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EVIAN,

ITS MINERAL WATERS

AND

THEIR THERAPEUTIC VALUE,

BY

J. TABERLET, M.D.,

ANCIEN DÉPUTÉ.

« Ceci est un écrit de bonne foy. »

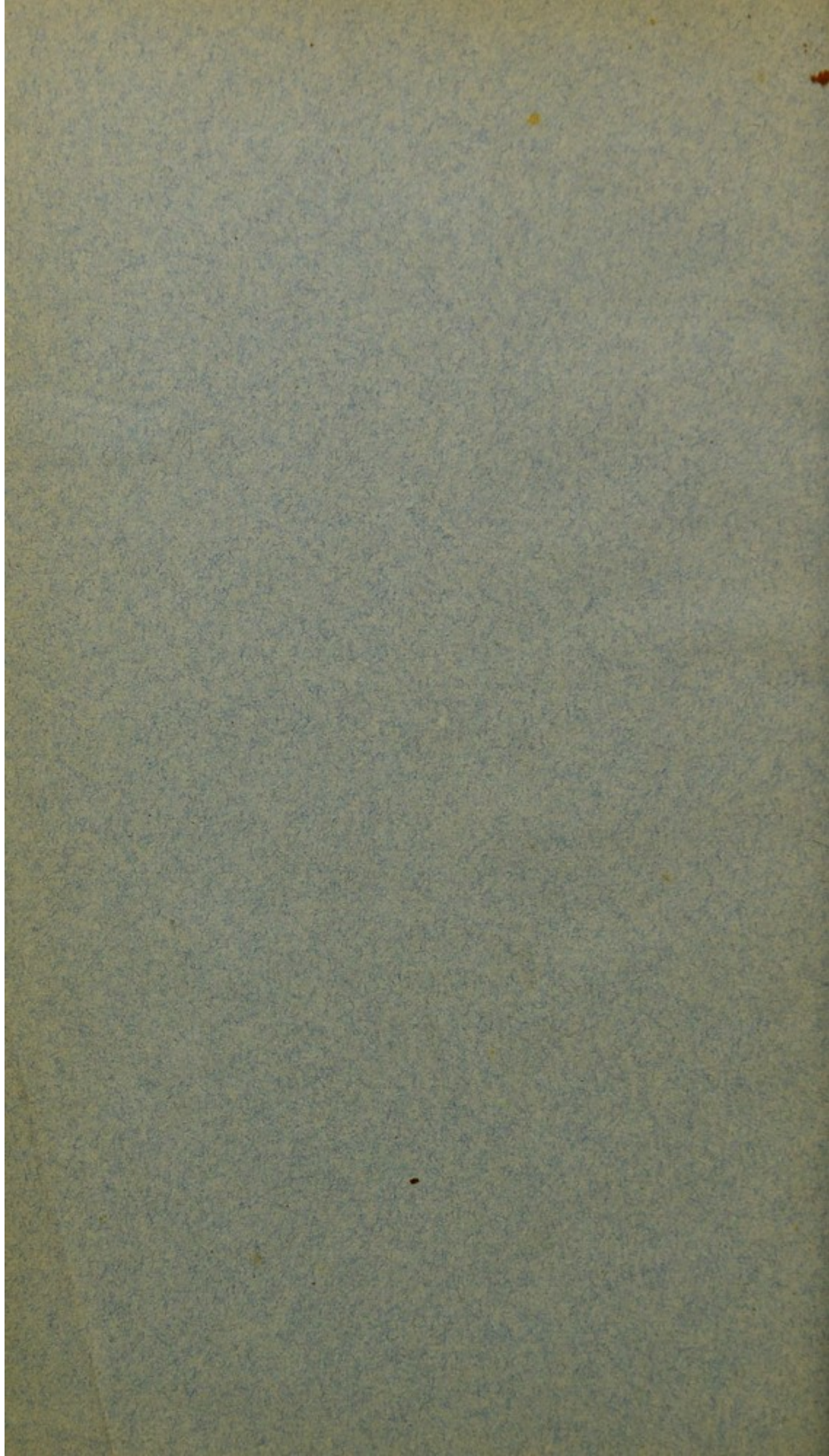
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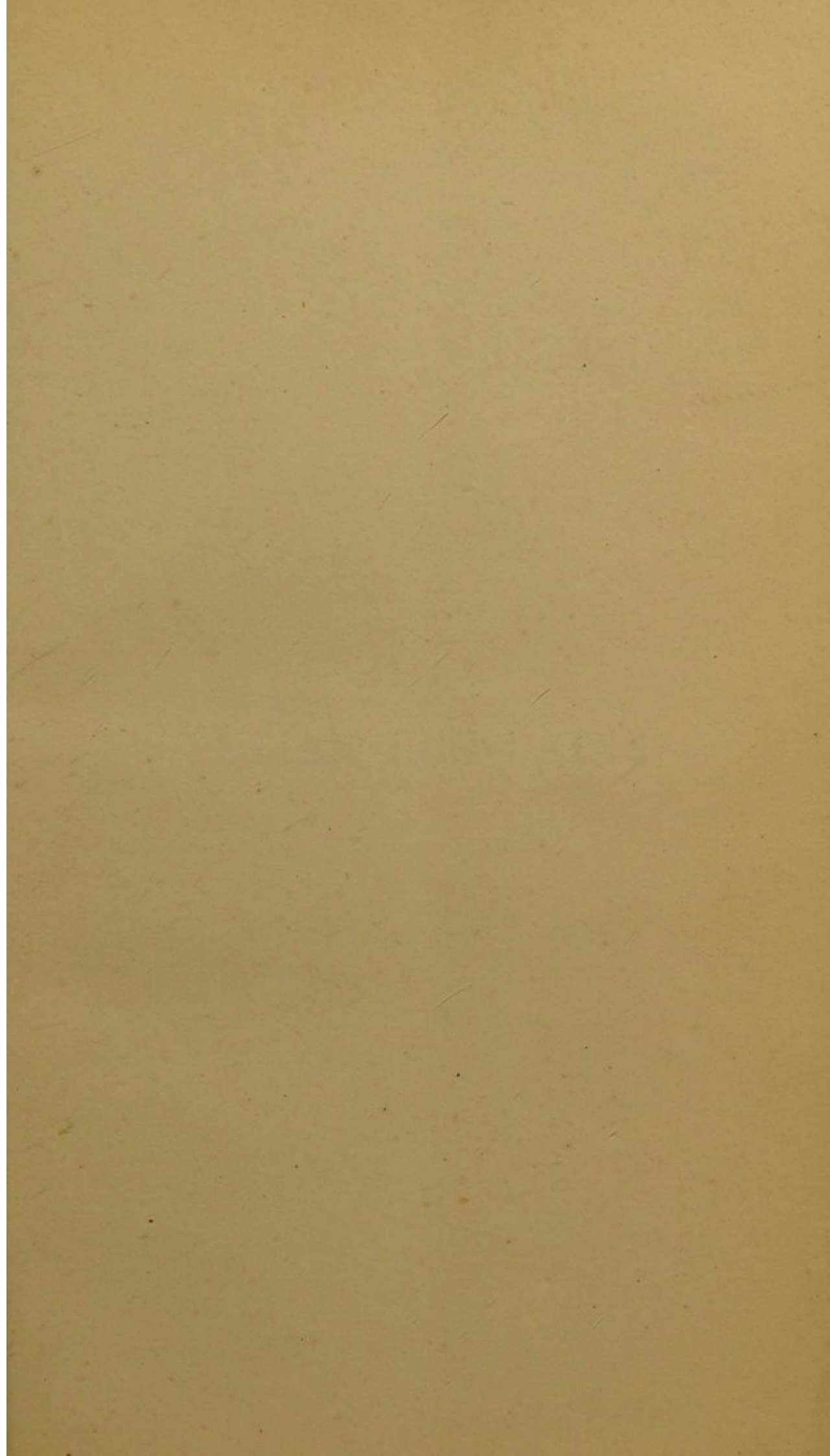
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NICE

