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REMARKS

ON SOME OF THE

MEDICINAL SPRINGS OF VIRGINIA.

BY GEORGE HAYWARD, M.D.

Read before the Boston Society for Medical Improvement, Sept. 23d, 1839.



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MEDICAL SPRINGS OF VIRGINIA

BY GEORGE HAYWARD, M.D.

BOSTON

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THE

MEDICINAL SPRINGS OF VIRGINIA.

THE medicinal springs of Virginia are daily attracting more attention from invalids in all parts of our country. The number that resorts to them is annually increasing, and while many reap advantage from the use of the waters, a few, from an ignorance, perhaps, of their powers, return disappointed and without relief.

It is important that there should be correct information on this subject; that those only should undertake the journey who have a reasonable prospect of benefit; for it cannot be denied that at present it is attended with expense, fatigue, and inconveniences of various kinds, that are very annoying to feeble and infirm persons.

With a view of contributing my mite to this desirable object, I have thrown together, though in some haste, the following remarks. They are the result, in part, of personal observation, made in a recent visit to the springs; but more of inquiry of those whom I met there. They may not be perfectly accurate in all respects, but I believe that they are essentially so, at least in all important particulars.

There are eight principal springs, and I propose to speak of four, which are among the most celebrated of the number, in the order in which I visited them.

Before doing this, it may perhaps be well to say something of the routes which lead to them. There are three principal ones from Baltimore; one by the way of Winchester, another by Washington, and a third by Richmond.

If you take the first, you are conveyed to Winchester, a distance of 110 miles, by railway, passing through Frederick in Maryland, and Harper's Ferry in Virginia; the road, in its whole extent, being through a fertile and interesting country. From Winchester you are conveyed in coaches, and the mail will carry you in two days to the Warm Springs; but if you prefer to take an extra carriage, you will not

arrive there so soon by half a day at least. From Winchester to Harrisonburg, 70 miles, the road, through the rich valley of the Shenandoah, is very rough ; when that is completed, which is now constructing, and this will no doubt be before the close of another year, a more delightful route can hardly be imagined. The road from Harrisonburg to the springs is very good.

In going by the second route, you are carried to Washington by the railway, thence down the Potomac 60 miles to Potomac Creek, thence nine miles by coach to Fredericksburgh, and thence to Louisa Court House by railway, between 80 and 90 miles. Here you take the stage to Charlottesville, 32 miles, and thence to the Warm Springs, which may be reached in a day from Charlottesville. The travelling on this route is good, excepting the road between Louisa Court House and Charlottesville, which is bad in wet weather, but very tolerable at other times.

The way by Richmond is, perhaps, at present the least fatiguing of any. A steamboat conveys you to that city from Baltimore, and you are carried on a railway to Louisa Court House, thence you pursue the same course as by the Fredericksburgh road.

Going by either of these routes, the Warm Springs are the first that are reached. They are situated on the western side of a mountain of great height, called the Warm Spring Mountain, which is crossed by a road constructed with such skill, that it is passed without fatigue or danger, though it winds along the edge of precipices of fearful height. The temperature of the water, at the Warm Springs, is 96 degrees at all seasons of the year. It is so perfectly pellucid, that it is difficult to realize, when you first look into the spring, that there is any water there, the objects at the bottom are seen with so much distinctness. Bubbles of air are constantly rising to the surface, and these have been ascertained to be principally nitrogen, which, I believe, is by no means uncommon in sulphureous thermal springs. The water is not disagreeable to the taste, or, at least, it was not so to me, except from its temperature. It contains sulphur, magnesia, lime, and various other substances in minute proportions ; but its virtues, I am inclined to think, are owing to its temperature rather than to any medicinal agents combined with it. The sulphur may in some cases have a good effect, for the water is so much impregnated with it as to partake strongly of its odor. The supply of water is very copious. It is received into a room 38 feet in diameter, and is allowed to rise to a depth of five feet when it is intended for the gentlemen to bathe, and four feet for the ladies. After it has

been used, the water is drawn off, and the bath fills again in a quarter of an hour. The usual practice at the springs is to bathe twice, or even three times a day, and remain in the water about fifteen minutes each time. It is advised to avoid active exercise while in the bath, and to be rubbed with a coarse cloth immediately on coming out, which office I can say, from experience, is faithfully performed by a black attendant.

