

**MISCELLANEOUS PUBLICATIONS-NO. 5.
DESCRIPTIVE CATALOGUE OF THE
PHOTOGRAPHS OF THE
UNITED STATES GEOLOGICAL SURVEY
OF THE TERRITORIES, FOR THE YEARS
1869 TO 1873, INCLUSIVE**

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W. H. JACKSON

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DESCRIPTIVE CATALOGUE OF THE
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UNITED STATES GEOLOGICAL SURVEY
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1869 TO 1873, INCLUSIVE**

DEPARTMENT OF THE INTERIOR.
UNITED STATES GEOLOGICAL SURVEY OF THE TERRITORIES.
F. V. HAYDEN, U. S. GEOLOGIST-IN-CHARGE.

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OF
THE PHOTOGRAPHS
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THE TERRITORIES,
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The Years 1869 to 1873, inclusive.

W. H. JACKSON,
PHOTOGRAPHER.

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PREFACE.

It has been customary, heretofore, merely to catalogue the results of each season's operations in a few pamphlet pages of numbers and titles only, but the increasing interest in, and demand for the more striking views, calls for a complete descriptive account of the collection, and I have endeavored, in the following pages, to supply as much information as the somewhat limited space allows. The descriptions are mainly compiled from the reports for the corresponding years.

The collection, thus far, numbers upward of thirteen hundred landscape negatives, the greater portion of them of subjects that had never been taken, and probably will not be for many years to come, or until the country has advanced into civilization. By no other means could the characteristics and wonderful peculiarities of the hitherto almost unknown western half of our continent be brought so vividly to the attention of the world. That they are appreciated, the demand for them, from all quarters of the globe, amply testifies.

It is not to be expected that they should possess uniform excellence, as the conditions under which they were made were as variable as the winds, and the difficulties encountered and surmounted in obtaining many of the most valuable views, are almost incredible. As a whole, however, their excellence is quite marked, and is a triumph over difficulties.

The Indian catalogue includes a list of over one thousand subjects and sixty-six tribes, representing nearly every portion of the western Territories, and their value to the ethnography of the aborigines will soon be very great. They are mostly studies of their habits and costumes, taken in their own villages and among their own mountains, showing their every-day life. They are fast passing away or conforming to the habits of civilization, and there will be no more faithful record of the past than these photographs. To their future historian they will prove invaluable.

The subjects made under the direction of this survey formed the nucleus, to which has been added nearly one thousand negatives through the munificent liberality of Wm. Blackmore, esq., a wealthy English gentleman, deeply interested in ethnography. The addition is especially valuable as it embraces many other collections, dating back twenty years.

Especial attention is being paid to the subject each season, and additions made to the collections upon every opportunity.

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1869 SERIES.

(8×10.)

The Union Pacific Railroad, Salt Lake City and Valley, and the Black Hills of Wyoming; embracing the more prominent pictorial features of the route of the great national highway. Photographed immediately upon the completion of the road in the summer of 1869.

- No. 1. **NORTH PLATTE RIVER**, looking north from bridge.
- No. 2. **BRIDGE ON THE NORTH PLATTE**, near its intersection with the South Platte.
- No. 3. **WIND-MILLS AT NORTH PLATTE STATION**. At this point the Platte runs through an almost entirely treeless plain, with but very few objects in nature to relieve the dead monotony, so the wind-mills that occur at nearly all the stations, for the purpose of raising water to the tanks, form a very prominent feature in the landscape. The river is very wide, shallow, and swift, running over bars and quicksands, with many little willow-covered islands.
- The north and south forks rise respectively in the north and south Parks of Colorado, and flow some 1,200 miles to their junction with the Missouri.
- The bridge and station are about 290 miles west of Omaha, and have an altitude of 2,789 feet above the sea.
- No. 4. **SHERMAN STATION**, upon the broad, plateau-like summit of the Black Hills, 8,242 feet above the sea, and 2,170 above Cheyenne, only 33 miles to the eastward. Sherman, so named from the commander of the United States Armies, enjoys the distinction of being the most elevated railway station in the world.
- No. 5. **REED'S ROCK**, near Sherman, forms an excellent illustration of the style of weathering of the granites characteristic of this region. These massive piles, like the ruins of old castles, are scattered all over the summits of the Black Hills, and the difference in the texture of the rock is such as to give a most pleasing variety. They were once angular, cube-like masses, and have been worn to their present form by the process of disintegration by exfoliation.
- No. 6. **GRANITE CUT**, near Dale Creek Bridge, about three miles west of Sherman. The road has been drilled and blasted through a close, compact, and massive granite that is susceptible of a high polish, much like the Scottish syenite.
- No. 7. **DALE CREEK BRIDGE**, over Dale Creek, a small tributary of the Cache La Poudre flowing into the South Platte. The bridge is a wooden frame-work structure 650 feet long and 127 high, the largest of its kind on the road.
- No. 8. **DALE CREEK CAÑON**, a view looking south from near the bridge. A characteristic view of the summit of the Black Hills, showing the rounded granite forms and scattered pines, the deep cañon with its pleasant vale and sparkling trout-streams glittering in the sunlight.

