

Building Mount Rushmore, 1926

Introduction

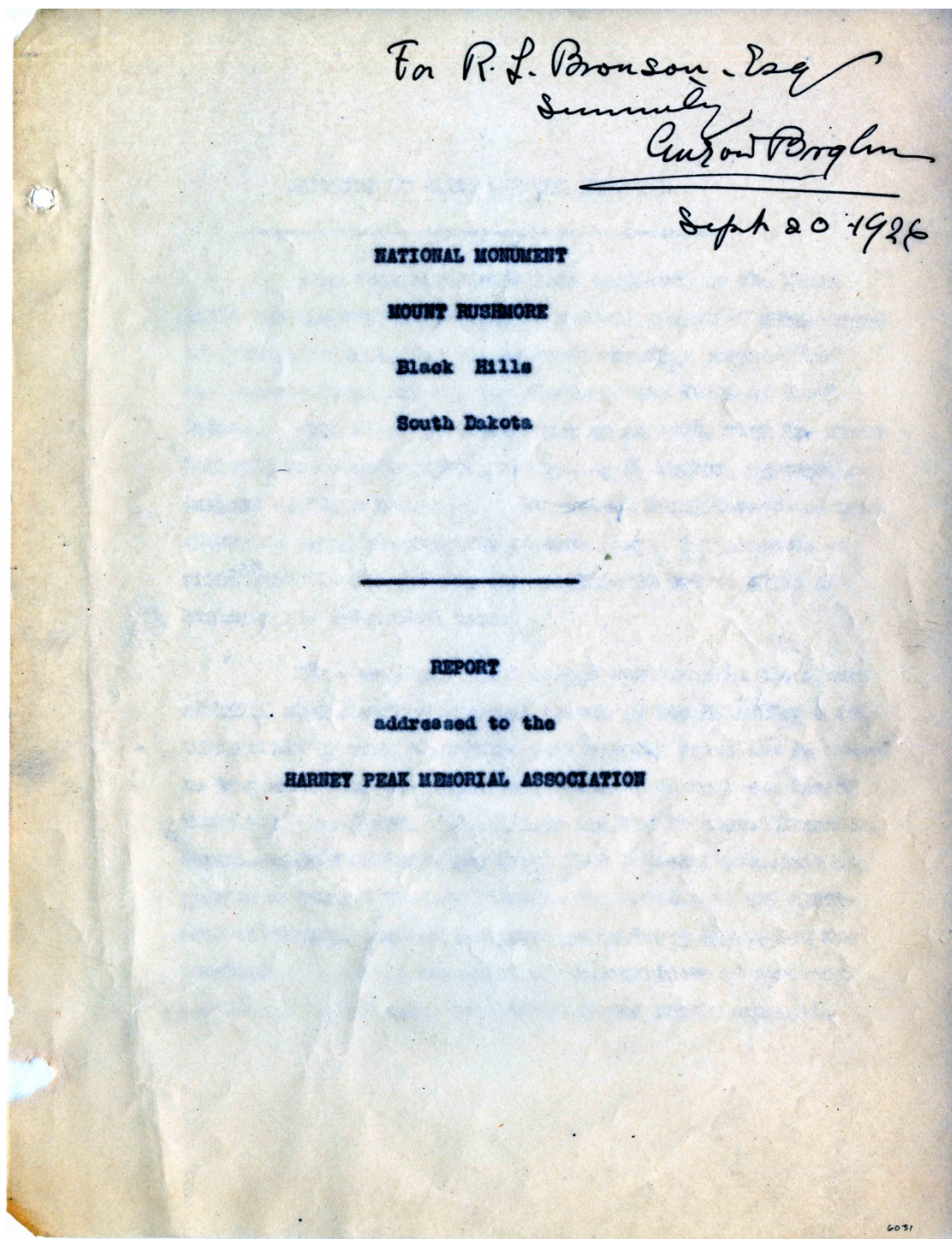
This September 1926 report by the sculptor Gutzon Borglum to the Harney Peak Memorial Association anticipates the construction of the Mount Rushmore National Memorial in the Black Hills of South Dakota. Borglum's report offers a look into the memorial's conception and development as well as the artist's vision of it as a testament to the development of the United States and the men responsible for it: George Washington, Thomas Jefferson, Abraham Lincoln, and Theodore Roosevelt. Borglum declared, "These four I, therefore, urge upon your Association as the characters to be adopted to memorialize symbolically that spirit which conceived, built, preserved, understood the need and the natural limits of our national dimensions."

