

# BURIED VALLEY OF WYOMING

DESCRIBED BY MR. WILLIAM GRIFFITH BEFORE THE WYOMING HISTORICAL AND GEOLOGICAL SOCIETY.

**Movement of the Glaciers Southward During the Ice Age, Leaving Glacial Drift Deposit—Explanation of the Buried Valley—Pot-holes and Their Menace to Mining—Valuable Map Prepared by Mr. Griffith.**

From the Wilkes-Barre Record.

There was a large and interested assemblage at the rooms of the Wyoming Historical Society to hear a paper on "The Buried Valley of Wyoming," by Mr. William Griffith, of Pitston, a mining engineer and geologist whose experience abundantly qualifies him for the task. The State Geological Survey has given much consideration to this subject. Mr. Griffith was one of the assistants in the work and a portion of his paper had appeared previously in an address given before the Anthracite Coal Operators' association in New York city. What gives the matter especial interest is that Mr. Griffith prepared an elaborate map-model of the buried valley of Wyoming, which he presents to the society for the use of all who may be interested in consulting it.

Many of those present were officials, engineers and employees of the local coal companies. At the close of the address they all gathered around the model and viewed the greatest interest in it. Some of them had later data, from more recent bore holes, going to show that the model can be added to and made of even greater value. The model was so constructed that the present valley could have such portions of its surface lifted as show the great canyon, or buried valley beneath, as it was when the mighty glaciers had flowed their way southward in remote ages of the past.

Following is a condensed presentation of the paper:

**THE ICE AGE.**

During what is sometimes called the Ice Age, Canada and the northern part of the United States as far south as central Pennsylvania, was covered with a solid blanket of ice. In the vicinity of the Wyoming Coal Basin this ice sheet is supposed to have been about 2,000 feet in thickness. As it melted with glaciers, the whole mass slowly moved southward, gouging and plowing the surface of the earth, scratching and breaking the rock and transporting stones and boulders of all sizes long distances, finally depositing them far from the place of their original occurrence.

In this glacial area the rock is usually covered by a variable thickness of "drift," consisting of various layers of sand and rounded gravel, with boulders large and small, all more or less worn by the action of the water and moving debris. In some places where large streams were probably flowing under the ice deep channels were worn in the rock and subsequently filled with glacial drift deposit, and, of course, where these channels were deeper than their outlets, lakes of still water were formed and these often-times were filled to considerable depth with fine silt or quicksand, clay, gravel, etc.

One of these submerged channels extends through the length of the Wyoming valley and is often referred to as the "BURIED VALLEY" OF WYOMING. The rock has been worn away to a depth of from one to two hundred feet, eroding some of the upper coal seams in places and leaving the uncertain thickness of rock roof over the underlying coal. Another phenomenon or freak resulting from glaciers is the

**FORMATION OF POT HOLES.**

A glacial pot-hole is a deep shaft, well or hole, worn in the solid rock by action of water falling from a height (probably through a crevice in the ice) on the sound rock bed, thus (by the aid of fragments of stone and boulders which are kept in continual motion in the bottom of the hole) wearing the well deeper and larger with time. The size and depth of the pot-hole depends on the volume of water and the height of fall. Pot-holes are in process of formation at the present time, in Alpine glaciers and elsewhere, and in Switzerland some of these are preserved for sublimation in the form of ice. Minute pot-holes varying in size from a pint measure to a hoghead are often found worn in the bed rock of our mountain streams, formed in the same way, by the water falling from a ledge and keeping the small pebbles in motion in the bottom of the hole. A good idea of this action may be obtained by placing some pebbles in a tumbler and placing it under the water flowing from a faucet.

The existence of pot-holes in the anthracite region was first discovered in 1884, when one of the chambers of the Eaton colliery at Archbald was driven against a mass of round stones of all sizes, from pebbles to boulders a foot in diameter. Subsequent investigation revealed the existence of an oval shaped shaft from 20 to 40 feet in diameter worn through the rock from the surface. This pot-hole had cut completely through the coal bed, and among the boulders in the bottom of the hole were quantities of round lumps of coal which had evidently been cut from the seam. This pot-hole is now used as an air shaft for the mine.

