

L. J. Patrick Muller

AREA
GA
WmSp

GL03267

AN HISTORICAL FOOTNOTE

Warm Springs, Georgia, 1933-1936

By D. Foster Hewett

Warm Springs, Georgia, 1933-1936

On November 8, 1927, Franklin Delano Roosevelt, then a private citizen, wrote to the Director of the U.S. Geological Survey a letter expressing the wish that the Geological Survey would undertake a detailed study of the Warm Springs area in Georgia. The letter is interesting: "As you probably know, I became interested in this place two years ago, and since then have organized the Georgia Warm Springs Foundation, a medical corporation under the laws of the State of New York without profit, which Foundation is engaged in developing a therapeutic treatment here for infantile paralysis and kindred diseases. As our work goes on, we see more and more need for a careful survey of all the mineral springs in this locality.....The immediate thing before the Foundation undertakes the development or detailed explorations of any given spot, is for us to have a general geologic survey on which we can base a more detailed examination of springs.....We have had visits from two distinguished balneologists from Germany (Haertl--Baudish) who tell us that the mineral springs of this general locality are very remarkable and compare most favorably with the better known Bohemian, German, and French mineral springs areas. In fact, the general geological formation seems to me, as a lay observer, to resemble in many particulars the Taunus region in Germany, which includes Nauheim, Homberg, and Weisbaden. It is a matter of great medical importance that the mineral springs of this country be developed for our own use, and the Georgia Warm Springs Foundation hopes to be able to go into the general subject as well as the development of our immediate work for infantile paralysis, etc."

The Director of the Survey, G. Otis Smith, was away from Washington at the time and the reply, dated November 22, was signed by the Acting Director. In substance, this letter declined the invitation to make a detailed study of the area, but unfortunately it included the following paragraph:

"The men in the Geological Survey who have given the most attention to the question of mineral springs and their use are generally of the opinion that practically the whole value of mineral springs is as an excuse for the location at a particular point of a resort or center for the use of water in the treatment of disease."

Mr. Roosevelt acknowledged this letter December 15, requesting any information at hand concerning composition of waters elsewhere in the country that resembled those at Warm Springs, Georgia. It contained the following paragraph: "I think possibly that there may be a misconception in regard to the use of the Georgia Warm Springs water. The present rather careful scientific studies are based on the use of water to bathe and swim in and not for drinking purposes."

This letter was acknowledged and the desired information given. However, on December 21, Mr. Roosevelt wrote again, obviously revealing that he was deeply offended by statements in the first letter. He wrote: "Quite frankly, I was a good deal horrified by Mr. Sears' letter and my surprise at the attitude of the Geological Survey was shared by Mr. George Foster Peabody and several doctors who are working with me, including some of the people of the Rockefeller Institute. Of course, the truth of the matter is that we people in the United States are 25 years behind Europe in the study and knowledge of the pathologic effect of mineral water on the human system and of the methods in the use of mineral water for the treatments of various forms of human illnesses..... You may therefore imagine that I was somewhat surprised by being practically told by Mr. Sears that this Foundation was trying to use the Geological Survey as an excuse for locating the work of the Foundation at a Georgia resort and that very little scientific evidence could be produced to show that they could not carry on the treatment just as well in New York, Washington, or Chicago. I know, my dear Dr. Smith, that you will see the humor in this situation and all I can ask you is to take up the matter afresh, for I know of your

understanding of these matters and I hope that you will give some real study to the possibility of the Georgia Warm Springs Foundation. I can only tell you that the medical experts are finding some very interesting results at Warm Springs from the bathing in natural warm water."

The reply of the Director January 7, 1928 was conciliatory, but it refused the cooperation of the Survey. This brought a letter from Mr. Roosevelt, dated January 11, which reveals that he was confident that therapeutic use of water in the United States was lagging far behind that in Europe, and he greatly regretted the Survey would not assist him: "I am sorry as a layman to take issue with you in regard to the proper method of possible development of any given area of the earth's surface which contains mineral springs of a variety of mineral contents.....I am afraid that you have wholly missed the point of the request of the Georgia Warm Springs Foundation for a geological study. We do not need any such study to determine the value of the water which in many places now flows naturally from Pine Mountain. Dr. Baudisch, Dr. Haertl, various doctors of the Rockefeller Institute and several well-known geologists have advised the Foundation that before large amounts of money are asked for as gifts by the public for the erection of buildings, etc. for the care of patients, it is necessary to find out more about the existing springs and possibly other springs before they come to the surface. For instance, by boring and tapping the water well below the surface, greater heat can be obtained. Also by boring, the chemical properties of the same spring may vary, as has been proved at Saratoga. By a careful preliminary geologic study, the Foundation would know where to bore and what it might find in the way of water at different locations and at different depths. I cannot help expressing my disappointment that the Geological Survey takes the antiquated view that the city water supplies of New York, Chicago, or Washington would, if given similar conditions, produce the same results as scientific tests of natural mineral springs tapped far below the ground at different temperatures and with different mineral contents. We shall, of course, proceed with the cooperation of the State

