

**The Droitwich salt springs : their medicinal action and curative properties /
by Mr Bainbrigge.**

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THE  
DROITWICH SALT SPRINGS:

THEIR

MEDICINAL ACTION

AND

CURATIVE PROPERTIES.

BY

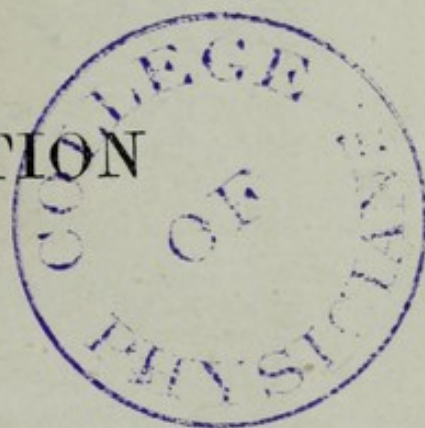
MR. BAINBRIGGE,

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LATE LECTURER ON CLINICAL SURGERY AND ON PHYSIOLOGY TO THE LIVERPOOL  
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AUTHOR OF "EARLY EDUCATION," "REMARKS ON CHLOROFORM," "PAPERS  
PROPOSING A NEW MODE OF OPERATION IN OVARIOTOMY,"  
"REMARKS ON THE DROITWICH SALINE SPRINGS AND BATHS," ETC.

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*Dr. Andrew Clarke*

*with the Authors Crusts*

*1879*

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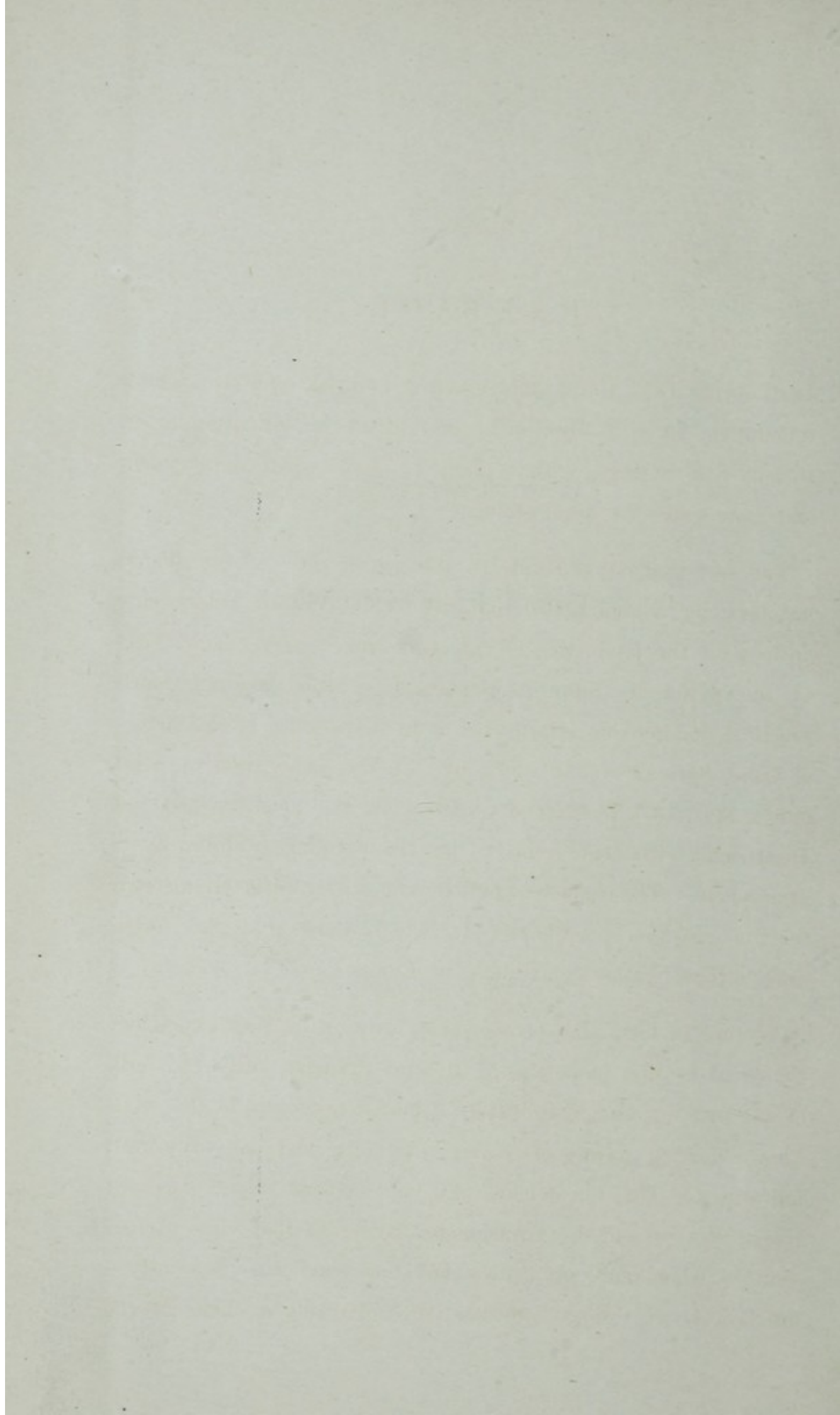
PROPERTIES OF THE DROITWICH WATERS, AND OF

HIS LORDSHIP'S ANXIETY TO SEE THEM DEVELOPED, AS FAR

AS POSSIBLE, FOR THE BENEFIT OF

HUMAN SUFFERING.





## P R E F A C E .

IN the year 1871 the Author was first induced, after considerable solicitation, to visit Droitwich, and direct his attention to its ancient Salt Springs, with a view to their wider development and more extensive application.

The fact that some Guide to the use of these *Brine Waters* has been for a long period inquired for by Visitors renders any apology for the production of this work unnecessary. The object of the writer has been to impart, in simple language, such practical and reliable information as his experience of the virtues of these Springs would admit of; at the same time to point out a few local features of interest in the neighbourhood of Droitwich, with some remarks on the peculiar salubrity of its atmosphere. The reader's attention is moreover earnestly directed to the *Analyses* in Chapter I., which show that for *Saline density* these Baths stand alone in Europe.

We are in fact, as a people, only learning by slow experience the great healing properties of Mineral Springs, whilst the bulk of our own population is utterly debarred approach to the well-known foreign means of curing obstinate and long-continued infirmities. The remoteness, also, of most of those places of resort, has presented a continuous barrier to that class of persons to whom not only *money* but *time*—and *time* especially—are objects of serious consideration. Hearing so little of the

Mineral Waters of their own country, they naturally abandon the thought of that which both time and distance seem to render unattainable elsewhere.

To bring, however, the Springs of their own land within notice and reach, has been one of the great functions of our vast Railway system, and the invalid can now resort to Droitwich, for example, without risk of either time or money, or, it is hoped, disappointment at the issue.

These Baths were for many years under the control of a non-professional gentleman, who held them partly from a desire to keep them open for the benefit of invalids, and also as a mere commercial speculation. The Baths were never during this long period in a condition, or was there sufficient accommodation, to induce the higher classes to visit them, beyond a few exceptional sufferers. Notwithstanding this, however, some thousands of the middle classes have annually derived the most extraordinary benefits from their use.

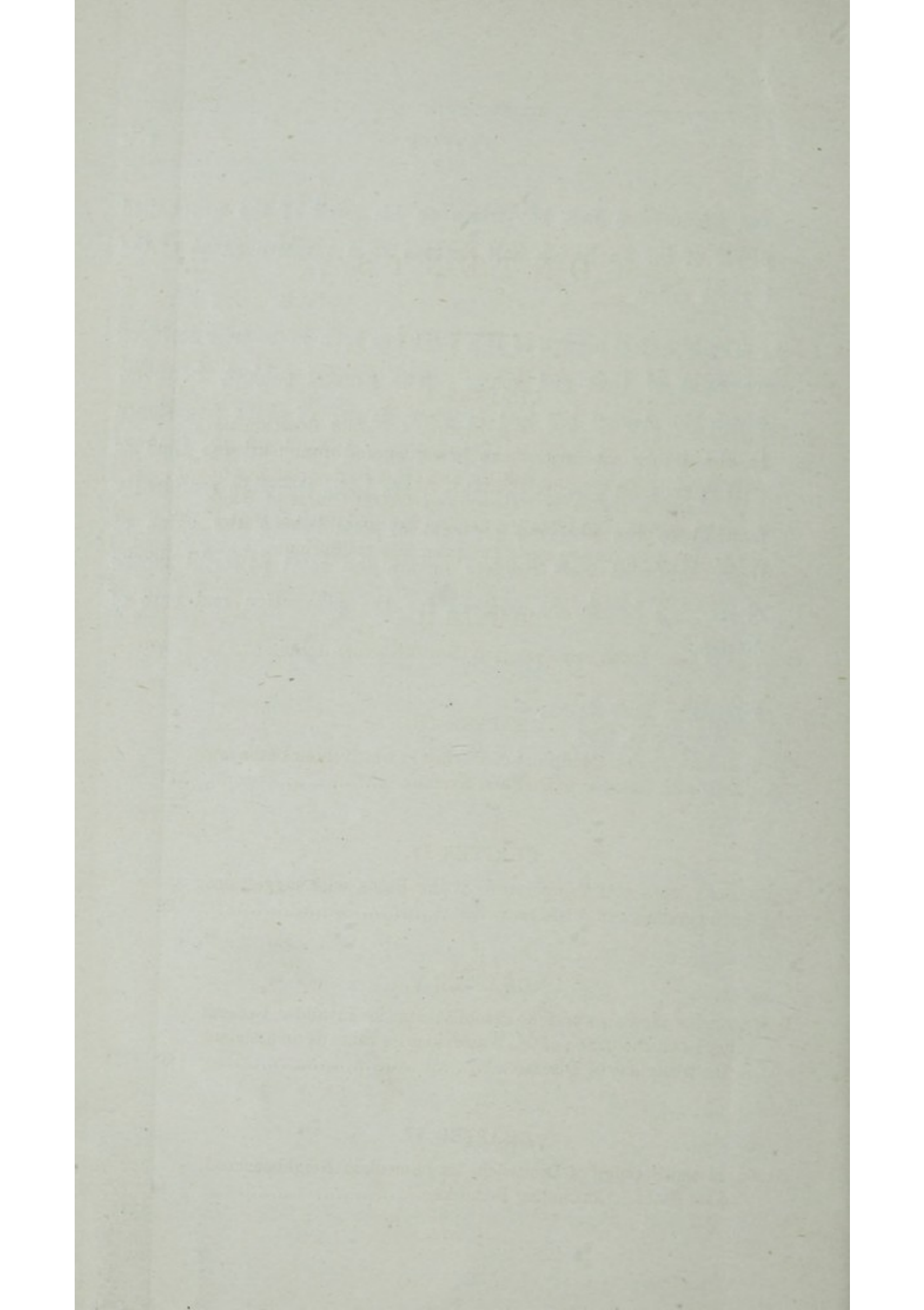
These deficiencies are now happily removed, and the Baths are under the control of one who for many years has enjoyed a large and responsible practice, which afforded him numerous opportunities of appreciating the great value of uniting the curative agency of Nature with judicious medical treatment. He was therefore bent on ascertaining from his own personal supervision how far these very powerful *Salt Springs* might be applied as an assistant in medical practice. The result of the action and effects of the waters in a variety of very serious cases which came under his care was immediate and effective,

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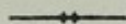
and produced a firm conviction on his mind of the unequalled power of the Droitwich Salt Springs as a curative agent of the highest order.

The historical portion of this work has been necessarily abridged for want of time and space. The general subject, however, which the Author has had in view, is one of grave importance to the public at large. It has occupied much of his time as well as his most earnest thoughts. He looks therefore confidently forward to the cheering prospect of establishing the value of these *Droitwich Salt Springs* among the most powerful means of securing health, as well as for the prevention and cure of disease.

