

Aix-les-Bains thermal treatment : the douche-massage / [Henri Forestier].

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THE
AIX-LES-BAINS
THERMAL TREATMENT

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TREATMENT

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THE
AIX-LES-BAINS
THERMAL TREATMENT

THE DOUCHE-MASSAGE

BY

H. FORESTIER, M.D.

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HOSPITAL, AND TO THE EVANGELICAL HOME, OF AIX-LES-BAINS;
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INTRODUCTION

THE Aix-les-Bains treatment, "*the Douche-massage*," has, for many years past, held a well-deserved and worldwide reputation. The spa has been most frequented by *English* and *American* patients.

Aix-les-Bains lies in Savoy, a part of France, which is one of the finest Alpine districts, to which belongs the celebrated Mont Blanc ; and on the great railway line from Paris to Italy and Geneva.

The town is most picturesquely situated on the lower slopes of the hills which form the base of *Mont Revard* (5360 feet), looking to the S.-W. The valley, with the poetical lake "*le Bourget*" in the middle ; with the picturesque wooded mountains *Mont Revard* and *Dent-du-Châ*t on each side ; and the high chain of Alps and glaciers (10-11-000 feet) in the back-ground, forms the most beautiful bit of scenery.

Happy in its topographical conditions, protected from northerly winds, the valley (823 feet above the sea-level and 90 feet above the lake) of Aix enjoys a most salubrious climate.

It is mild and dry from April. The mean summer temperature is 77° F. Occasionally it rises as high as 84° F. for a few days in July or August.

In May, June, and September the climate is bright, sunny, and bracing.

Aix (8000 inhabitants) is a pleasant and healthy place of residence, frequented by 45,000 visitors.

All sanitary arrangements have been most carefully attended to.

The drainage "*tout à l'égoût*" is most perfect, thanks to the inclined nature of the ground and the great abundance of water.

The water supply is derived from the wooded mountain Mont Revard, so that the drinking water can be taken with perfect impunity.

CHAPTER I

THE AIX THERMAL TREATMENT

THE Aix-les-Bains thermal treatment is chiefly *external*. It does not merely consist in bathing and douching like other treatments which claim to be similar. It is something much better, as it consists of *douche combined with massage*, or, in other words, of *massage under the sulphur douche*, or *Douche-massage* as I call it.¹ This treatment having been originated in Aix is its exclusive speciality, and has been so for over a century ; and having been handed down from father to son for generations, Aix has the distinction of having born *masseurs-doucheurs*. Indeed, despite the various imitations² at other Continental and English resorts, Aix stands alone in this *unique treatment*.

The other chief modes of treatment are the *local*

¹ This name "*douche massage*" was originated by me in 1889, when I succeeded my father and grandfather, both practising physicians at Aix, and has since been universally adopted. It is a better expression for this treatment than the name "Aix-douche," which was used formerly.

² The Aix Douche-massage is being imitated in Bath, Harrogate, and also in several watering-places on the Continent : Uriage, Vichy.

Douche-massage, the *general vapour bath*, *bouillon*, and the *local vapour bath*, *Berthollet*. The *Bath*, the *swimming bath*, the *simple douche* are the additional applications. Next come the *adjuncts* : the *drinking* of the water *Eau des deux Reines* for a diuretic purpose ; the *Zander Institute*, with the whole physiotherapy. Finally, the climatic stations in the immediate vicinity, “*Les Corbières*” and “*Mont Révard*” make Aix les-Bains a very complete and well-equipped medical centre.

HISTORY OF THE MASSAGE IN AIX.

It is very interesting to know that *massage* was first introduced into Aix by some of the returning members of Bonaparte's Egyptian campaign, of 1799. I rely for this historical fact upon a book entitled, ‘*Des eaux thermales d'Aix en Savoie*,’ published in Chambery, chief town of Savoy, in 1808. Dr. Daquin, the author of the book in question, after a passage *à propos* of the *douche*, speaks of the manipulations and frictions which were observed by Captain Vallis amongst the aborigines of Otaheite, and then proceeds as follows :

“Those¹ who followed the Emperor Napoleon in Egypt inform us that this method was also in existence amongst the people of that country, and that it was employed after the bath ; the name of *massement* has been given to it, and it is administered

¹ I published this history in the ‘*Progrès Medical*,’ May, 1895, and the ‘*Lancet*,’ June 22nd, 1895, quoted this article.

to the person whom they want to *masser* by rubbing successively the entire surface of his body.

“ . . . According to this account I think that this operation, which strikes me as a very salutary procedure, might with great advantage be performed, after their bath or douche, upon those who make use of our thermal waters.”

Very likely the *massage* was then carried out instead of the simple rubbing “*friction*” which had been in use at Aix for a century. The book of Dr. Despine published later on ‘*Observations de médecine pratique aux Eaux d’Aix*’ (1838) confirms this fact in the following way :

“ Since the renaissance of our Thermes in 1816, we bath and we douche . . . we scrub, we *masse*, we stew . . . ”

From that time the *Douche-massage* has become little by little the principal mode of treatment of Aix, although this has not been very well insisted upon by the Aix writers.

According to these documents it appears that the *massage* was carried out in Aix before any country in Europe. It was more scientifically studied later on in Sweden, about 1830, by Ling.

I.—THE THERMAL WATER.

The Aix water may be described as a *hot sodio-calcareo-sulphuretted water*, having a temperature of

114° to 117° F. (which can be lowered to 95° F. for the Douche-massage).

Two springs¹ coming out of the ground in two different places, but having nearly the same composition, and therefore the same origin, yield over one million gallons of water daily.

The Aix water is slightly mineralised; the total mineralisation is 3 grains in 16 ounces troy.

Its most interesting constituents are the sulphuretted hydrogen and the "baregine," a greasy, organic matter, flocculi of which are suspended in the water, thus giving it an unctuous quality for the massage.

ANALYSIS OF THE AIX WATER.

By M. WILM.

	Saline constituents in grains per liter.
Free sulphuretted hydrogen.	$\frac{1}{16}$
Sulphur under the form of hyposulphite.	$\frac{1}{20}$
Carbonic acid gas (by weight)	$1\frac{1}{3}$
Nitrogen	—
Calcic carbonate	$2\frac{1}{2}$
Magnesian	$1\frac{1}{3}$
Ferric ,,	$1\frac{3}{4}$
Silica	$\frac{1}{4}$
Total deposit from boiling	3

¹ One of these springs bears the name of *Sulphur* and the other of *Alum*. The name of the latter is misleading, as the water is devoid of alum.

	Grains.
Silica	$\frac{1}{4}$
Calcic sulphate	$1\frac{1}{3}$
Magnesian „	$\frac{3}{4}$
Sodic „	—
Sodic chloride	$\frac{1}{3}$
Calcic phosphate	traces
Total constituents remaining in solution	$3\frac{3}{4}$
Total fixed constituents determined	7

Radio-activity.—A new element has been lately recognised in the thermal water of Aix-les-Bains, viz. *radio-activity*. This was studied by Prof. Curie and Prof. Moureu, from Paris, who found the gases “argon” and “helium” in it, and also by G. A. Blanc, a young and able Italian physicist, who detected the electric condition of the water (“On Radio-activity of Mineral Springs,” in the ‘Philosophical Magazine,’ January, 1908).

“Previously,” says Sir Herman Weber,¹ “these gases ‘argon’ and ‘helium’ were discovered by Lord Rayleigh, and later on by Prof. Ramsay in the waters of Bath, Buxton, etc.” According to the present scientific knowledge these gases may be considered as an emanation of the radium and as representing the radio-activity. Thanks to this some light is thrown on the unexplained wonderful effects of the

¹ ‘The Mineral Waters of Europe,’ Sir Herman Weber and Parkes Weber.

thermal waters. One can understand why the Douche-massage of Aix and the natural vapour Berthollet act so powerfully.

II.—THE THERMAL ESTABLISHMENT.

This building, as remarkable for its imposing aspect as for its perfect arrangement, is one of the finest in Europe. The latest improvements (1898-99) give all possible comfort.

As the thermal establishment has been built on the rocks of the lower slopes of the mountain there are three floors. The *Douche-massage* being the chief mode of the treatment, no less than sixty rooms are devoted to it.

Some of them have a *general vapour bath*, named *bouillon*, annexed.

On the second floor, between the upper and the lower reservoirs, ten rooms are used for the natural *vapour bath* named *Berthollet*.

There are also :

- 32 private bath rooms ;
- 6 large swimming baths ;
- 2 hydro-therapeutic rooms ;
- 1 spray room ;
- 1 vaginal douche room ;
- 1 internal douche room ;

III.—THE MODES OF TREATMENT.

As it has been already said the chief mode of the

Aix treatment, the one for which patients are sent to Aix, is the *Douche-massage*, that is to say, the massage of the patient while under the hot sulphur water.

“*The great feature in the treatment at Aix,*” says Sir A. Garrod (‘*Lancet,*’ May 4th, 1895), “*is the Douche-bath (the Douche-massage).*”

I. THE GENERAL DOUCHE-MASSAGE.

Apparatus.—This is of three sorts.

First the *jumelle* consists of a couple of pipes, one for the hot water, the other for the cold water, entering into a small reservoir, *melangeur*, in which they are mixed. From this reservoir, which is provided with a thermometer, starts an india-rubber hose, with a bent nozzle, held by the *masseur* in front of the patient.

Secondly is a metal box, *boîte de mélange*, which is fixed about six feet from the floor, to receive a mixture of hot and cold water, and connected with an india-rubber hose, fitted with a rose, which is held by the *masseur* standing behind the patient.

The first apparatus carries the water coming straight from the upper reservoir at a high pressure (45 feet at the ground floor, 20 feet at the second floor).

But this pressure has little importance, the object being not to have too strong a stream of water,

which, by its splashing, would only inconvenience the masseurs in their work.

The last piece of *apparatus* is a low wooden stool of a special shape (see Fig. 1), on which the patient is seated.

The same stool, by means of a wooden board (as shown by Fig. 2), can be transformed into an inclined plane, on which the patient lies face downwards.