- No. 9. VALLEY OF THE NORTH PLATTE, near Fort Fred Steele, the second crossing of the river, 696 miles west from Omaha, and having an altitude of 6,840 feet. Unlike itself out upon the plains, it is here a deep, clear, cold stream, not far from its sources among the perpetual snows of Long's Peak.
- No. 10. GREEN RIVER BUTTE, near view.
- No. 11. GREEN RIVER BUTTE, from across the river.
- No. 12. TEA-POT ROCK, near Green River Station.
- No. 13. GIANT'S CLUB, near Green River Station.
- No. 14. ROCK FORMS, near Green River Station.
- No. 15. PETRIIFIED FISH CUT, near Green River Station.
- No. 16. BURNING ROCK CUT, near Green River Station.

Views along the West bank of Green River between the Station and Burning Rock. The above group (10 to 20) represents the curious and unique scenery of Green River at the point where the railroad crosses it 845 miles west from Omaha and 6,140 feet above tide-water.

The formation which gives this region its characteristic features is known as the Green River shales, from the sediments being arranged in regular layers, mostly quite thin, but varying from the thickness of a knife-blade to several feet.

This laminated character, with the variations in shade and color, give to the hills the peculiar banded appearance, as shown in all the pictures of the above series.

In 10 and 11 we have the Castellated Butte, so prominent a landmark to all travelers, having an elevation of some 800 feet above the river. The upper portion, or Castle, is 200 feet high. Nos. 12, 13, and 14 are excellent examples of the curious and fantastic shapes which the shales have assumed in the process of weathering, suggesting the titles which have been given them. They have an average height of 200 feet.

No. 15 is so called from the thousands of perfect and beautiful impressions of fish which are shown on the thin slabs of shale; sometimes a dozen or so within the compass of a square foot. Impressions of insects and water-plants are found, and also a remarkable specimen of a feather of a bird.

No. 16 is a view a short distance west of the preceding ones, where the road is cut through thin layers of a sort of cream-colored, chalky limestone, interspersed with layers of a dark brown color, so saturated with petroleum as to burn with a good deal of freedom. This cut is called the Burning Rock, from the fact that during the progress of the work the rocks became ignited and burned for some days, illuminating the labors of the workmen by night, and filling the valley with dense clouds of smoke by day.

The remaining views are glimpses along the west bank of Green River between the places described above, showing to good advantage the wall-like and castellated forms on the opposite side of the river.

- Nos. 21, 22. WASATCH, UTAH, 966 miles west from Omaha, altitude 6,879 feet, on the divide between Echo Cañon and Bear River.

From this point the descent is very rapid into the famous cañon. Two miles farther on we come to and pass slowly over an immense trestle-work, as shown in—

- No. 23, being 450 feet long and 75 feet high.

A short distance farther and we shoot into—

No. 24. **TUNNEL No. 2**, the longest on the road, 770 feet in length, cut through reddish and purplish indurated clays, of the Wasatch group of Miocene Tertiary. Descending rapidly we reach—

Nos. 25, 26. **CASTLE ROCKS**, at the head proper of Echo Cañon, 975 miles west from the Missouri and 6,290 feet elevation.

No. 27, 28. **TOWER ROCKS**, or pinnacles upon the face of the castle. The rocks bear a remarkable resemblance to some old dismantled fortress, with its towers, crumbling walls, and immense embrasures.

They are of massive red sandstone from 500 to 800 feet high, which have weathered into these curiously castellated forms.

No. 29. **PULPIT ROCK**, at the mouth of Echo Cañon, 991 miles from Omaha, and 5,540 feet above the sea. The railroad sweeps around it in a graceful curve, and so near that one might reach from the car-window and touch it. The isolated rounded mass above, which seems to stand alone and almost ready to tumble into the valley below, is yet quite firmly seated on its bed of sandstone. It is said that once upon a time Brigham Young held forth to his flock from this rock during their pilgrimage hither. This view shows admirably the coarse conglomerate or pudding-stone, characteristic of all the Echo Cañon rocks.

No. 30. **SENTINEL ROCK**, one of the most remarkable landmarks in the cañon. It is a regular obelisk of conglomerate, standing near the junction of Echo with the Weber Cañon. It is about 250 feet in height, and affords another excellent illustration of the peculiar style of weathering, by which rocks assume curious forms. This column has been very aptly called the "Dog's Head," to which it will be seen at a glance that the summit bears a resemblance.

The peculiar form of stratification, with the varied structure, sometimes a firm sandstone, then a pudding-stone, is remarkably well displayed in this view.

The same variations of structure, on a still larger scale, may be seen in—

No. 31. **THE GREAT EASTERN**, a perpendicular bluff 1,000 feet in height, bearing a strong resemblance to the prow of an enormous steamship. In this the inclination of the strata is well shown. The base is composed of fine sandstone, running into a coarse conglomerate above.

No. 32. **LOOKING DOWN ECHO** from above the Great Eastern, and about two miles above the mouth of the cañon, giving a general view. On the right the high perpendicular walls, with the strata dipping down westward, cleft by deep gorges, leave the intermediate portions standing out like huge castles, massive in form and a vivid red in coloring. On the left the hills are equally high, but run off into more rounded forms, and in the spring-time are clothed with a bright contrasting green.

No. 33. **A STUDY AMONG THE ROCKS OF ECHO**, a mass of debris which has fallen from the overhanging walls.

No. 34. **THE AMPHITHEATER**, an immense semicircular wall of 1,000 feet in height, three miles above the mouth of the cañon, showing the largest and most perfect wall-surface of any portion of the cañon.

Leaving Echo, and turning down Weber Cañon, we glide