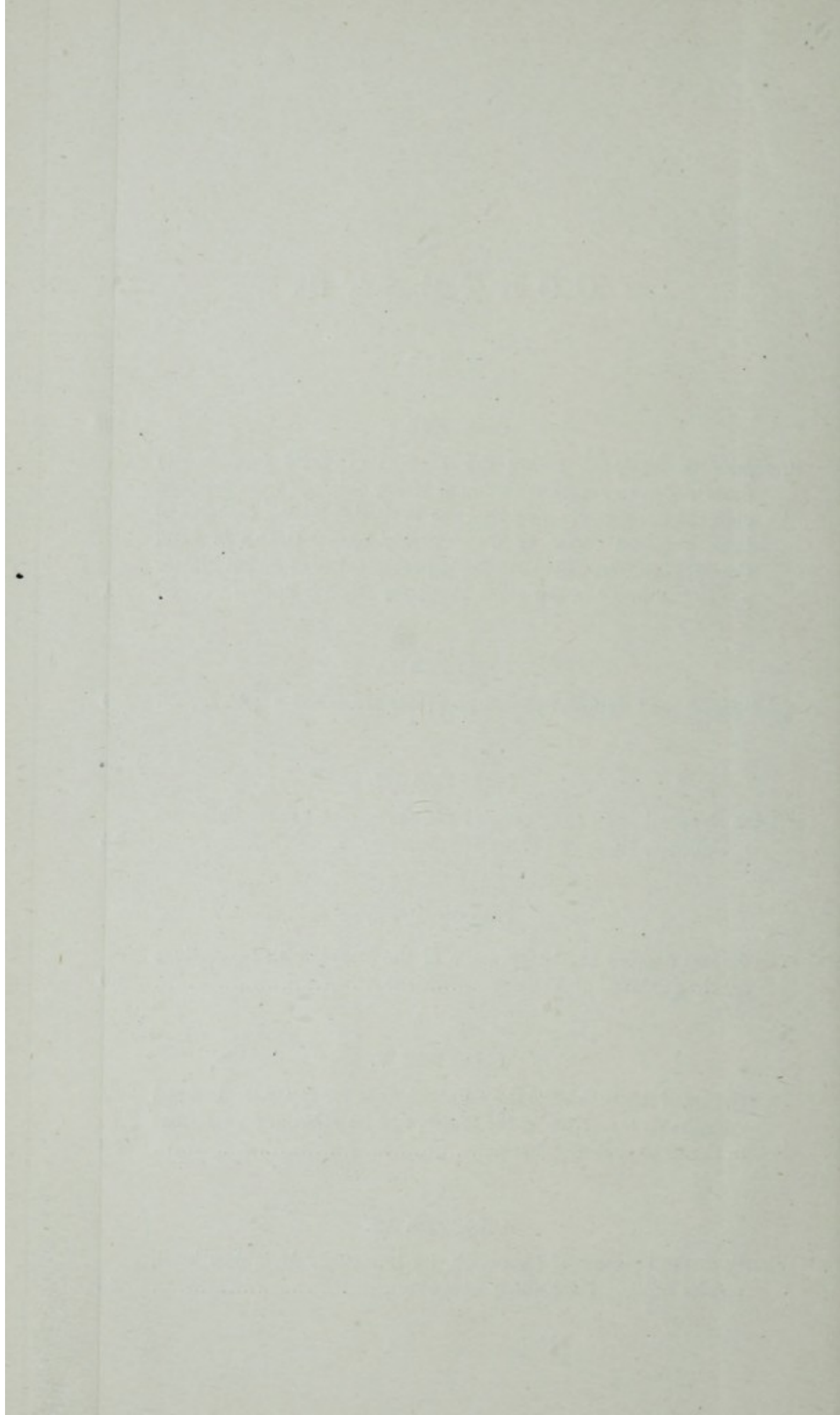
DROITWICH SALT BATHS,  
DECEMBER, 1876.

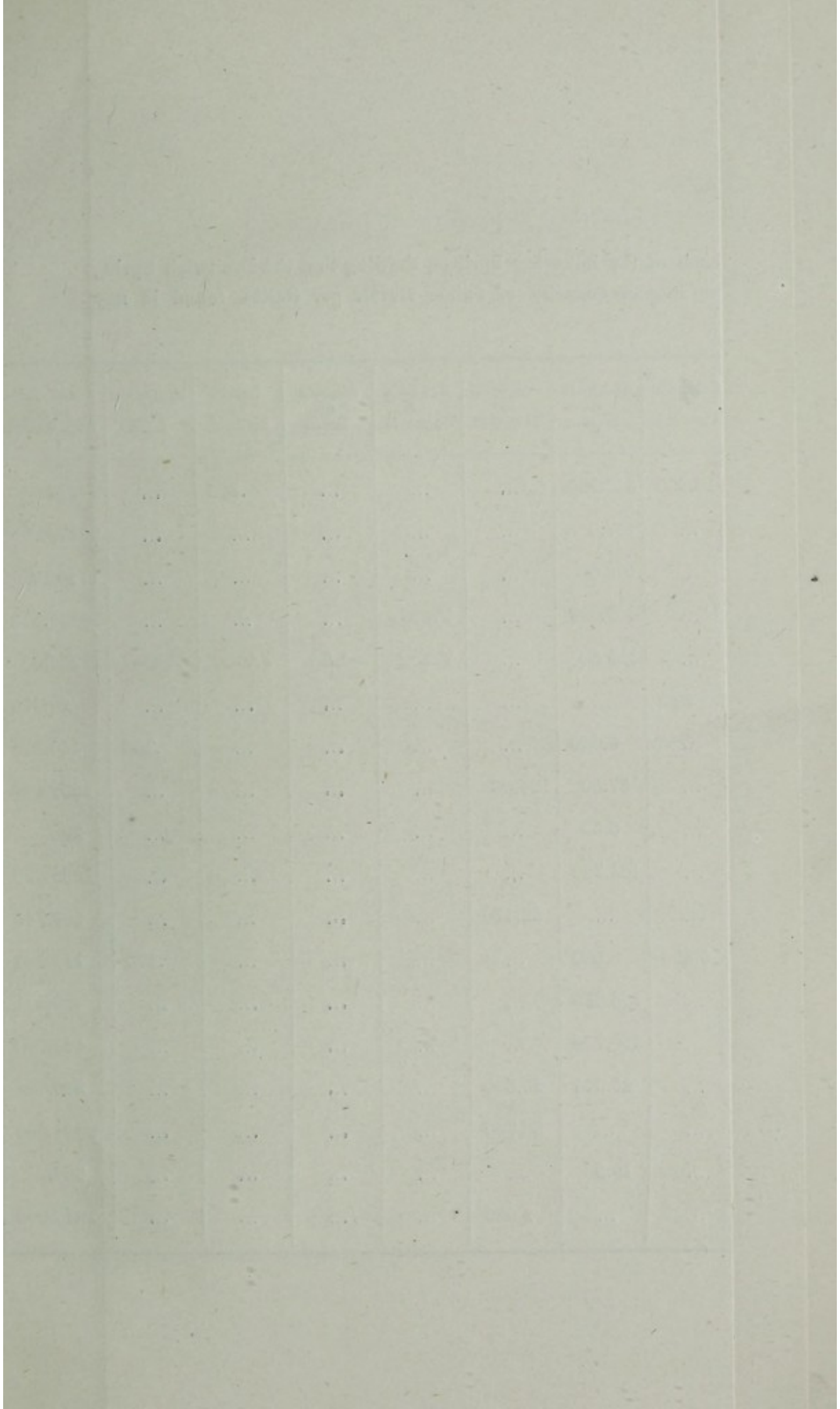


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### TABLE OF ANALYSES.

COMPARATIVE ANALYSES, giving the amount of Solid Constituents contained in an Imperial Gallon of Water from each of the following Springs, showing that the Droitwich Spring contains in every Imperial Gallon of Water nearly 20,000 Grains of Solid Constituents, over and above the largest quantity of Saline Matter per Gallon found in any other European Mineral Spring:—

|                                  | Chloride of Sodium. | Chloride of Potassium | Chloride of Magnesium. | Chloride of Calcium. | Carbonate of Lime. | Carbonate of Magnesia. | Carbonate of Iron. | Carbonate of Soda. | Sulphate of Lime. | Sulphate of Alumina. | Sulphate of Soda. | Sulphate of Magnesia. | Bromide of Magnesia. | Silicate of Soda. | Iodide of Sodium. | Protoxide of Iron. | Total Salts to an Imp. Gallon. |
|----------------------------------|---------------------|-----------------------|------------------------|----------------------|--------------------|------------------------|--------------------|--------------------|-------------------|----------------------|-------------------|-----------------------|----------------------|-------------------|-------------------|--------------------|--------------------------------|
| DROITWICH, by Herepath .....1855 | 21761.872           | ...                   | 2.563                  | ...                  | ...                | ...                    | ...                | ...                | 91.120            | 14.400               | 342.720           | ...                   | ...                  | ...               | .208              | ...                | 22212.880                      |
| by Horner.....1812               | 21585.5             | ...                   | 16.8                   | ...                  | ...                | ...                    | ...                | ...                | 363.7             | ...                  | 407.0             | ...                   | ...                  | ...               | ...               | ...                | 22373.0                        |
| by Daubeny.....1830              | 16910.              | ...                   | ...                    | ...                  | ...                | ...                    | ...                | ...                | ...               | ...                  | 402.5             | ...                   | ...                  | ...               | ...               | ...                | 17460.0                        |
| by Northcote .....1854           | 19392.570           | ...                   | ...                    | ...                  | ...                | 33.501                 | ...                | 115.123            | 307.282           | ...                  | 309.097           | ...                   | Trace                | ...               | ...               | ...                | 20157.573                      |
| by D. T. Taylor ...1854          | 21509.77            | ...                   | 101.22                 | ...                  | ...                | ...                    | ...                | ...                | 302.15            | ...                  | 319.50            | ...                   | Trace                | 1.36              | Trace             | Trace              | 22234.00                       |
| BUXTON—Dr. Lyon Playfair ... ..  | 2.420               | 2.500                 | .114                   | ...                  | 7.773              | 4.543                  | ...                | ...                | 2.323             | .240                 | ...               | ...                   | ...                  | ...               | ...               | ...                | 20.579                         |
| BATH—Sir C. Scudamore .....      | ...                 | ...                   | 16.000                 | 12.000               | ...                | ...                    | ...                | 5.801              | 95.00             | ...                  | 9.000             | ...                   | ...                  | ...               | ...               | .198               | 140.000                        |
| CHELTENHAM—Dr. Faraday .....     | 970.00              | ...                   | ...                    | ...                  | 16.00              | ...                    | ...                | ...                | 145.00            | ...                  | 37.00             | 124.00                | ...                  | ...               | ...               | ...                | 1292.000                       |
| HARROWGATE—West .....            | .236                | ...                   | 17.75                  | 16.75                | ...                | ...                    | ...                | 11.                | ...               | ...                  | 6.50              | ...                   | ...                  | ...               | ...               | ...                | 288.                           |
| LEAMINGTON—West .....            | 407.700             | ...                   | 32.660                 | 205.610              | ...                | ...                    | ...                | ...                | ...               | ...                  | 403.980           | ...                   | ...                  | ...               | ...               | ...                | 1059.950                       |
| SCARBORO'—Dr. Thompson.....      | 25.360              | ...                   | 3.880                  | ...                  | 9.970              | ...                    | ...                | ...                | 147.120           | ...                  | ...               | 22.410                | ...                  | ...               | ...               | ...                | 209.740                        |
| MOUNT D'OR—Lee .....             | 25.720              | ...                   | ...                    | ...                  | 24.150             | 8.220                  | ...                | 35.00              | ...               | 6.820                | 8.500             | ...                   | ...                  | ...               | ...               | .170               | 114.360                        |
| CARLSBAD—Berzelius .....         | 79.750              | ...                   | ...                    | ...                  | 100.500            | ...                    | .278               | 96.950             | ...               | ...                  | 198.690           | ...                   | ...                  | ...               | ...               | ...                | 496.071                        |
| MARIENBAD—Berzelius .....        | 127.160             | ...                   | ...                    | ...                  | 36.860             | 25.480                 | 1.650              | 96.160             | ...               | ...                  | 350.730           | ...                   | ...                  | ...               | ...               | ...                | 649.750                        |
| BADEN—Loweg .....                | 130.000             | ...                   | ...                    | ...                  | ...                | ...                    | ...                | ...                | 100.000           | ...                  | 25.000            | 25.500                | ...                  | ...               | ...               | ...                | 340.000                        |
| ISCHL—Lee .....                  | 2223.000            | ...                   | 71.100                 | 7.800                | ...                | ...                    | ...                | ...                | ...               | ...                  | ...               | 66.700                | ...                  | ...               | ...               | ...                | 2368.000                       |
| KISSENGEN—West .....             | 645.6               | ...                   | 34.3                   | 174.7                | ...                | ...                    | ...                | 6.4                | ...               | ...                  | 19.9              | ...                   | ...                  | ...               | ...               | ...                | 884.                           |
| SEA WATER (Channel)—Schweitzer   | 1946.029            | 55.089                | 263.651                | ...                  | 2.372              | 165.123                | ...                | ...                | 101.116           | ...                  | ...               | 2.085                 | ...                  | ...               | ...               | ...                | 2536.000                       |

## CHAPTER I.

### ADDITIONAL ANALYSES.

IN explanation of the preceding Table of Analyses, we would earnestly request at the outset the reader's attention to the following brief statement, which may serve to exhibit the *unexampled strength of the "Droitwich Waters"* in Saline constituents, without disparaging, or attempting so to do, the peculiar virtues of other Mineral Springs, especially such as are famous for their gaseous products.