This is the *massage table* invented by me in 1890, and now in use for cases needing massage of the back part of the body, lumbar region, hip, or sciatic nerve.

It has the advantage of simplicity, as it consists of a board only, and of comfort, as it is inclined, and thus is more convenient than an horizontal one both for masseur and patient.

Dr. Begg, of Bath, who has adopted this table, and is using it in his practice, points out that the lumbar region, the buttocks, and thighs, are regions impossible to operate on satisfactorily, except in the reclining position, and says¹: “Dr. Forestier, of Aix, has overcome the difficulty in a masterly and simple fashion. The chair back has been cut down and a board is placed in it, and the front edge of the chair, forming at once an inclined plane on which the patient lies face downwards, completely re-

¹ Charles Begg, ‘Scottish Medical and Surgical Journal,’ January, 1901.

axed, and in the best position for the operator, who stands over him.”

This inclined massage table, I consider, is simpler and better than the others, such as the *Berthe's apparatus*, employed in Vichy and Harrogate.

DESCRIPTION.

The first part of the Douche-massage is performed in a sitting posture, after the old system of Aix.

The procedure consists in the patient being seated on the wooden stool, and in both *masseurs* (or *masseuses*) doing the massage of the limbs and of the upper part of the body; at the same time they pour the jet of warm water on the part which they manipulate. The attendants are so skilful that they hold the hose on their raised knee and their arms remain at liberty for the massage.

The *masseur* standing behind does the massage of the neck, shoulders, and upper part of the trunk; the other standing in front of the patient makes the massage of the lower and upper limbs.

The second part of the Douche-massage is performed in a reclining posture. This, as I have pointed out, is my own method, started in 1889.

The wooden board is put on the stool and the patient lies down on it (on his stomach, as shown by the figure).

In this position it is very easy for the masseur to perform with skill and force, if necessary, massage

of the lumbar region, of the hip region, or of the buttock, and of the sciatic nerve along the back of the limb.

Finally the patient stands up, and while one masseur is preparing the linen the other gives a simple douche, more or less warm, for one or two minutes.

Then the water is mopped off the body, and the patient is wrapped in a flannel dressing-gown and a woollen blanket, the so-called "maillot," and carried back to his bedroom in the sedan chair.

This is the usual *Douche-massage*.

According to the case, the water may be more or less warm, from 90° to 104° F., or exceptionally 107° F.; and the *massage* may be performed as *effleurage*, *petrissage*, or deep kneading. Directions are given by the doctor. The *duration* of the *Douche-massage* is 10 minutes. There may be a *single masseur* (or *masseuse*).

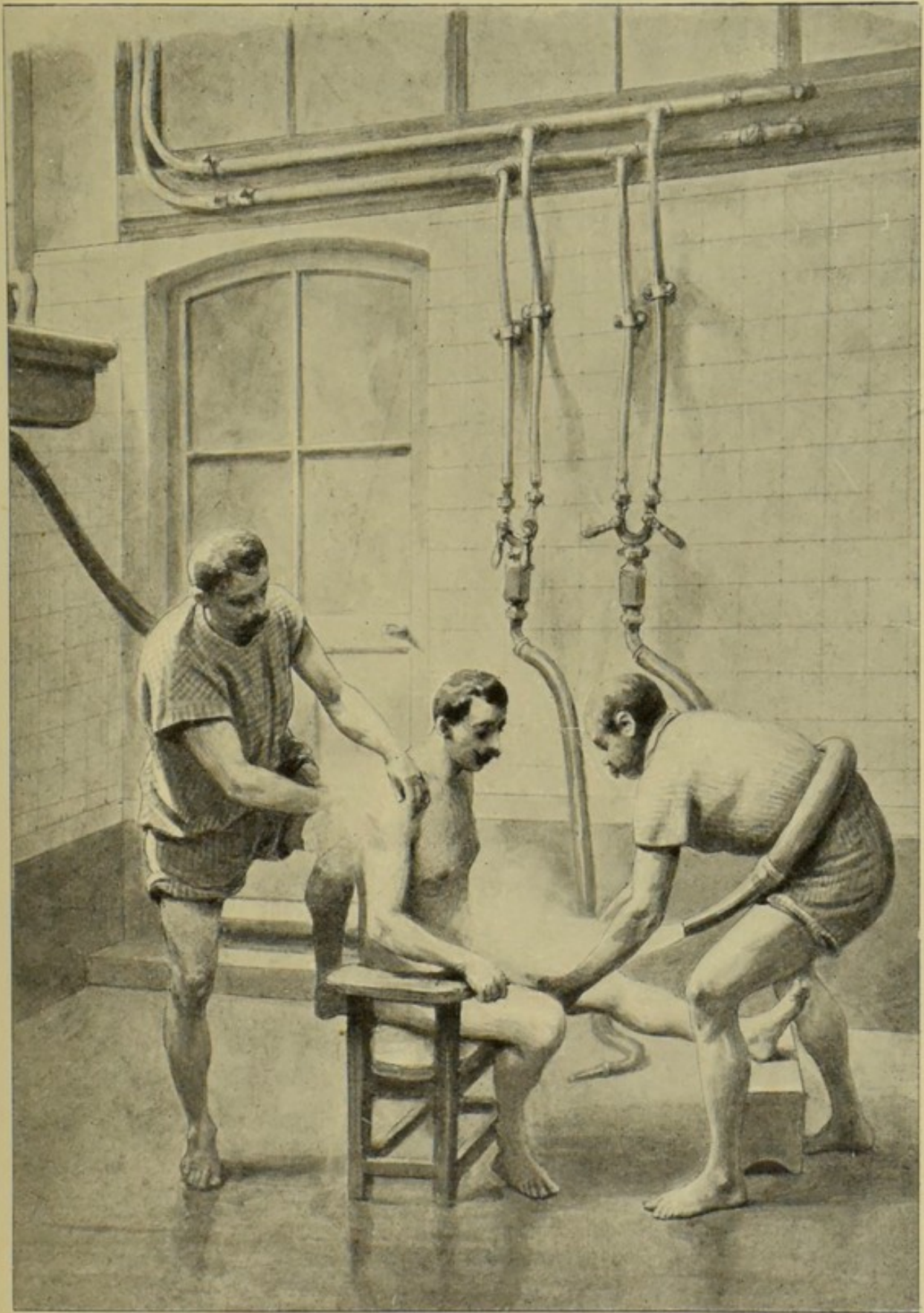
I should like to point out that the carrying of the patient in a sedan chair to and from the bath is an important part of the treatment.

In some cases, where a tonic effect is required, the final douche is given warm and cold, which is called *douche écossaise*, Scotch douche.

2. THE GENERAL VAPOUR BATH, *BOUILLON*.

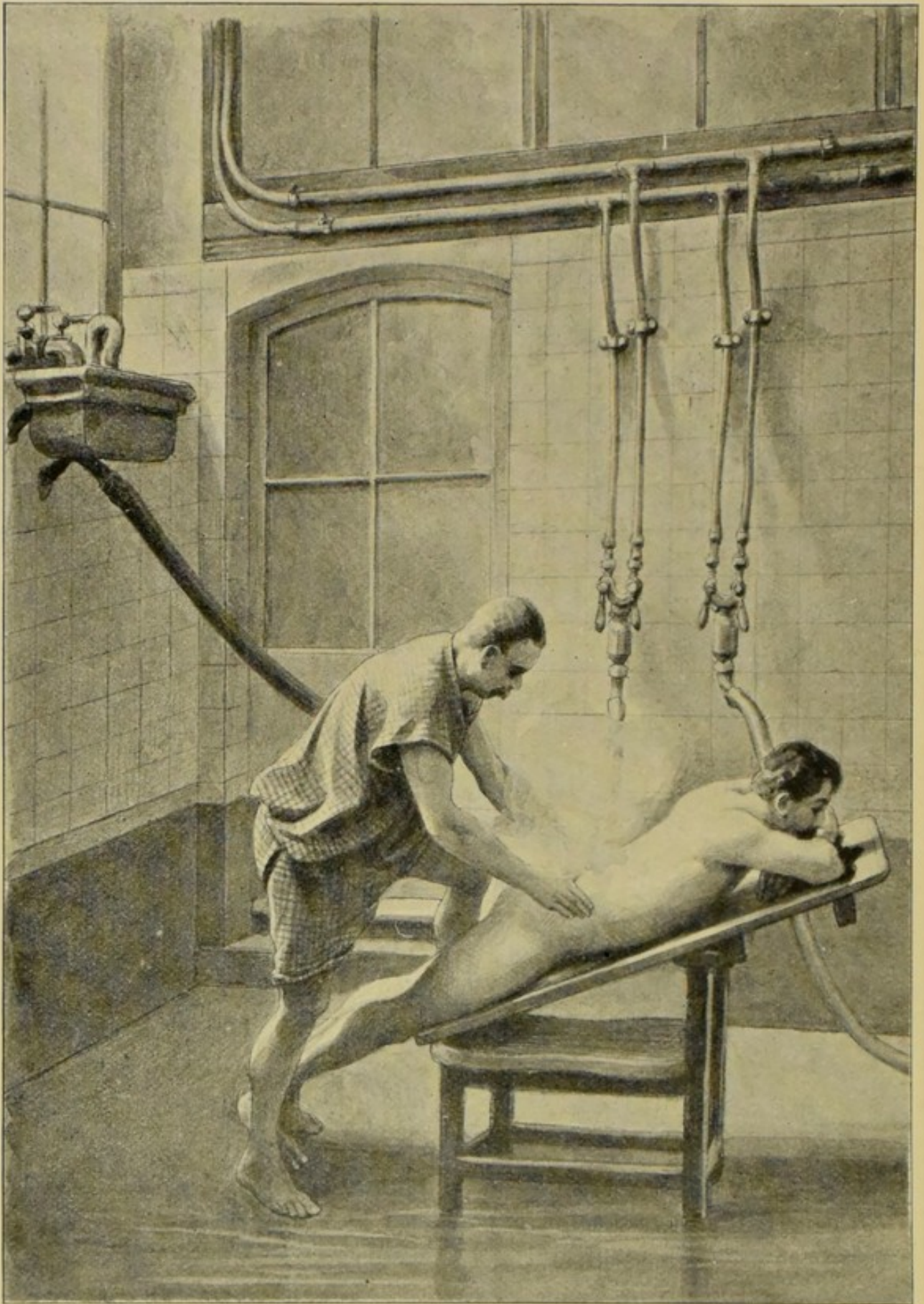
After, or generally before the *Douche-massage*, some patients spend three, five, or ten minutes in the *bouillon*, a room adjoining the *Douche-massage* room,

FIG. 1.



