

Wonders of the Black Hills Cave

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The Black Hills of South Dakota, described as the richest 100 square miles on the face of the earth, possess in addition to their mineral richness one of the greatest wonders of the world. This is Wind cave in Custer county, twelve miles north of the city of Hot Springs, in the southern portion of the Black Hills.

This cave is in an immense bed of limestone—a bewildering labyrinth of box work, stalactites, stalagmites, popcorn, geodes and frost work of glistening whiteness so delicate that at the slightest touch it crumbles in pieces. A fitting playground for the little people with whom the superstition of the Indians peopled the Black Hills in the days when they were afraid of the sombre mountains, before the paleface came and the iron horse followed after and the spirits of the Hills were driven out.

Prof. Merrill of the Smithsonian Institute says the formation of the cave is unknown. Other geologists incline to the opinion that it is an extinct geyser—perhaps a former outlet for the warm mineral waters which now come to the surface at Hot Springs and vicinity. Some of the formations show the evidence of having been formed by water, a warm mineral water; and some, notably the frost work, is so delicate that it could not owe its existence to the action of water, but must have been formed by a gas or vapor, which congealed as it struck the limestone.

The prevailing formation in the cave is

counting the side or connecting passage and the size of the chambers. There are some openings which lead below the eighth tier, but these have not yet been explored.

Wind cave has been rightly named. In every moment of the year the wind is rushing in and out of the entrance with terrific force, its direction being regulated by the rise and fall of the barometer. About two hundred yards from the entrance, no matter whether going in or coming out, the current of the wind is always in and this inward rush prevails throughout the entire explored portion of the cave, except in a small side passage not far from the entrance, out of the mouth of which the wind comes, seemingly to meet the main current and go back into the cave with it in an unending and unvarying circle. For days the wind has rushed out of the opening at the entrance and yet all the time there was no change in the direction of its course in the cave. In last March for fifteen days the wind blew in continually, except for a certain period of three hours one day. This was during the bitter cold weather of last winter. Mr. Folsom, who lives in the house above the entrance, said that during that time he saw icicles on the bottom of the passage leading to the entrance, that were two feet long and not larger than a lead pencil; they were formed in this manner: The cold current of wind as it came into the cave followed the floor, pushing the

sudden return to heat by detaining tourists several minutes in the room above the entrance before permitting them to go outside. That the cave has other outlets for this constant stream of wind cannot be doubted, but no evidence of any has been found. Attempts have been made, by following the candle flame expecting it to lead to the outlet, but all such attempts have ended in failure, the explorers coming back to some already explored portion of the cave. As though the wind were lost and in endeavoring to find its way out of the labyrinth goes round and round.

In all the miles of the cave there is not a bat, a rat or insect of any kind. There is no moisture in the atmosphere at any place and no water except that which seeps through from the surface into the upper tiers of chambers.

As yet 100 miles have been explored since 1891. Three thousand rooms or chambers by actual count have been found, everyone of which has been named. No end has been reached and no evidence of an ending has been discovered.

The guides have laid off the cave in routes, there being fourteen different ones, only three of which are open to the public. Of the three the trip to the Garden is the shortest, requiring a little over two hours; the Fair Ground route is the next, and can be made in about three and a half hours; the Pearly Gates route is the longest, in attempting which one must prepare for a jaunt of five hours. All of these trips can be made without inconvenience, the management having expended a large sum of money in making paths, enlarging the narrow and low places, bridging the chasms and making the climbs easier by a liberal use of stairs.