*Droitwich*, in fact, possesses a Saline Spring stronger than any of the same character existing in Europe, and this circumstance can be no longer controverted. Taking the solid constituents contained in 10,000 parts of Sea Water, we find them to be:—

|                      |             |
|----------------------|-------------|
| Mediterranean .....  | 410 grains. |
| English Channel..... | 380 „       |
| German Ocean.....    | 325 „       |
| Baltic .....         | 168 „       |

The "Dead Sea," the Saline as well as buoyant properties of which approach the nearest to the "*Droitwich Brine*," is calculated to contain only 24°6 per cent. of solid constituents, composed of the Chlorides of Sodium and Magnesium and the Sulphate of Lime. The "*Droitwich Brine*" ranges as high as from 40 to 42 *per cent.*, the latter approaching closely upon *saturation* point; whilst the majority of other British Springs used for the manufacture of Salt average only from 15 to 25 per cent. The following analyses of the waters of the English Channel and the Mediterranean

exhibit fewer constituents or traces than are met with in these "*Brine Waters*":—

|                                           | ENGLISH CHANNEL.<br>(Schweitzer.) | MEDITERRANEAN.<br>(Laurens.) |
|-------------------------------------------|-----------------------------------|------------------------------|
| Water .....                               | 964.74372                         | 959.26                       |
| Chloride of Sodium .....                  | 27.05948                          | 27.22                        |
| "    of Potassium ...                     | 0.76552                           | 0.01                         |
| "    of Magnesium...                      | 3.66658                           | 6.14                         |
| Bromide of Magnesium...                   | 2.29578                           | 7.02                         |
| Sulphate of Magnesium...                  | 2.29578                           | 0.15                         |
| Sulphate of Lime.....                     | 1.40662                           | 0.20                         |
| Carbonate of Lime and }<br>Magnesia ..... | 0.03301                           | ...                          |

In 1000.00000 parts.... 1000.00 parts.

The latter portions of the above are obviously little more than *traces*, and might be equally omitted with Northcote's *traces*, which, for the sake of conciseness, have been omitted from the present tables. His traces, however, are Bromide of Sodium, Sulphate of Potassa, Phosphate of Lime, Phosphate of Sesquioxide of Iron, and Silica. On viewing, therefore, the several analyses of "*Droitwich Brine*," it will be observed that the most abundant in constituents is that of Mr. Northcote, which was given in the *Philosophical Magazine* for January, 1855, and has since been deemed worthy of insertion in a more extended form in the *Pharmaceutical Journal* for February of the same year, from which they are extracted. His and Mr. Taylor's analyses were made with greater care than those of Herepath, Horner, and Daubeny, high as those names stand in the chemical world, insomuch as care was taken by both to trace out any combinations that existed, however small they might be, while in the other examples the *solid constituents* were more especially regarded. This is the reason why the whole of the traces of these several combinations which were actually apparent in Northcote's analysis, and also that of Mr. Taylor, are matters of deep interest, when we consider the action of these "*Droitwich Baths*" upon the human frame, their remedial powers, and *the utter impossibility of imitating them by artificial means*.

## CHAPTER II.

### QUALITIES OF THE BRINE SPRINGS, AND THEIR MEDICINAL ACTION.

THE discovery of one of the extraordinary virtues of the *Droitwich Brine* was accidental. It occurred during the year 1831, when the borough was visited with Cholera. During that afflicting visitation numbers of the inhabitants were carried off, till at length it was tried, as a mere experiment, whether any relief could be afforded the sufferers by placing them in the pans containing the Brine, which was slowly evaporating in the manufacture of salt. I have the authority of the rector of St. Andrew's Church, Droitwich—who was rector in 1831—for stating that immersion in the salt pans proved so eminently successful, even with persons in the stage of collapse, that all who could be brought were placed in the pans, and it is also affirmed that all so treated recovered. This subsequently led to the formation of a small Bath Company, established for the purpose of further testing the medicinal power of the Brine; and an annually increasing influx of invalids, coming from great distances, afforded the fullest evidence of the value and usefulness of these waters. If the reader will permit himself to bestow attention incidentally upon remarks here briefly introduced upon the causes and symptoms of Asiatic Cholera, he will ascertain at once the reason for the remarkable effects of the Brine in the cases above referred to.

Asiatic Cholera is an epidemic caused by some peculiar *atmospheric poison*, and its symptoms are frequently aggravated by the use of unwholesome water. It is characterized

by the most acute sufferings, and generally proves fatal. During its ravages in 1848-49, most of the remedies proposed were tried in vain, and usually were utterly futile. The immediate cause of these choleraic attacks lies in some direct atmospheric poison acting instantaneously on the blood. Whether this arises from some morbid effect produced by electricity, as some imagine, it is difficult to determine; but certainly the attack is so sudden, that it resembles more the effects of a shock of lightning than anything else. The blood is instantly disorganized, the red particles becoming *clotted* and separated from the aqueous portion, or *serum*; the latter is carried off by vomiting and purging, whilst the former—the red particles—remaining congealed in the blood vessels, are unable to circulate any longer through the organism. The question is—how can we, under such circumstances, restore the healthy condition of the blood, and enable it to circulate freely through the system? Most certainly not by physic. Physic cannot cause the *red particles* to re-unite with the *serum*, for the latter has been carried off, and physic is unable to re-produce it. What we require in such a fearful state of things is to give, by means of the Droitwich Baths, warmth to the *external* surface of the body, which is icy cold, while the *interior* is a burning heat, to eliminate the poison from the blood, to stimulate the skin, and produce rapid absorption of salines into the system, which, together with copious draughts of water taken simultaneously into the stomach, would most probably restore the amount of serum required to liquify the blood, and render it fit for transmission through the circulating medium, and resume its healthy functions. Unquestionably the Brine Bath in the first stages of Cholera is a most powerful eliminative. We must get rid of the poison as promptly and as efficiently as we possibly can—not by physic, for its action would exhaust the patient at such a moment. But the Bath not

only removes the poison, but at the same time it adds power and vigour to the functions of life. It has been unnecessarily argued that the Bath is not admissible when the patient is in a state of *collapse*. Possibly this might prove so, as under such circumstances remedies of any kind are seldom available. In cases of *collapse* the powers of life are fast sinking, and death has already seized upon its victim. "Whilst there is life there is also hope," and in this final struggle I would advise a cautious trial of this "Brine" Bath in preference to any other remedy, with any other appliances that might at the moment suggest themselves to the medical attendant. By thus acting through the skin, which is the great regulator of the "*density* and *fluidity* of the blood," the Bath, from the absorption of the salines contained in these powerful waters, would prove not merely a *certain preventative*, but in most instances would be the most rational and effectual cure for the worst cases of Cholera.\*

I am indebted to my friend Dr. LEARED, of London, for the following interesting remarks on Cholera, which strongly coincide with the above views:—"It is a curious circumstance, that the use of Brine Baths in Cholera (which it seems have proved so successful), accord with an explanation of the proximate cause of the disease long ago proposed by myself; and although not put into practice, this method of treatment, which I had not heard of before seeing your pamphlet on the Droitwich Salt Springs, has recommended itself to my mind. The explanation in question is, that the natural tendency of fluids to pass by *osmosis* from the stomach and intestines into the blood is reversed, and that in consequence, the serum is freely discharged into these

\* The above remarks on Cholera were written before the Author had been informed of the effects of the Droitwich Waters upon the cases which occurred in 1831; thus confirming his views as to the power of these curative waters in such cases.

cavities. The copious watery discharges characteristic of the disease are thus produced. The disturbance in the *osmotic* action is attributable to the effect of electricity in the earth or atmosphere on the human body. Now supposing my views as to the cause of Cholera to be correct; from what we know of the laws which regulate *exosmosis* and *endosmosis*, nothing would be more likely to arrest the unnatural course of the serum than the action of a fluid of high specific gravity, such as the *Brine Baths* applied to the external skin. It is not impossible that certain blood impurities may be removed through the skin by endosmose and exosmose, when the body is immersed in a powerful saline solution of much higher density than the serum of the blood; and it has occurred to me that the beneficial effects of the *Droitwich Brine Baths* in Rheumatism may be in this way accounted for." . . . "It would be desirable to try the effect of the Salt Baths in cases of *Anasarca* and *general Dropsy*." Several cases of Dropsy have been successfully treated, and many greatly relieved by the use of these Salt Baths.

It is a fact also that these waters are highly approved of by members of the medical profession, who have given strong testimony in their favour, as being adapted to the successful treatment of many *acute* as well as intractable *chronic* disorders.

It is worthy of attention that the cold and hot springs of England possessing medicinal qualities number no less than eleven; while of the most reputed European bathing places we find sixteen in France alone, six in Switzerland, and thirteen in central Germany.

Now a very old belief has prevailed, and one that subsequent analysis does not appear to have shaken, that the ingredients of all mineral springs are of a *saline character*; together with the infusion, as the case may be, of various gaseous products. Where the latter are present in consider-

able volume, the saline particles are usually so small in extent that the waters can be readily drunk, while of the strong saline waters this is obviously impossible, unless proportionately diluted.

Of the latter kind are the springs of Droitwich; and as it is allowed that the medicinal properties of all these waters can with more safety be absorbed through the external skin than taken internally, this mode of application of so powerful a remedy must be far safer as well as much more agreeable.

The Droitwich springs are among those called “Salt or Brine” waters, having as their chief ingredient chloride of sodium, or common salt, in excess. Bromine and iodine have been traced in these brine pits, contributing to their medicinal effects, just as the gaseous products of European baths do. Bromine is usually traced or procured by passing a current of chlorine gas through the mother water of salt works. As to iodine, its universal presence is no longer a matter of doubt. Whilst Dr. STEVENSON MACADAM tells us that “in the common salt, and the limestone, iodine is always to be found;” yet bromine has long been found, as a powerful stimulant, to have much the same uses as iodine.

The constitutional effects of bromine, however, range between chlorine and iodine, while bromine is usually regarded as more active than iodine.\* It was formerly used internally in bronchocele, tumours of the spleen, amenorrhœa, eczema, against hypertrophy of the ventricles, epilepsy, and other nervous affections.

These “*halogenous*” bodies, or “salt-radicals” resembling sea salt in their composition, abstract hydrogen, and, united with acid bases, possess both antiseptic and disinfectant properties; which, as PEREIRA observes, probably depend

\* The latest opinion of chemists is that these three elements are but modifications or conditions of simple degree of one and the same element.



"on the chemical effects which ensue from the mutual affinities existing between some medicines and the constituents of the tissues and the blood, producing those important chemical effects in the animal economy." So that they are all useful in the diseases of the Rheumatic type, and this explains why each home and continental watering place claims Rheumatism and its ally Gout as its own peculiar property. The latter circumstance would otherwise appear an inconsistency to the mind of the reader; yet, once acknowledged, clearly shews that the claim Droitwich now advances on this ground is indisputable. These bodies may therefore be considered as possessing the following properties, which indeed can alone account for the marvellous rapidity of their action, as daily witnessed in the *Droitwich Baths*.

