

## **On the medicinal springs of Harrogate / by George Kennion.**

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# ON THE MEDICINAL SPRINGS OF HARROGATE.

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*Formerly Physician to the Harrogate Bath Hospital.*

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(Read before the Anniversary Meeting of the Provincial Medical and Surgical Association, at Sheffield, Thursday, July 31, 1845.)

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Harrogate has long been celebrated for its medicinal springs. The first of these, which was brought into notice nearly three centuries ago, was a chalybeate water. Soon afterwards the old sulphureous water was discovered; and since that time, and especially within the last thirty years, the number of important springs which have come into notice has greatly increased.

The village or town of Harrogate is popularly divided into two parts, which are termed High and Low Harrogate. The greater part of what is called High Harrogate is built upon a high table land, which is elevated 320 feet above the level of the sea, and commands a magnificent and extensive view all around; while Lower Harrogate is situated in a basin, which is bounded on the south and east sides by the High Harrogate hill, and on the west by the Harlow hill. The upper stratum of the soil is sandstone; below this is a bed of shale, (in some places of considerable depth,) and below this again is the carboniferous limestone. The air of Harrogate is peculiarly pure and bracing, and, as is commonly remarked, possesses

more of the freshness and elasticity of the sea air than almost any other inland place ; and to this, without doubt, we are indebted for much of the improved health and strength which so many invalids find there.

I shall endeavour very briefly to bring the principal varieties of the mineral waters of Harrogate under your notice, in the respectful hope that by doing so I may be able to impress upon your minds, and through your influence, to circulate among others, the advantages to a very large proportion of invalids, of a watering place which has so much to recommend it ; which, thanks to the improvements of the age, is easily accessible from all parts of the kingdom ; and which, although the yearly increasing number of its visitors testify to its great importance, is not, I have reason to believe, as yet so fully appreciated as it deserves to be.

The different medicinal springs of Harrogate are naturally divided into four classes, viz. :—The *Sulphureous*, the *Saline*, the *Chalybeate*, and the *Saline Chalybeate*.

The *Sulphureous* springs may be divided into the strong and the weak.

I. The stronger sulphureous springs contain in each gallon from fourteen to seventeen cubic inches of sulphuretted hydrogen gas, and from 800 to 900 grains of saline matter, of which nearly nine-tenths consist of muriate of soda. There are also present, muriate of lime, muriate of magnesia, and bicarbonate of soda.

The first effect of sulphuretted hydrogen taken into the system in small doses, is that of a powerful diffusible stimulus. If this gas is taken in too strong doses, or if its use in moderate doses is too long continued, it acts as a sedative upon the nervous system ; and in directing the use of the water, it is important that this be carefully remembered. At the same time it must be borne in mind that to a certain degree this physiological effect is modified by the powerful action of the saline ingredients upon the bowels.

1. From this, we shall readily understand how this water is useful in cases of dyspepsia arising from long continued functional derangement of the stomach and duodenum; where the vessels of the mucous membrane and of the follicular system of the stomach are in a relaxed and congested state—where the secretions are consequently irregular, unhealthy, or suppressed—where the peristaltic action of the bowels is diminished, and the skin is harsh, dry, and unperspirable.

2. In cases also, where from long residence in hot climates, or from other causes, the liver has become torpid in its secreting or its excreting functions, we have a powerful remedy in the sulphur water; for while the sulphuretted hydrogen produces a stimulant effect upon this organ, the saline contents act upon the mouth of the gall duct, and a healthy secretion, as well as a free discharge of bile, are thus promoted.

3. From the beneficial effects which are derived from the use of these waters in cases of dyspepsia, we shall be prepared to expect a corresponding improvement from their administration in gouty and rheumatic subjects. We have, in fact, in these cases, a double benefit from their use; we find them efficacious, not only in restoring a healthy state of the secretions—a point of the first moment,—but in this very effect we have a natural means of eliminating from the system, that “*materies morbi*” which, there can be no doubt, exerts so powerful an influence in the immediate induction of either disease; and thus we find a safe and a happy mode of removing at the same time, both cause and effect; and in reference, especially to gout, where this *materies morbi* so pre-eminently exists, I have observed, that where this is present in the system to so great an extent as not to be thus easily got rid of, and yet where the constitutional powers are in so atonic a state, where there is such a want of vigour in the system as to render it incapable of shaking off the incubus, many are the cases in which the effect of this water has been such as to procure—what medicine and art have in vain attempted to induce,—so complete an attack of gout, as entirely to restore the patient’s health.