Borglum's report also asserted that Mount Rushmore's favorable location and unique granite would ensure successful construction and future sustainment compared to the inadequacies the site originally, the Needles of the Black Hills. He estimated that it would take a budget of \$460,000 and five years to complete the memorial. Those figures proved to be gross underestimates—especially considering Borglum's original plans to include a tableau of American expansionist achievements and sculptures extending to the waist of each figure—and the memorial ultimately took 400 workers, fourteen years (from 1927 to 1941), and nearly a million dollars to complete.

Despite setbacks, delays, and budget problems in its construction, Borglum's memorial at Mount Rushmore still stands as one of the greatest achievements in engineering history and is a historic landmark of American ingenuity and imagination.

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Image



Gutzon Borglum, National Monument Mount Rushmore Black Hills South Dakota..., September 20, 1926. (Gilder Lehrman Collection, GLC06031)

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Transcript

Gutzon Borglum, National Monument Mount Rushmore Black Hills South Dakota..., September 20, 1926. (Gilder Lehrman Collection, GLC06031)

*For R.L. Bronson, Esq
Sincerely
Gutzon Borglum
Sept 20 1926*

NATIONAL MONUMENT

MOUNT RUSHMORE

Black Hills

South Dakota

REPORT

addressed to the

HARNEY PARK MEMORIAL ASSOCIATION

[2]

LOCATION OF CLIFF FOR THE MEMORIAL

Four separate visits have been made to the Black Hills for the express purpose of selecting a cliff or upthrust of granite suitable for the colossal carvings proposed in the Congressional Act and undertaken by the State of South Dakota. The first of these was made in 1924, when Dr. Doane Robinson accompanied myself and Mr. J. G. Tucker, my superintendent at Stone Mountain. We visited Mount Harney and considerable stone was examined at that time. The presence of stone suitable for carving was established but no cliff or location was

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determined upon.

The second and third visits were made in the summer of 1925, when I made a thorough search of the Hills for a suitable cliff or mass of granite sufficiently sound and so placed as to meet monumental requirements and be at once capable of sculptural treatment. Col. Shade and Mr. Theodore Shuemaker, Superintendent of Parks and State Park Forester respectively, guided me through the mountains to the south-east and north-east of Harney, each of the great peaks being approached and examined, first from the point of condition of the stone and then from the point of visibility and public approach.

[3] For a period of two weeks we searched the higher and larger granite formations and finally determined upon Rushmore, which lies a few miles east by south slightly of Mount Harney and is approached from the east side, up a small gulch from Keystone.

When determining upon Rushmore I notified Dr. Doane Robinson and Senator Norbeck, who came immediately and joined the party.

My impression at the time was both Dr. Robinson and Senator Norbeck had in mind not only a different formation of stone that that presented at Rushmore but had thought of a near location to Harney. This may have been due to first impressions and the formation of upright Needles and my suggestion of carving in one of them large, upright figures. Rushmore was not immediately approved and much of the ground we had traversed was reexamined by Senator Norbeck and Dr. Robinson and the others, with the result, after thoroughly examining the available cliffs that Rushmore was chosen and a general examination of the stone was ordered.

I returned east and brought with me my photographer, Charles de Emery, a man of international standing, one hundred plates, and one of my studio assistants. We scaled

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Rushmore, [4] roughly measured the quantity of stone available, the general height, and terminated our work by a dedication of the mountain for the authorized memorial. State officials aided in the unique ceremony of rehoisting the French flag of 1743, the Spanish of 1756, the French of 1800 and the American of 1803.

[5]

THE MEMORIAL

The Federal and State Acts of 1925 authorized colossal carvings. Careful consideration of all the questions that should be weighed in so extraordinary an undertaking causes me not only to recommend but to urge upon the Association to build this monument as a memorial to and in memory of the continental development of the Republic, commemorating in sculptured portraits those dominating personalities, who furthered its creation and preservation, and in an entablature with saple [*sic*] inscriptions the important acts connected therewith.

South Dakota lies, by the providence of God, in the center of this great Union, in the center of America, in the center of the territory which marked the first step from colonial conservation to continental dominion. The State's capital was the point of the territory which is now known as the Louisiana Purchase, and South Dakota was the scene of much of the hardship and lay in the course of the Lewis and Clarke [*sic*] Expedition in 1807, instituted by the then President of the colonial states, to traverse and report upon the extent and character of the northwest territory.