FIRST.—*They lessen the solids, including fibrine and the corpuscles of the blood, increase the proportion of water, and it is in this way that Rheumatic enlargements, scrofulous swellings of all kinds, with stiffened joints, arising in delicate habits of body, may be decreased and modified, and the secretions vigorously augmented.*

SECONDLY.—A wonderful *tonicity* is imparted to the external skin, and hence arises improved general circulation from increased capillary action.

THIRDLY.—They favour absorption.

As regards the latter property it is a true remark, and one often quoted, that "the purer a water is, so much the greater is its *solvent power*; it is more easily absorbed." Or, as regards the Bath for example, the higher the temperature to which the Bath is raised, the purer it becomes. Thus it would appear that the medicinal effects to be derived from mineral waters result from the faculty possessed by the external skin in absorbing, not only their gaseous products, but the *various saline particles held in solution*.

The particular temperature of the water, as we have said, renders the skin in direct proportion more or less an absorbing organ. The only secretion of the true skin is neutralized by the salt water, and then the epidermis, or scarf skin, absorbs the more readily.

The absorbing powers of the skin are now so well known as to need here little beyond the bare recognition of the fact. The lives of many persons who were physically unable to take sustenance in the ordinary way have been prolonged and saved through this peculiar function of the skin; and a very remarkable case occurred some time ago, when the life of a patient was preserved by rubbing in beef-tea over the abdomen, there being long-continued and serious obstruction of the bowels, preceded by gastric fever. Both the *tonic* and *stimulative* qualities of these waters are also known in that constitutional reaction which has been seen to follow a brief course, or even of two or three of the Baths, showing that when the function of the skin is at any time suspended, there is increased labour and distress of the internal secreting and excreting organs, as the lungs, kidneys, and liver. To these, the *skin* might be made to act *vicariously*; and this is a fundamental proof of the extreme value of these Droitwich waters.

The function of the skin is mainly connected with that power of resistance of animal bodies to variations of the external temperature, long known to physiologists, and which enables man to support the necessary degree of animal heat in his body, either in the chill desolation of the northern regions, or the fervent heat of the tropics. It is in truth the vital power allotted to his frame-work constantly to renew the animal heat lost by evaporation, as well as to resist, by the very free evaporation of the skin, the action of a temperature equal to 600 degrees. The oft-quoted case of Chaubert, the Fire King, who was enabled to remain in an oven heated to the above temperature unharmed, whilst

a steak was cooked beside him, is an apt illustration of the point at issue.

When we speak of a stimulus imparted to the frame by these Baths, we of course refer to their *tonic* qualities. But a tonic action upon the human body, however strong it may be, is yet not sufficient to account for the *rapid removal* of a morbid material in the blood vessels, or one deposited in articulations. It is apparently something that changes the chemical constituents of that blood, and attacks the fixed deposit, that brings about the sudden alteration in the physical powers of the patient.

Again, there may be an insufficiency or an excess of *alkali* absorbed. In the former case, if our theory be correct, it is clear no good can be obtained, because there must be an excess of the alkali presented over that which is to be rendered solvent by it. In the latter example, if the excess be beyond a certain point, the re-active chemical law comes into operation, and the action of the solvent is either negatived, or it exercises an injurious control over the chemical constituents of the blood: hence the patient in one case or the other is no better or worse. In other words, he appears to be over-stimulated, or the contrary; and of course the method of application of the baths has much to do with this. The healthy or inert conditions of the external skin must therefore be duly weighed. In cases where rapid relief is witnessed there is probably a better tone of skin than ordinarily. And although these Baths may, on like grounds, excite the fears of the patient in consequence of the large amount of alkaline substances in them, they are in reality safer than many less highly mineralized waters have been found to be, owing to the chemical law that the absorption of water is in direct proportion to its density. The depressing effects of some mineral springs are rarely, if ever, experienced here, from the extreme density of the *Droitwich Brine*.

There are many other points which favour the theory of a *solvent action* upon morbid materials in the blood, induced by the mineral ingredients of these waters; for the internal administration of the alkalies, soda, and potash, has long been in vogue in Gravel and calculus disorders. It is certain also that the internal skin or mucous membrane would suffer excoriation were it in contact with the same amount of alkali as that which is absorbed in the diluted form of the Bath throughout the entire surface of the external skin.

The safety and value of mineral waters cannot well be overrated. We may overrate their extent of application, but not their real effects where applicable. The chemical theory it is hoped may also be sufficient to explain why these waters do harm in inflammatory cases. A continuance of these Baths is thus improper in head-ache, heaviness, continued thirst, constant dryness of the tongue, sickness and loathing of food supervene; and especially if these symptoms be not speedily removed by critical evacuations and increased action of the skin. The relations also that exist between organic chemistry and the artificial chemistry with which we seek to influence or change these conditions, where they may be either in deficiency or excess, enable us to judge of effects. This has led to many disputes as to the specific virtues of different mineral springs.

It is not, however, our province to enter into these discussions. We have merely to show that, setting apart their gaseous products, they are all *saline*; but yet inferior in that respect to the *Droitwich Waters*, as may be seen by means of the tabular statement at the commencement of these remarks. There can be no dispute as to the great value of the gaseous products; but this universal presence of saline particles in these mineral waters affords strong evidence to any reasonable mind that their antiseptic and disinfectant properties form much of the ground-work of their medicinal action.

LASTLY.—The chemical process through which persons are cured by these Baths is simply this:—Taking by way of example such a disease as Rheumatism, or Rheumatic Gout, we find that to obtain a removal of the morbid materials in the blood, which become at length deposited in the tissues of joints and of other parts of the frame, some *ingredient possessing solvent properties* is necessary. Now the material or base of these deposits being of an alkaline character, we are provided with an antidote in the shape of another alkaline, which the chemist tells us will, *if in excess of the former, render it soluble*. This quality of dissolving morbid deposits is shared by all alkaline substances, so that in due proportion to the existing amount of deposit will be the time occupied, or what is the same thing, the number of Baths necessary, in dispersing and absorbing it. So that as it cannot possibly be due to the simple action of water, whether warm or cold, that these chemical changes are brought about, it must arise from the *absorption* of powerful agents contained in the water.

According to the natural function of the skin a large volume of water is absorbed from the Bath, which not only serves to distend the vessels, but to convey through its seven million pores these solvent alkalies. Retained as they are in this volume of absorbed water, they are spread through every channel of the blood, not only correcting the morbid constituents in it as well as actually checking their formation, but reaching the *remote deposits* where they commence their solvent properties, till the whole mass of morbid material is gradually removed by the absorbent vessels. It is, therefore, on these solvent properties of the alkalies contained in the *Droitwich Waters*, that we can alone account for the rapidity of their effects, such as are so frequently presented in cases where patients, after *two or three Baths*, are seen to throw away their sticks or crutches, and commence the natural use of their limbs.

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There can be no doubt from the above facts that these solvents are, with the water, taken up through the pores or interstices of the skin, and thus enter the common circulation, and that this *elective affinity* is dependent upon the actual quantities contained in that water. In many cases there may be no absolute deposition of these materials, although they may still be in excess in the blood; yet it is here that the Baths are quite as effective in their medicinal powers, although to the casual observer they may not be so evident as in the preceding example. Most sufferers are cognizant of the obstinacy and tenacity of these fixed deposits in stiff joints or other articulations, and they are so from the well known circumstance, that before such fixed deposits can be absorbed they must be reduced to almost a fluid state, so as to render them fit to be held in solution in the blood vessels. And thus it is that the caution and rules elsewhere given, regarding the number of Baths to be taken consecutively, the time during which the patient should remain in the Bath, and like matters, are such material elements of success.

## CHAPTER III.

OF THE ALREADY-KNOWN CONDITIONS OF DISEASE IN WHICH THESE BATHS ARE USEFUL, WITH RULES AS TO DIET AND EXERCISE.

IN Chapter II. we have discussed theoretically the probable "elective affinity," as it were, with which the alkaline constituents of the *Brine* may be said to influence morbid conditions of the blood.

It is to *Rheumatism* and its allied disorders that the suggestions contained therein more especially apply.

If we take the universal action of these waters as a standard by which we may judge of their capabilities in the cure of disease, it is that of a *powerful tonic to the external skin*.

This fact is repeatedly shown in the effects which are produced upon *elderly people* and *delicate children*, and such as are of an habitually *dull habit of body*, in cases of *constitutional debility*, *slow circulation*, with occasional attacks of *nervous prostration*.

In all of these examples, the functional powers of the *external skin* are at fault, or at least in a dormant state.

A Bath that would counteract such a disposition of body as we have mentioned above has long been a *desideratum* with medical men, and the progress of scientific investigation seems already to have corroborated a fact which experience had previously established.

It has been maintained that in certain *Rheumatic* and *Diabetic* cases, a vicarious action of the external skin should be set up, on the ground that the skin did act vicariously when functional derangement of the lungs, or the kidneys, for example, existed. The latter, however, appears

not to be so much the case as was originally supposed ; for in a paper read before the British Association for the Advancement of Science, Dr. E. SMITH, who had made the matter a subject of long thought and careful experiment, says, that "although the skin exercises most important functions, he found that it was not vicarious to the lungs in the expiration of carbonic acid, for while the lungs expired 600 grains, the skin threw off only 6 grains." This may not prove its vicarious character in the ordinary conditions of health, though identity of function tells us that the thing is very probable. Upon this identity of function we lay the foundation of our structure of cure, so to speak, and build upon it in cases such as those we have referred to.

By these Droitwich waters we can not only restore a natural or a better *tone* to the skin, as with elderly people and children, but by so powerful an agent cause the latter to act vicariously, which it will do, in certain forms of disorder to which saline bathing is a useful measure of relief.

But before we go further into this subject, it is our duty to warn the reader or bather against the dangers of incautious use of the Baths. It is in truth a warning set forth at all watering places, whether in this country or the continent, and particularly applicable at Droitwich, owing to the peculiar strength of its waters. And that there should be no misconception of our meaning or intention in thus strongly enforcing a law of this kind, we will briefly explain the reasons which render caution imperative. The existence of *organic* disease of any of the great central organs of the human body—of *aneurism*, *malignant tumours*, or the presence of *acute inflammation*—entirely forbid the use of these Baths, or warm Baths of any description.

This rule can never be departed from, but yet there are some conditions of a like nature in which, under the superintendence and control of a medical practitioner, local



application of the Brine, and Baths affecting only a portion of the surface of the body, may be found highly beneficial, where its application to the entire surface of the frame would obviously be attended with extreme danger.

The same may be said of the "drying rooms" of the numerous Salt Works. The drying rooms are usually large and lofty buildings adjoining each shed, containing an evaporating salt-pan, which is heated to various degrees, according to the requirements of this peculiar manufacture, ranging in some cases to a scarcely bearable height.

The atmosphere of these rooms, in proportion to the amount of salt blocks piled up for drying, is pregnant with a dry vapour eminently serviceable in some Rheumatic cases, but especially in those of a scrofulous character, and in certain forms of *asthma*. Used with caution, these rooms have undoubtedly proved very beneficial as an adjunct to the Bath, and in several instances where the Baths were found inadmissible in the treatment of disease. Where they are useful, the patient will usually experience considerable relief to his ordinary powers of breathing, or he will find, in some conditions of Rheumatism, for example, that his powers of locomotion, or the mobility of his joints and limbs, are considerably enhanced during the period of his stay in these rooms. There can be no doubt but that the *chlorine* element largely prevails here, and is a source of relief to many patients, especially scrofulous subjects. Great care must be taken, however, against catching cold, after leaving these rooms. Those who cannot maintain the temperature of their bodies by brisk walking or other active exertion on leaving these rooms, should take with them additional clothing, and return home immediately.

Returning to the "Brine Baths," from which the chief benefit is to be derived in a permanent sense, we find that their efficacy has been already witnessed in Rheumatism and Rheumatic Paralysis, Gout, and Rheumatic Gout; general

Paralysis, without chronic disease of the spinal cord, brain, or their membranes; some forms of Neuralgia, as Lumbago and Sciatica; obstinate *skin diseases*, chiefly those of a scaly character; Scrofula, with swollen glands; Nervous Debility; Anasarca and general Dropsy; varieties of Mania and Melancholia; and especially the *debility* arising from protracted or exhausting diseases.