The General Douche-massage of Aix-les-Bains.

FIG. 2.



The Douche-massage on the inclined table, Dr. Forestier's method.

filled with vapour. This comes from the water at full temperature, which falls as a shower-bath and makes a kind of bubbling; hence the name *bouillon*. The temperature of the room is 107° – 108° F. It produces abundant sweating.

3. THE LOCAL DOUCHE-MASSAGE.

Every Aix cure includes an average of eighteen or twenty-one *general Douche-massages*. But in cases in which some joints—the knees, feet, wrists, or elbows—are particularly affected, the *local Douche-massage* is needed in addition.

The apparatus consists of a wooden screen with holes in it, through which the leg or arm is put, and is massaged from the other side. This is a more special massage, being applied to cases of diseases of the joints, and mostly performed with the tips of the thumbs.

4. THE NATURAL VAPOUR BATH, *BERTHOLLET*.

The so-called “*Berthollet vapour bath*,” after the name of the celebrated chemist, *Berthollet*, born in Savoy, is obtained from the natural vapour of the water. The arrangement is as follows:

As the two springs are not on the same level the difference of 18 feet in the height of their reservoirs has been utilised to make the water fall from one into the other. The water in the lower reservoir, being kept in motion by the fall

of the water from the upper reservoir, develops a large quantity of vapour, which is collected in boxes. The *Berthollet* department is built upon the lower reservoir, in which the spring “soufre” lies, and numbers ten rooms—two devoted to the general vapour bath, eight to the local. By means of light metal cases adapted in shape to various parts of the body and connected with the box from which the vapour is supplied, the limbs, the neck, or the hip, can be exposed to the vapour. This lasts twenty minutes, and massage is performed immediately afterwards.

The *general vapour bath* consists of a wooden case-ment in which the patient sits with the head protruding through an aperture in the top.

This vapour bath, with a constant temperature of 107° to 111° F. is a sedative therapeutic agent. When patients are suffering from pain and swelling in the joints—knees, or shoulders—or from sciatica, the *Berthollet* is an excellent soothing remedy.

At all points the *Berthollet* may be compared to the “mud bath.”

Yet the remarkable property of the *Berthollet* is not only due to the moist heat, but probably more to the radio-activity derived from the gases, argon, and helium.

ADDITIONAL MODES OF TREATMENT.

The Bath is employed when patients are affected with acute pains and cannot bear the Douche-

massage. Some baths are provided with the *under-current douche*, the so-called “*douche sous-marine*” of certain French spas. This consists of a hose and a nozzle, a stream from which can be applied to any part of the patient's body whilst under water.

The Swimming bath is employed chiefly as an exercise for stiff and painful joints of the legs; it supports the patient better than crutches.

Spray and nasal douche room.—In a large and handsome room is provided extensive apparatus for *spray* or *pulverisation*, which may be applied to the throat in case of catarrh, or to the face in case of skin trouble. The *nasal douche* is similarly used for catarrh of the nose, pharynx.

Humage room.—This apparatus works by means of the Berthollet vapour, which may be applied to the throat, ear, etc.

Vaginal douche room.—This well-equipped room is remarkable for its special apparatus, only used in Aix.

Internal douche room (enteroclyse).—This room has the same apparatus as the room for ladies.

Hydrotherapeutics—Scotch douche.—The two rooms devoted to hydrotherapeutic methods are well equipped with all appliances either of warm or cold water, the *douche*, the needle-bath, the *sitz-bath*, the vapour room, and the deep cold bath.

The douche consists of two hoses and nozzles, by means of which strong streams of hot and cold water can be alternately turned on the patient.

The Scotch douche, frequently prescribed as a tonic in some cases, consists of a warm stream for one or two minutes, and of a sudden cold stream for a few seconds.

Origin of the Scotch douche.—Why is this douche called “Scotch” in France? This was unknown until I happened to find the history of the name in a book by a former physician in Aix-les-Bains, Dr. Despine. I think it will be of interest to repeat this history, which I published in a paper ‘Archives d’Hydrologie,’ March, 1900.

In his book, ‘Practical Guide to the Baths of Aix in Savoy’ (Paris, 1871), Dr. Despine says: “My grandfather, who was appointed Director to these baths in the year 1787, studied under Dr. Cullen in the University of Edinburgh, and there learned the use and advantage of cold shower-baths. On his return to Aix he introduced that mode of treating nervous diseases, to which, having been followed by remarkable success, both here and in France, *he gave the above appellation ‘douche écossaise,’ in memory of the place where he received his medical instruction.*”

IV.—ADJUNCTS

The drinking water: Eau des deux Reines.—Up to recent years the thermal treatment was merely external, and patients used to drink but little sulphur water. There was no internal treatment to speak of.

For some years modern opinion has been strongly

in favour of the view that chronic maladies, such as gout and rheumatism, are due to toxæmia, and consequently it has been suggested that the drinking of considerable quantities of pure water assists greatly in the removal of the waste products of tissue metabolism.

Accordingly the Aix treatment needed a water for diuretic purposes.

This valuable addition has been made since the year 1905.

The "*Source des deux Reines*," yielding a light neutral water, brought down from the mountain above Aix through a perfect system of cast-iron pipes, enables patients to have internal treatment by drinking water.

The pretty kiosque of the "*Source des deux Reines*" facing the baths is the "rendezvous" of the patients twice a day. From 10 a.m. to noon, and from 4 p.m. to 7 p.m., most of them come and drink two or three tumblers at each of these times, thus taking two or three pints daily. The water is most agreeable and fresh, 54° F.

The diuretic effect is most remarkable, and there is no doubt that the "*Eau des deux Reines*" facilitates very much the elimination of the products of tissue changes, such as uric acid, urates, etc., which are set at liberty and thrown into the circulation by the external Aix Douche-massage treatment.

It will be of interest to know that the "*Source des deux Reines*" is named after the two Queens of Holland,

who resided at the health resort Les Corbières, and that it comes to the surface above this place, below the wooded slopes of Mont Revard. This situation, as well as the geological origin of the spring, insures absolute freedom from contamination. The cast-iron pipes system and the bottling works are under close medical supervision.

The composition of the “Eau des deux Reines” has two features—its feeble mineralisation and its high degree of oxygenation, both of which render it very light to the stomach and powerfully diuretic.

The chief constituents, bicarbonate of calcium and magnesia, are probably at the state of the so-called “dissociation” or “ionisation,” which increases their activity.

Here is the analysis of the “Eau des deux Reines” :

Analysis by Dr. Villejean, Professor at the Faculty of Medicine of Paris.

	In grains per gallon.
Total fixed solids	9
Bicarbonate of calcium	6
,, ,, magnesia	2
Silica	$\frac{3}{4}$
Sulphate of calcium	1
Alkaline chlorides	traces
Carbonic acid free	3
Oxygen in solution	32 cubic inches

The action of such a water is essentially one of

flushing. This flushing takes place through the kidneys, producing a rapid and great diuresis. This diuresis always occurs, but its amount is naturally the greater the better the state of the kidneys.

What is the value of this new addition, of an internal treatment to the external Aix treatment? I am strongly of opinion that such a diuretic water as the *Eau des deux Reines* will prove to be most beneficial in all gouty complaints which we have to deal with in Aix. No doubt the so-called "congestive effect," which in former days patients frequently complained of, was due to a faulty diuresis.

I am pleased to quote the opinion on the subject expressed by Dr. Leonard Williams¹: "A recent development, destined in all probability to increase the usefulness of Aix-les-Bains to a very large extent, is the utilisation, for drinking purposes, of a spring which issues halfway up Mont Revard. The water which issues from this spring resembles that of Evian and Thonon, both in its composition and in its effects. It has a very decided diuretic action, and considering the fact that the blood of most arthritics requires cleansing, and that such cleansing is more advantageously performed by the renal route than by any other, the addition of this water to the ordinary resources of Aix is calculated very materially to aid

¹ Dr. Leonard Williams, "The Health Resorts in Savoie," 'The Journal of Balneology and Climatology,' 1904.

N.B.—I have mentioned the *Source des deux Reines* only, because it is the only one reaching Aix at the temperature of 54° F., which renders it fresh and agreeable.

practising physicians in the treatment of the patients for whom the place is suited.”

PHYSIOTHERAPY: ZANDER INSTI-
TUTION.

This adjunct will be dealt with further on.

CHAPTER II

PHYSIOLOGICAL ACTION

THE limit of this pamphlet does not allow me to give a detailed account of the physiological action of the Aix treatment. I shall only deal with the most interesting points.

In the action of the Douche-massage the agents which can be objectively asserted are of two kinds :

(1) Physico-chemical properties of the water, or *intrinsic agents*.

(2) Massage and percussion of the douche, or *extrinsic agents*.

The physico-chemical properties of the water, as far as we know, are the heat, the mineralisation, and the radio-activity.

All these agents being brought to bear simultaneously, their actions are mixed, and one cannot ascribe to each the particular part it has played.

What is interesting is their combined effect, as alone it can teach us how the sound organism and the diseased one are modified by the thermal treatment, and what deductions must be drawn for its applications to various diseases.

ACTION ON METABOLISM.

In connection with that, the most important point of the physiological action is the action upon the *metabolism*. Indeed, we think that general diseases such as gout and rheumatism chiefly consist of a trouble of the metabolic processes, and it is of great interest to understand how these phenomena are modified by the thermal treatment.