It is difficult to conceive of a more delightful bath ; it is almost worth a journey to Virginia to enjoy it. It is not only agreeable at the time, but its effects are in a high degree pleasant, producing no lassitude, but rather imparting vigor to the system. It is usual to take the first bath at 5 o'clock in the morning, and it is then particularly grateful, for the temperature of the air at that hour, even in summer, is not much above 50 degrees.

These springs are principally resorted to by patients afflicted with rheumatism, gout, and paralytic affections, though all classes of invalids who go to the Virginia watering places usually pass a few days at the Warm Springs, if it be only to enjoy the delicious bathing. One patient, a highly cultivated and intelligent man, derived great benefit while I was there, from these baths. He was afflicted with the gout to a distressing degree, which was complicated, also, with an affection of the spine, producing a partial paralysis of the right hand. The effects at the time were perfectly wonderful, but whether they were permanent or not, I am unable to say. He was relieved to a very considerable extent, not only of his lameness, but also of his pain, which at times had been very acute. He bathed constantly twice or three times a day, and remained in the water half an hour each time. He frequently assured me, after bathing, that instead of having any feeling of languor or debility, he was refreshed and invigorated by it.

The Warm Springs will, I doubt not, be found beneficial in most cases of debility in which there is no organic disease, though it is probable that much of the benefit which such patients derive from a visit to them, should be set down to the pure mountain air which they enjoy, their entire change of diet, and total abstinence from stimulating liquors, for none of these are drunk at the public tables at the watering places in Virginia.

Five miles beyond the Warm Springs are situated the Hot Springs. They are six in number, varying from 98 to 106 degrees in temperature, which, like that of the Warm Springs, remains the same throughout the year. The water of the Hot Springs contains various substances, as iron, magnesia, soda and lime, carbonic acid gas, nitrogen, which is

constantly escaping from it in bubbles, and a minute portion of sulphuretted hydrogen. When taken internally, it is said to act as a diuretic, diaphoretic, and a mild aperient. Whatever difference of opinion there may be as to the power which it is able to exert on the system when taken into the stomach, there can be no doubt of its salutary influence when judiciously used as an external remedy.

The mere fact that the articles which this water contains are not separately of a very powerful kind, is no proof that they may not be capable of acting with great energy on the system, when combined in the laboratory of nature. It is well known to every one at all acquainted with chemical science, that compounds of a very dissimilar character are produced by the combination of the same elements in different proportions, producing substances, in some instances, of far greater activity than either of the articles of which they are composed; and there is, perhaps, no better illustration of this than that offered by the union of oxygen and nitrogen, producing, when combined in one proportion, atmospheric air, nitrous oxyd in another, and nitric acid in a third. Nor are we sure that we are able to detect all the ingredients which these waters contain. The very tests which reveal some of them to us, may have the power of destroying others, and these, too, may be those in which the medicinal properties reside. The remediate properties, then, of mineral waters cannot be determined with any certainty by an analysis, however nicely conducted, but must be ascertained by experience, and this speaks well for those of the waters of the Hot Springs.

They have been found, when taken in combination with the bath, of great use in gout, rheumatism, neuralgic affections, functional diseases of the liver, debility of various kinds, especially that connected with, and consequent on, a derangement of the digestive organs. These springs are owned by Dr. Goode, a very intelligent physician, under whose direction the baths are conducted. By this means, the sweating bath, a remedy of great power, is administered in many instances with the happiest effects, and in all with perfect safety.

The temperature both of the Warm and the Hot Springs, as I have already observed, is uniform at all seasons; and in relation to this point, when speaking of some of the thermal waters of Europe, Professor Daubeny remarks, that "we may be authorized on general grounds to presume, that the temperature of thermal springs, in countries not exposed to present volcanic operations, undergoes no sensible change during a long period of time." It is well known that an earthquake or an eruption of a volcano has often produced a change in the temperature

of thermal springs that were even at some distance from the place where these phenomena occurred.

It is, perhaps, not easy to account for the high temperature of the water of thermal springs. By some it has been attributed to the agency of electricity. But this is rather a wild conjecture, than the result of any facts or observations. Various phenomena are regarded on very slight grounds as electrical, partly because we are unable to explain them, and partly because we do not know all the laws of electricity, while at the same time we have ample evidence that it is an agent of tremendous power. Whatever the fact may be, it is certain that there is no proof that it is in any way concerned in the production of the high temperature of thermal waters.