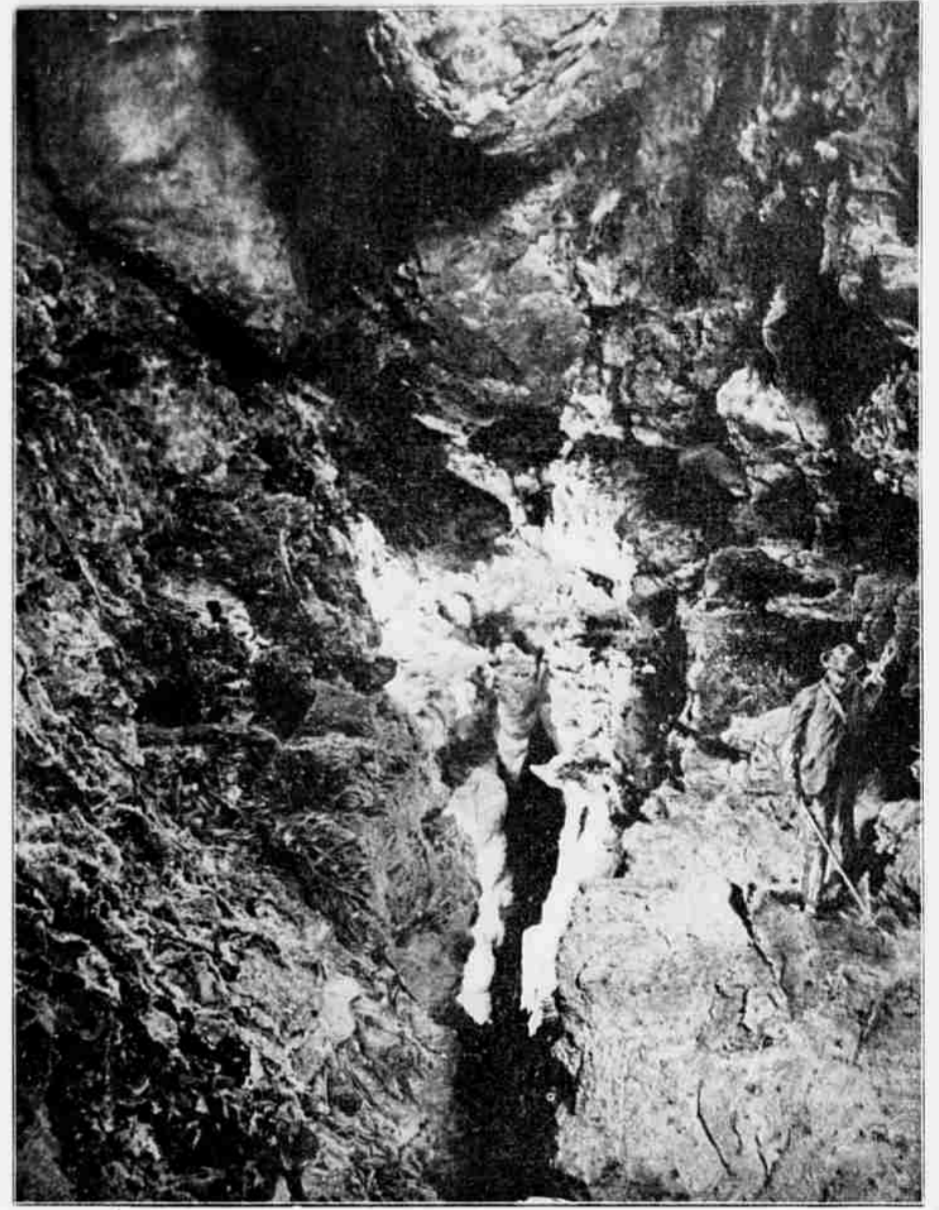
How It Was Discovered.

There is some tradition of the cave having been first discovered in 1877 by "Lame" Johnny, one of the early stage robbers and cutlaws of the Black Hills, who was subsequently the central figure in a necktie party. In the fall of 1881 John Wells, a granger, located in Cold Brook Canon, just outside the present limits of Hot Springs, and followed the canon in search of deer. About thirteen miles from home his attention was attracted by a noise that sounded like an intensified whistling of the wind through the pines, and upon investigating found, 100 yards away in the bottom of the canon, a hole about eight inches in diameter out of which a heavy wind was rushing. Wells did nothing toward further investigation, but in the spring of the following year two men, Tom and Jess Bingham, impelled by a spirit of curiosity, blasted out the hole until it was large enough to crawl into. They went in a little distance when their further progress was stopped by a deep well, and this ended their explorations.

