BRITISH HEALTH RESORTS IN PEACE AND WAR.

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THE remedial use of water may be said to rest upon the two bases of history and experiment. In my first lecture I recalled the long history and tradition connected with this branch of treatment, and showed that whilst it has survived all changes of medical doctrine, it has flourished most when men's minds were turned from vain speculations and occultism to the observation and study of natural processes. In the second lecture I examined the experimental basis of the subject, and endeavoured to show that the use of baths in particular was agreeable to ascertained physiological law, and that their proved effect upon the body was such as to make them remedies of no mean value.

I propose now to consider the British health resorts in which waters and baths of various kinds are employed. Some of them have been in popular or medical use for many centuries, others only for a few years. Some are large towns, others small villages. Some are warm places in the plain or valleys, others cool, on the moorland or hillside. Their medical value consists in the means of treatment they afford. In this respect some resorts, in virtue of their natural endowment, enjoy a wider application than others. These have, perhaps, a stronger individuality and their application is more limited, but by no means less valuable.

Formerly the chief consideration in the choice of a spa was that one possessed larger establishments than another, or was more modern or amusing, the presumption being that the same treatment could be obtained everywhere. This idea has found support from the practice at some resorts of introducing all the methods of treatment belonging to other places. In the endeavour to create a universal provider there is, however, a danger lest the original virtue of the place, perhaps the waters, by which its reputation was first established, should be in the new development neglected and forgotten.

The serious study of medical hydrology in recent years has shed new light upon the true value of waters. And not only has the hydrologist to consider what are the particular properties and actions of the waters and baths, but what is the influence of the place as a whole, including, above all, the influence of the climate upon the sensitive organization of invalids. In the best type of health resorts the specific action of the waters and baths is promoted and reinforced by the general action of the place.

National Health Resorts.

The health resorts of a country are a national asset. Their utilization and development may be a matter of national concern. It was so under the Roman Empire, when baths were more widely and scientifically employed than at any period in history. It is so now in France, Italy, Germany, and other Continental countries. In those countries the Governments have for many years made themselves responsible in one way or another for the national spas. Medicinal waters, like other mineral resources, are considered of sufficient importance to warrant their conservation by law, and their development is assisted by Government oversight and legal provision. They are thereby protected against the risks that otherwise attach to private ownership, both in the way of neglect on the one hand and unwise exploitation on the other.

Owing to the European war British invalids are almost entirely precluded from availing themselves of the Continental spas, which have enjoyed hitherto perhaps an undue share of British favour. This favourable notice was, no doubt, chiefly due to the high state of development they have reached under the encouragement and supervision of their Governments. If one nation be compared with another, the Frenchman goes to the French resorts, the Italians to those of Italy, the Germans to those of Germany. But the British have in great numbers

gone far afield, and many of the spas of other countries owe much of their prosperity to this fact.

Another reason for seriously examining the resources of our own country is that large numbers of war invalids are now leaving the hospitals who are not fit to return to the front nor yet to go to their own homes. We know from long experience in civil life that the maladies and disabilities from which these men suffer can be greatly relieved and often cured by the ministration of the health resort.

The General Characters of British Health Resorts.

An island climate on the north-west of Europe has given to the British health resorts a certain character which differs widely from the Continental type. They are situated five to ten degrees nearer to the polar circle than the great spas of France and Germany. The more northerly summer is cool and fresh, with frequent changes of temperature. The North Atlantic current may be 6° or 8° F. cooler than the sea at Dover, and nearly 20° cooler than the Mediterranean. No such tempering influences mitigate the heat of the Continental summer. Since the action of baths is different in different climates, and especially varies with altitude and with temperature, the choice of a bathing station is sometimes a matter of climate. Thermal treatment may be well borne by a delicate subject in a cool or dry air, but might be intolerable and even dangerous in a hot and humid valley.

SCALE OF THERMALITY OF BATHING RESORTS.