About twenty years ago, previous to this discovery, an accident occurred which is now thought to be due to a pot-hole. The case referred to was at the Wyoming colliery operated by Swayer & Co., now the Lehigh Valley company, at Port Bowdley station on the Lehigh Valley railroad. The mines were under the buried valley and were filled with debris from the supposed pot-hole. Since the discovery of the Archbald pot-hole

**TWO SERIOUS MINE ACCIDENTS** have occurred under the "Buried Valley" of Wyoming, which were unquestionably caused by the existence of some form of pot-hole in the strata overlying the beds. The first of these—which was one of the most disastrous mine accidents of the region—occurred Dec. 18, 1885, at the Susquehanna Coal company's mine, Nanticoke, Pa. At the edge of the solid coal near the face of a chamber, a flood of water, sand, rounded stones, etc., suddenly and without warning of any kind, broke into the mine, filling up 100,000 cubic yards of workings. The lives of twenty-six men were lost in this accident and it was found impossible to recover their bodies.

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The spring of the year is the time for blood purifiers. It is the season when we think we must do ourselves with sarsaparilla, bitters and the endless list of so-called blood purifiers and nerve tonics. As a matter of fact, there is but one possible way in which to purify the blood, and that is through the stomach and bowels. Pure blood results from wholesome food thoroughly digested. Impure blood, from poor digestion and assimilation. When the stomach refuses to work properly the food remains too long a time, fermenting, forming gases, shown by sour, bitter taste in the mouth, bloating and belching of gas, and distress and discomfort generally. Poor blood, weak nerves, sleeplessness and a general don't care feeling can always be traced to imperfect digestion. This is the reason why Stuart's Dyspepsia Tablets are superior to all other purifying medicines and blood purifiers. They give perfect digestion, the food does not lie in the stomach for hours. They give a vigorous appetite, sound sleep, strong nerves, and wholesome food well digested makes pure blood, and in no other way can the blood be purified. The idea that a medicine, in itself, will purify the blood when the stomach and digestive organs are out of order is nonsense. Stuart's Dyspepsia Tablets are used by thousands in preference to "bitters," "after dinner pills" and "blood purifiers" because they remove the cause of the impure blood, and you do not have to take them forever to get results. Dyspepsia is an obstinate disease to cure and a remedy must be especially for it and nothing else. Cures—als will not cure dyspepsia.

Stuart's Dyspepsia Tablets are not claimed to cure everything or anything except Dyspepsia and stomach trouble, and for that it stands alone among patent medicines. Anyone suffering from any trouble with their digestion will find these tablets will give immediate relief and a permanent cure. Stuart's Dyspepsia Tablets are prepared by the F. A. Stuart Co., of May, Mich., and sold by druggists everywhere at 50 cents per package. No dieting nor change of habits is required, they digest the food.

deep. It engulfed the postoffice completely and did some damage to three other dwellings. Fortunately the mines were idle and no life was lost. Our knowledge of this great lake of quicksand and gravel has up to the present time been exceedingly vague and hazy and we should seek the information necessary to prevent the recurrence of accidents similar to those just recounted. The various mining companies, in their efforts to extend their mining operations under the center of the valley in the past, have been obliged to bore a great number of diamond drill bore holes from the surface to the rock, in order to ascertain the depth of the wash which exists in the locality. I accordingly sent circular letters to all the coal operators in the region, asking them to furnish me with the depth and location of each bore hole, hoping to get a more perfect idea

of the matter in hand. I received generous responses to these letters, and from this information have been able to prepare

**A MAP OF THE VALLEY** locating approximately the outlines of this sunken area. The map is prepared on the scale of 1,000 feet to the inch, divided into squares occupying the same position as those on the mine sheets of the Pennsylvania Geological Survey.

Having prepared the map with reference to the surface features, I located upon it each bore hole and recorded the depth of the same to the rock. I could then draw the contours, which would give an approximate idea of the general form of the rock bottom of the valley and from these I was able to prepare a plaster model representing in an approximate way the location, depth, etc., of the buried valley of Wyoming. This map and model are presented for your examination here.

