingham has these minerals in _____. The City of Birmingham was established to mine these minerals and to make iron and steel products. That manufacturing industry formed the economic reason for the city's founding in 1871.

Cast from _____ ore in a _____ foundry, the statue was designed by an _____ (nationality) sculptor named _____. He used an unfinished _____ in Passaic, New Jersey, to build the _____ cast from which the statue was made.

WORD SEARCH



1. Vulcan spent 30 years here after leaving the World's Fair
2. Vulcan's mythological mother
3. Vulcan's mythological father
4. Birmingham's nickname
5. The sculptor who created our statue of Vulcan
6. Vulcan's current home
7. Vulcan is the _____ god of the forge
8. Site of the 1904 World's Fair
9. Vulcan is the largest _____ iron statue in the world
10. Vulcan's height
11. Item Vulcan now holds in his right hand
12. Vulcan's estimated weight
13. Item Vulcan originally held in his right hand

QUESTIONS

When was Birmingham founded?

At what Birmingham foundry was Vulcan cast?

What kind of a city was it founded to be?

Of what iron is Vulcan made?

Who created Vulcan?

Where was the iron ore from which Vulcan was made mined?

When?

In what month were the final pieces of Vulcan shipped to St. Louis?

Why?

Where was Vulcan exhibited at the World's Fair?

Who was Vulcan?

How large was this Palace?

Who sculpted him?

What was at his feet?

How long did the sculptor have?

Were Vulcan's ribs showing?

What was the World's Fair exhibit trying to widely promote?

How long did it take to make Vulcan?

What are these resources?

How was Vulcan popularized at the fair?

Who sponsored the exhibit?

How many visitors attended the World's Fair in St. Louis?

Where did Moretti make the plaster model for the statue?

How did the Commercial Club finance the cost of creating Vulcan?

Was Vulcan made in a single piece?

From 1906 to the early 1930s, what was Vulcan's Birmingham home?

Can a carriage pass through Vulcan's legs?

Was Vulcan correctly assembled here?

By what transportation did Vulcan arrive for casting?

What uses did he serve during those early years?

What piece of Vulcan arrived first in St. Louis?

Where is Vulcan Park located?

Describe the original Vulcan tower.

Did it fit into the natural setting?

What did Vulcan hold aloft in his hand at completion of the tower?

What were the principal features of the 1930s park?

Who was Vulcan's sweetheart?

What was the principal reason Vulcan Park became a major tourist destination?

Where did the stone for the Vulcan tower come from?

Who coordinated the original mountaintop park construction and when did it occur?

As the statue was put into place on the top of the tower, with what was it filled?

What is creating Vulcan's crack up?

What is the preferred approach for restoring the statue?

Will this tear up the park?

Has such an armature been tried before?

Does the original Vulcan Tower remain?

Does the original cascade remain?

Can an elevator and a staircase be fitted into the original Vulcan tower?

How many stairs are there in the tower staircase?

Would a visitor center enhance and improve our understanding of Vulcan and of the city?

GLOSSARY

BIRMINGHAM DISTRICT- a geographic area defined initially by geological discoveries and subsequently by the location of industries that exploited these minerals located by geologists. These minerals include the coal, iron ore and limestone used to make iron and steel. This area now includes Bibb, Jefferson, Shelby, Tuscaloosa and Walker Counties.

BIRMINGHAM STEEL AND IRON

COMPANY-The McWane family firm that cast the statue of Vulcan in 1903 and 1904. This foundry was located at 14th Street near First Avenue North.

CAST IRON PIPE - major use of Birmingham's iron; since 1900 Birmingham has been the world's cast iron pipe center. Pipe is currently made at US Pipe in Bessemer and at US Pipe, ACIPCO and McWane in North Birmingham. Cast iron pipe is used for waste and water systems.

COAL- a black mineral extensively mined in this area from two major fields, the Warrior and Cahaba Coal Fields, named for the rivers through which the fields are drained; coal, converted to coke, is used as fuel for ironmaking and other industrial processes, especially power generation. The Birmingham District remains a top 20 American coal producer with extensive surface and underground mines in operation.

COKE - 1. the fuel for ironmaking, and other industrial processes; 2. substance derived from heating coal; 3. Birmingham is a major site for the production of coke, with cokeworks located at Tarrant, Fairfield, Woodward and Holt; markets for coke include Birmingham area and midwestern industries.

COLOSSUS - plural, colossi, ancient statues of stupendous, incredible, astonishing or exceptional size or height.

COMMERCIAL CLUB - group of Birmingham businessmen who championed the campaign to represent Birmingham and Alabama at the St. Louis World's Fair with a colossal statue of iron: Vulcan; the club later became the Greater Birmingham Area Chamber of Commerce.

FURNACES- vessels in which ore is heated and melted and transformed into a liquid substance; "blast" furnaces, so called for the blast of air which continually fires the furnaces.

HISTORIC AMERICAN ENGINEERING

RECORD (HAER) - This Washington D. C. based branch of the U. S. Park Service conducts professional documentation of significant American sites. Teams of historians, architects and photographers research and develop photographs, drawings and histories of those sites. Working with the Birmingham Historical Society, HAER teams recorded the Vulcan statue and the 1930s park during 1993 and 1994.