MALVANO-MIGNON, 58-62, RUE GIOFFREDO

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1883





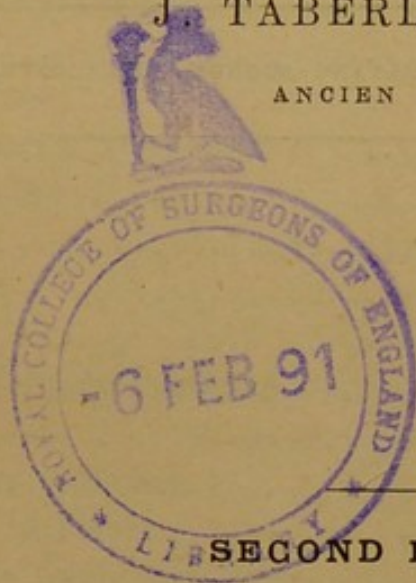
ETIENNE-LES-DAMES

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EVIAN-LES-BAINS

I

Towards the centre of the southern shore of the lake of Geneva, at about 1,250 feet above the level of the sea, is situated Evian, a small town in the smiling province of Chablais, so justly called since its annexation, "*The summer garden of France.*"

Its admirable position by the side of the blue waters of lake Lemman, the thriving vegetation which surrounds and bathes it in an ocean of air exceptionally pure and continually renewed, its nearness to the opposite Swiss shore, with which it is connected by quite a little fleet of fine steamboats, all these advantages unite to render Evian a chosen spot for the success of a summer health resort.

Evian owes its reputation to the excellence of its waters, to the incomparable beauty of its site, and to its moderate summer temperature, especially during the very hot months. It oscillates between 18° and 25° centigrade. In the middle of winter the temperature very rarely descends to 3° or 4° below freezing-point.

As a watering-place, Evian has been created by those foreigners who, coming hither to visit our beautiful country, have experienced the best effects from the employment of its waters.

Evian water was first drunk from a mere liking for it on account of its freshness, limpidity, and lightness. By its use, appetite returned and improved, and the functions of the urinary passages were not only better fulfilled, but were even put to rights after having been far from what one wished.

Soon, several celebrated medical men having heard of this discovery from their own patients, wished to have an explanation of it at the place itself. The indisputable facts which they witnessed, quickly confirmed these first particulars.

Amongst the distinguished men who visited Evian, Tissot of Lausanne was one of the first. Then came Riberi of Turin, physician to King Charles-Albert and his son Victor-Emmanuel, who, in the course of a few years, sent us nearly the whole of the Piedmontese aristocracy. Shortly afterwards the celebrated Mayor, Buttini, Civiale, Leroy d'Etiolles, Rayer, etc., powerfully contributed to make Evian a well-known and much frequented watering-place.

The persons the most astonished were the inhabitants of Evian themselves, who scarcely knew what to make of this singular mania of coming so far merely to drink water. But their intelligence, good taste, and hospitable feelings, were soon equal to the exigencies of the new situation. In a short space of time, handsome hotels and pleasing villas were seen to arise, as if by enchantment, around our little town.

However, that was the limit of their attempts at publicity. They even seemed to dread it, if we may

judge by the reception which was given in 1869 to our project of a Casino.

This was happily long ago and since then far more enlightened times have arrived, although they have taken ten years to reach us. Must we wait as long for legislative interference in our behalf, for certainly a "*decree of public utility*" would be the most fortunate and most influential event that could happen for the future of Evian? Perhaps, but then, we must not go too fast.

Despite these simple or interested fears, Evian is now fully recognised as a bathing and watering-place. The railway that we owe to the kind promptitude of the powerful Paris, Lyons, and Mediterranean Company, will shortly double the importance of the town and cause it to compete advantageously with all similar health resorts. Not one of them, indeed, will be able to rival the waters of Evian, exceptionally situated as these are among the most marvellous and enchanting scenery that can be imagined.

Already, since our happy annexation to France, not only Evian, but the whole of Savoy, has found the elements of a new prosperity. And for these blessings, the proud Allobroges, at all periods so French in heart, in aspirations, in language, have only had to join to their other feelings towards their mother-country, that of gratitude. It is to France that we owe the immense benefits of being free from custom-house duties, so vividly felt in this country, where the broken, irregular, and extended frontier renders all effective custom-house surveillance impossible. The *zone* has been an inestimable benefit to our peaceful, honest, and laborious population, even more in a moral than in a material point of view.