This action on metabolism appeared to me to be a subject which might prove of interest and utility, and I made experiments on cases of gout, gouty diabetes, rheumatoid arthritis, and also on myself to know what changes would appear in good health. My urologic experiments,¹ confirmed later on by those of Ranglaret,² have illustrated some important facts.

In my own experiment (normal health) the Douche-massage caused :

(1) Increase of the nitrogenous oxidation. The proportion (ratio) of nitrogen obtained from urea to the total nitrogen becomes greater, the "*rapport azoturique*" rising from 80 to 87 per cent.

(2) Increase of the elimination of uric acid.

¹ "Action of the Douche-massage of Aix-les-Bains on the Nutrition," 'Lyon Medical,' 1893; "On Gouty Diabetes," 'Archives gen. de Medicine,' 1891. "Physiological Action of the Douche-massage of Aix-les-Bains," 'Medical Press and Circular,' April, 1894.

² "Report to the Academy of Medicine," 1895.

(3) Decrease of the phosphoric acid, which is most marked.

In the case of *gouty* patients submitted to the Douche-massage the same changes as above were observed, with a larger elimination of uric acid at first, and an increase of excrementitious materials. In the case of eight *gouty diabetics* the Douche-massage caused a great decrease of the *glycosuria*, without any special diet, and of the *phosphaturia*.

In short, as far as our knowledge of the metabolic processes which take place in the organism allows us to judge, *the action of the Douche-massage* seems to consist essentially in *the stimulation of the metabolism*, namely in an increase of the nitrogenous changes.

Indeed, it appears that the removal of the waste products by means of a slightly mineralised and diuretic water, such as the *Eau des deux Reines*, proves beneficial.

ACTION ON THE CIRCULATION.

The action on the circulation, is of great interest, because very often the question arises whether it is advisable or not for a patient having cardiac disease to undergo the Aix cure.

It appeared to me as worthy of interest to know in what way the blood-pressure is influenced by the Douche-massage. So I made some experiments on myself by means of the sphygmomanometer of Potain, while making my urologic researches. I

have shown that the Douche-massage reduces slightly the arterial pressure.¹

Likewise Sir Lauder Brunton and Dr. Tunncliffe have shown ('Journal of Physiology,' December, 1894) that massage causes a diminution of peripheral resistance in the vessels of the kneaded muscles, and that hence, soon after the kneading, an increased flow of blood through the part takes place, together with a fall of the general blood-pressure. Thus, as a matter of fact, the Aix treatment does not increase the arterial pressure. Yet the point is that great caution must be exercised in the administration of the Douche-massage, in order to avoid any shock to the peripheral vessels through the water being too hot or too cold. If administered tepid at first it will not increase the blood-pressure.

ACTION ON THE NERVOUS SYSTEM.

It has been often asserted that the Aix cure is *exciting*, and may be fatiguing for some patients.

After the explanations already given it seems that there has been some misunderstanding.

According to the lesser or greater rapidity of the cure; to the temperature of the water; to the number of the *masseurs*; to the addition of some other modes of treatment one can obtain either an *exciting* or a *sedative* effect.

¹ "Action of the Warm Hydropathy on the Arterial Pressure," in 'Revue de Clinique et Therapeutique,' August, 1892.

It is obvious that the same cure cannot be applied to a strong man as to a delicate woman.

What will necessarily guide the doctor of Aix in his attendance will be the general condition of the patient.

THE MECHANICAL ACTION.

The Douche-massage has not only, as the simple bathing and douching, an *action of contact* (stimulus of the nerves of the skin, absorption of sulphuretted hydrogen); but it also possesses a *mechanical action* which plays an important part in diseases of the joints.

This mechanical action promotes the interstitial absorption of tissues by stimulating the flow of the lymph in the lymphatics.

There is an increase of the movements of all the body fluids, and hence a great stimulation of tissue activity. Deposits of morbid material are seen to gradually vanish.

By getting rid of certain thickenings, or deposits in the fibrous, muscular and other tissues, it helps in the removal of waste products.

It is probably in this way that effusions or other morbid products in diseased joints are modified and end in resolution.

THE SO-CALLED "CONGESTIVE EFFECT."

Previous to the addition of the *Eau des deux Reines* to the Aix treatment patients did not pay attention

to the diuresis, and consequently there were a good many *circulatory* and *nervous* troubles, described as “*congestion.*” The Aix treatment was said to be “*congestive.*” These troubles consisted of headache and general discomfort.

Patients are now taking a large quantity of the diuretic water and passing out much more urine. Thanks to the new method the toxins are “washed out” from the tissues and from the blood itself, and there is no longer any cause for circulatory and nervous troubles.

VALUE OF THE AIX TREATMENT.

In summing up the means and the effects of the Aix treatment one must agree that it stands first amongst the numerous external treatments. It combines the special effect of sulphur water with that of massage. What proves more than anything else the supremacy of the Aix Douche-massage is that as a matter of fact all the spas which could afford the water for its performance have attempted an imitation.

As to what the medical profession thinks of the Aix treatment, I cannot do better here than to refer to what Sir Alfred Garrod says (‘Lancet,’ May 4th, 1889): “. . . I shall confine myself to a few final remarks as to my general opinion, after an extended clinical experience, of the value of the course at Aix-les-Bains. Reviewing the results in the very

numerous cases sent by me during the last twenty or more years, I am strongly of opinion that more benefit has been derived from the treatment at Aix than would have been received at any one other spa I am yet acquainted with.”

CHAPTER III

DISEASES SUCCESSFULLY TREATED AT AIX-LES-BAINS

By the simple knowledge that the treatment of Aix consists in *massage under the douche* or *Douche-massage*, any medical man is able to know at once for what diseases it is indicated.

To some extent it can be said, as a general rule, that *the indications of the Aix Douche-massage are those of massage*, and that the treatment of Aix is pre-eminently the one for articular complaints, whether of general or local origin.

“It is commonly regarded,” says Dr. Leonard Williams, “as a place where arthritic conditions of all sorts obtain considerable relief from the Douche-massage for which the place is famous.”

GOUT.

Before entering into the subject of the indications of the Aix treatment in gout, some general considerations upon gouty and rheumatic maladies seem indicated.

The meaning of the terms arthritism and diathetic rheumatism and their relationship to gout.—It will be of interest and utility to discuss the meaning of the words *gout, rheumatism, arthritism*. There is a difference in point of view between English and French observers in defining these maladies, and consequently there is not a little confusion in the discussion of the subject. This fact impressed me when reading English textbooks. So I shall attempt to explain the question with as much accuracy and as briefly as I can.

English and French physicians have both for a long while defined in the same way *acute articular rheumatism* or *rheumatic fever*, in French “*rhumatisme articulaire aigu*.” They are equally in agreement over the meaning of rheumatoid arthritis.

But with “*chronic rheumatism*” confusion begins. For English writers it has nothing whatever in common with gout, and is a sort of simple *chronic arthritis* resulting from exposure or from the results left behind by *rheumatic fever*, which lingers on in the chronic form. For French writers “*chronic rheumatism*” has a wider significance; it includes not only the above-mentioned disorders, but also similar ones which occur in slight cases of gout, which they consider as “*diathetic chronic rheumatism*.” Thus, a part of what English writers describe as *gout* remains for the French “*chronic diathetic rheumatism*.” Personally I incline to the English view, because all the disorders of “*diathetic origin*” may be rationally considered as “*gouty*.” Indeed, clinically speaking it is often im-

possible in a given case of slight gouty arthritis to prove that the complaint is *chronic diathetic rheumatism* and not *gout*.

I should like the *French* physicians to take as broad a view of *gout* as do their *English* colleagues, and to include among gouty complaints those they now consider as "*chronic diathetic rheumatism*," because their phenomena are not so definite as the gouty attack; for instance, certain cases of subacute arthritis in the feet, cases of lumbago, neuralgia, and some cases of migraine, etc.

Another source of confusion arises from the use of the expression *arthritism* or *arthritic diathesis*. English writers consider merely its literal signification, and for them *arthritic* complaint means an *arthropathic* or *articular* one. They understand as *arthritic* the individuals, says Dr. Arch. Garrod, in whom "the articular structures are peculiarly susceptible to any kind of morbid process."¹

Here the *French* view is different. For them the meaning of *arthritic* complaint by no means implies the one of an *arthropathic* or *articular* one. Their *arthritism* or *arthritic diathesis* is an extensive group, including all the various maladies depending upon a *disorder of the nutrition*, viz., gout, diathetic chronic rheumatism, gravel, biliary lithiasis, some varieties of diabetes, obesity, asthma, migraine, sciatica, etc. Unquestionably between these maladies there is a definite relationship. The word "arthritism" may

¹ Arch. Garrod, 'A Treatise on Rheumatism,' 1890.

not be the proper one ; yet the French understanding of the question seems to be fairly rational, and built on a good clinical ground. Whatever it may be, it appears that an important part of the *gouty complaints* of English writers—*gravel, biliary lithiasis, diabetes, migraine, sciatica* and *neuralgia*—correspond to the so-called *arthritic complaints*.

Finally, it must be remembered that French writers say *arthritism* as often as English ones say *gout*.

As a matter of fact the *arthritism* of the French writers has about the same limits as the *gout* of the English ones.

Cases of gout in which the Aix treatment is beneficial.—The reputation of Aix in the treatment of gout is chiefly due to the influence of the late Sir Alfred Garrod, the greatest authority on the matter. Judging from the benefit derived by the numerous patients whom he has sent to Aix, he was in a position to appreciate this treatment fully. Indeed, I cannot do better than quote what he wrote on the subject in the 'Lancet' of May 4th, 1889 :

“ *Aix-les-Bains treatment in gout.*—When the disease is any way recent or acute, the Aix treatment should be avoided; for if the local inflammation were checked by the douches and massage it is sure to be developed in some other part, for there is always a morbid state of the blood in gout, different from what exists in rheumatoid arthritis, and the morbid elements must be eliminated somehow or other. Hence, mischief

rather than good may ensue from the Aix treatment, which has no very great power of freeing the blood—at any rate, in sthenic states of the system. The case is different in asthenic and chronic forms of gout; in these there is usually a defective power of the nervous system and a weakened state of the circulation. When there are passive or indolent swellings of previously inflamed parts, when there is much eczema, when there is a threatening of kidney disease in which a free action of the skin proves of much service, when massage is indicated, then, in all such cases, the value of the Aix course is great and undoubted, and it often lengthens considerably the interval between the attacks of gout.”