Several interesting cases have lately occurred in which invalids, after eruptive disorders, have been restored to health by the use of these Baths, especially one after *scarlatina*, and three after attacks of *measles*.

While these remarks were in type, an important case of debility, occurring in a young lady, came under my care, after an attack of typhoid fever, which had terminated in a large serous abscess extending over the whole of the left shoulder and scapula. I was called in consultation on the 21st of January. She was then suffering from low fever, which had set in ten or twelve days before. Her symptoms were not extreme, if I except the state of pulse, which averaged 110, and temperature varying from 103 to 105. The skin was harsh and dry, tongue red and irritable, with total loss of appetite and extreme pallor, languor, and lassitude. On the termination of the fever, her medical attendant wrote me:—"Her general symptoms have improved since I last wrote, and she has been able to come down stairs, but I am sorry to say the shoulder has got decidedly worse; there is very considerable swelling around the joint, but I trust that the fluid may be only of a serous or lymphatic character." On the 22nd of February she arrived at the Baths, having travelled some 150 miles in an invalid railway carriage. I found her pulse 110, and very feeble. Skin still dry and unhealthy, and no return of appetite. She also complained of a troublesome cough and sleepless nights. The swelling over the shoulder was larger, and fluctuated perceptibly.

Its circumference, carefully measured over the point of the *akromion* and under the *axilla*, was 15 inches, and the arm was fixed to the side. She took her first Bath on her arrival, which greatly refreshed her, and continued them daily. After her fifth Bath the circumference of the tumour was diminished, measuring only thirteen inches and a half. From this time the fluid rapidly decreased, followed by an abscess in the arm of the same side, and which contained half a pint of pus. Her appetite and sleep now returned, and at the end of four weeks her health and strength were permanently re-established. The *tonic effects* of the Baths in this case were most satisfactory and complete.

A few patients suffering from a mild condition of acute Rheumatism have been relieved by *one Bath*; most have derived great constitutional benefit; and one remarkable case occurred recently, in which, after a state of almost prostration of four and a half months' duration, the patient could walk easily after only *four Baths*, and was so much relieved as to return home! But these are rare, though encouraging cases.

Of Rheumatic Gout, many instructive cases could be mentioned, such as the following:—

*Case 1.*—Duration of attack two months and a half, in bed one month. Only *five Baths* taken, when the pain subsided, and the patient rapidly recovered the use of his left hand and knee.

*Case 2.*—This patient could not lift his hand to his hat, and walked only with support. In five days he could run alone, and was perfectly cured.

*Case 3.*—Of 21 weeks' duration; hands powerless to hold anything. After a short course could follow his usual occupation.

*Case 4.*—Could not walk from his carriage to the Baths, but was enabled to do so after *three Baths*!

*Case 5.*—After *three Baths*, this patient was relieved from an illness of many months' duration.

*Case 6.*—The use of this patient's limbs was lost, and the pain he endured was excruciating. He was carried out of the conveyance by two porters, but after taking *five Baths*, he could walk home, a distance of six miles, and by taking an occasional Bath, was quickly restored to health.

These are also exceptional, but very striking cases.

In Gout, it is desirable to use these Baths with caution, especially where anomalous affections of the head, stomach, or bowels exist; for so soon as the dyspeptic symptoms subside, a short fit or attack of the old complaint may be expected. In this event, it is merely necessary to suspend the Baths for a brief period; and to this, another very necessary caution may be added, viz, that loss of *nerve-power* in limbs, and chronic or habitual affections, are not always successfully removed by a *short* course of bathing, but require a longer continuance in the use of the Baths.

Lumbago and Sciatica have been most successfully treated by Baths of the higher temperature, the latter being raised or otherwise in direct proportion to the duration of the malady, so that some severe chronic cases have sustained a temperature of 106° to 108° Fahrenheit. A high temperature being absolutely necessary in these disorders, the best advice which can be given to patients whose susceptibility may not permit of a *full* Bath of the same character, is to order their Bath to be filled only sufficiently high to reach the seat of pain. By this plan they will derive the full benefit, while they at the same time are relieved from the oppressive effects of entire immersion of the body in a Bath of so high a range of temperature.

A reference to the general analyses at the commencement of this work will serve to convince the reader of the

great value of these Droitwich Baths in all cases occurring in strumous constitutions, for which *sea air* and *sea bathing* have been so long deservedly esteemed as the most salutary of medicinal applications.

We find, therefore, that among continental Baths, like those of Ischl (see analyses also), which are principally used in such cases by persons of lymphatic temperament, where swellings and indurations of the glandular system are habitual, as it were, strong saline waters are deemed to be agents of cure beyond price, as testified by the numbers resorting to such places.

Now the Droitwich Baths have been wonderfully successful in Scrofula and its allied disorders; and we must add emphatically, in all those cases of constitutional debility where the extreme delicacy of the tissues predisposes to such attacks, the powerful *tonic* of *these waters* produces the most happy effect.

It cannot be too frequently impressed on the minds of parents the extraordinary advantages which the Droitwich Swimming Bath, containing the purest and most tonic Saline Water known, affords in cases of debility, and especially in those arising from the premature development of the physical and mental powers of young children.

I would here mention a very interesting case in point, of a girl of 14, who was sent to the Baths from Banbury. She was most precocious, her excitement so great, and she became so alarmed at seeing a new doctor, that I was unable to make a careful examination until the third day. She had been under medical care for months, and was pronounced incurable, and was supposed to be in the last stage of consumption. Her attenuation was extreme, and her debility so great that she could only stand with help. On examination, I could not discover tubercular deposit in the lungs. With difficulty I succeeded in getting her into the Bath. The effect was extraordinary; so much so,

she herself was anxious to repeat it. From 90° of heat I gradually reduced her Bath to 60°, and without any medicine, in three weeks she had lost all cough, had rapidly gained flesh, and was enabled to return home *convalescent*. This patient had been always delicate, and her *symptoms* treated as *causes*. An only child, over indulged, shut up in *dry, hot* rooms, without being allowed to breathe the common air, or to inhale a particle of *moisture*! Her skin was letting out her life-blood by day and night perspirations, producing a constant irritable dry cough, by exposure to a heated atmosphere and wrapping the child in flannels, feather beds, &c., bringing her to the brink of the grave. *The water of the Bath saved her life.\**

This very interesting case naturally suggests the few following remarks on so-called *Consumption*:—What is professionally called *Phthisis pulmonalis*, or tubercular consumption, carries off from England alone its tens of thousands annually. It has generally been considered by medical men, and also by the public, as an *incurable endemic*,—a disease almost peculiar to our own country. For many years my faith has, however, been shaken in the belief that consumption is either *spontaneous* or *hereditary*. So far from its being so occasioned, my opinion has gathered strength that a great number of cases so called arise from glaring neglect and mismanagement in the first instance, especially in those persons, both young and of middle age, whose constitutions have a *peculiar delicacy* which predisposes them to attacks of this nature. It is quite true that I have seen many cases that were, to use a homely phrase, “too far gone” (through fatal mismanagement) for death to be prevented; but on the other hand, I have seen hundreds of sufferers, many of whom are alive and well at this moment, notwithstanding all hope of their recovery was once abandoned by their relatives and friends.

\* This Patient writes occasionally to the Bath Attendant, “that her health continues excellent, and her strength daily increases.”

In many cases of suspected, or what is frequently termed incipient consumption, you will have to all appearance every symptom of a rapid decline, frequently arising from mismanagement in the first instance, while the lungs are at the same time entirely free from any *tubercular deposit*. The little girl from Banbury proved the truth of this remark, and it was most gratifying to witness the extraordinary effects of these TONIC SPRINGS in her case. If tubercular consumption be really established, no change of climate, circumstance, or treatment can eventually ward off the fatal result, though these resources are frequently said to do so. That the symptoms of these extreme cases can be greatly modified and relieved by the use and appliance of measures and by judicious management is equally certain, but there is no doubt that a vast majority of cases in the earlier stages of supposed consumption can be prevented and effectually cured by well-regulated habits, and more especially by the careful application of the *waters of Droitwich*, through the various means we have now at our command. Through the agency of these waters life and vigour are given to the constitution, and particularly to invalids possessing the delicate predisposition before alluded to.

Since writing the above, a second case of incipient consumption has been treated successfully by the use of these Baths. This Patient was sent as a *dernier resort* to try the effects of these Salt Baths. The symptoms were a constant dry, irritable cough, temperature of body excessive, countenance unhealthy and very anxious, pulse small and averaging 110, extreme emaciation, and great debility. After bathing a few weeks these symptoms disappeared. This Patient had gained flesh and strength, and was enabled to walk several miles at a time, and in all weathers. On returning home, the medical attendant was amazed at the improvement, and expressed his surprise at the effects of the Droitwich Waters in this case.

It is a remarkable fact that, among the women continually employed in these salt works, there is an absence of the usual development of the mammæ, which denotes the strong absorbing action of the vapours in which they are continually immersed ; whilst, being *less* than lightly clad, they come without fear into the open air to dry the salt concretions upon their bodies, regardless of the time or season, and never catch cold from such exposure. This proves that salt waters, or salt Baths, have a protecting influence against cold, which is doubtless due to the powerful stimulus they both impart and maintain in the external skin.\*

In the dispersion of scrofulous tumours, and in cases of goître, the Brine has perfectly succeeded as a local application. One case of the latter kind was entirely cured in six months by constant and persevering application. Without perseverance, however, the remedy may fail in either case.

In chlorosis, aided by judicious medicinal treatment, these Baths will be found highly efficacious in removing that languor of circulation and suppression of accustomed evacuations so obvious in this disorder ; for, however singular it may appear to non-professional readers, it is no less true, that the same means by which, owing to increased *tonicity* imparted to the frame, the natural excretions are lessened, a healthy and adequate activity of those functions is, when judiciously administered, actually promoted. The mere external signs of debility are not sufficient to exclude a patient from the use of these waters. Again, the healthy or inert condition of the external skin should, as we have urged already, be taken into account. There are some people who seem to derive no more than tonic effects from bathing, in consequence of an habitual inertness of skin-

\* I would here record a strong protest against the custom of permitting female labour in these salt works. Physically, it is highly injurious ; morally and socially, it is degrading and destructive to all proper feeling.



function. The latter function is improved, but absorption does not proceed so rapidly as in other opposite conditions, for we see few of those striking results which are often witnessed where the skin is rendered vicarious to some of the most important internal organs of the frame.

Patients must also be prepared in many cases for a temporary aggravation of symptoms, when the Baths should be suspended, or at least taken at longer intervals, till the irritation subsides.

The last are cases for Baths of higher temperature than usual. For the absorption of an insufficient quantity of the chemical ingredients of the waters, owing to the course of Baths being too short for the necessities of the cases, renders this valuable remedy partially inert. The remedial qualities of the Baths are therefore dependent on physical conditions, as well as upon a thousand other circumstances connected with the general health of patients, exhibiting the care and caution necessary in using this remedy, and without which none should be surprised at its failure of effect.

“*Free Livers,*” for example, can bear a good deal of stimulus from Baths composed of mineral waters, such an amount indeed as would produce serious mischief in inflammatory cases. With the latter there would be a too active chemical change induced, whilst there would certainly exist a far less amount of superfluities of which the system might be profitably cleansed.

A gentle, gradual, and permanent stimulus to the skin especially, together with the restoration of the alkalinity of the blood, and the solution and absorption of morbid deposits, is what is required by patients seeking the healing properties of these waters, and, aided by exercise, their field of operation upon the function of the body generally may be greatly extended.

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It is almost needless to add that the cure of each case will be very much assisted by a proper regulation of diet, in which the patient should chiefly avoid such indigestible substances as pastry and cheese, and eat sparingly of fruit and vegetables, avoiding especially all rich and greasy articles of food.

Still more care may wisely be taken in the matter of exercise. Exercise is almost as necessary to the body as food. Without it be properly taken, it is impossible the bodily functions can be regularly performed, unless aided by the continuous and therefore injurious administration of drugs.

It applies to the condition of all patients who visit mineral Baths, although the bulk of such persons is divided into two classes—those who can exercise themselves, and those who must be treated by artificial exercise. In the first example, the best rule which can be given is that the patient take gentle walking exercise short of fatigue before bathing, and repose after the Bath. This should be a matter of daily habit; the vicinity of Droitwich providing a greater variety of beautiful walks and drives than are to be found in many other places of like resort, and possessing the advantage of being quickly reached with little fatigue to the most feeble.