Another theory supposes that the heat of these springs is produced by certain chemical processes going on in the interior of the earth, and that these processes are attended with an absorption of oxygen and a consequent extrication of caloric. While another opinion maintains that the temperature of thermal springs is owing to the central heat of the globe, and that it increases in proportion to the depth from which they proceed. This opinion was supported by Laplace, and is, perhaps, more generally adopted at the present day by scientific men than any other. It is well known* that the temperature of the earth increases as we descend into it about one degree for every hundred feet; and if the increase continues in this proportion, we should arrive at boiling water at a depth of less than three miles.

I am not, however, conversant enough with this subject to offer an opinion on the comparative merits of these theories. It is a point which falls within the province of geology, and the zeal and success with which that science is now pursued may lead us to expect some elucidation of this intricate topic.

The most celebrated of all the Virginia springs, and probably the most powerful, is the White Sulphur, which is 35 miles beyond the Hot Springs, and 6 miles west of the Alleghany Mountains. Though situated in a valley, it is, like all the springs in that neighborhood, in an elevated position, with a delightful climate in summer, and surrounded with mountainous scenery of great beauty. Independently of the benefit that may be derived from the medicinal waters, a better situation for an invalid during the hot season can hardly be imagined. It has the advantage of a salubrious and invigorating air, an agreeable temperature, cool

* See a paper by Professor Daubeny in the Sixth Report of the British Association for the Advancement of Science.

at morning and evening, the thermometer ranging at those periods during the summer, between 50 and 60 degrees, and rarely attaining a greater height than 80 degrees at any part of the day, and an elasticity in the atmosphere that prevents the heat from being at any time oppressive, and enables the invalid to take active exercise in the open air during the day without fatigue.

This spring was known soon after the settlement of that part of the country, which took place about 70 years since. It is said to have been a favorite Moose Lick, and that hunters resorted to it in pursuit of this animal. In this way its medicinal properties first became known; but in consequence of the thinness of the population and the badness of the roads, it has not, till within a few years, been much frequented.

Though the odor and taste of the water, from its being strongly impregnated with sulphur, are disagreeable to most persons on first using it, I noticed that the dogs, that are kept in great numbers at the Springs for the purpose of hunting, seemed to be very partial to it. I was scarcely ever at the spring that I did not see one or more of these animals lapping the water with great apparent relish as it flowed from it.

The water, of which there is an abundant supply, is at a temperature of 60 degrees throughout the year. It is very transparent and slightly sparkling, from the gases which it contains; these are sulphuretted hydrogen, carbonic acid gas, nitrogen and oxygen. Bubbles of air, principally nitrogen, are constantly rising to the surface of the water and escaping from it, in the same way as in the Warm and Hot Springs. Its other contents are lime, magnesia, soda, iron, organic matter and precipitated sulphur. This latter ingredient seems to be very abundant, and a copious deposit of it may be seen at all times at the bottom of the spring, though it is usually cleaned out every few days. From the white appearance of this deposit the spring takes its name.

The water of the White Sulphur Spring no doubt possesses medicinal properties of great power. Multitudes who resort to it annually are benefited by its use, while a few, perhaps, deriving no advantage, are inclined to believe that the water has no remediate powers. But it should be recollected that these waters are not calculated to relieve all cases, and that in those where they might be useful, they may prove mischievous if not judiciously taken. Many persons, immediately on arriving at the springs, drink the water immoderately, and not a few suffer for their rashness. When taken in this way it is said to produce a powerful determination of blood to the head, attended with pain and dizziness, and sometimes followed by severe cerebral symptoms.

Though this water is nauseous to most persons on first drinking it, a relish for it is soon acquired, and in a short time, in most instances, it becomes a favorite beverage. I met with several individuals, in perfect health, who declared to me that they preferred it to any other liquor, and drank it merely as a luxury.

It is said to act on the kidneys, the bowels, the liver, and the skin. As a diuretic, its effects are very soon apparent, but it usually requires some days before it produces a decided action of the bowels. Its operation on the liver, too, is not manifest for some time, and where there is a great torpor of this organ, some auxiliary means may at first be required. Its effect on the skin is very apparent, though not immediate; after drinking the water a few weeks the perspiration becomes strongly impregnated with sulphur.