(Mean Temperature of July in degrees Fahr.)

78. Castellammare, Bay of Naples.
- 77.
76. Salsomaggiore (altitude 520 ft.).
75. Leviçò (1,700 ft.).
- 74.
- 73.
72. Bex, Switzerland (1,400 ft.).
- 71.
70. Nauheim, Homburg, and the Rhine Spas.
69. Aix-les-Bains (860 ft.).
68. Evians-les-Bains (1,240 ft.). Vichy (736 ft.).
67. Spa, Belgium (1,000 ft.). Luchon, Pyrenees (2,030 ft.).
66. Contrexéville (1,150 ft.).
65. Plombières (1,300 ft.).
- 64.
63. BATH (100 ft.). DROITWICH (200 ft.). LEAMINGTON (200 ft.). CHELTENHAM (150 ft.).
62. BUXTON (1,000 ft.). LLANDRINDOD (700 ft.). WOODHALL SPA (37 ft.).
61. HARROGATE (500 ft.). Bormio, Italy (4,500 ft.).
60. Caunterets, Pyrenees (3,200 ft.).
- 59.
58. STRATHPEFFER (200 ft.).
57. Leukerbad, Switzerland (4,600 ft.).
- 56.
55. St. Moritz, Switzerland (5,800 ft.).
- 54.
- 53.
52. BATH, in the spring months.

There are certain disorders and constitutions for which health resorts high on the scale of thermality are helpful and appropriate. At the hot end of the scale are most but not all of the Continental spas. Most of the British spas will be found in the cooler part of the scale. The coolest spas are those of high altitude and of northern latitude. Some invalids require treatment in the warmth and shelter of valleys, or in warm summer climates, such as can be obtained in England at Bath, Leamington, or Woodhall Spa. Others do better on the moorland or hillside, as at Buxton or Harrogate; others again at mountain resorts, such as the great French spas in the Auvergne; and others at northern stations, as in Scotland.

The difference in summer heat between the cooler British spas and those of the Continental plains is quite enough to affect the result of treatment. Buxton is 8° F. cooler than Nauheim and the Rhine, and Strathpeffer as much as 12° F. cooler. In weakness of the heart and circulation cool treatments are preferable, or at most a carefully limited and guarded thermal influence.

Thermal Debility.

It follows that the British spas are less liable than their rivals to the chief danger that attends upon the use of hot
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baths—namely, the condition that has been described as “thermal debility.” Many persons to avoid this undesirable result of treatment are very properly advised to take an “after-cure” in bracing air. If this is neglected, and sometimes in spite of all precautions, an insidious weakness may be experienced, which is in proportion to the heat to which the patient has been subjected, both in the bath and in the climate. In the cooler British stations this danger is minimized.

Northern British Resorts.

Many of the stimulating effects belonging to high altitudes may be obtained at the northern British resorts, at or near the level of the sea. The cool summers of the north, like those of high altitudes, make a greater call upon the activity of the tissues than warm summers, but do not make the same demand upon the heart and breathing. Consequently, the northern cold is better borne than the same degree of cold in the mountains, especially by elderly persons and those in whom the breathing and circulation are embarrassed. The long summer days give a character of their own to northern stations, and the extreme translucence of the air, as in the mountains, is evidenced not only by the feeling of warmth, but by the power of the actinic rays. It is also remarkably free from dust. The atmosphere has more humidity than in the Alps, and is therefore more sedative.

It will be observed that many varieties of stimulant and sedative influence are blended in the health resorts of the north. For example, in the north-east of Scotland a marine air is often combined with that of the moorland, and at an elevation of a few hundred feet the atmosphere has a fresh and invigorating quality with which a sedative influence is subtly mingled. The baths and climates of northern health resorts are especially helpful in nervous and mental fatigue, in circulatory disturbance, insomnia, and premature age. The Norwegian spas Larvik and Sandjefjord, and the famous Swedish baths of Modum, should be placed in this category.