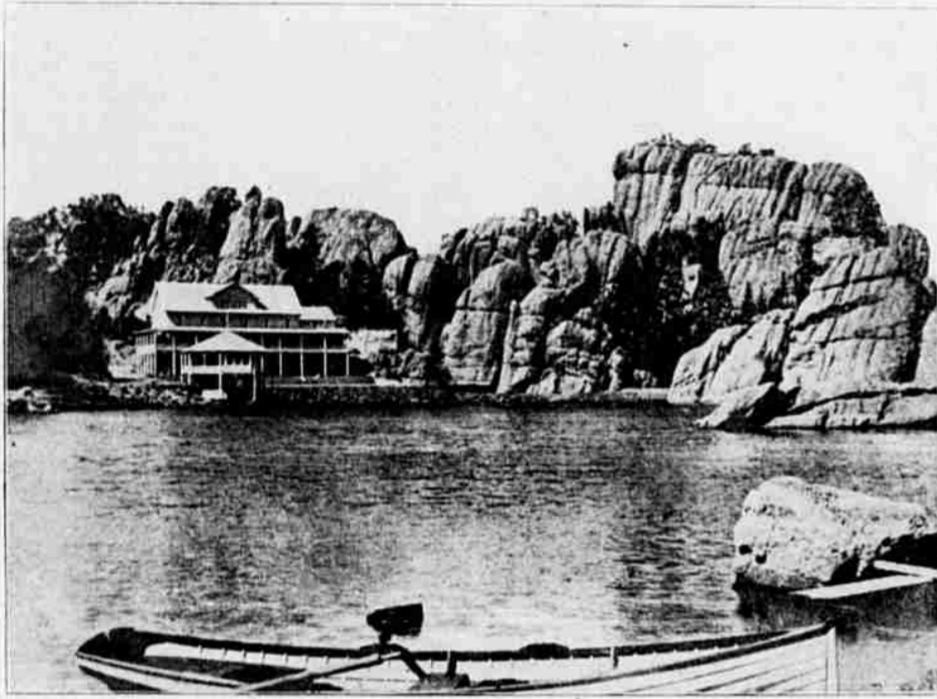
In the fall of 1882 Joe Petty, Henry Marty and Joe Carr drove out from Hot Springs (then called Minnekahta) properly equipped with ropes, lights and provisions. They spent two days and a night at the cave and descended the well which had stopped the Bingham and crawled along the bottom some distance when they were stopped by the passage becoming too small for them to get through.

In 1893, during the World's Fair, the largest chamber in the cave was discovered and named the Fair Grounds; this room covers an area a little over three acres, and is in shape something like a mosque, with a high central dome and numerous wings radiating from it; the dome is about sixty feet in height, the average height of the whole room being about twelve or fifteen feet.

The cave will eventually be thoroughly developed, lighted with electricity and an electric railway from the cave to Hot Springs constructed. A large number of the chambers have been named by visitors. Various social, fraternal and religious organizations have



VIEW THROUGH ENTRANCE OF WIND CAVE.



WIND CAVE HOUSE, UNDER WHICH IS THE ENTRANCE TO THE CAVE.

what the guides, for want of a scientific name, have called box work.

The popcorn formation, as its name implies, looks very similar to a lot of well popped corn fastened to the walls and ceilings of the cave. In places the balls are smaller than a pea; in others they are several times as large. This formation is usually pure white, without the brilliancy that makes the frost work dazzle the sight. Akin to the popcorn work is the snowball. In various portions of the cave the walls and ceilings look as though a number of boys had been throwing snowballs at the walls and the snow was just wet enough to spatter and stick.

The frost work furnishes the chief beauty of the cave. It is formed in the softest rock and in the upper parts of the cave; it is suspended, or shoots up or out, from the base of limestone in clusters of tiny white needles formed of infinitesimal crystals, reminding one of pine trees. The coarsest of this formation is not larger than a needle and it decreases in size until it looks like the finest cotton. There is some of it in the cave which is called mineral cotton that would deceive any one if it were away from the cave. There is some of it hanging to a stone beyond the Pearly Gates, which the guides have called Noah's Beard, that is a bunch of fine spun white wire several feet long and white as snow. When the calcium light is thrown on the frost work it flashes and scintillates like diamonds.

Hundreds of Miles of Passages.

The cave is formed of fissures or crevices paralleling one another at a distance of from fifty to 300 feet apart. These fissures range in height from thirty to over one hundred feet. They are all connected by numerous side passages scarcely large enough originally to permit an ordinary sized man to get through; it has been necessary to widen and deepen these connecting passages in order to make the cave accessible to tourists. There are eight tiers or layers of these fissures, the lowest being five hundred feet below the entrance. The chambers have all been found in the fissures and range in size from twelve feet square to a little more than three acres.