From a study of this map-model it will be observed that the erosion of the buried valley begins at the entrance of the river into the valley at Campbell's Ledge and continues to the point where the river leaves the valley at Nanticoke. We also note the buried valley of Newport Creek, which is an extension to the southwest of the main buried valley, but that it descends northward in the same direction as the flow of water in the creek, emptying into the Susquehanna at Nanticoke. The bottom of this buried valley is apparently very irregular in contour. Nearly every stream entering the valley on either side had a corresponding depression or erosion in the bed rock of the buried valley. While the Susquehanna river now flowing along the surface of the gravel bed which has filled this tremendous erosion or canyon winds its crooked way, crossing and recrossing the valley, it overlaps the rocky shores which form the margin of the erosion, very slightly at two points only, North Wilkes-Barre and Pitston, and if the drift now filling this buried valley were removed we should have in its place a fresh water lake approximately a mile in width, extending from Pitston to Nanticoke. The deepest part of the lake would be near the center of the valley, at Plymouth, it would gradually become more shallow each way from that point to the north and the south.

In the construction of this map and model we made use of 80 bore holes, record or soundings, furnished us by the Lehigh Valley Coal company, Clear Spring Coal company, Stevens Coal company, Temple Iron company, Delaware, Lackawanna and Western Railroad company, Kingston Coal company, Lehigh and Wilkes-Barre Coal company and the Susquehanna Coal company, and to these operators we are indebted for our ability to produce the results here shown. It is to be regretted that more information was not obtainable. We trust that our present attempt at an approximation may be continued in the future by the engineers of the valley, for it is only thus that the knowledge may be acquired to adequately provide against the dreadful accidents which are liable to occur by blindly prosecuting the mining operations without proper soundings in advance of the workings.

### THE PLACE I ONCE CALLED HOME.

As the low and lingering shadows steal softly to the night,  
I treat with silent footsteps toward a welcome parlor light;  
A light that seems far brighter than the stars in heaven's dome,  
The light that lights the parlor of the place I once called home.

I long to swing the portal that's been closed to me for years;  
Lo, that window's dim and frosty; no, no, it is my tears!  
For I see, in loving silence, the family sitting there,  
And mother knitting absently beside an empty chair.

In a gen'ral retrospection, I chase the tears away,  
And fare in fading memory that sunny summer day;  
When I started out, light-hearted, with blessings and advice,  
To howl about the fields of Fortune, with Fate to cast the dice.

I remember I was picturing myself, as off I went,  
Well,—that somehow I was destined to be the best;  
And how mother's kindly shattering that castle in the air,  
As she sobbed, "Whatever happens, I'll keep your empty chair."

A score of years have flitted to the limbo of the past;  
I stand with courage valianted, where all wanderers stand at last,  
At the threshold of the homestead, there, with a long-drawn sigh,  
Praying a word of counsel on the way that sinners die;

Pleading just for food and shelter, and a mother's loving kiss,  
And a father's grip of friendship, for a hope that's gone amiss,—  
Pleading from a heart that's willing in a breast overfilled with strife,  
For how to shed its lustre on the shadow of a life.

Shall I enter? Can I enter?—With failure in my pack,  
And vainly try to turn the hands of Life's old timepiece back  
To the happy days of childhood, to boyhood's magic spell  
With the linnets in the orchard, watching windfalls as they fell;

With little brother Willie, riding every day to school,  
Down the daisy-dotted meadow, astride our long-earsed mule;  
With all the other children romping in our wild-time play,  
With the little bed to go to when daylight stole away?

I know they'd gladly greet me, if I'd only just walk in,  
And surprise them with my presence, Alas, I can't begin  
To muster up the grit I had, for all my courage was gone;  
With a vision of the future when I'd be president.

But O, mother! mother! mother! do come and open the door,  
Hold up your arms to take me to the happy days of yore,  
Help lay aside the burden of my trouble and my pain,  
For my bent and sunken shoulders can never bear again!