There is but little to add to what Sir Alfred Garrod said. Yet the new addition to the Aix treatment of a drinking water the “Eau des deux Reines,” has considerably increased its resources, because the actual treatment has a greater “power of freeing the blood” than the older one carried out without drinking a diuretic water.

(1) *Cases of true articular gout in patients from 25 to 40 years of age, with gouty attacks recurring several times a year.*—This is the most frequent type of case met with in practice. In the intervals of the gouty attacks the health is perfect. Such a patient coming to Aix is liable to get an attack if the treatment is not moderate and cautious from the beginning. Should an attack of gout be threatening, I should postpone the Douche-massage, and

during eight or ten days prescribe merely diuretic treatment with the *Eau des deux Reines*. As a matter of fact these gouty persons may become free from any recurrence of gout after they have undergone a course of treatment two years in succession, and may continue to keep free, provided they repeat the Aix treatment about every three years.

(2) *Cases of patients, from 25 to 40 years of age, recovering from an attack of gout.*—These cases are pretty frequent. Some patients, when leaving home for Aix, are just on the verge of an attack of gout. Such patients, because of the fatigue of the journey, get an attack of gout soon after their arrival in Aix. First the treatment will be the usual one for the gouty attack. I prescribe five or six tumblers of the water “*Eau des deux Reines*,” during the day between meals. Thus an abundant diuresis is secured in order to eliminate the morbid elements. After six days the local inflammation of the foot subsides. Then I advise the application to the leg only of a *natural vapour bath*, for twenty minutes, not followed by massage, the patient being carried there and back. The same local treatment is continued for four or five days, and the internal one, by means of the water, also.

About the twelfth day after the onset of the gouty attack, the Douche-massage is tried alternately with the Berthollet, and later on the regular course can be undertaken.

No mischief ensues from the Aix treatment

provided it is carried out in the way I have explained.

My own experience in this respect enables me to make this statement.

Thus a recent attack of gout is no longer a contra-indication to the Aix treatment, thanks to the diuretic water *internally* and careful local Berthollet applications *externally*.

(3) *Cases of œdema and stiffness which remain after a gouty attack.*—I need not detail the indications here. The Douche-massage, general and local, combined with the Berthollet, will enable the patient to get rid of the swelling and the stiffness. Drinking the water will be the adjunct. The Zander exercises will also be beneficial. In both cases the result of the Aix treatment will be to lengthen considerably the intervals between the attacks of gout.

(4) *Cases of tophaceous deposits.*—Such cases occur chiefly at the age of 50 or more. The gout is chronic, asthenic (Garrod). There is a threatening of kidney disease, and the urine is poor in uric acid. The gouty attacks are infrequent and very mild. I have met with such cases several times. They benefited very much by the *general Berthollet vapour bath*, combined with the Douche-massage and the “Eau des deux Reines.” In assisting the functions of the skin by the vapour bath and in driving out the uric acid, thanks to the diuresis, the Aix treatment helps these cases very much. One of the last cases I had under my care was that of a physician from Reims, aged 48.

Tophaceous deposits were so numerous and extensive in the feet and hands that this gentleman was invalided. The line of treatment adopted was very cautious, and no attack of gout occurred. After four weeks he could walk fairly well. Later on he could resume his practice. A second course of treatment the year after made him quite a different person.

(5) *Cases with arterio-sclerosis and slight circulatory and renal troubles.*—A good many gouty patients, about 60 years of age, are affected with chronic asthenic gout and with arterio-sclerosis, which develops slight albuminuria, and arterio-sclerosis or atheromatous changes of the aorta, with slight increase of the blood-pressure. Gouty people about 60 or 70 years of age are very often affected with these various disturbances. The urine is poor in uric acid; there is occasionally glycosuria. Cardiac troubles may occur as a consequence of the atheromatous changes in the aorta, such as irregularity of the rhythm when there is exertion. Although the gouty attacks are rather scarce and subacute, these patients can derive benefit from the Aix treatment as well for the general health as for the articular stiffness and discomfort. The greatest care is necessary in the use of the thermal appliances: first *local Douche-massage* and the *Eau des deux Reines* only for some days, later on baths in addition, and finally a moderate number of general Douche-massages (about fifteen). Any careful physician has nothing to fear, because the blood-pressure, as I have pointed

out, does not rise when the Douche-massage is performed at moderate temperature.

CONTRA-INDICATIONS.

When there are more advanced disturbances of the heart the Aix cure is to be prohibited. The following cases are the chief contra-indications with regard to the heart :

(1) Cases with general arterio-sclerosis and fibroid degeneration of the heart, and also commonly with nephritis and high blood-pressure.

(2) Cases of fatty infiltration of the heart (fatty heart), with obesity and abdominal plethora, in a patient above 60 years of age.

With respect to these contra-indications, I would point out that, thanks to the diuretic effect of the new drinking water, the so-called "congestive" effect of the Aix treatment is no longer noticed.

GOUTY COMPLAINTS.

These various complaints, occurring in gouty subjects whose gout is hereditary, are also suitable for the Aix treatment.

(A) *Gouty diabetes*.—I have already pointed out, when I spoke of the physiological action, that *gouty diabetes* may be beneficially treated by the Aix Douche-massage. My experiments on eight patients (in 'Archives de Medecine,' September, 1891) have illustrated the fact that, without any special diet, the

glycosuria, the phosphaturia, and the azoturia were lessened by the effect of the Douche-massage only.

In some instances the external treatment of *gouty diabetes* by the *Aix Douche-massage* appears to be as beneficial as the internal one of Carlsbad or Vichy. To justify this opinion I can point out that in the Vichy treatment itself Douche-massage is added to the drinking of the water to such an extent that it may be questioned which of the two is the more effectual.

(B) *Neuralgias*.—The various neuralgias—*facial, cervico-brachial, lumbo-abdominal, crural, sciatica*, and *megrin* or *migraine*—are successfully treated in Aix-les-Bains. *The megrim* or *migraine* (sick headache) may be greatly improved by the attacks being lessened in frequency. *The cervico-brachial neuralgia* of great frequency is, as a rule, cured after one or two courses of treatment. *Sciatica* derives also a decided benefit from the Douche-massage, performed in the reclining posture after my method.

(C) *Vertebral gout and lumbago*.—Gout may become localised in the vertebral joints or muscles, and the result is, *stiff neck* and *lumbago*. In some instances there may be a more advanced lesion resulting in a *gouty spondylitis*. I have reported one case¹ which was admitted by *Prof. Charcot* as a *tabes incipiens* at one time because of the peculiar character of the pains. Such cases require active treatment of Douche-massages in reclining posture,

¹ 'Archives de Medecine,' "Spondylose Rhumatismale," Sept., 1901.

combined with Berthollet, etc. Otherwise there would be gradual stiffness and rigidity of the spine.

(D) *Gouty eczema*, distinctly localised and dry, gets better after a few days of cure and disappears in most patients.

Gouty psoriasis is more obstinate, and sometimes remains to a certain extent.

The gouty patient at Aix-les-Bains, dietary.—Besides the thermal treatment and the diuretic one with the *Eau des deux Reines*, the gouty must keep to a certain diet, to which I will briefly refer.

Dr. Blanc, of Aix-les-Bains, was the first to advocate strongly that the diet should include acid fruits.¹

“ In regard to fruits, they are all useful to the gouty, either raw or cooked. . . . The best are acid fruits, lemons, strawberries, cherries, rhubarb, grapes, plums, raspberries, and especially apples. . . .” My own opinion is also that a diet including fruits as well as green vegetables is more suitable to the gouty than anyone else. As a matter of fact it has been acknowledged in chemistry that the organic acids are converted into alkaline compounds by the hydrochloric acid and the fermentation whilst in the stomach (carbonate of sodium and potash). Thus an acid diet results finally in an alkaline nourishment. In other words, the acid-feeding by means of fruits and vegetables is a better alkaline

¹ ‘The Gouty at Aix-les-Bains,’ London, Churchill, 1902.

treatment than the one by means of the alkaline medicines.

Accordingly I have always prescribed to gouty persons a dietary including a good deal of green vegetables and fruits, which are very easy to obtain at Aix-les-Bains. However, this diet is not suitable for gouty people who are affected with *dyspepsia*.

As to *starchy food* and *sugar* there is no reason to prohibit them to gouty patients, unless they are stout or tending to obesity.

With regard to *meat* and *wine* I should say that they must be taken in moderate quantity and not prohibited, because such a prohibition would result in the patient being weakened and anæmic.

It is quite reasonable to prohibit that kind of meat, such as sweetbread, kidney, brain, game, etc., which gives rise to a good deal of *purine bodies* which turn into uric acid. Yet too much stress has been laid upon uric acid in gout. As it is not the only *materia peccans* we must not starve gouty patients because of it, but feed them properly.

As to wine, it may be said that the white or red wine containing smaller quantities of alcohol (8–10 per cent.) are beneficial when taken at meals—say one or two wineglassfuls, provided there is no dyspepsia. I should not say the same of more alcoholic wines, such as Port (15–20 per cent. of alcohol) or Burgundy (10–12 per cent.).

Value of the Aix treatment in gout.—From what has been just said on the treatment of gout in Aix, it

is evident that a good many gouty patients may find in Aix a valuable thermal cure.

Several spas have for some years claimed to cure gout by means of various alkaline waters taken *internally*, exclusive of *external* balneo-therapeutics. What is to be thought of that pretention?

One may think that the internal treatment by drinking water, the so-called "cure de lavage interne, cure hydrique," is not effective enough.