As many patients, who have tried other springs by way of relief, may have found it not expedient to use exercise immediately before or after bathing, but on the contrary to take rest for one or two hours, it may be as well to mention here that these *Saline Baths* do not produce that langour which many mineral Baths do, but the patient ordinarily feels more inclined to walking exercise after the Bath. But this may be optional with the patient, though he should not neglect exercising, short of fatigue, before bathing. As the words “short of fatigue” have a very wide meaning with the majority of persons, it may in

very simple language be explained, by saying that a patient should not walk till he feels tired, but remember that there is the same distance to be retraced, using his limbs as he would his stomach when he is told to leave off with an appetite. In cases where languor follows the use of the Bath, exercise should be delayed till one, two, or three hours, but should not be omitted. It is certain that violent and long-continued exertion would defeat the object in view, while, by way of beginning, the visitor should walk gently, or rather loiter in the open air during the noontide of the day, and not be out at night.

At many watering places it is the custom to walk after drinking the waters, and rest after the Baths. Now, as the Saline Baths of Droitwich produce their constitutional effects entirely through the external skin, they are not to be drunk, excepting in an extremely diluted form; in the pure state of the water, that operation is, of course, out of the question. If drunk in the diluted form, either to relieve the bowels of dyspeptic symptoms, or that apparent constipation which is the result of the tonic and bracing effects of the Baths, medical sanction should be previously sought. Wherever congestion of organs or vessels has previously existed, and there appears a risk or a warning of its recurrence, a judicious amount of exercise in the open air must be strictly enforced.

The second class of persons—those who cannot take exercise, but yet require it as much as those of the first—should be artificially exercised. The best substitute for exercise in the majority of cases is friction. It may therefore be applied both in the Bath and after the Bath, and as soon as the patient can bear it, a few active movements of extension and flexion to the muscles of the affected limb should be added, so that in a short time the patient may be enabled to commence walking

exercise to complete the cure. By these measures also each cure will be rendered more permanent than without them.

The patient will readily understand this when his attention is called to the fact, namely, that no limb or joint can re-acquire its natural action or pristine vigour without it be gradually brought to the natural exercise of its own functions. In cases of stiff joints from articular Rheumatism, not only the joint is motionless, but every muscle of the limb has lost its power, and is now shrunk and shrivelled purely in consequence of the suspension of its motive powers. The object of all treatment in such cases is to release the limb from its bonds; and the question arises, how is this to be done? In a vast number of cases the Baths alone will effect it, but in old cases of stiff joint their stimulative action, unaided by artificial measures, cannot bring about absorption of morbid deposits or removal of fibrous adhesions. The above methods will then be found highly serviceable. And these must be pursued in spite of pain and inconvenience, if it be sought effectually to quell this serious and obstinate malady.

Patience and perseverance in these simple and valuable adjuncts to the Bath will amply reward any patient who may devote even a small portion of his time to them. There are, indeed, many cases of an old inflammatory type which can never be cured without them.

*Finally*, the earliest noticeable effect produced upon a patient taking these Baths is a general warmth diffused over the entire surface of the body, and an unusual softness of the skin. This emollient property of the Brine may be observed in the skins of persons whose temperaments differ, but more largely in those of the lymphatic order—hence its obvious value in *Scrofula*.

There is often a sense of tingling of the skin, a small degree of irritation, which lasts during two or three baths, and sometimes a slight rash upon the arms and other parts of the body. It is on the subsidence of these symptoms, or any of them, that proof is afforded of the skin having assumed a more permanently healthy tone ; and this may be vastly assisted by assiduous walking exercise.

## CHAPTER IV.

### THE VARIOUS DEGREES OF TEMPERATURE OF THE BATHS, WITH SUGGESTIONS FOR THE GUIDANCE OF VISITORS.

ALTHOUGH the terms *tepid*, *warm*, and *hot* are relative, still they are of high importance as a guide to the invalid making use of mineral waters. As a rule, we may say that Baths should be of such a temperature that no loss but a decided gain of *heat* to the body may take place. There will be very few Patients who have not had some experience of the temperature required by their own bodies, and it will then depend upon the nature, extent, and duration of the malady under which they may be suffering as to what the temperature of the Bath shall be. The following scales of temperature, taken from "Lee's Baths of France, Central Germany, and Switzerland," afford as fair an average as can well be given:—

|                          | Centesimal. | Reaumur. | Fahrenheit. |
|--------------------------|-------------|----------|-------------|
| Freezing.....            | 0           | 0        | 32          |
| Lowest Bath temperature  | 5           | 4        | 41          |
|                          | 10          | 8        | 50          |
|                          | 15          | 12       | 59          |
|                          | 20          | 16       | 69          |
|                          | 25          | 20       | 77          |
|                          | 30          | 24       | 86          |
|                          | 35          | 28       | 95          |
| Highest Bath temperature | 40          | 32       | 104         |
| Baths at Mount D'Or..... | 45          | 36       | 113         |
| Russian Vapour Baths ... | 50          | 40       | 122         |
| Boiling .....            | 100         | 80       | 212         |

This writer does not consider it usually expedient to raise the temperature of mineral Baths above 95° Fahrenheit. Such a rule, however, will not apply to "Brine" Waters,

like those of Droitwich, but to the majority of Saline Springs, the *density* of which is greatly inferior. To explain this more clearly, it will be necessary to state the fact, that the temperature of strong Saline Baths is gained by the addition of warm water. It is therefore obvious that whilst the "*Droitwich Brine*" will bear the high temperature of 108°, and even of 112°, the majority of Saline Springs would lose their virtues beyond 95°.

By common consent the *tepid* Bath ranges from 85° to 92° Fahrenheit. It is indeed that description of Bath which demands larger concessions to the *sensations* of the Patient than any other; it is emphatically the Bath of summer, and with the exception of mineral waters the stimulant properties of which decrease in direct proportion to the rise in temperature and are therefore unsuited to *some* diseases of the chest or large vessels, is at once the mildest and safest of Baths. In ancient times it was resorted to frequently during the day as a matter of luxury as well as of necessity. It has the merit of giving no *shock* to the system, and thus it has been tried in cases where a tendency to apoplexy existed, cold water being at the same time plentifully poured over the head. It has also been rightly termed the most soothing, softening, and agreeable of Baths, subduing nervous irritation, and increasing the function of perspiration by gently relaxing the skin. The *tepid* Bath of pure water, and the *tepid* Bath of mineral water, have consequently the above distinction, which, to repeat, is simply that the lower the temperature of the latter the more powerful its action for good or evil on the human frame. It must be obvious, then, that in feeble and excitable invalids it might, if taken *too* early or before an improvement has been arrived at, not only prove too highly stimulating but administer an actual shock, which, in such cases, should be especially avoided. Still, in feebleness without excitability, it may

be useful. It is, in fact, the Bath which, if the Patient's condition permit, may well close a course. It may be used also in those cases in which the reactive power of the Patient, marked by a feeling of external warmth, is strong and beyond a doubt. This is of great importance both to economize time in the necessary stay at the Baths and to facilitate the cure by other constitutional measures. Such reactive power, when associated with certain nervous affections as hysteria, chorea sancti viti, and tic douloureux, may justify the use of tepid waters where the warmer would act disadvantageously, though the contrary is too often the case in attacks of a neuralgic character. In other cases where the reactive power is moderately energetic, the patient may begin at 95°, descending gradually to about 88° or 89°, but not lower. It may, as has been judiciously observed by authorities on the subject, be either inexpedient or hazardous to give the shock of the Bath at 82° in many periosteal, neuralgic, spinal, paralytic, and atonic cases, in rheumatism and gout accompanied by *debility*, or in many cases where an acute or morbid action has recently or imperfectly subsided, and in those where there is disturbance or irritation of the heart's action, or of the mucous or fibrous tissues, or of any of the great viscera. In these cases, *hot Baths*, judiciously managed, are attended with little or no risk.

The *warm Bath* usually ranges from 92° to 98° Fahrenheit, according to the sensation of the increased warmth which it may impart to the Patient's body. The test of the amount of required temperature should be a moderate fulness of the pulse, with more rapid action, an accelerated respiration, and augmented perspiration after the Bath. With the ordinary warm Bath of pure water there is a slight diminution of muscular power, with relaxation of the ducts and the various tissues of the body. In this way it alleviates pain, especially that of neuralgia and of



chronic rheumatic and cutaneous diseases. The degree of languor, as we have said, usually experienced after taking the *pure water Bath* is not felt after the use of these powerful "*Brine Baths*"—a circumstance that exhibits in the strongest light the high *tonic* powers of the latter. Its use is, therefore, of a more extended nature than that of either the ordinary *tepid* or *hot Bath*; for we find the "*hip Bath*" extremely valuable in affording relief in inflammatory or spasmodic affections of the abdominal and pelvic viscera, and in cases where the lungs, heart, or great vessels are *affected*, preventing the use of the warm Bath to the entire surface of the frame. We have also Baths possessing the faculty of counter-irritants for all special parts of the human body. Warm effusions have also been used with decided effect in *mania*, tending to reduce the pulse considerably. In chronic gout and rheumatism it is not in all cases desirable to produce too great an action of the skin, and here about 95° may be taken as a maximum. But in cerebral disturbance or rheumatic affections of the head, a higher temperature of the Bath may be taken, so as to equalise the innervation and circulation without stimulating. In such cases it is sought to produce a sedative influence, and there will then be a very little variation in degree among the different Patients requiring this form of application. Hence, as we have already hinted, the warm Baths take not only precedence of the tepid—we are speaking, it must be borne in mind, of mineral waters—but are to be found beneficial in cases where Baths of a lower temperature would be both unsafe and useless. These are comprised in what may be truly termed "*morbid conditions*," such as are presented in old liver cases, congestion, and disturbance of function of internal organs, where there exist degrees of irritability and disturbance of function in the circulation of the

venous or arterial systems, with a slight inclination to inflammatory symptoms; and especially such as are periodical in their action, leaving, in rheumatic cases, fresh deposit at each visit, and conditions of the mucous membranes, marked by slight congestion and a great degree of irritation; save and except cases of chronic *asthma*, where Baths of the lower temperature only are to be taken when the Patient is unusually free from attacks. *General debility* and incipient *paralysis*, either from cold or hard living, may be often greatly mitigated by these "*Droitwich Baths*," provided the sufferer has entirely thrown aside old habits, and every care is taken to husband the remaining resources of vitality. But these Baths produce little benefit in the paralysis following either effusion or disease of the brain of slow development; yet to the spinal cord or nerves, when injured, they are exceedingly useful, as evidenced by the improvement of the various secretions of the body. In fine, it is almost needless to say, that in many conditions similar to the above, where neither congestions nor other obstructions exist, in *spinal debility* without irritability, general *relaxation of function* without organic mischief, it would be a waste of time to pursue a course of warm Baths; but the Patient should commence with one or two, to prepare his frame for the more stimulating results of the Baths of a lower temperature.