[6] If this monument is so conceived and so developed, it becomes in all seriousness sincerely a monument of national record and of tremendous national significance. The increased

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burden involved by the development of the original thought is inconsequential. My experience is that the interest and momentum necessary to carve anything in colossal dimensions will provide means to do the larger and more significant work. My proposal, then, is that the character of the monument shall be as follows:

[7]

CHARACTER of MONUMENT

FORM – Colossal sculptured figures

Washington

Jefferson

Lincoln

Roosevelt

Together with a tablet of approximately 80 by 120 feet on which shall be made a record of the

Founding of the independent states

Establishment of the Republic

Purchase of the Louisiana Territory

Admission of the Republic of Texas

Acquisition of California

Acquisition of Oregon

Acquisition of Florida

Acquisition of Alaska

Acquisition of Panama

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[8]

SCULPTURE

The portraits of the presidents should inevitably begin with Washington, continue with Thomas Jefferson, the first great expansionist, who in spite of his reluctance originally in taking title to the entire Mississippi basin, when once done arbitrarily put the president's cachet on an expedition to secure first hand information of the best domain and equipped the Lewis and Clarke [*sic*] Expedition. Following him, Lincoln naturally becomes the third, as the preserver and re-creator of the Union upon a new and sounder foundation.

Roosevelt has been suggested as fourth. I can think of none more fitting. He was pre-eminently an all American president; his personal life made him, as no other president, the best acquainted with the whole nation; his literary life reflects the entire history of that restless Anglo-Saxon spirit that consciously or unconsciously made the ocean-to-ocean republic, in spite of prudence, traditions, and retarding political intrigue, inevitable.

These four I, therefore, urge upon your Association as the characters to be adopted to memorialize symbolically that spirit which conceived, built, preserved, understood the need and the natural limits of our national dimensions.

[9]

TABLET

The tablet should be oblong and upright. The beginning of each statement should contain the date in years and the territory described.

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All lettering should be incised.

This inscription should be on the west wall, and no lettering of any kind should appear with the sculpture on the east wall.

[10]

TIME NECESSARY TO COMPLETE WORK

The time necessary to complete these four colossal heads may be estimated at five years.

Our seasons for work are limited to the late spring, the summer, and early fall.

One season, when work is properly organized, should be sufficient for each portrait.

The work on the entablature could be carried on simultaneously with the portraits and would simply require an additional group of artisans.

[11]

EXTENT

The portrait figures of Washington, Jefferson, Lincoln and Roosevelt should extend from the topmost point of the south-east point of what is known as Rushmore Peak to such distance north and down as the sculptor shall determine, consistent with good monumental effect and arrangement

CHARACTER of WORK

The carving of the portraits of Washington and associate figures should be in full relief unless the character of the stone and general effect make it desirable that the stone to the back of the

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heads, as shown in the photographs, be left. This should be determined by the sculptor as the work progresses.

[12]

CHARACTER of GRANITE

The character of the granite, as far as it has been possible to determine without drills or other tools is hard and in good condition and free from the decay noticeable in a great part of Rocky Mountain granite.

The crystals are large – the stone without perceptible bed and will be difficult to split, but that means only closer drilling and greater care in removing unnecessary rock.

The surface of all rock in the Black Hills is cracked in character. On Rushmore, Boulder Mountain and one or two other upthrusts this is more apparent than actual and is not deep enough seriously to interfere with the work planned. I have, it will also be seen, so grouped my figures as to avoid such cracks and erosions as appear.

[13]

ENGINEERING

The attached photographs have been made from carefully prepared models to explain my general plan of engineering which I developed on Stone Mountain and which has proven the most simple, the most convenient, the least expensive, the safest.

I developed this system against the advice of three of America's most competent engineers and in eight years work at Stone Mountain, at a vertical height of 600 feet, never lost a man nor

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endangered life, and saved a hundred thousand dollars in scaffolding.

[14]

MOUNT RUSHMORE

Mount Rushmore lies in the Hills about three and a half miles west of Keystone, and is about one thousand feet above the valley of that little mining hamlet. The rock itself exhibits approximately four hundred feet of naked granite on the east wall, about seven hundred on the west wall, due to a ravine, and is about nine hundred feet in length, lying north and south.

The stone most suitable for carving and free from cracks and heavy erosions or other preventative conditions is the south-eastern shoulder. This shoulder by its location is directly protected from the severe north-western winds and weather and is in every way in much better condition than the west and north walls.