Indeed, the spas which claim to cure gout by means of the *internal treatment only* are using on a large scale the *external* treatment by hydrotherapeutics, massage, etc., in addition to their water.

That fact, illustrated by the large bathing establishments built lately in these spas, shows obviously that everywhere the combination of both *external* and *internal* treatment is admitted as the best cure for *gout*.

CHRONIC RHEUMATISM.

Chronic rheumatism, as well as *gout*, may derive great benefit or even a complete cure from the Aix treatment, whether it is *primary* or resulting from rheumatic fever. "Without doubt," says Dr. Arch. Garrod,¹ "amongst the numerous spas which claim to cure rheumatism, Aix-les-Bains holds a pre-eminent place by having both *douche* and *massage* combined."

Chronic articular rheumatism as a sequela of acute articular rheumatism.—In some cases of acute or

¹ Dr. Arch. Garrod, "A Treatise on Rheumatism," London, 1890, p. 227.

subacute articular rheumatism there are results consisting of chronic swelling and stiffness of joints, and valvular affections of the heart. This is the slight form of chronic rheumatism.

In lingering results of the disease, the Douche-massage is useful in promoting absorption of the residual inflammatory process in the joints. By its general tonic action the Aix cure helps also in warding off subsequent rheumatic attacks.

The heart, after rheumatic fever, is often in a very weak and irritable condition, especially when the disease has been complicated with endocarditis or pericarditis, sometimes with myocarditis.

With regard to such cases the question arises whether they ought or ought not to be sent to Aix. The matter will be discussed further on page 43.

Chronic recurrent articular rheumatism.—Chronic articular rheumatism, which results from exposure to damp and cold, becomes recurrently “progressive” in some instances if not treated properly. Knees, ankles and wrists become tender and swollen, with thickening of the periarticular tissues and distinct creaking. Sometimes an exacerbation with fever occurs. Gradually the *simple chronic rheumatism tends to osteo-arthritis*, as I have observed in several patients. The sooner such advanced cases are treated by the Aix treatment the greater will be the improvement. I think that repeated cures during some years can improve and restore patients.

(A) *Fibrous rheumatism.*—This peculiar form called

fibrous rheumatism will similarly be benefited by the Aix cure. The ulnar deflection of the hands, which is the characteristic deformity of this chronic variety, may subside.

(B) *Vertebral rheumatism or rheumatic spondylitis*.— This form of chronic articular rheumatism is not often met with, and yet it is a very interesting one because the symptoms, to some extent, at the first stage resemble those of some spinal diseases—*tubes, spinal pachymeningitis*. When the rheumatic arthritis affects the spinal column there are pains in the limbs, “radiating pains” and “girdle pains,” increased by coughing and sneezing. The patient gets a peculiar stiff gait. At this time one may suspect “Pott’s disease.”

It is important to make a correct diagnosis because the treatment is different in the two cases. Rheumatic spondylitis tends readily to ankylosis, and unless treatment, such as the Aix Douche-massage, interferes with that process the vertebral column becomes positively rigid.

I have drawn attention to these clinical facts in three papers,¹ because one is more apt to think of “vertebral tuberculosis” than of “vertebral rheumatism.”

It is extremely important to know that “vertebral

¹ ‘New York Medical Record,’ April 14th, 1900, “Chronic Vertebral Rheumatism or Rheumatic Spondylitis”; a paper read before the Academy of Medicine of New York—‘Archives de Medicine,’ September, 1901—‘Iconographie de la Salpêtrière,’ March, 1904.

rheumatism," either involving the whole vertebral column or merely the cervical one "torticollis," is *curable*, provided the proper treatment is applied from the first stage of the disease.

I think that the Douche-massage of Aix-les-Bains, together with the Berthollet vapour bath and the Zander's mechano-therapeutics, is the most suitable for those cases requiring close attention.

Heart diseases in rheumatic patients and the Aix cure.—An important question which arises with respect to cases of *chronic rheumatism resulting from acute or subacute articular rheumatism complicated by valvular disease of the heart*, is how far the cardiac mischief must be held to contra-indicate the thermal treatment of Aix. As a matter of fact the valvular diseases which I usually meet with are the results of endocarditis occurring in the course of previous acute articular rheumatism (or rheumatic fever). These cases are the only ones I deal with. Cardiac diseases of another kind are out of the question. They were spoken of at some length in reference to gouty patients.

Let us discuss the two chief cases which may occur.

(A) The patient is affected with a well-compensated valvular lesion of the mitral valve (or of the aortic). There is no objection to the thermal treatment in such a case, a careful supervision being alone necessary. It is well known that many persons with minor well-compensated valvular lesions can stand exertion almost as well as others. "In fact,"

says Sir H. Weber of such patients, "it might be said they receive treatment *not because* but *in spite of* their having a cardiac affection."

(B) The patient is affected with a more advanced valvular lesion, which is no longer compensated, and there is a tendency to dilatation of the heart, with consecutive disturbances in the lungs, liver, kidneys, and some œdema of the legs. Here the treatment is contra-indicated.

Between these two "type" cases, which I give for the sake of convenience in discussing the question, there are intermediate ones in which one has to consider the age of the patient and the date of the previous rheumatic illness.

A young patient (18 to 25 years of age) ought to be sent soon after the acute attack, and he will then derive more benefit from Aix both for the cardiac mischief and the articular disorders.

His mitral stenosis and regurgitation may improve so much that the murmur disappears, thus showing that the diseased valves can be restored to normal.

If medical opinion now recognises the beneficial effects of the thermal treatment, it was not so twenty years ago. Then the medical profession held the view that the baths were harmful.

Dr. Vidal and Dr. Leon Blanc, in an able monograph,¹ recorded that patients recovering from

¹ "On Cardiac Affections of Rheumatic Origin Treated by the Thermal Waters of Aix-les-Bains," by Dr. L. Blanc. 1884.

rheumatic fever, with mitral regurgitation or stenosis, were improved by the Aix treatment in every respect.

These good effects may be explained. The action of the Douche-massage on the heart is two-fold. The first is the removal of morbid deposits in the endocardium, on the diseased valves. The second action consists in clearing the system of the results of the imperfect metabolism set up by the impeded circulation.

The influence of the treatment on blood-pressure makes this action easier. My experiments on the subject (see page 24) have demonstrated the fact that Douche-massage tends to reduce slightly the blood-pressure. So, provided the Douche-massage is carefully performed under the supervision of the doctor, there is *no increase* in the arterial pressure, and therefore no discomfort, and the slight *decrease* of this pressure, which comes gradually while the patient is under the Douche-massage, helps the action of the heart.

RHEUMATOID ARTHRITIS.

This disease, called also *osteo-arthritis, polyarthritis deformans*, does not exist in one form only, but in several forms depending probably upon *the infection*. A good deal of knowledge has been lately obtained, thanks to several observers such as Arch. Garrod, Luff, Hale White in England, Pribram in Germany, Roques and Teissier in France.

Until further research leads to a more accurate grouping of the cases included under the names of *rheumatoïd arthritis*, *multiple osteo-arthritis*, and *polyarthritis deformans*, it seems desirable from the clinical point of view to consider rheumatoïd arthritis as a different malady from osteo-arthritis.

The question, *Which are the cases of rheumatoid arthritis suitable for the treatment of Aix?* is rather difficult to answer.

As far as my experience goes, I think that the indications for the cure depend upon the following factors.

Age of the patient.—As a rule, rheumatoid arthritis is more curable in elderly people than in young ones, and cases after the *menopause* are more favourable.

Modes of onset and evolution.—Cases in which large joints are affected in quick succession, with moderate swelling, and febrile disturbance minimal or limited to a slight evening rise of temperature, in other words, *subacute cases*, are more suitable for the treatment of Aix. The shorter the stage of active mischief, the better will be the result of the cure.

As a matter of fact, patients developing typical fusiform deformity of the fingers and swelling of the carpo-metacarpal joint of the thumb and index finger, derive more benefit than the very chronic cases in which the malady increases its hold and spreads to other joints gradually.

Arthritic lesions; Pain.—Cases of primary *rheumatoid arthritis* with arthritic lesions limited to the hands,

feet, wrists, knees, and elbows, are more suitable for Aix than cases involving gradually the shoulders, hips, jaw, neck, and vertebral column.

Cases with conspicuous swelling of the joints due to the distension of the capsule with hypertrophied and arborescent villous outgrowths which fill its cavity do not derive much benefit. Frequently the tenderness of the joints interferes with treatment.

Relapses.—Cases with tendency to relapses at various intervals, with inflammatory lesions recurring, and febrile disturbance, must not be sent to Aix.

Joint lesions in the stage of sequelæ.—If the affected joints, when the active stage has passed, are more or less fully restored, the Aix treatment proves useful. But when they are scarred and distorted by thickening of their capsule and muscular contracture, there is not much to be expected from the cure.

Constitutional symptoms.—*Circulatory disturbance*, with pulse-rate rising to 110 with or without *febrile disturbance*, and *secondary anæmia* will contra-indicate any thermal treatment.

Time and mode of thermal treatment.—Whatever may be the suitability of a given case for the treatment of Aix, the patient must not be sent before the acute stage is passed.

The question as to the various applications of the treatment itself requires a good deal of care from the doctor. According to various conditions he will have to alternate the Douche-massage, the Berthollet, the bath, etc. Annual cures are

necessary. Two mild cures are rather advised in the same year, one in the spring, the other in the autumn.

Value of the Aix treatment.—I cannot do better than quote the opinion of Dr. Arch. Garrod, who says in his book:¹

“ . . . There are certain forms of mineral water treatment which appear to have a more direct power of arresting the progress of the malady. This is especially the case with certain stations at which the thermal waters are employed in the form of douches, and at which *massage combined with douching* constitutes an essential feature of the treatment. *This form* of treatment is most skilfully carried out at Aix-les-Bains. . . .

“I have myself had many opportunities of witnessing the beneficial effects of a course of treatment at Aix in cases of rheumatoid arthritis. In some cases it has been followed by what was apparently a complete arrest of the disease.”