4. In a large number of cases, where there has existed for some time great functional derangement of the uterus, I have seen the sulphur waters of very great service. They frequently have the effect of inducing the menstrual discharge, where amenorrhœa has occurred from want of tone in the system ; and where, on the other hand, menorrhagia has long prevailed, and has been connected with passive congestion of the uterine vessels, I have known this water produce a perfect cure.

5. Great benefit is derived at Harrogate by patients, and especially young people, who are subject to strumous glandular swellings. The improvement in such cases has been frequently most marked ; for not only are these enlargements often gradually resolved, but in connexion with this, the general health and strength improve, the appetite becomes more healthy, the power of the digestive organs is increased, and a new and vigorous state of the system is produced.

6. It will be sufficiently evident, from what I have said, that where inflammatory symptoms are present, or where there is any fever or excited action of the nervous or the circulating systems, this water is contra-indicated ; nor can we safely use it where any organic derangement exists of the valvular apparatus of the heart ; indeed, the presence of cardiac disease, in almost any form, is a barrier to its exhibition. This objection applies also to its use in diseases of the lungs, *excepting in chronic bronchitis, which in very many cases is greatly benefited by its use.*

7. I have reserved to the last any notice of the efficacy of the sulphureous waters in cutaneous diseases, partly because I am aware of a general feeling which prevails that it is in these cases *chiefly* that "Harrogate waters" are useful ; and, my aim has been to show that the therapeutic effect of these waters is seen in a large variety of other cases ; and partly, also, from the firm conviction that there are very few cutaneous diseases whose origin may not be traced to one or more of those classes of functional disorder which I have already mentioned as being benefited by the sulphur water. And thus, while I would rea-

dily admit the beneficial or even specific effect of the sulphuretted hydrogen upon some *few* of these cases, yet, as in the *vast majority* of such complaints, we must view the external irritation as but a symptom of the internal disorder, so we must look to the remedial effect of these waters upon the former as but an index of the still greater improvement which they produce in the latter. Thus, if we take a case of acne, or of psoriasis, no one will affirm that these disorders are *idiopathic*; every practical physician is well aware, that they are but symptoms of what is going on else-where. They may arise from dyspepsia—they may depend upon a gouty habit—they may be caused by uterine irritation. But these cases are sent promiscuously to Harrogate without reference to the cause, and a majority of such cases get well there. But to what cause are we to attribute the improvement? Not surely to any specific effect of the sulphureous waters upon these cases, viewed merely as cutaneous diseases, and depending as they do, upon such varied causes, but to their power of removing the causes of these complaints—to their effect in restoring to a state of health the digestive organs—in relieving the gouty predisposition—in promoting the functions of the uterus—in building up the debilitated and strumous habit. If, then, *a single symptom*—I grant it one of great and painful annoyance—but still, a single symptom—be thus marked, as it commonly is, as being so peculiarly adapted for the exhibition of the sulphureous waters; and if, as I have endeavoured to show, the removal of that symptom is produced by, and attended with, a corresponding improvement in the perhaps less evident, but not therefore uncertain cause, why should we withhold this remedy for the internal disease because the external symptom is not present? Why should not these complaints in an unmixed form be considered just as appropriate for the exhibition of the sulphur waters, as if they had superadded the complication of cutaneous disease?

I need not detain you long by any remarks upon the *external* use of this water; not that its value in this respect is unimportant, being, indeed, much the reverse, but as the use of the

ordinary warm bath is of course understood by all, and as the superiority of the sulphur water for this purpose arises from the presence of its active ingredients, it would be unnecessarily occupying your time were I to dilate upon this head, when, from what I have already said as to the nature of these ingredients, you will be able so readily to draw your own conclusions. One remark, however, I may make, which is, that as on the one hand the presence of these agents in so large a proportion constitutes the superiority of this water for external use in suitable cases, so on the other hand it renders it inapplicable for this purpose in some cases of cutaneous diseases, where much inflammatory action exists in the vessels of the skin, for example, in the active stages of eczema and impetigo. And this leads me to speak of