of Georgia and with such gifts as the Foundation may receive. I am only sorry not to have the cooperation of the United States Government in a study which promises greater things for many parts of the country which contain mineral springs."

Several letters passed before August 1933 between Dr. Mendenhall, then Director of the Geological Survey, and the State Geologist, S. W. McCallie and George Foster Peabody, an intimate friend of Mr. Roosevelt's. On August 19, 1933, the President of the United States (Mr. Roosevelt) sent the following memorandum to Secretary Ickes: "Would you be good enough to have Dr. Mendenhall look up all the old correspondence on the subject of a geological survey of Pine Mountain, Georgia. Perhaps Dr. Mendenhall would talk with me about it when I get back in September, Sgd/F.D.R."

On August 24, Secretary Ickes wrote the President as follows "Mr. Mendenhall, Director of the Geological Survey, has reviewed the old correspondence about a geological survey of the Pine Mountain region and is now in communication with Dr. McCallie, State Geologist of Georgia, about the problem. Between them they will work out a method, perhaps cooperative, by which the desired study can be made."

As a result of this correspondence, plans were made through September for a cooperative study of the Warm Springs area, with particular reference to the warm springs.

G. W. Crickmay was selected to represent the State Survey, primarily to do the areal mapping; I was selected to pay particular attention to the warm springs and to oversee the project. Through discussions with O. E. Meinzer, of the Water resources Branch, general plans were made for a comprehensive study of the water resources of the Pine Mountain region. It was known that there were other warm springs along the north slope of Pine Mountain within a distance of 40 miles, and the program of investigation that was planned included

detailed geologic mapping of about 40 sq. miles near the spring, accurate records of rainfall, the discharge of all the streams from the 40 sq. miles, and discharge and temperature of the principle springs---the warm springs, and a large cold spring a mile away. Meinzer drew in for aid and consultation the talent of the Water Resources Branch, particularly, L. K. Wenzel and W. L. Lamar. There were also drawn into the project the engineers of the Water Resources Branch at Montgomery, Alabama: C. E. McCarshin, DeLoss H. Barber. It was arranged that a new topographic map on the scale of 1:48,000 would be made, and this was done by J. O. Kilmartin. It is fair to say that the program, including geologic, physical, and chemical measurements of the water of the region was the most ambitious on a warm spring area ever undertaken in the United States. It was clear that the authorities at Warm Springs were anxious to not only obtain more warm water and to conserve its supply, but, if possible, to get, possibly by drilling, warmer water.

The Georgia Warm Springs Foundation was founded in 1925, as a non-profit organization to develop the treatment of poliomyelitis and paralysis resulting from it. Briefly, the incidents preceding were as follows: Mr. George Foster Peabody, in 1933 a retired banker and philanthropist, was born in Columbus, Georgia, and at the end of the Civil War, with his brothers was taken by his mother to New York. His life is a fascinating story of industry and philanthropy. He acquired great wealth, which in his maturity, he proceeded to dispense in philanthropy, particularly the education of negroes in the South. As a boy he had known of the existence of Warm Springs, which was an old-fashioned health resort as early as 1840. When Mr. Roosevelt was stricken with infantile paralysis, Mr. Peabody recalled the warm springs of Georgia, and suggested that he might be benefited by bathing in the waters. A visit by Mr. Roosevelt proved this to

be the case with the result that Mr. Peabody purchased for \$45,000 , 175 acres which included the grounds around the springs and a hotel which he proceeded to deed to Mr. Roosevelt. With a few improvements of the pools and the addition of sundry apparatus used in the therapy, the plant stood in October 1933 just about as it was when Mr. Peabody bought it in 1925. The hotel, an old 3-story frame structure, was a firetrap, and it is miraculous that no catastrophe ever came. In 1933, construction was begun on the first new building-- Georgia Hall--which included administration quarters and dining facilities.