A recent survey of the cave discloses the fact that it covers an area of two miles square. By a simple arithmetical calculation one can obtain some idea of the miles of cave there are to be yet explored. There are eight tiers of fissures; each fissure is two miles long; in each tier the fissures are distant from fifty to three hundred feet over a space of two miles wide; placing all the fissures three hundred feet apart, there would be fifty-five on each tier, or one hundred and ten miles; then multiplying by the number of tiers, the result will be eight hundred and eighty miles, without

warmer air to the top. The evaporation caused by the meeting of the two currents was so great that a stream of vapor was formed which rose to the top of the warm air, collected into tiny drops of water, which in turn fell back to the floor in the cold current, freezing instantly; the dropping was so slow and the drops so small that the icicles were not given a chance to grow except in length.

No Animal Life.

The steady current of wind may be given credit for the perfect purity of the air in the cave, it being dry, sweet and invigorating, and as stated, unchangeable in temperature. On a warm day the explorer feels the chill upon first entering, but in a few moments is comfortable and need not worry about drafts and colds until the trip is over and he steps out into the warm air again; the guides guard against ill effects from the

rooms which have been properly dedicated. Among these are Odd Fellows' hall, Grand Army of the Republic hall, Women's Christian Temperance union hall, Eastern Star room, Woodmen hall, Traveling Passenger Agents' headquarters, Ancient Order of United Workmen hall, Knights of Pythias hall, Elk hall, which was named and dedicated last August, and all the religious organizations. The Odd Fellows' hall is perhaps the most fittingly named. In it are two goats, a large and a small one, which are wonderfully lifelike; the three links, the all-seeing eye and a number of little things which an Odd Fellow would readily see. In the ceiling of the Monte Cristo's Palace are his diamonds; they are two open geodes six or seven inches across and connected; in one is a pure calcite crystal formation and in the other pure quartz crystal. Geologists always stop here and look and wonder, for the two formations belong to periods that are separated by thousands of years.

The most remarkable thing that has happened in the history of Wind cave was the exploit of Johnstone, the mind reader, in 1893, when he found a pin head which had been hidden in the Standing Rock chambers about ten miles from the entrance. The thing was done by Johnstone to advertise himself, and he was assisted by the people in charge of the cave to advertise it. While Johnstone remained in Hot Springs two citizens carried a pin's head to the cave. Alva McDonald, at that time the most expert of the guides, piloted them through the passages until they thought they had found a suitable hiding place. They drove back to Hot Springs and the four, with Johnstone standing behind the seat, his eyes blind-

folded and one hand on their wrists, drove to the cave at a breakneck speed, making the twelve miles in forty-two minutes. Arrived at the cave there was no delay. With the wrist of each of the two men in his hands, his eyes still blindfolded, Johnstone started in search of the pin head. McDonald followed in their rear, with provisions, waxes, candles, etc., to watch them and find them should they become lost. At times the two committeemen would lose their bearing; they would see a passage leading off somewhere which looked familiar, and Johnstone would immediately pull them through it. When they would stop, lost, the mind reader would groan and curse them for not knowing how to go, and they would stand until McDonald could reach them and start them off again. During all this time Johnstone was nearly crazed. It was almost impossible to make him stop to eat and when they wanted to rest they tied him to them. The whole party was in the cave seventy-two hours and twenty minutes before Johnstone found the pin head where it had been hidden under a rock. The man did not recover from the intense nervous strain for some time, and it is thought that the trip was the principal cause of his death two years later.

The Wind cave is destined to take its place at the head of the cave wonders of the world, both on account of its size and its unusual and beautiful formations.