Before the time of the *zone* indeed, the inhabitants were kept in a state of unhealthy excitement, from the commercial necessity in which they found themselves, of smuggling, if their neighbours did so. The rather primitive manners of that period are completely changed to-day; respect for the laws, regular work, and a tranquil life, which were then almost unknown, have been appreciated since, and have already borne all their fruits.

Lastly, it is to France that we owe our superb roads, our railway, and the considerably increased value of our lands and houses. It is not without lively emotion that, going backwards twenty years, we can show that the black and hard bread of our mountains has been, these ten years or so, everywhere replaced by good wheaten bread, that the general health has immensely improved, and that comfort and well-being have made incontestable progress. In fine, this new situation permitted, only a few months ago, our peasants to buy and pay cash for nearly eighteen hundred thousand francs' worth of landed property, wofully dissipated by the last scion of one of our most ancient families. It is said that the land thus subdivided is better cultivated and produces more.

Here are facts full of eloquence and truly capable of drawing yet tighter the sacred ties, which unite us to our new and well-beloved mother-country.

II

The Best Hygienic Conditions of a Summer Health Resort.

One of the most important conquests of hygienic science, itself so incomplete, so difficult to define, by reason of the vast domain which it embraces, is perhaps the notion so simple and so fruitful in itself, which establishes: *the considerable and often decisive influence of a change of air on chronic affections.*

This idea is almost entirely of our own epoch. General riches, together with easy and multiplied means of locomotion, have made it spring up quite naturally.

The greater part of chronic conditions, all affections arising from slackness of nutrition, do in effect find themselves marvellously better for change of air.

The removal of all habitual cares, the satisfaction and enchantment which may be offered to the imagination by a thousand new and varied points of view, change of food, the fresh air that one breathes, etc., assuredly count for much in the result.

There is not a practitioner amongst a certain class of patients, who has not been, on different occasions, truly surprised at the effect of change of air, often even without the patient having left his imaginary

ailments behind him, without his interesting himself the least in the world about beautiful views, without his changing anything in his ordinary life, except the place of his habitation; the mere breathing of new air defrayed all the expenses of his transformation.

The sick person is like a seed, which has languished for several years in the ground, and which transplanted into a new field, soon finds there fresh vigour and a truly surprising power of production.

It would be easy to cite certain states of the heart, especially of its right side so frequently arising from dyspepsia, cases of chronic alcoholism, certain nervous conditions, organic and constitutional sluggishness, following great emotions or severe grief, in which change of abode alone has produced unexpected results. The scientific explanation of such facts has never been thoroughly given.

In all cases there is no doubt but that certain places are far more fitted than others to work these happy transformations, we were going to say, quasi-resurrections.

We have observed that the most favourable summer stations are situated at a certain height above the level of the sea; that they offer a moderate temperature and pure air; that they produce a flourishing and varied vegetation; that they are surrounded by all that can strike the imagination agreeably, produce calm, and excite grand thoughts. Lastly, that they are visited as often as possible by the healthy breezes of the North, and guaranteed against the winds of the South.

The south winds which are patiently supported during winter on the shores of the Mediterranean, on account of the warmth they bring and notwithstand-

ing the excitable and feverish state they produce, are detestable and pernicious in summer. They reach us after having crossed seas and extensive deserts and are always charged with dustlike miasmata. Besides the fatiguing electrical state which they develop, we must attribute to the miasmata which they spread abroad, that feverish excitability, that enervation, from which invalids and even those in good health suffer so much.

Who has not experienced an inexpressible relief, as soon as the rain begins to beat down the dusty miasmata of the south winds and purify the atmosphere? One must have suffered in the south that almost aching fatigue, when the burning winds of the desert are blowing, in order to know their painful and dangerous impression. It is then not without sufficient motives that we maintain that a summer health resort to be favourable to any beneficial and easy transformations in the majority of chronic conditions, ought to be sheltered as much as possible against the south wind. It ought, we repeat, to be encompassed by a vast district full of vegetation giving out immense quantities of oxygen in a nascent state, that is to say, in the best form for purity, strength, and activity.

No one, we believe, will entertain any doubt about such cosmic and telluric conditions as the foregoing, being the best and most favourable for restoring a brisk impetus to the great functions of the system.