The *hot Bath* may be said, relatively of course, to begin at 98°, and range as high as 112° Fahrenheit. In proportion as we ascend this scale is the arterial circulation heightened and the venous relaxed, great augmentation of heat experienced throughout the frame with copious perspiration, and, at about 102°, throbbing of the head with like unpleasant symptoms may follow. The latter temperature may be used in paralysis from cold, without long continued immersion, and aided both

in the Bath and after it by assiduous friction. There is, of course, less shock to the system in proportion as the water in the Bath approximates the existing temperature of the body of the Patient at the moment of entering it. When the temperature of the water rises much above  $98^{\circ}$ , or blood heat, and progresses towards  $112^{\circ}$ , or fever heat, there is an obvious excitement and perturbation of the circulation, which, in the healthy subject, would be attended with a feeling of after weakness. Yet it is an occurrence often noted at mineral springs, that four or five degrees above  $98^{\circ}$ , or blood heat, may be borne longer and with more agreeable sensations than one degree above or below that standard. This form of Bath, then, is suited to those conditions of chronic gout and rheumatism of which we have previously spoken, in which it is not desirable to produce too great subsequent action of the skin; and this will be readily understood when the reader keeps constantly in view that the higher the temperature of a mineral Bath the lower its constituents, and therefore its stimulative powers upon the skin, both externally by contact and internally by absorption. It is thus that the most severe pains of rheumatism or neuralgia, and especially the latter, in such forms as sciatica, lumbago, and tic, usually demand Baths of a high temperature, the Patient at the same time avoiding all internal stimulants, and one ranging from  $100^{\circ}$  to  $102^{\circ}$  and  $103^{\circ}$ , or even  $108^{\circ}$ . Hot Baths, in fact, are those which more than any others relieve the sufferer from acute pains, and yet the temperature should be carefully regulated according to age, temperament, and vital development of each Patient seeking their aid. It is indeed from these last-named conditions that the question will often arise at the commencement of a course of Baths, whether the Patient should begin with a warm or hot Bath, and will have

to be decided upon the same principles. The time of day during which these Baths should be used by the various visitors is a matter of some importance, inasmuch as their effects are more powerful during conditions of fasting, whilst they should be avoided at unseasonable hours, by which we mean those hours which relate to the several meal times of the day. The chief meal, dinner, is that which interferes with the use of the Baths of every description, especially warm Baths. Yet there is no other meal which may be said to interfere with the use of the Bath. In the larger proportion of cases they should be taken from one to two hours after breakfast up to an early dinner, or within three or four hours after the latter. This supposes that the Patient dines early, though it is an advisable plan otherwise to regulate his meals according to the time when it may be convenient to take a Bath. Patients residing near the Baths, and those coming from a distance, should observe the fact that internal absorption, which is one of the chief points to be gained by the use of these "*Droitwich Baths*," will be best promoted by abstinence from food, or at least from heavy meals, on the days when they are taken. The hours during which the faculty of absorption is the most vigorous are those before breakfast; yet at the commencement of a course of Baths, it is wise to take them after that meal. So soon, however, as the Patient shall be strong enough to take a Bath before breakfast, he may be permitted to do so, and the remainder of the day can then be devoted to exercise in the open air, or friction in connection with other applications of the Baths.

The large and commodious SWIMMING BATH, one of the largest in the kingdom composed of mineral water, affords every facility to Patients labouring under chronic rheumatism, gout, or the allied disorders, to obtain an

amount of active, unfatiguing movement, which is so useful in bringing the diseased parts into action, as well as increasing the activity of the absorbing process. *This*, the circumscribed space of ordinary Baths effectually prevents; but, it is necessary to add, that as the Swimming Bath is of a low temperature, it must not be used till the improved condition of the Patient shall warrant such a proceeding. In many cases, where the bracing effect of the waters are alone required by certain classes of visitors labouring under conditions of debility without positive disease, the Swimming Bath is to be preferred to the ordinary Bath. The temperature of this Bath will be increased to summer heat during the winter months, affording the purest and most powerful *sea Bath* during all seasons, the advantage of which, used separately or in connection with the other Baths in the establishment, cannot be *too highly estimated*. Its lower end, contiguous to the Turkish Bath, is arranged for plunging and swimming, while the upper end is equally well adapted for children of all ages—a most important consideration in the arrangement of the Bath. The great fear which young children experience on being forced into the sea, and which is known to produce mischief, will here be avoided, and they can play about in the crystal water to their infinite enjoyment and benefit. In fact, this Saline Bath, from its inland situation and the *density and brilliancy of its water*, and from being three to four times stronger than any portion of the ocean, is superior to any other Bath in the World. In close proximity to the above Bath is the Turkish Bath, which can be used simultaneously with the Swimming Bath when required, and affords a most valuable auxiliary in the cure of many diseases. *There is, however, perhaps no means of cure of the kind, at least, that can be so little trifled with as mineral waters. The very essence*

*of their success lies in the proper amount of the perseverance with the remedy—perseverance ultimately agreeing with the nature, extent, and previous duration of the malady treated; above all, with the peculiar temperament, idiosyncrasy, and vital capacity of the Patient. As we dare not dictate to Nature, and as she generally throws us backward many steps if we attempt to take one too many forward at a time, the reader is earnestly requested to ponder over what we have said. The old adage, “that the longer way round is often the shorter way home,” especially applies to the use and abuse of an agent such as these valuable “Droitwich Waters,” which otherwise can deal so successfully with acute and chronic diseases of certain types and forms; and although the Patient so afflicted may see, as he often will, some persons throw aside their crutches after a few Baths, he must not be disheartened. He must recollect that there are degrees of morbid action, more of degree than of kind, and that relief and cure are often separate conditions of still wider value to the sufferer.*

## CHAPTER V.

DESCRIPTION OF THE BATHS AND THE ESTABLISHMENT FOR INVALIDS.  
GENERAL REMARKS ON THE ACTION OF THE WATER, AND ITS VALUE  
AS AN ASSISTANT IN THE TREATMENT OF DISEASE.

HAVING endeavoured to show in the Table of Comparative Analyses the peculiarities and power which these Droitwich Waters possess over all other European Mineral Springs; the extraordinary amount of solid constituents they hold in solution in every imperial gallon, being an actual excess of 20,000 grains more than is contained in any other known Saline Spring or in sea water; the qualities of these Brine Springs and their medicinal action; the already-known conditions of disease in which these Baths are specially useful, with rules also as to diet and exercise, and the various degrees of temperature required for each particular case, with suggestions to visitors, etc., I shall now briefly describe the new suite of Baths which have been most carefully planned for the efficient application of the waters, together with the commodious private Establishment in close proximity to the Baths for first-class Patients of both sexes.

The Establishment is arranged so as to be connected with the Baths for the convenience of Patients at all hours of the day and in all weathers. It contains every comfort for each class of invalids, and has south-east, south, and south-west aspects. Arrangements are made for providing its inmates with amusements and suitable exercise, the grounds occupying a space of seven to eight acres. There are hot Baths for the accommodation

of twelve first-class Patients at the same time. It must be borne in mind that great expense is unavoidably incurred in keeping the whole of the different Baths in efficient repair, owing to the potency of the Brine, for, though its effects upon the human constitution are so valuable, they are nevertheless most destructive to all materials used in erecting the Baths. Besides the above, there are Packing Rooms, Douches, Plunge, and hot and cold Sprays, the Turkish Bath, with spacious compartments, and embracing every modern improvement, and adjoining this the Swimming Bath, 70 ft. by 30 ft., which stands unrivalled when we consider the power and purity of the water of which it is composed. The water of this Bath is as clear as crystal, always running, is available for bathers at all times and seasons, being heated to 80° Fahr. during the *winter* months; thus in winter and during boisterous weather the treatment of invalids cannot be interfered with. It is also so arranged as to be suitable not only for adults but for young children, one of the most important considerations in the arrangement of this Bath. The great fear which many delicate children experience on being forced into a rough sea, and which too frequently deprives them of the benefit they would otherwise derive, is altogether avoided here, where they may play about in this crystal water to their great delight. Here, then, we have a Saline Bath superior to any Sea Water Bath, in the centre of one of our finest Midland Counties, surrounded by a country unsurpassed for beauty and variety of landscape, possessing a dry equable temperature and a warm salubrious atmosphere. The waters, as before stated, possess an extraordinary *tonic* influence, capable of raising and sustaining the powers of the digestive functions, strengthening *debility* arising from too *early* and too *rapid* a development of the youthful organism,



and they are found equally potent in restoring life and health to delicate and enfeebled constitutions, from whatever cause they may have been impaired. The high specific gravity of these waters renders them so buoyant that it is difficult to avoid floating, which may be made the means of more easily teaching the art of swimming, a part of early education too often neglected, and causing the early loss of many a valuable life.\*

Reason and experience have long proved the *Bath* to be a therapeutic agent of the highest value, as there are no diseases for which it may not be rendered beneficially available, if skilfully directed in accordance with rational and scientific practice. A writer of undoubted professional eminence has stated, "the Bath that is adapted to make health healthier, and alleviate disease, whatever its stage or severity, deserves to be regarded as a national institution, and merits the advocacy of all men, and particularly medical men—of those whose special duty it is to teach how health may be preserved, how disease may be averted, for if, besides bestowing physical purity and enjoyment, it tends to preserve health, to prevent disease, and even to cure disease, the votary of the Bath will receive a double reward." If, then, the common water Bath has become so useful in assisting nature and art in curing disease, how much more powerful for good is the Droitwich Water, the effects of which are daily witnessed and felt by thousands of invalids, and which enables the physician to throw aside nine-tenths of his physic doses (which can only act by setting up an *abnormal action* in the system), and allow this valuable external remedy to do the rest, by acting through the medium of the skin, and assisting nature in maintaining its vital organism in vigorous

\* Baths are also provided for the use of Third-class Patients. Such Invalids as are unable to pay will receive gratuitous advice and attention.

action, on which healthy *nutritive life* is so immediately and materially dependent. By availing ourselves of such a valuable *natural gift* we can, to a great extent, counteract the injurious effects produced by an artificial mode of life, together with the many evils arising from sedentary habits and the over-straining of both mind and body. When it is stated "that *three-fourths* of the diseases to which man is subject, are attributable to the pores of the skin being stopped up, the beneficial effects of these Waters may be readily understood. The faculty of *preventing disease*, as exercised by the skin, besides being indirect and operating on the general health of the body, is also direct." These Brine Baths act by stimulating the functions of the skin, opening its pores, restoring healthy *capillary circulation*, and by means of the lymphatics or absorbing vessels, convey the Saline constituents into the system, whilst at the same time the poison in the blood is, by its emunctory vessels, directly conveyed from the body. Thus these powerful Droitwich Waters act precisely in the same way in maintaining health as in preventing disease. Their action is through the medium of the skin, by stimulating and promoting healthy nutrition, and thereby enabling the system to resist all poisonous influences. Lastly, we once more revert to these Waters more particularly as a curative agent in the treatment of disease. What we have already stated as to their efficacy in preventing disease and preserving present health is equally illustrative of their power and influence in curing lesions of the animal organism. Whatever acts powerfully on the skin must necessarily relieve internal changes, whether arising from organic disease or deranged function. On the all-important fact, therefore, that we have complete command over the circulation, by subjecting the skin to the influence of the Brine under different degrees of heat,

the entire sanatory secret of these Baths depends. It is by variations of temperature—by heat and cold judiciously applied—by the action and re-action on the system, produced and varied at will, that these Waters become so valuable a *therapeutic*. And lastly, as regards exercise, most important for the preservation of health, I would add a few remarks from “The Muscles and their Story,” a most interesting and instructive work, written by Dr. JOHN W. F. BLUNDELL. “With the ancients (Dr. BLUNDELL writes) the exercise of the muscles and consequently of the whole body, was simply a part of *education*. The whole art of education was, in fact, embodied in the well-known later maxim, the ‘*mens sana in corpore sano*.’ This soundness proceeded from the mutual balancing of the two forces, the physical and the mental, which could alone result from a perfect harmony in the working of the several parts of the frame. And, following out this suggestion, it is curious to observe how the human body exhibits *two* forms of vital exertion necessary to existence:—First, that of the entire muscular apparatus, whether of ordinary muscle, arterial coat, or otherwise; and secondly, that of the various secreting and excreting organs in pursuing their functions. *Exercise* is common to both, but it differs in degree, and greatly in kind; and these circumstances are well worthy the reader’s attention. The two forms may be thus explained. Exercise by muscular movement stimulates the entire *network* of the circulation, and the vital processes resulting from it, without their being exhausted, but rather benefitted thereby; it is, therefore, the *natural* means ordained for the maintenance of general health. Exercise of the various organs of the body, on the contrary, is attended with considerable expenditure of their powers, and, if beyond a given point, their integrity is overbalanced and organic disease

may slowly follow. In common life the latter is too often the result of one or all of three causes—improper food, neglect of bodily exercise, and injudicious and pertinacious drugging. When these poor organs have by over-exertion become weakly, and their functions slow and imperfect, repose would seem to be required by them—but no, the whip and the spur, ‘the short life and the merry life;’ all these and more preclude anything like a rational treatment of the causes at issue. The public, however, are masters of their own situation; the newspapers supply them abundantly with materials, in the shape of patent medicines; and with these, at one moment or other, and the broad cycle in which valetudinarians are soon doomed to revolve, it will indeed go hard if they do not ultimately wreck the bark they seek to steer through the common shoals of existence.”\* In reviewing what we have said, we have come to the conclusion, after long experience in private and public practice, that these powerful Salt Springs afford the most valuable prophylactic and analeptic means yet discovered for aiding Nature and the Physician in curing disease. By the assistance, of these Waters, Nature is allowed to take her own course undisturbed by the deleterious effects of too much physic, and by a far safer and more certain process the Patient is restored to health and life.