## II. The mild sulphur waters.

The leading character of these waters is, that they contain sulphuretted hydrogen in much smaller quantity than it exists in the strong waters; and a very much less quantity of saline matter, of which the principle part consists of muriate of lime and carbonate of soda, while in some the muriate of soda is entirely absent. For my present purpose it is sufficient that I group these waters under one class, although, in actual practice, we have the opportunity of adapting the peculiarities of the different springs which come under this head to the different circumstances of our patients. From what I have said of their composition, you will readily perceive how high a value attaches to their use in cases where we require the aid of the sulphur, and yet are prevented from using the strong sulphureous waters on account of the large quantity which they contain of this stimulating gas, and of the irritating salt. Used externally, they leave a soft silkiness upon the skin, which resembles that produced by the Schlangenbad waters. They have a powerful effect in allaying any irritation which may exist in the skin, and hence may be considered as invaluable in such cases. Taken internally, they act either upon the bowels or the kidneys, according to the habit of the patient. If any predisposi-

tion exists to chronic irritation, or even inflammation of the intestinal mucous membrane, I have seen these waters gradually restore this membrane to its healthy state, and the red glazed tongue, which so often is its index, to resume its normal condition. Upon this very state of the mucous membrane, as you are well aware, depend many of the most obstinate cutaneous eruptions. In such a case, how serious an aggravation of all the symptoms is produced by the *stronger* sulphur waters; how valuable the aid which is afforded us by *this* class! The efficacy of the fixed alkalies, and of the muriate of lime, in allaying irritation of the mucous membrane, is universally known; for such cases these remedies find a place in our daily prescriptions. Shall we suppose that nature's laboratory is less useful than that where we gain the assistance of art?

But in another class of cases these waters are most valuable. I refer to calculous affections of the kidneys, upon which organs they act very powerfully; the small calculous deposits which find a nidus in their structure, being mechanically washed away, while the alkali which the water contains tends to remove that acid condition, which leads to such fearful results. As a remarkable proof of their value in such cases, I may mention what was said to me by a lady five or six years ago, whom I had recommended to drink them. "I have been at Vichy," she said, "every year, for six years, and in all that time I did not gain half the benefit which I have derived from the use of these waters for six weeks."

III. I shall pass over the subject of the pure saline waters, with this one observation, that we find them a valuable remedy in delicate constitutions, where we wish to have the effect of a mild laxative produced daily; and I come to notice lastly,

IV. The chalybeate, and the saline chalybeate springs.

I consider these waters as being of at least as great importance in a therapeutic point of view, as the better known sulphur waters; but I need not occupy your time with any prolonged account of them, because, aware of their existence, you will readily perceive of how great an advantage they must prove to a large class of invalids.



The pure chalybeate springs are strong, containing about two grains and a half of iron in each gallon, which is held in solution by an excess of carbonic acid. I need say nothing of their therapeutic effects, with which you must be perfectly acquainted. But I am desirous of speaking in strong terms of the valuable remedy which we have in the saline chalybeate waters. In these we have, in addition to the iron, a considerable quantity of muriate of soda, and of sulphate of soda. Their effect is to act gently, but in most cases sufficiently, as an aperient; and we are thus enabled to administer with great benefit, a chalybeate in cases where it has long been indicated, but where, from a morbid excitability of the nervous system, or from other causes, it has been found impossible to continue its use for any length of time. I may also speak in strong and even unqualified terms, of the value of this water in a class of cases which are constantly met with in practice, where the secretions have become impaired or depraved, the bowels confined, the action of the liver sluggish, and all these symptoms depending upon a want of healthy tone and energy in the system, which, while it produces the symptoms, prevent that persevering continuance in the treatment which they appear to demand.\* In many other cases, into which your time will not allow me to enter, but which you will readily judge of, this water will be found a most valuable agent.

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\* It is somewhat remarkable that one of these springs, known in the place as the "Montpelier Saline Chalybeate," very closely resembles in its composition the famous "Ragozzi" spring at Kissingen; and it may not be out of place to mention, as being also in some degree corroborative of the opinions already advanced, that many cases of cutaneous disease which are dependant upon the oxalic acid diathesis, are, in fact, very much increased by the use of the sulphureous waters, (which generally aggravate this diathesis;) while on the other hand, they are in the same degree relieved by the use of the Saline Chalybeate water, which tends to remove this state of the system.