British Thermal and Subthermal Waters.

Bath stands highest in the scale of thermality of all the British spas, and the warm climate accentuates and reinforces the sedative effect of the baths. The climate of Buxton, like the waters, is of lower temperature and more tonic. The two places represent two widely differing types of treatment, both of great value in their proper application. Bath is a health resort of very large application, since the treatment can be given throughout the year. It is therefore a spa of two thermalities. For some constitutions and maladies the baths are most efficacious in summer, whilst others require the cooler regimen of winter and spring. No better example could be adduced of the fact that the climate for the time being powerfully affects the results of bath treatment. The baths of Buxton have a stimulant effect in those rheumatic and gouty disorders for which warmer treatments may be injurious; but over and above the effects of temperature Buxton waters exert a definite action in many cases of rheumatism. The less frequented waters of Matlock Bath in Derbyshire, of Clifton, and of Mallow in county Cork, belong to the same valuable class of naturally warm waters.

Sulphur Waters.

Sulphur waters are well represented in the British Islands. In what form is this element presented in natural waters? For the most part as a volatile gas, antiseptic, absorbed by the skin, rapidly diffused throughout the body. In its effect upon some chronic disorders it approaches to a true specific. Its exhibition in such cases often aggravates symptoms before relieving them. The hydric and alkaline sulphides exist nearly alone or combined with lime salts in what have been called “pure” sulphur waters, like those of Strathpeffer in Scotland, Llanvrtyd in Wales, and Lisdoonvarna in Ireland. In another group the sulphides are combined with chlorides, forming a “muriated sulphur” water, as at Harrogate, Llandrindod, and Moffat. The lime salts and chlorides are respectively diuretic and aperient, but modify also in other ways the actions and uses of sulphur waters. For example, one of the sources at Llandrindod is nearly isotonic with the blood, and, following the French hydrologists, might be called a “natural serum.”

Hot sulphur springs, which are associated with volcanic action, are not found in Great Britain. But there are

within the empire many remarkable waters of this class, notably in the Punjab and other parts of India, and in New Zealand, not to mention Helwân in Egypt.

Salt Waters.

Droitwich, the premier British salt spa, has a saturated brine, radio-active, containing about ten times as much salt as sea water. It is well adapted for stimulating surface treatments at different temperatures (see *infra*, rheumatism and cardio-vascular affections). The other salt or muriated waters of Britain can be used both for drinking and bathing. Here again the secondary and modifying elements in the water alter its whole effect. For this reason the salt spas are possessed of strong individuality, and are widely different in their actions and uses. The group includes Woodhall Spa, Bridge of Allan, Leamington, Cheltenham, and Llangammarch in Wales.

Treatment of Rheumatism and Gout.

In some cases the high thermality of the Continental spas (Aix-les-Bains, Vichy) is to be preferred to the cooler range of island resorts. But it should be remembered that rheumatic persons, and still more sufferers from gout, are sensitive to heat, and therefore prone to suffer from thermal debility after bath treatments. For this reason the hydrologist will often prefer the cooler treatments of the British spas, particularly in atonic states of the cardio-vascular system. A cure is dearly bought at the expense of the heart.

It has sometimes been argued with a show of reason that since all the spas claim to benefit rheumatism, therefore no particular water is better than another. The truth is that at all well appointed spas a similar kind of bath treatment is employed, namely, *heat* in various degrees and forms, with douching and massage. These external applications are sometimes described as “thermal treatment,” and can be, within limits, given anywhere. For rheumatism and gout, as for other maladies, the spas therefore offer a twofold provision—the remedy of heat and thermal treatment, in which they agree; and the remedy of waters, in which they differ. Undoubtedly rheumatism is treated with success at most well appointed spas, for the reason that it receives at all of them a similar thermal treatment.

But altogether apart from baths and other surface treatment, there are certain waters which have a curative value in rheumatism and gout, and after a rather long experience I am not disposed to say whether the baths or the waters are the more valuable.