IRON - 1. the principal product of Birmingham industry. Birmingham established its niche as America's premier foundry iron producer. At its peak in 1940, Birmingham produced 40 percent of America's foundry iron. By the time of the St. Louis World's Fair, the Sloss company was America's leading producer of iron and America had ascended to world prominence in iron and steel making. 2. cast iron: made from raw materials: iron ore, coal and limestone. U.S. Steel's Fairfield Works makes iron from raw materials. 3. ductile iron: made from scrap metal. Most mini-mills and many foundries make iron from scrap.

IRON ORE - the mineral from which iron (and then steel) is made.

IRON PELLETS - the form by which iron is currently prepared for furnace use.

LIMESTONE - mineral used as flux in the ironmaking process and to build Vulcan's tower.

LONE PINE GAP - natural cut in the mountain at the site of Vulcan Park.

LONE PINE MINE NO. 3 - red ore mine located beneath Vulcan Park, operated by T.C.I. (Tennessee Coal and Iron Company, the southern subsidiary of U. S. Steel) during 1907 and 1908.

MARSHALL, R. S. - Superintendent of Birmingham Parks and Recreation Department who designed and assisted with construction of Vulcan Park in the 1930s.

MINERAL RAILROAD - The Red Gap Branch of this 16-mile railroad that extended from Trussville to Bessemer, accessing red ore mines located along the northern flank of Red Mountain; active at Vulcan from the 1880s to the 1930s; right-of-way remains; mineral railroad loop fed ore to furnaces located in the valley beneath Birmingham.

MORETTI, GIUSEPPE - Italian immigrant sculptor who created the Vulcan statue; his American career included major work in Pittsburgh, New York, Nashville and other cities across the Northeast.

OLD MONTGOMERY HIGHWAY - major North-South automobile transportation route crossing Alabama and connecting points in the state to the Midwest and to Florida; became U.S. 31.

PIG IRON - iron named for its shape after being poured from furnace.

RED MOUNTAIN - A foothill of the Appalachian Mountains rising 600 feet high and containing several seams of red iron ore. Mining of this ore at more than 100 mines, from the 1860s to 1960s, fueled the development of Birmingham's iron and steel industry. Vulcan is built atop the ore vein. The ore seam is visible at the top of the highway cut beneath the statue. Erskine Ramsay placed a sign here pointing to the seam.

RESTORE/RESTORATION - to return to the original state. One restores historic sites to their original condition, which is generally also their periods of significance. For the Vulcan statue, this is the period of the St. Louis World's Fair installation, 1904; for Vulcan Park, it is the park at the completion of the 1930s construction, i.e. the 1938 appearance.

RUFFNER MOUNTAIN NATURE PRESERVE - 600-acre wilderness park, located east of Vulcan Park along the Red Mountain ridge, within the City of Birmingham. Its mountainside trails pass many red ore pits and mining ruins; site known as the Ruffner Red Ore Mines mined by the Sloss Furnaces company from the 1880s to the 1960s, a limestone quarry and railroad beds are also located on the preserve.

ST. LOUIS WORLD'S FAIR - The world exposition celebrating the 100th anniversary of the Louisiana Purchase held in St. Louis during 1904 and officially called the St. Louis World Exposition. It attracted exhibits from across the world and 20 million visitors. This eight-month, international mega-convention, industrial trade show, scientific and artistic gathering included the first Olympics in America. The Olympics were a minor part of the fair. Ice cream cones and iced tea were first introduced to the American public at this event. The statue of Vulcan remains a major surviving artifact of this great fair.

SLOSS FURNACES - **1.** historic iron-producing furnaces. **2.** the Sloss company operated as the world's largest producer of iron in certain years at the time of the casting of the Vulcan statue.

SLOSS FURNACES NATIONAL HISTORIC LANDMARK - now a museum of the City of Birmingham open to visitors for historic interpretation of the iron industry and as a community center for concerts and other special events.

STEEL - glamour metal made from iron, exceedingly strong.

VALLEY VIEW- red ore mine operated from c. 1903 to the early 1920s; located just west of Vulcan Park; principally provided ore to furnaces in Tuscaloosa.

VENUS - Vulcan's mythological wife, given him by his father, Jupiter, in gratitude for making him his thunderbolts.

VIVE - French for long live . . .; also, vivacious: long-lived, lively in temper.

VULCAN - **1.** Roman god of iron and smithing (fire and metals written on his anvil block at the fair); **2.** patron of the working man; **3.** heroic statue created by Birmingham commercial interests to advertise the city's industrial prowess at the St. Louis World's Fair, 1904; **4.** major surviving artifact of that fair; **5.** world's largest iron statue, second in size to the Statue of Liberty in New York Harbor; **6.** symbol of Birmingham's dominance in the foundry iron industry.

VULCAN PARK - a five-acre mountaintop park located on Red Mountain, atop the ore vein that supported Birmingham industry; given to the City of Birmingham in the 1930s and dedicated as a public park.

WPA - The Works Progress Administration, a federally sponsored 1930s-Depression era program, hired architects and artists to work on public improvement projects, including providing the labor to build the original Vulcan Park. The Italians who built the Vulcan Monument, cascades, walks and staircases also worked for the state highway department building roads and drainage systems.