OSTEO-ARTHRITIS.

This disease in its generalised form presents a superficial resemblance to rheumatoid arthritis; but the anatomical and clinical features of the articular lesions, and also their distribution, are very different.

The cases suitable for the treatment of Aix are those in which the osteophytic formation is just beginning. When there is fibrillation and erosion of the cartilages, when there are bony lips and

¹ Dr. Arch. Garrod, *loc. cit.*

osteophytes and eburnation of the articular surfaces, with thickening and hypertrophy of the synovial fringes, one cannot expect an improvement except in the pains.

Heberden's nodes.—These may be regarded as constituting the very slightest and most chronic manifestations of osteo-arthritis, a sub-variety rather than a distinct type. The Aix treatment, and especially the *local Berthollet* and *Douche-massage*, have proved most useful in relieving pain and in arresting the enlargement of the bony nodules.

Hip-joint osteo-arthritis of elderly people.—This affection is a localised variety, in some instances the first manifestation. In the early stages it may be cured or very much improved by the *Douche-massage* of Aix. The *Douche-massage* in reclining posture is most suitable for this case. Pain and stiffness are relieved. In addition to *Douche-massage* Zander's mechanical treatment is very useful.

GONORRHŒAL ARTHRITIS.

The so-called "*gonorrhœal rheumatism*," now considered merely as *infective arthritis*, is often followed by fibrous adhesions in joints, stiffness, and in some instances with partial ankylosis. When the results left after the gonorrhœal arthritis consist of swelling, thickening about the joints, with muscular atrophy and stiffness, the Aix *Douche-*

massage, combined with *local Berthollet* gives excellent results.

NEURALGIAS AND NEURITIS.

All sorts of neuralgic pains caused by exposure or connected with gout may be benefited by the Aix treatment, namely the *cervico-brachial* and the *lumbo-abdominal* neuralgias, *pleurodynia*, and *sciatica*.

Sciatica.—There are many clinical varieties of sciatica. The lesion may lie in the roots of the nerve in the sacral plexus and give rise to a severe form of *neuritis—the radicular sciatica*. In such case thermal treatment must be carried out slowly—in thirty to forty days. The neuralgia may be simple, involving the main nerve only.

In both cases Douche-massage, combined more or less with the *Berthollet* and the Baths, may be considered as one of the best amongst the various forms of treatment.

There is no doubt that Douche-massage, applied to the sciatic nerve after my method, the patient being in a reclining position on the massage-table, is a great improvement on the old procedure.

As a rule the Aix treatment is not suitable for sciatica before the acute stage or paroxysm has passed.

Cervico-brachial neuralgia.—This is, in some instances, as severe and obstinate as sciatica, with wasting of the arm and loss of power, and is

connected with a rheumatic arthritis of the cervical vertebræ. In these cases the Aix cure is very successful.

Peripheral neuritis.—Several cases of *periphéral neuritis*, sent to me by Professors Raymond, Déjerine, and Babinski, have given me opportunities of seeing the effect of the Aix cure.

These cases were mostly of *alcoholic* and *influenzal* origin, a few due to lead poisoning, and some of unknown nature.

From my observations I can draw the following conclusions :

(1) The Douche-massage is to be applied when the acute stage subsides, when the wasting and muscular atrophy have ceased for a while, and the patient is tending to recovery.

(2) The usual lesions of peripheral neuritis, such as muscular atrophy with loss of power (foot drop in alcoholic neuritis), thickening of tendons with contraction of the muscles, troubles of the skin (glossy-skin), etc., are benefited by the Aix Douche-massage. The course must last two months, and be repeated twice in the same year in severe cases. Electric treatment may be added (galvanic and faradic currents).

Writer's cramp.—This trouble is sometimes merely functional, sometimes connected with a slight neuritis. In the latter case the Aix treatment is beneficial, unless the neurotic condition of the patient is very marked.

SYPHILIS.

The Aix-les-Bains treatment, by means of the sulphur Douche-massage increasing the metabolism, and the vapour bath "Bouillon" stimulating the functions of the skin, seems as well qualified for carrying out the *intensive cure* of syphilis as any other spa.

Indeed, thanks to the action of the *Douche-massage* combined with the *Bouillon*, which promotes an abundant sweating, and with the internal use of the sulphurous water of Marlioz, patients can bear at least two-fold stronger doses of mercury than at home.

According to the case I employ either *inunctions* or *intra-muscular injections*, both made daily. Mercurial inunction, performed by an attendant, may be from 1 drachm to $2\frac{1}{2}$ drachms. The soluble salt, biniodide of mercury, is well tolerated in doses of $\frac{1}{2}$ grain and even $\frac{2}{3}$ grain. *Calomel* or *Oleum cinereum* in doses of 1 grain every two days are also well tolerated. The course is usually of thirty days.

Such an intensive treatment of syphilis is beneficial at any period of the disease.

Primary and secondary syphilis.—A patient takes advantage of an *intensive cure* simply for the sake of convenience, for it saves him the trouble of undergoing two courses of treatment at home, supposing he has four to do within the year.

Secondary syphilis.—Cases of obstinate and recurring mucous patches of the throat are steadily benefited by the sulphur treatment combined with more mercury.

Tertiary syphilis.—Cases of *periostitis, gummata, etc.*, show most remarkable improvement from the Aix-les-Bains cure in addition with strong doses of *Calomel* or *grey oil (Oleum cinereum)*.

Nervous complaints such as *sciatica, brachial neuralgia, tabes incipiens*, and *spastic paraplegia* also derive definite improvement and even cure.

Old syphilitics very often, although they have no actual manifestation, do a moderate *specific* cure as a “cure de prudence.”

CHRONIC SPINAL AFFECTIONS.

Some chronic spinal diseases may derive a certain amount of relief from the Douche-massage. Occasionally this treatment is a valuable resource.

Tabes.—In some cases of tabes with radiating pains of long standing I have seen marked relief. The Douche-massage was for this class of patients a better sedative treatment than any other bath.

Spastic paraplegia.—Spastic paraplegia, commonly of syphilitic origin, is a very obscure affection, deceiving the practitioner. Several cases unsuccessfully treated by various measures were sent to me at Aix by Professor Déjerine. The results proved very satisfactory. Douche-massage not only diminished the spastic condition, but distinctly improved the spinal troubles, including those of the

bladder, and this was done without any specific treatment whatever.

Muscular atrophy in infantile spinal paralysis.—For some years practitioners have recognised that it is possible to improve the condition of infants recovering from infantile spinal paralysis.

A great many cases have illustrated the fact that the muscular atrophy, generally localised in some muscles, may be improved by massage and electric treatment combined, to such an extent that the muscles are almost restored. Under these circumstances Douche-massage appears as a treatment which may alternate with the electrical one at home. The cure, being of a long duration (several years), needs various and effectual therapeutical means. According to my own experience, Douche-massage has proved most useful in cases of infantile spinal paralysis treated from the early stage.

Loss of power following hemiplegia.—If the palsy is not followed by a spastic condition of the limbs; if there is no symptom of *secondary degeneration*; Douche-massage will give satisfactory results. The muscular stiffness will be lessened, and the movement greatly improved.

Zander's exercises will be of use for their re-education.

MYALGIA.

This muscular affection often depending upon *gout* (see p. 37) may result from exposure to

damp and cold. All muscles are more or less liable to be affected, but most frequently the muscles of the neck, causing *torticollis* or stiff neck, or of the lumbar region, the so-called *lumbago*. This form of *lumbago* is greatly relieved by treatment at Aix.

CHRONIC ARTHRITIS AND SYNOVITIS, PERIOSTITIS, SPRAINS, DISLOCA- TIONS, FRACTURES.

The large joints—knees, shoulders, hip-joints—are frequently the seat of an inflammatory process, resulting either from a sprain or from exposure to cold. There is sometimes tenderness and swelling, with effusion. Later on there may be stiffness, muscular atrophy, and tendency to ankylosis.

In severe cases of sprains, and after surgical operations, there is chronic swelling and hardening of the peri-articular tissues, complicated occasionally with tendinous contractions and trophic changes of the skin (slight neuritis).

All these complaints are wonderfully improved and, further, cured by the Douche-massage of Aix, combined with local appliances of Berthollet and Douche-massage.

Periostitis of long bones will be likewise improved, whether it is of gouty or of traumatic origin.

Zander's exercises and electrotherapy are to be used in addition to the thermal treatment.

ARTICULAR LUMBAGO.

Lumbago is more frequently *articular* than *muscular*. The seat of the arthritis is the sacro-lumbar joint, and the corresponding point on the spine is distinctly tender. The cause may be a sprain, as well as cold, apart from the cases already mentioned depending upon gout.

Douche-massage applied to the back while the patient reclines on the massage table will almost certainly get rid of the pain and stiffness.

SEQUELÆ OF PHLEBITIS.

Phlebitis leaves as sequelæ several disturbances: chronic œdema of the limbs, stiffness of the joints, etc., and patients are invalids to a certain extent because of the loss of power in the legs, which are the usual seat of disease. It may be questioned when is the right time to begin the Douche-massage of Aix in a given case of phlebitis.

In gouty patients treatment is advisable two or three months after the veins are no longer tender.

If the phlebitis is of infective origin, *e. g.* phlegmasia alba dolens, post-typhoidic, the delay must be much longer, and the indications for treatment depend upon the local condition of the veins and the general health of the patient.

CHAPTER IV
ADJUNCTS TO THE THERMAL
TREATMENT

MARLIOZ.

THE strong sulphur water of Marlioz as an *internal cure* is a very valuable adjunct to the *external cure of Aix*.

The establishment of Marlioz is situated three quarters of a mile south of Aix, being connected with this town by a magnificent shady promenade, with a service of omnibuses and tramcars. It is situated in a very pretty park, much frequented by patients and visitors.

The waters of Marlioz are charged with sulphide of sodium and slightly with iodine and bromide. Temperature 57° F. The Marlioz treatment consists essentially in *drinking, inhaling, and pulverising*. The *pulverising rooms* have two kinds of pulverising or spray arrangements. The *inhaling rooms* are excellent in every particular.