When the sun marks noon of lifetime, when once the morning's done,  
And from dawn we turn reluctant to face the day;  
We grow more worldly, somehow, for our hearts turn callous-like,  
And don't seem much to notice, then, the things that were so dear.

And, once the journey's started, might as well trudge on ahead,—  
So I'll keep ever moving and not bring to life the things that were so dear.

Nor the hopes that peaceful slumber, nor break the mystic air  
Of the memories bright that linger around the empty chair.

—Robert Mackey, in Success.

**Every woman will understand the significance of that calendar with its ten days erased. For many a woman a month, at the best, has but twenty days when she can actively participate in household affairs. Those other days are lost to her. They are days of suffering and misery which make her sometimes "long for death to come and relieve her sufferings." Yet, what can she do? She has generally tried all means of relief suggested to her. Often, like Mrs. Dennis, she has "sought relief among the medical profession and found none;" or, like Mrs. Elkins, has tried medicines and doctors without avail. And yet there was a cure for these women, and they fortunately found it. They tell below the story of their sufferings and their cure. They are just two women out of thousands who in a similar condition have found a perfect and permanent cure by the use of the same means.**

Mrs. Mrs. Adas Elkins, of Cotulla, Laclede County, Texas, writes: "I was taken ill in December, with prolonged periods. This would last for ten or eleven days, and I would not be able to sit up but a few minutes, then I would be so weak I could not walk about the house. I would gain a little strength, then I would have another attack. For three months I took some patent medicine, and also medicine from a doctor, but without avail. Then a neighbor sent me one of Dr. Pierce's pamphlets, and I got a bottle of Dr. Pierce's Favorite Prescription and one vial of his 'Pleasant Pellets.' Took that bottle of 'Favorite Prescription,' then used two bottles of 'Golden Medical Discovery' in connection with 'Favorite Prescription.' I wrote to Dr. Pierce describing my case, and received a very prompt reply, advising me to have the druggist add one other kind of medicine to the 'Favorite Prescription,' which I did. I took eight bottles of 'Favorite Prescription,' two of 'Golden Medical Discovery,' and three vials of 'Pellets.' I was so much better that I discontinued the use of the medicine in the following October. I am now able to sew nearly all day without resting, and also help with the housework, and in the garden. I still take the 'Pellets' occasionally. Dr. Pierce's medicines are just splendid. I will write any lady about my case more fully if desired, if she will send a self-addressed stamped envelope."

The best advertisements of Dr. Pierce's Favorite Prescription are the women it has cured. A woman hears of a neighbor suffering and sends her one of Dr. Pierce's pamphlets, and that leads to the purchase of the first bottle of "Favorite Prescription" and the beginning of the cure. But there is one important passage in Mrs. Elkin's letter that no woman should overlook. She says: "I wrote to Dr. Pierce describing my case, and received a very prompt reply, advising me to have the druggist add one other kind of medicine to the 'Favorite Prescription,' which I did."

Dr. Pierce invites sick women to consult him by letter, free, and that this is no empty offer is proven by the quotation from Mrs. Elkin's letter. All correspondence addressed to Dr. Pierce is held as strictly private and sacredly confidential, and the written confidences of women are guarded by the same strict professional privacy observed by Dr. Pierce and his staff in personal consultations with women, at the Invalids' Hotel and Surgical Institute, Buffalo, N. Y. Address Dr. R. V. Pierce, Buffalo, N. Y.

"I had female trouble for eight years," writes Mrs. L. J. Dennis, of 828 East College St., Jacksonville, Ills. "Words cannot express what I suffered. I sought relief among the medical profession and found none. Friends urged me to try Dr. Pierce's Favorite Prescription. When I commenced taking this medicine I weighed ninety-five pounds. Now I weigh 150 pounds—more than I ever weighed before. I was so bad I would lie from day to day and long for death to come and relieve my suffering. I had internal inflammation, a disagreeable drain, bearing-down pain, and such distress every month, but now I never have a pain—do all my work, and am a strong and healthy woman."