When I arrived in Warm Springs October 17, 1933, we found a room with Mrs. J. Mathis and obtained our meals from Mrs. Wm. Reid; both of their houses were on the north fringe of the town of Warm Springs. I soon met the manager of the Foundation, Arthur Carpenter, and his staff, but particularly dealt with his assistant, Ralph Sherrill, who proved to be most helpful and accommodating. When I explained the program of work to Mr. Carpenter, himself a victim of infantile paralysis, it was quite clear that he and others of the Foundation, including Miss Plastridge, the head nurse, not only had great confidence in the peculiar healing properties of the water, but were rather reluctant that any routine at the Foundation should be disturbed by any process of inquiry that we might set up. We soon faced this problem when I wished to have all the pools drained in order that I might examine the inner recess from which the water issued from the earth.

The program of work continued through October into November, and we were interested when it was announced that the trustees of the Foundation would meet about Thanksgiving and that a dinner would be held at which the President would be present. As Mr. Peabody arrived in Warm Springs soon after I did and we had come to know him rather well, he arranged to have Crickmay and me, with our wives, invited to the Thanksgiving dinner. At the dinner, there were present

not only the President and the trustees, but other distinguished local guests, as well as all the patients of the institution, the nurses, and other assistants; the total of about 300. It was a very interesting evening. The President, according to his habit, was seated in the midst of a group of young patients. He took great delight in carving a large turkey. When the dinner was over, Mr. Roosevelt rose to discuss the plans for the Foundation, and then introduced the many guests that were present. Imagine my surprise when late in the ceremonies he said, "About six years ago I attempted to get the U.S. Geological Survey to make a study of Warm Springs to aid our plans for the Foundation, and was told that there was nothing in this water business. I am pleased to say that since the last election the U.S. Geological Survey has found that there is something in water after all. I take pleasure in introducing Mr. Hewett of the Federal Survey and Mr. Crickmay of the State Survey, who are here to make a study of the warm springs."

Among the guests over Thanksgiving was Dr. Paul Haertl, Managing Director of Bad-kissingen, Germany. I am not sure, but I think Dr. Haertl must have been a Prussian because he was the Perfect Type.(!) He was more than 6 feet tall, weighed about 200 pounds (90.9 kg.), and had a certain arrogance in demeanor that seemed to me typical. He had been brought to Saratoga some years before by the Saratoga Springs Commission to advise it concerning the conservation and development of its water. Saratoga Springs had for many years been owned privately by certain persons who in their zeal to exploit the enormous quantities of carbon dioxide gas given off were drawing on these sources so freely that many springs in the area were failing. Soon thereafter, the springs were acquired by the State of New York and a program of orderly

development and conservation began. Much of this was due to the vision and efforts of Mr. Peabody, who was Chairman of the Saratoga Springs Commission.

As we were planning to make the most comprehensive study of the warm springs that had been undertaken, I thought it would be fitting to discuss with Dr. Haertl the general program of investigation. He seemed pleased and interested, and I told him all of the work that was planned: the geologic study, the measurements of discharge of springs and streams, chemical characteristics and temperature of the water, etc. After we had talked at great length, Dr. Haertle asked, "Are you studying the gas that comes from the water?" I replied that we were, and that I had collected samples of the gas for chemical analyses. He said, "Have you examined the shape of the bubbles?" Somewhat aghast, I said that we had not. He said, "Oh, you must examine the bubbles; some bubbles are round, but others are square." I could hardly believe my ears, so I pressed the subject. "Do I understand that you know places in Germany where the bubbles issuing from water are square?" He replied, "Oh yes, Mr. Hewett. The bubbles of gas at Bad-kissingen are square. You see, Mr. Hewett, when you put your arm in water that contains gas, bubbles appear on the flesh. Now, if these bubbles are round they produce no effect, but if they are square they have the affect of stimulating the nerves of the skin. It is extremely important that you determine whether these bubbles are round or square."

It took me some time to realize that Dr. Haertl was serious. To make a long story of my relations with Dr. Haertl for two weeks very short, I concluded that he was a typical P.T. Barnum in this hot springs business. He knew something of modern scientific lore, but whether deliberately or by some self-deception, he certainly affirmed a lot of foolishness. I could scarcely believe that a man of this

type was held in high esteem by Mr. Peabody, as Dr. Haertl was a consultant to the Saratoga Springs Commission, and seemed to have a somewhat similar relation to the Warm Springs Foundation. I concluded that I must be very circumspect in dealing with him.