This is doubly fortunate, insuring a length of the life of the monument by many thousand years, and giving the portraits always the morning and early afternoon sun. The entablature on the west wall will be lighted by the afternoon sun.

This monument mountain presents a proud, noble front, is visible for many miles, and the conditions for development are good, enabling the public to see the [15] the [sic] work at varying distances of from three miles to a nearness of 2000 feet.

The natural points of view for the monument will be from a rise lying to the south-east and opposite the carving at a distance of about two thousand feet.

The portraits will be recognizable at a distance of three miles to the naked eye.

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THE GRANITE

The stone is, in the language of the cutters, granite. Scientists tell us it is pegmatite of even grain, and that the upthrust at Rushmore is younger by a million or more years than the granite and stone about Keystone four miles to the east.

I have found at the base of Rushmore, to the north, evidence of this upheaval and breaking stone that was clearly in place and cool when the Rushmore granite appeared.

It will also be noticed that the bed of this granite is more or less horizontal, while most of the rock in the Black Hills has been up-ended. This will also explain why the Rushmore granite weathers with less deterioration than nearly all the surrounding ledges.

The rock at the point chosen for carving is sound, of good grain, and even in texture. All Black Hills stone is dry, which accounts for its resistance to severe weather, but Rushmore has sufficient moisture to maintain its life and there is no evidence of decay on any part of the stone selected.

[17]

The stone here is much harder than Stone Mountain, which is an advantage, though more difficult to work.

The “checks”, “cracks” or “slips”, on the mass chosen for carving, are without exception harmless and of so slight a depth that they will disappear in dressing the stone for carving.

These “checks” or “cracks” I have found are erosions caused by the natural course of storm water and gravel worn by thousands of years of exposure and by the wearing away of harder veins, which yield to the elements more quickly than the more even.

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The stone will have to be drilled, hand-plugged and machine cut by what are known as air drills.

I shall use no explosives on any of the carving. It is an error to suppose that I used explosives at Stone Mountain on the carving. I used light charges of dynamite for the removal of masses of surplus stone many feet away from the carving. That wall was practically flat and I was obliged to deepen the cuts to secure depth for the carving, and used light charges only to release heavy masses at a [18] safe distance from stone needed for carving. This is unnecessary and unsafe at Rushmore, as we are actually carving in the round on a projecting mass.

In order to locate the stone necessary for carving I have established a center line, drawn parallel with the mass of rock proposed for the colossal heads. This line runs south and north, the point of the great upthrust facing south and east.

I have established this arbitrary line over the top, running the entire length of the work, and from this line I have divided the eastern faces of the great wall into ten-foot squares.

The angle of Washington's face sits at an angle of 65 degrees in its relation to the line south and north. That will cause him to face east 15 degrees towards the south.

This position of the head has been established by the rock in place and fits the angles and dimensions best for carving and lighting of the head by the day's sun and also allows the greatest amount of remaining stone for such other heads as may be finally determined upon.

See diagram, page also drawings from an angle of 300 feet to the north, looking south-west, [19] from 90 feet down on cable, and 70 feet down on cable.

The attached photographs explain fully the process of stone removal.

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The photographs were made from models created to a scale of 1/8 inch to five feet. Since measuring the actual face of the mountain the past month I have determine to increase the scale to 1/8 inch to ten feet, making the face of Washington and his successors about sixty feet. I find the increased scale necessary to fit the broad dimensions of Rushmore and to be visible at the points from which it will be seen.

There is little to add, further than to say, I have spent the past month at Rushmore with my assistant engineer, Capt. J.G. Tucker and Hugo Villa, and that I placed a hoist with cable, tackle and tools on the mountain and have daily given our time to the engineering necessary to secure the information necessary to report the actual presence of suitable stone in which I can carve the work proposed under the law and with such extension as I recommend.

Respectfully submitted,

Gutzon Borglum

Sculptor and engineer.

[20]

The approximate cost of the four sculptured heads and such part of the figures as may be carved, including all expenditures to date, installation of machinery and inscription on the great wall is estimated at \$460,000.

The change in the dimensions of the heads from thirty to sixty feet does not affect the estimate as I have figured on about 110 to 120 feet of square wall to be covered – a little over a quarter of an acre – of upright stone.

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Notes:

- This document is mostly printed. Handwritten text and signature appear on page 1 and 20 and are represented in ***bold and italics***.
- The photographs mentioned on page 13 and 19 and the diagram mentioned on page 18 are not present.