Marlioz forms an accompaniment to Aix, or completes it, both on account of its close vicinity to Aix and owing to the mineral nature of the waters, which makes them most useful when a sulphurous line of treatment is required.

Many gouty patients affected with troubles of the throat, nose, and respiratory organs avail themselves of the Marlioz treatment. It is very beneficial in *chronic laryngeal and bronchial catarrhs*, and also in cutaneous troubles—eczema of the face. In *tendency to bronchitis in delicate children* Marlioz proves most effective.

PHYSIOTHERAPY AND ZANDER INSTITUTION.

Founded in 1899, this institute is a very important adjunct of the Aix cure. The medico-mechanical appliances for passive movements and for voluntary muscular exercises with graduated resistance, are of high importance for the numerous patients who are affected with joint-diseases, stiffness and muscular atrophy.

The building includes also the following departments:

Electro-therapeutics with all appliances, namely, the Dowsing radiant heat and light bath.

Spray.—Special apparatus for medicated throat sprays.

Nauheim baths.

AFTER CURE.

CLIMATIC STATIONS: LES CORBIÈRES AND MONT
REVARD.

“Generally speaking an *after cure*,” says H. Weber, (‘The Spas and Mineral Waters of Europe’), “is of

the greatest importance, especially after the more active waters Instead of going immediately to their homes and beginning their usual mode of life again, patients should abstain from active work and keep to a simple diet and open-air life for some weeks. They may go to some pretty part of the country not far removed from the spa, or to some not very distant mountain health resort." I need not add anything further to this most excellent advice.

Close to Aix there are two mountain stations most suitable for the after-cure :

(1) *Les Corbières* (2200 feet) is a climatic station of medium altitude, favoured by their Majesties the Queens of Holland, who resided there in October, 1896.

It is situated on the slopes of Mont Revard, and can be reached by carriage, motor, or railway (twenty minutes from Aix).

A comfortable hotel with most perfect sanitation ; a large and wooded terrace looking on the beautiful valley of the Lake Bourget, and a number of walks through the wooded mountain make it a delightful place.

The *Source des deux Reines*, which is in the vicinity, supplies a fountain on the terrace which enables patients to continue the internal diuretic treatment.

(2) *Mont Revard* (5360 feet) is the finest excursion to be made in the neighbourhood of Aix, and very easy because it is reached within one hour from town by the Mont Revard cog-wheel railway. There is a wonderful

panorama extending over 125 miles of country on every side. Mont Blanc and the main range of the French Alps with their glaciers are in sight; nearer are the Grande-Chartreuse group, and the Maurienne-Dauphiny range with their glaciers, which are seen from Aix; on the opposite side the Jura range and the mountains above *Geneva* (fifty miles distant).

There is a very comfortable hotel and restaurant.

The extensive plateau of Mont Revard (eight miles in length, two miles in breadth) is a wonderful centre of mountain excursions through meadows and pine woods.

Patients, while staying in Aix, may avail themselves of such a place in order to breathe fresh and bracing air.

PRACTICAL INSTRUCTIONS.

Best season.—The mild and equable climate enables patients to follow the treatment from April till November.

Still, the best season dates from the beginning of May to the end of September. English and American patients are advised to come to Aix in May, June, or September. The months of July and August are crowded, and the heat is rather too great for English patients, the temperature being between 75° F. and 82° F., exceptionally for a few days in some years rising to 84° F. Besides, Aix, being situated in a high mountainous (5000 to 10,000 feet) country, the air in the

morning and night is pleasant and cool (temperature 64° F.). On the whole, Aix is not hotter than the other spas in summer time. Visitors, by seeking fresh air on the beautiful lake "Bourget" or on the mountains easily reached by the Mont Revard railway, will find it quite tolerable.

Motorists can reach within half an hour a number of fresh and delightful places.

Duration of the thermal treatment.—As a general rule, the treatment lasts from twenty-five to forty days, and on an average, for a month. But no one period can be positively fixed, as, owing to the difference of age, diseases, etc., amongst the numerous patients, there must, of course, be a great difference in the time and manner of pursuing their treatment.

Medical attendance.—Treatment must not only have reference to the various complaints from which invalids are suffering, but also to their constitutions, age, sex, morbid habits, style of living, etc. It is of the utmost importance that the medical men called in to attend them should be fully consulted on all these points; and also that invalids in general should carefully avoid allowing themselves to be guided by *empirical* advice they are too often liable to receive from an obsequious bath attendant, or from any other equally incompetent source. As a rule, doctors stay at the bathing establishment from 7 a.m. till 10 a.m. The medical supervision of patients as well as of masseurs and masseuses is one of the causes which make the Aix cure so valuable.

HOTELS, LODGING-HOUSES.

The hotels at Aix are numerous and varied, and during the last few years some new constructions have been added to the already existing fine modern hotels. Their charges are as reasonable as any on the continent, in proportion to the accommodation given. *All the Hotels are within a few minutes' walk of the Baths and the Cercles.*

In addition to these are furnished houses, and more than one hundred villas, furnished or unfurnished, where every purse, and all tastes, from the most simple to the most exacting, can be satisfied.

Most suited for perfect quiet are the furnished houses, some of which have kitchens at the disposal of the lodgers. They can, however, if they wish, take their meals at the restaurants in the town or in the environs.

TARIFF OF THE BATHS.

In nearly all cases treatment takes place in the morning between 4 a.m. and 11 a.m.

The afternoon is reserved for extra treatment, such as local massage, vapour baths, etc.

Free treatment at Aix for medical men.—It should be mentioned that the Aix Bathing Establishment gives free treatment to all physicians, both French and foreign, and also to their wives and children.

DOUCHE-MASSAGE GENERALE.		
Different prices according to the room and the time.	Two attendants.	One attendant.
	1 fr. 50 c.	1 fr. 00 c.
	2 fr. 00 c.	1 fr. 50 c.
	2 fr. 50 c.	2 fr. 00 c.
	3 fr. 00 c. (with bath).	
	Salles de luxe: 4 fr. to 5 fr., with bath.	
DOUCHE-MASSAGE LOCALE.		BERTHOLLET VAPOUR BATH.
1fr. 25c. to 2fr. 00c.		1fr. 00c. to 1fr. 50c.

N.B.—The actual cost of a course of treatment at Aix depends largely upon the duration of the cure and the kind of baths required. An average cure, including baths and medical attendance, may be obtained for a charge not exceeding £8.

DIVINE SERVICE.

Roman Catholic church.

English church.

Free church of Scotland.

Reformed French church.

The service of the two latter takes place at the *Evangelical Home*.

HOSPITALS.

The *Thermal Hospital* is devoted to poor patients from any part of France.

The *Evangelical Home* is devoted chiefly to Protestant patients from France, Switzerland, England, and other countries.

The *General Hospital* and *Hospice Docteur Brachet* are intended for patients of the district, with some private rooms for paying patients.

AMUSEMENTS.

Casinos.—Besides its attractive site and excellent thermal treatment, Aix is the most fashionable and gay amongst the stations in Europe, having the most beautiful casino, “the Grand Cercle,” and the “Villa des Fleurs,” with a theatre in the open air.

Excursions. — Walks, drives, climbing, Mont Revard railway.

Athletics.—Golf links (good nine-hole course), pigeon shooting, horse races, boating, sailing, and fishing on Lake Bourget.

Steamboat service on Lake Bourget.

Motoring.—Aix is the best centre in the French Alps for motoring; two hours from Geneva and Grande-Chartreuse, four hours from Chamounix, Mont-Cenis and Lautaret passes.

Notice to medical men.—There is free admission to the casinos for medical men, foreign as well as French, and also their wives and children. They pay reduced fares for theatre, races, and Mont Revard railway.

OFFICE FOR INFORMATION FOR VISITORS.

This office, situated on the Place de la Mairie, has been established by the municipal authorities of Aix-les-Bains and the *Syndicat d'initiative de la Savoie*, to give, gratis, information needed by patients and tourists. This should be, therefore, the first place for a visit, and here one can get a map of

the place, a guide-book of the neighbourhood, of Savoy, and of the French Alps, the railway timetable, tariffs for carriages, a map of the French Alps, edited by the *Syndicat Général des Alpes Françaises*, the programme of excursions, and cyclists' guide, with sections showing gradients.

For information by correspondence address, M. le Maire, d'Aix-les-Bains.

<i>Routes and Fares.</i>								
From LONDON TO AIX-LES-BAINS		Fares.					Time of direct journey.	
		1st Class.		2nd Class.				
		£	s.	d.	£	s.	d.	
<i>Via</i> BOULOGNE	Single . . .	5	3	1	3	10	8	17 hours
	Return . . .	8	15	8	6	7	7	
<i>Via</i> CALAIS . .	Single . . .	5	9	8	3	15	7	19 hours
	Return . . .	8	15	8	6	7	7	
<i>Via</i> DIEPPE . .	Single . . .	4	12	1	3	4	6	20 hours
	Return . . .	7	6	10	5	5	7	
<i>Via</i> HAVRE . .	Single . . .	4	7	0	3	1	0	26 hours
	Return . . .	6	16	8	4	18	10	

<i>Train Accommodation.</i>	
From CALAIS BOULOGNE	{ Through carriages, <i>Calais-Milan</i> (see timetables). { Once a week <i>Peninsular Express</i> (dining car and sleeping car) leaves London Friday at 9 p.m., arrives in Aix Saturday at 1.47 p.m.
From PARIS	{ Day trains { Through trains (1st and 2nd class) at 9.30 a.m. and 2 p.m. Time of direct journey, 8 hours. { Train de luxe, <i>Savoie express</i> , three times a week — Tuesday, Thursday, Saturday. Dep. 10.30 a.m. Arr. 7.15 p.m. { Night trains { Through train Paris-Italy (1st and 2nd class), with sleeping cars. Dep. 10.30 p.m. Arrive 7.15 a.m.

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