I thought it appropriate to show him the inner recess in which the warm spring issued. To do this, it was necessary to descend a concrete chamber in our bathing suits and crawl through a hole in the retaining wall, scarcely 2 feet in diameter, beyond which there was a chamber about 5 feet square and 3 feet high on the side of which warm water issued from an open fissure. Of course, it was dark and we had to use flashlights to guide us. Dr. Haertl was in an awkward position. He was terrified at the thought of entering the chamber, but since he had posed as an authority on warm springs he could not withdraw. The experience for 20 minutes in that inner chamber kept him in a state of high nervousness. I was quite sure that he had never gone through such an experience before. I should add that later when we did examine the gas, the bubbles were round.

As it was planned to continue some of the measurements for two years, I returned to Warm Springs each quarter and devoted several weeks on each visit to checking the state of the instruments making the measurements. By the spring of 1936 our work had been concluded to the point where we knew much about the water and its source, and were preparing to make some recommendations to the Foundation. Through three separate approaches to the problem, our work proved that the water which issued from Warm Springs at a temperature of 88° was that which had fallen as rain on Pine Mountain within several square miles south of the spring. The daily measurements of the discharge of warm springs made for two years, reflected the periods of rainfall and drought, accurately. From another angle, through measurements of rainfall and the discharge of

streams we found what part of the total rainfall was discharged by the streams south of Pine Mountain and the discharge per acre of the ten streams. By contrast, we found that the streams discharging from the north side of Pine Mountain were deficient by just the amount of water that issued at the warm and cold springs. The water was extremely simple chemically and similar to that which issued from springs elsewhere in the region. Through what sources I cannot be sure, the local doctors, as well as Dr. Baudisch, an assistant of Dr. Haertl's, sent to Warm Springs earlier, had the impression that ultra-violet rays penetrated the Warm Springs water more readily than any other water. It was also freely stated that Warm Springs water was "more buoyant than other water." Curiously, none of those who used these terms seemed to realize that buoyancy is a relation between the specific gravity of two substances and not a property. In order to be fortified concerning the specific gravity of the water, I personally collected and brought to Washington a sample of the water---the specific gravity of which was determined under highly accurate control at the Bureau of Standards. It was found that specific gravity was exactly what it should be with the ingredients dissolved in it.

It was a great disappointment to Mr. Peabody and his daughter, Mrs. Marjorie Waite, as well as others at the Foundation, when I told them in the spring of 1936 that there seemed to be nothing extraordinary about this water, that it was simply rain water that had fallen on Pine Mountain, descended along a bed of quartzite in the earth, and ascended along the fault that marked the north edge of Pine Mountain. I still recall Mrs. Waite's remark "Oh, I am so sorry. We had hoped that the unusual properties of this water were due to the fact that it was

water appearing at the surface of the earth for the first time!"

Even though results of our investigation of Warm Springs found that the water was ordinary rain water without exceptional physical or chemical properties, I hesitate to view with scorn the widely held belief that the water possessed miraculous properties. There can be nothing but admiration for the work the Foundation has done to bring back to normal living, hundreds of young children who would otherwise have gone through life with deformed bodies. The belief in the miraculous beneficial properties of Warm Springs water probably contributed to a widely prevailing spirit of hope and optimism that all of the patients seemed to share. During the three years that I visited Warm Springs, I saw children arrive at the institution in various states of frightful deformity, gradually recover a large part, if not all, of the use of their limbs. It is a tribute to the spirit and talent of all those who aid the institution that such miracles can be accomplished. I am almost sorry that much of this cannot be attributed to the properties of the water that issues at Warm Springs.

Perhaps in retrospect I should add that as I understand it, there are many institutions in the country now where victims of infantile paralysis are treated and that use only local water from wells, streams, etc., which has been heated to the temperature which facilitates the treatments.

The letter written by the Director of the Survey to Mr. Roosevelt in November 1927 contained indiscretions, particularly the reference to the use of springs by real estate schemes, but most that was said in the letter seems now to have been proven absolutely correct, even though Mr. Roosevelt was outraged when he read it.

When the Water Supply report (WSP 819) was printed in 1937, a specially bound copy was sent to the President. Its receipt was never acknowledged!