England offers for these maladies the thermal water of Bath and the subthermal water of Buxton. Both of these, within their own class, are unsurpassed and of the first value. Then there are the brines of Droitwich and Nantwich, affording one of the most effectual forms of external treatment. Lastly, there is the important group of sulphur waters, for drinking and bathing, which in their effect upon the body approach to a specific action in these maladies.

Treatment of Nervous Affections.

As regards nervous affections, the loss of the Continent will be difficult to make good. The physician often relies upon a complete change of scene and atmosphere, of habits and people, even of country and language, in order to recreate wearied and irritated nerve centres, or to overcome old habits of invalidism.

With reference to bath treatment, it may be noted that in nervous disorders for which health resorts are appropriate: (1) Both irritation and depression are usually present, and therefore a sedative as well as a stimulant action are required; (2) that cool and “subthermal” treatments combine a sedative with a stimulant action, and that, on the whole, hot or thermal bath treatments are injurious in nervous maladies; (3) that rest is often an urgent requisite, and that therefore many small and tranquil spas in a rather sedative climate may be in some cases preferable to other resorts that are recommended as having “every treatment, the finest hotels and the best music”; (4) that in the summer and autumn seasons moorland and especially northern air, with or without tonic bath treatments, are especially helpful for these subjects.

Treatment of Circulatory Disorders.

An acknowledgement is due to the foreign physicians who have called attention to the good effect of cooling

baths in heart affections. For many years the fact had been occasionally noted at the spas, both in the British Islands and in Italy and France, but those observations were neglected or forgotten until the claim was recently put forward in connexion with a particular Continental health resort. In truth, equally good results have been obtained at many places from baths of a certain temperature with or without effervescence. There is nothing specific in what has been loosely called the "Nauheim bath."

The British health resorts, in consequence of the island climate, are well adapted to the bath treatment of cardio-vascular cases. No persons are so liable to thermal debility as those who suffer from circulatory troubles. In their case during the summer season both hot baths and hot climates are best avoided. Moreover, for the greater number of such persons the fatigues of foreign travel, as well as the abrupt change of habits, may be prejudicial. There is in the British Islands a wide choice of localities where baths of this description are given with sufficient precision. It must be confessed that no bath requires greater care, and accuracy of observation of its effects from day to day; and in no other kind of disorder is the reaction to baths so curiously variable.

During the summer season cardio-vascular patients may be treated in the relative warmth of Droitwich or Woodhall Spa; or, in an atmosphere of ascending tonicity, at Llangammarch, Llandrindod, Harrogate, Buxton, Strathpeffer. All of these places, although very different, may be described as *resorts for circulatory disorders*. In winter time baths of the same kind may often be taken with advantage at coast resorts like Sidmouth or Torquay, or in adequate bath establishments in the town.

Undeveloped British Spas.

Besides certain spas already mentioned, there are two British waters, once much resorted to, and still of great potential value. These are the chalybeate water of Tunbridge Wells and the St. Anne's Well at Malvern. Although possessing a minimum of "mineral" constituents, Malvern is a true "medicinal" water, with an action best described as *eliminant*. It takes rank with Evians on the Lake of Geneva, and there is, in my opinion, no reason why Malvern in time to come should not occupy as important a position among the health resorts of England.

War Service of the British Spas.

It is well known that for many years the Continental spas have been widely and successfully used for the after-treatment of soldiers in connexion with European wars. After the South African war many military cases were treated with advantage at the British spas, but, unfortunately, no systematic records were kept. The matter was discussed by the Section of Balneology in the Royal Society of Medicine, with the conclusion that, from the evidence available in this country, supported by the much more extensive evidence of other countries, valuable results might be anticipated from similar treatment at the present time if efficiently and systematically carried out. That is to say, that a great many injured and disabled men, for whom all that is possible had been done by surgical skill and ordinary hospital treatment, would obtain relief or cure from suitable treatment by baths and waters, which would be otherwise unattainable. In short, that there is in war time a great scope for after-treatment at bathing health resorts.