\* It is to be regretted that Dr. Blundell was induced a few years ago to expatriate himself to South Brisbane, Australia. By this step England lost a young Physician of eminent talent, and a most enterprising member of the Profession.

## CHAPTER VI.

SKETCH OF THE BOROUGH OF DROITWICH, ITS IMMEDIATE NEIGHBOURHOOD, AND ITS BATHS—CONCLUDING REMARKS.

**D**ROITWICH is one of the most ancient boroughs in the Kingdom. It lies six miles north of the City of Worcester, fourteen from Great Malvern, and one hundred and fifteen from London; it is situated on the Oxford, Worcester, and Wolverhampton Line of Railway, consequently, its central position renders it readily accessible from London, Liverpool, Manchester, Birmingham, and other large towns, as the above railway forms a connecting link with the Midland, Great Western, and London and North Western Railways. By either of the latter lines it is reached from the Metropolis in three hours and a half.

What may be truly called the town is exceedingly small and uninviting, as most small manufacturing towns generally are, being made up of Salt Works and one long street of shops and shapeless residences. It possesses, therefore, no inducement to casual visitors, excepting to those interested in, or connected with, the manufacture of Salt.

Unlike the fashionable resorts of other similar Watering Places, where additional attractions are employed to draw visitors, and where the Springs are comparatively powerless, as the Analyses will show, Droitwich must for the present rest content with its Baths, and its establishment for the reception of Invalids, as it possesses indubitably in its Brine Springs, one of the most inestimable gifts that Nature has yet produced for the relief of human suffering. If, therefore, it be said that the town possesses

no attractions, let those who have been restored to health and freedom from pain by the use of its Baths answer the question,—the delicate mother or her still more delicate child, the hypochondriac (often a far greater sufferer than others with more serious affections), the infirm and crippled, drawn together from pain arising from Rheumatism, Gout, or both combined, the paralytic, and the dyspeptic,—these, and many others have found, and will find attractions closely adjoining this antiquated little town, which are far more valuable to them than the more fashionable pleasures which may be met with elsewhere.\*

The town of Droitwich, however, is immediately situated over these Brine Springs, from whence the Baths receive a constant supply of the sparkling Water, and are contiguous to the Baths and the Proprietor's private residence; these are situated as regards the town itself, if I may so speak, *back to back*, and no one visiting the Establishment has any occasion to enter, or even see any portion of this remarkable salt-producing borough. The Salt Works are, therefore, in no way unsightly or prejudicial to those visiting the *Bathing Establishment*. On the contrary, they increase the purity and salubrity of the surrounding atmosphere, by constantly evolving from each evaporating pan a white vapoury cloud, loaded with Saline particles, *which strangers so frequently mistake for smoke*. The Bath Establishment, then, is *exterior* to the town, overlooking the country with its south and south-west aspect, and is replete with every comfort and accommodation for invalids. Provision is made for exercise to be taken by invalids in all weathers, as may be deemed

\* The highest references to invalids who have experienced the benefits of the Baths, as well as Testimonials from medical men of standing, who have long been in the habit of recommending them, will be forwarded on application to the writer,

necessary and beneficial in assisting the action of the Baths and essential to the restoration of health. But after all that has been said against this old borough town, its ancient garb has a pleasing interest attached to it, for we have, amid modern improvements, few relics like this that speak to the mind of an Englishman so strongly of the past.

NASH tells us that Mr. HABINGDON, to shew the greatness of Wich (the old name for the town) under the Saxons, observes that it gave the name of Wiccian to the extent of country now called Worcestershire. If this be true, it is a strong circumstance in favour of the high antiquity and importance of Droitwich in this early portion of the history of our country. It was no doubt a populous place in the days of the CONQUEROR, and subsequently, when the gentry were wont to reside more in towns than they do at present, there were several families of importance here. In 1262, we find RICHARD DE BURFORD, a man of great learning and a native of this town, died Bishop of CHICHESTER, and was canonized by Pope URBAN. The Borough of Droitwich is governed in all municipal matters by a Mayor, Aldermen, and Councillors. It is amply provided with schools and charitable institutions. Among these stand foremost the Coventry Charity, which supports and wages 36 old men and women, and clothes 80 boys and girls, both of whom on leaving school are presented with a sum of money to apprentice them to some trade, or assist them in making a start in the world. The annual income, being nearly £1,100 per annum, affords each inmate five shillings a week, and a salary for the schoolmaster of £90 and the schoolmistress of £50, with a residence for each. The Borough formerly sent two members to Parliament, from the reign of EDWARD I. until the passing of the Reform Bill, when these were reduced to one. From 1837, the Right Hon. Sir JOHN

S. PAKINGTON, Bart., of Westwood Park, has represented it in Parliament. The inhabitants have ever been distinguished for their loyalty, and when CHARLES I. held his Court at Oxford, he forwarded a letter of thanks to his "trusty and well-beloved the bailiffs, gentry, freeholders, and others the inhabitants of our town of Droitwich," for assistance afforded to the city of Worcester when it was threatened by Sir WILLIAM WALLER, an eminent general of the Parliamentary Army, and the same spirit animates the breasts of the burgesses of the present day. Another proof may be mentioned of CHARLES' confidence in the burgesses of Droitwich, from his frequently remaining some time within their borough; and there are several letters of his still extant, one dated May, 1645, written from Droitwich, addressed to his Queen, as his "dear sweetheart."

The climate of Worcestershire generally and that of Droitwich in particular is balmy, warm, equable, and consequently healthy. It has a tendency to allay nervous irritation, possessing, as it were, a sedative influence, which is highly esteemed both in this country and on the Continent. If this present small old-fashioned town, which looks upon its proud neighbour as a comparatively modern *city*,\* possesses few charms beyond its Baths, it may boast of its beautiful county and the extreme beauty of its *immediate vicinity*. Indeed, the country in close proximity to the town itself cannot be surpassed for its undulating scenery and rich pasture, and this in every direction and within five minutes' walk of the Baths and their Establishment. The records of the *Salt manufacture* from the Droitwich Springs are of extreme remoteness, extending as far back as the last periods of the Roman Empire. Here was established a Roman station or city, and there is in the Natural History Society's Museum,

\* In olden times letters were addressed "Worcester, near Droitwich."



at Worcester, a portion of a Roman villa, being a piece of Mosaic pavement accidentally discovered not many years ago during the formation of the Oxford, Worcester, and Wolverhampton Railway, and numerous vases, coins, and tiles were also found on opening a new canal between the town and Hanbury Wharf.

If space permitted, it would be curious and interesting to trace whether any proof existed of the Romans using these Brine Springs as medicinal Baths. There can be no doubt of the existence of Baths during their sojourn at Droitwich, remains of Baths having been found with conduits for the supply of water, and remains clearly shew that the Romans had also their Baths at Bath and Buxton. At what distance of time these Baths fell into disuse and were lost to the public still remains a mystery. Local circumstances, the want of pecuniary means to keep them in proper efficiency, or of some good Samaritan to afford help and comfort to the suffering and dying, might offer a solution. So great, however, has been the *never-failing* demand by the public for these Waters, that even during the period when the Baths were thus neglected and unfit for use, bathers from all parts continued their visits, and succeeded in supplementing Baths in the best way they could. The intelligent foresight of the late Sir CHARLES HASTINGS, an eminent physician residing in Worcester, led him to make an urgent appeal for the establishment of Salt Water Bathing at Droitwich. In a lecture delivered by him in the year 1835, before the Worcestershire Natural History Society, on the "Salt Springs of Worcestershire," which was reported in *The Analyst* of that day, he declared to his audience how much good would be effected by the free use of this *powerful medicinal agent*, which he then pronounced to be of *tenfold strength* and *virtue* to the waters of the ocean. He adds :—"One thing has certainly

struck me with surprise, and that is, *that no attempt has ever been made to introduce artificial Sea Bathing at Droitwich.* The supply of Brine is so abundant, and it springs up from the earth *so beautifully transparent*, that a large Salt Water Bath is practicable. And when we consider the distance at which we live, in these Midland counties, from the sea coast, and the crowded population of the manufacturing towns in this part of the kingdom, to the relaxed population of which this artificial Sea Bathing, both *cold* and *tepid*, would be so salutary, it seems probable that an establishment for Salt Water Bathing would succeed." After such an opinion publicly pronounced by the late Dr. HASTINGS, it seems most strange that these powerful Droitwich Springs should have continued to this day without being developed by any professional man, or their curative qualities tested, except by bathers composed of the poor of the neighbourhood. The *surprise* expressed by this eminent physician nearly 40 years ago becomes immensely increased in view of the fact that not *until now* has any adequate attempt been made to carry out his sagacious suggestions. Time and experience have fully proved the truth of the valuable observations of Sir CHARLES HASTINGS, for since that good advice was proffered thousands of invalids have been restored by the use of these Waters to health and activity. Dr. MACPHERSON, of Curzon Street, Mayfair, who never visited the Droitwich Baths, thus concludes his remarks in his work, "Our Baths and Wells":—"But, I believe, the only place in England where the *concentrated Salt Baths so popular in Germany can be had, is the old-fashioned town of Droitwich, near Worcester.*" A gentleman writes, that "the Baths are not first-rate, but the bathing itself is *most luxurious.* The water is so impregnated with salt, that I half realised a visit to the Dead Sea. I could not sink, and only kept in the

Bath by putting two bricks of about fourteen or fifteen pounds each on my feet and chest. The Bath had a pleasant sparkling feeling, *and I really believe one Bath did me good.*" When writing the above, Dr. MACPHERSON was probably not aware of the extraordinary amount of solid constituents contained in an imperial gallon of the Droitwich Water, as shown by the analyses before mentioned. It is reasonable to suppose, then, that its *power* is in some measure proportionate to this *excess of strength*. It becomes, therefore, a paramount duty to ascertain how far, in what form, and by what means this *power* can be safely employed in curing disease; what are the real qualities of these *Salt Springs* as a "*conservative medicine*" in *preventing* disease, *maintaining* present health, and *recruiting* or *recovering* strength lost by sickness, or from any other causes. I shall endeavour, by a systematic employment of these Waters, to assist in this important work, and shall hope to give statistical accounts from time to time of the results of cases which come under my care. With regard to the remark that the Baths were "not first-rate," it should be added that the observation refers to their then condition.

During the time these Baths remained for nearly half a century under a cloud, and without any professional superintendence, they fell into the hands of a gentleman, who held them up to the spring of 1871. And I would here express my conviction that the public owe a debt of gratitude to this gentleman for having kept open these Baths during this period, and thus providing so great a boon to thousands of sufferers. Some months previously to the spring of 1871, after much investigation, labour, and close observation of the various cases which came under my care, I became satisfied of the value of these curative Waters, and the loss which the public sustained for the want of efficient Baths and a suitable

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Establishment. The result of this discovery has been the erection of a suite of Baths, with an adjoining private Establishment for invalids, which are fully described in Chapter 5, and which may be fairly set down as not to be surpassed for convenience and comfort, possessing, as they do, *Brine Springs* unequalled in power by any known mineral water in this or any other country.

I have thus endeavoured, in the short space of time at disposal, to give a brief sketch of the Droitwich Saline Springs, and I trust that what I have said will be accepted as no slight proof that they do unquestionably possess a superior power, and are undoubtedly capable of exerting a most surprising influence in the treatment of disease.

That the public opinion will coincide with my own I admit that I am sanguine enough to anticipate. But be this as it may, *I am satisfied of the fact*, and if, by the gradual progress and development of these Springs, I am made an instrument of affording relief to the suffering and afflicted, I shall be amply rewarded, and feel that my labour has not been in vain.

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N.B.—I would here add, that an entire new commodious Hotel will be provided in the early part of next year, suitable for the higher and middle classes who may occasionally desire to take a course of these renovating *Brine Baths*.

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