English the World's Language

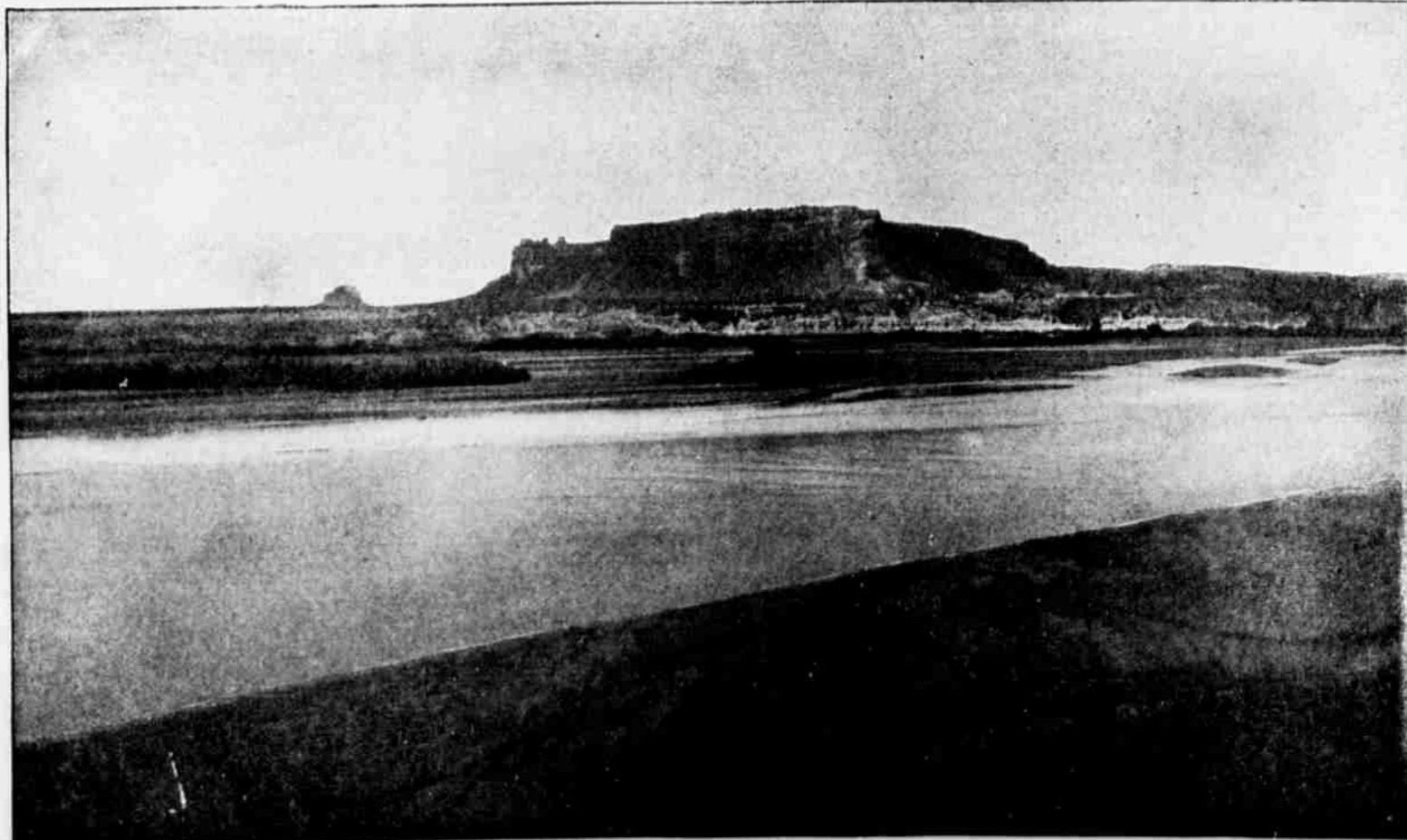
London Spectator: Stepping on board one of the neat little steam launches that ply about the city, I was addressed in fluent English by the Swede in charge. "Wherever did you learn such excellent English?" said I. "I've forgotten the biggest part of it, sir," said he, "but I served under the English flag for seventeen years." "Did you ever meet an English sailor who could speak Swedish?" I queried. The idea seemed to tickle him immensely, and he burst out laughing, adding: "I never met an English sailor who could speak another tongue than his own, but he's no need to, for the first language a native shopkeeper learns in any foreign port is English."

Wellman's Quaint Answer

Philadelphia Press: Walter Wellman, the returned Arctic explorer, has a quaint gift of humor, which was happily displayed just before leaving upon his last trip to the frozen north. A pompous merchant, who does not believe in Arctic exploration because it produces no financial results, said to the traveler: "Supposing, after all this trouble and expense, you do reach the north pole, what will you do then?"

"Why, come back again, of course," replied Mr. Wellman. "There really doesn't seem to be anything else to do."

Picturesque Western Nebraska - II.



SCOTTS BLUFF FROM NORTH SIDE OF NORTH PLATTE RIVER.