The use of this water is no doubt beneficial in a variety of affections, and I am inclined to believe that it will be found signally useful in those functional derangements of the digestive organs, which are so common, and at the same time so unmanageable, especially when they are connected with disturbance of the liver, or a torpid state of the bowels. The whole tribe of dyspeptics, if their trouble be not the effect of organic disease, may resort, with a well-grounded expectation of relief, to these healing waters.

Another numerous class of patients, known under the very common, but not very significant name of bilious, is said to find, very often, relief from them. Many persons of this description come to the springs from the south and south west, whose constitutions have been shattered by the diseases incident to the climate, and they almost invariably derive benefit from a residence there. In such individuals there is, hardly without exception, some derangement of the biliary secretion, consequent very often on intermittents and other fevers of the country.

Chronic rheumatism is a disease from which relief is, in very many instances, obtained by a resort to this spring. In this case great advantage is derived from the external as well as internal use of the waters, and for this purpose an excellent bathing house has this year been erected, with every convenience for using the bath in every form and at any temperature that may be desired.

Cutaneous eruptions of various kinds are frequently removed by a similar management.

Many of the distressing symptoms, which are by no means the unusual attendants of chronic affections of the urinary organs, are in

many cases alleviated, and in some entirely removed, by a judicious use of the White Sulphur Water.

There are other maladies over which, it is said, it exerts a favorable control. But it is unnecessary to enumerate them, partly because I cannot speak from personal knowledge, and partly because I suspect that in some of them the advocates of the springs may have exaggerated the virtues of the water.

But of this much I feel confident, that these springs will, in a majority of cases, be useful not only in those diseases which I have named, but also to that numerous class of patients who are affected with debility connected with functional derangement, or that which is consequent on previous disease, or excess and imprudence in living. All persons who resort to the White Sulphur Spring for the purpose of health, would do well to consult Dr. Moorman, the resident physician, who is well qualified to advise as to the mode of using the waters and the cases to which they are adapted. They will find him to be an intelligent and well-educated physician.

The Sweet Springs are 17 miles from the White Sulphur by the road, but not more than half that distance in a straight line, as the road winds gradually over the mountains, and thus avoids the steep and precipitous ascents which would be unavoidable if it crossed them in the nearest direction. The temperature of the water is 76 degrees, and is the same at all seasons. It is very abundant, and is situated in one of the most beautiful mountain valleys of that region. It contains a large quantity of gas, particularly the carbonic acid gas, and this imparts to it a sparkling and agreeable taste. In what way it obtained the name of sweet, I cannot learn; it certainly does not deserve it, for it is decidedly acidulous. It contains lime, magnesia, soda, iron, &c., but in what quantities I do not know. An analysis of all these waters has recently been made by Professor Rodgers, of the University of Virginia, and it is understood that the result of his investigations will soon be given to the public.

The water of the Sweet Springs, when taken internally, is not supposed to possess medicinal properties equal to that of some of the other springs; but in combination with the bath, it is found useful in many diseases, as rheumatism, paralytic affections, and general debility. It has also been extolled in dyspepsia, and in that countless tribe of maladies which follow in its train. It is certainly a very agreeable bath, pleasant while you are in it, and followed by a delightful glow as soon as you come out.

There are four other springs, of greater or less degree of celebrity, which I did not visit; these are the Blue, Salt, Grey, and Red Sulphur. The two first are said to resemble very closely the White Sulphur, having the same properties, though in less degree. The Grey Sulphur has been extolled for dyspeptic affections, and the Red Sulphur for its beneficial effects in pulmonary diseases. But having no personal knowledge of any of them, I do not feel that I could offer anything that would be worth your attention.

There are four other springs of greater or less degree of celebrity, which I did not see, these are the Blue, Salt, Grey, and Lead Springs. The two first are said to resemble very closely the *Wells Springs*, but the latter is much more abundant in lead. The Grey Springs has been examined for sulphuric acid, and the result is that it contains no sulphuric acid. It is however, no personal knowledge of any of them, I do not feel that I could give anything that would be worth your attention.

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