Dr. Pierce's Favorite Prescription makes weak women strong and sick women well. It establishes regularity, dries the drains which weaken women, heals inflammation and ulceration and cures female weakness. It has cured in numerous cases where all other means and medicines had failed of permanent benefit. Dr. Pierce's Pleasant Pellets should be used with "Favorite Prescription" whenever a laxative is required. They assist the action of the medicine. Sometimes a dealer, tempted by the little more profit paid on the sale of less meritorious preparations, will offer a substitute for "Favorite Prescription" as "just as good." Judged by its record of cures of womanly ills, there is no other medicine just as good as "Favorite Prescription."

**UNHAPPY WOMEN** will, very often, find that the way of happiness is in the way of health. *Wifehood begins in health.* Dr. Pierce's *Golden Medical Discovery* is full of wisdom for women, and is a trustworthy guide to happiness through health. This great work contains more than a thousand large pages, and is sent FREE on receipt of stamps to pay expenses of mailing ONLY. Send 31 cent stamps for the cloth-bound volume, or only 21 stamps for the book in paper covers. Address: Dr. R. V. Pierce, Buffalo, N. Y.

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GAUDET—Fred Irvine's Big Burlesque show. Matinee and night.

**A Fine Attraction.**

The Corse Payton Stock company now filling a week's engagement at the Academy of Music, is one of the best attractions that has yet appeared at that theater. Yesterday two performances were given, at the matinee "Young Mrs. Winthrop" was the bill, and gave great satisfaction to the immense number of people present to witness the performance. In the evening the play presented was the sensational comedy drama, "Taken from Life." The piece was staged in a very creditable manner. Mr. Corbett in the leading role was exceedingly clever, and won the favor of the audience.

The specialties introduced at each performance are alone well worth the price of admission charged for the entire performance—the Blood Brothers do a most wonderful acrobatic act, and the Cardowine sisters are by far the best dancers that have ever appeared in this city with any company company of entertainers. Their work is certainly worth the while of any person who likes anything clever to see. This afternoon the play to be presented will be "The Runaway Wife," and tonight the play that pleased the patrons so well Monday afternoon will be repeated, "Woman Against Woman."

**"Carl Carlson."**

Our theatre-goers are soon to be given an opportunity to pass judgment on the new Swedish comedy-drama, entitled "Carl Carlson," which has found so much success among amusement

seekers. "Carl Carlson" is from the pen of Daniel B. Sedin, and the title role has been given into the hands of Mr. Arthur Donaldson, who is well remembered as a clever and painstaking artist and one of the best delineators of Swedish comedy yet seen in America.

Mr. Donaldson has been supplied with a most capable supporting company, and the play has been mounted with a lavishness not usual in stage productions of this order. Miss Annie Mack-Berlin is Mr. Donaldson's chief feminine support. Will be presented tomorrow night at the Lyceum.

"The New Dominion."

Clay Clement, who will be at the Lyceum Saturday afternoon and evening, has been known for many years as a careful and clever actor, but in the study and execution of a new kind of German character he has earned high distinction. "The New Dominion" still more adding to his credit, in his own play, and its dialogue of quite exceptionally witty and pointed character. The plot is a simple one, the character really carrying the interest and carrying it so well that every act seemed to be followed with increasing attention. It is a quiet picture of life in Virginia, and its situations are presented in a subdued and natural way.

The play will be produced for the benefit of the International Correspondence School's Social, Educational and Beneficial association, members of which are now selling tickets. The diagram will open tomorrow morning at the Lyceum box office. There will be a rush for seats, as tickets for nearly all the seating capacity of the house have been sold by the members.

**United States Marine Band Coming.**

Arrangements have been made by the Keystone Lyceum Bureau for the appearance of the United States Marine Band at the Ninth regiment armory at Wilkes-Barre, Friday evening, April 28. This is the president's own band, consisting of seventy-five men, the largest and the best paid national band in the world.

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The price of seats are \$1.50, \$1 and 75 cents. The Scranton diagram will open at Powell's music store on Friday morning next at 9 o'clock. Nearly three hundred seats have been set aside for Scranton.

West Point calls are to take up calls as part of their athletic training, and the government has purchased ponies for the purpose.