In view of these facts, and of the great numbers of men invalidated from the field, the Section determined to draw the attention of the authorities to the matter. Early in the year a committee was formed, upon which the War Office and the Royal Society of Medicine were represented. Local committees and representatives were forthwith appointed at the British health resorts and the facilities for treatment inquired into and organized. A widespread absence of information was encountered, and a pamphlet prepared setting forth the various conditions, surgical and medical, which could be submitted to bath treatment with advantage, with a schedule of the health resorts and the treatment which they offered. This was circulated by the War Office among the military hospitals, and also supplied to the Admiralty. A full statement of the available accommodation, both for officers and men, at the principal resorts was also prepared.

The health resorts without exception showed every willingness to co-operate in this war service. Already very large numbers of free baths have been given, free accommodation has been often availed of, and spa practitioners have given their services in all necessitous cases. Private bath establishments and "hydropathics" in healthful situations have for the emergency of the war placed their facilities for bath treatment freely at the disposal of the local medical men for military cases.

The Committee were anxious to promote not only a sufficient but an efficient after-treatment. A system of case record cards was organized. These have been officially approved, and will form part of the Government statistics in the medical history of the war. About 7,000 cards have been already issued.

Perhaps the most serious difficulty is the proper selection of cases for the different localities. On the one hand are the men, hundreds or thousands, ready to leave the hospitals or homes, but not yet cured. On the other hand, there is offered for their relief or cure a wide and various provision of waters, baths, and climates all over the country. The problem is how to bridge this gap, so as to secure for each man the best choice of locality and treatment. Only by careful selection in the hospitals, or in some kind of clearing station, and by expert distribution of cases can favourable results be obtained. The same care and pains that are taken in advising ordinary invalids ought to be applied to the distribution of military cases.

Medical Baths in Towns.

A large number of these men could be treated at a good medical bath establishment in town or country, as well as or better than at a spa. Medical baths have been for many years in use in Continental cities, with similar installations in the civil and military hospitals. The hydrotherapy thus provided is found adequate for a certain proportion of cases, and much expense avoided. In time of war many of the most useful treatments can be thus applied, under skilled medical direction, in the vicinity of the great hospitals, and large numbers of patients can be easily handled with a modest installation of baths.

In the British Islands baths have been hitherto but little used in connexion with the hospitals, but good medical baths have been erected of late years in London, Bradford, and other towns, where treatment is adequately given. New needs have now to be met. The Committee has included in its recommendations that approved establishments should be made available for military use, and that bath treatment should be attached to some of the military hospitals.

Future of British Hydrology.

No one who has followed the growth of medical hydrology in this and other countries during the last few years can fail to realize that it has taken a place among the medical sciences, and that at the present day the art or practice of hydrology affects the welfare of many thousands of persons. How important in the public interest that this branch of treatment should be well-informed and scientific, and that a wise, and not unwise, use should be made of the British waters and baths!

What better means could be taken to these ends than to set up systematic instruction in hydrology? And what better place than London to possess an institute of hydrology? At such an institute, under right auspices, not only could teaching be given, but a clinic established, and, most vital of all, investigation and research carried on, that English physicians should no longer subsist on knowledge borrowed from other countries, but that we should substantiate our practice upon our own soil. Only so in any country can any art permanently flourish.

If our view be extended a little further—from London to the outlying parts of the empire, to South Africa, India, New Zealand, Canada—the British hydrologist has work to do. India alone is richly endowed with medicinal waters of every description. No scientific report has ever, admittedly, been made upon them. There and elsewhere much remains to be done to investigate, make known, and utilize these natural resources of the empire.

[The lecture concluded with an account of the arrangements for soldiers at the British spas, illustrated by lantern slides.]