Now we can affirm without fear of contradiction that there is no situation, no health resort offering all these conditions in a more complete and harmonious manner than the Baths of Evian.

Evian only knows epidemics by name. Even when

neighbouring countries are being decimated by these scourges, as sometimes happens, Evian hardly counts a few isolated cases, beyond which we have never seen any epidemic extend, in the eighteen years during which we have practised in this locality. At two different epochs, the cholera, making the inhabitants flee from Marseilles, brought to Evian nine cases of this disease on the first occasion and fourteen on the second. Of these twenty-three cases, three died, the others were cured easily enough; but not one single case of contagion occurred, although we were not at all armed against it.

The well-known practitioners of Paris, Lyons, Marseilles, Aix-les-Bains, and of the Mediterranean coast, have for a long time been perfectly well-informed about the exceptional state of salubrity and atmospheric purity of this our country. They have not waited for our opinion before sending to Evian every year their difficult cases of convalescence, patients with delicate chests, in whom the offending substance has not yet entered on the fatal downward path, others with heart disease, the majority of those suffering from diseases in which respiration is painful or difficult, and especially all those affections arising from slowness of nutrition.

All these classes of patients derive much benefit from the atmospheric conditions of our station.

With the aid of cold douches, shampooing, friction to produce irritation, and special exercises for the lungs, the result is generally most favourable. Soon, under the influence of this new and plentiful formation of blood, of this brisk and incessant activity of the cutaneous surface, the appetite, hitherto sluggish and capricious, returns with irresistible force. The

assimilative functions acquire totally new vigour and produce that state of health and strength, which is soon shown by the patient acquiring a certain degree of plumpness that one had not dared to hope for during sometime past, and which is the undoubted mark of an amelioration having taken place in the substance of the tissues.

The greater number of medical men at Aix-les-Bains, among whom we count some old and excellent friends, are fully aware of the advantages of Evian in this respect. They make it their duty to send hither those patients who have completed their "*cure*", in order *to get rid of the sulphur*, as they say, in our atmosphere, by a residence of fifteen or twenty days.

Several of them have often affirmed to us that nothing was more advantageous after the course of treatment at Aix than the reviving, tonic, and yet calming air of our country. They add, that "were it not for the difficulty of communication, Evian would become quite a branch establishment of Aix."

Henceforth this impediment no longer exists, because direct railway communication has been established between Culoz and Evian. The relations between the two towns will not fail to be multiplied in a manner impossible to appreciate just at first, to the very great advantage of patients and of both bathing stations.

As Dr. Campardon has well remarked in his little work on our health resort, Evian is very beneficial in a certain infantine chlorotic state. He has seen what we have ourselves remarked, that children taken to the south in winter and to the shores of the Atlantic at the beginning of summer, only vegetate there and grow paler. Brought to Evian in despair, these chil-

dren quickly recover the colour and gaiety of their age. A cure is effected in a short time. Such are the words of our Paris colleague. And we take the liberty of adding that it seems to us that these good effects are especially produced among chlorotic children of a nervous, excitable, and arthritic temperament, and of a certain precocity of brain (very frequent in the upper classes) and who needing calm and quietude, are too much excited and enervated near the sea. Evian, from its great power of bringing back sleep, calm, and tranquillity, and of giving at the same time a strong impulse to the main functions of the system, is decisive in all these cases. The cure, as Dr. Campardon says, has not to be waited for long.

Hence for the last ten years we see the town invaded by troops of children, who, whilst being restored to life, make the charm and ornament of our promenades and walks along the banks of the lake.

III

The Mineral Waters of Evian

Evian possesses five springs of alkaline mineral water, which are: Cachat, Bonnevie, Guillot, Montmasson, and the Grande Source. The first four bear the name of the owner in whose land they rise; the last is the property of the town.

The Cachat spring, which has made the reputation of Evian, was the only one known for many long years.

It has been incontestably the best studied from a clinical point of view. Most of the small works, that have appeared during the last fifty years, refer to the Cachat spring. Dr. Dupraz brought out some twenty years ago a pamphlet that attracted attention to the Bonnevie spring.

Chemistry finds very little difference in the composition of these five springs, as may be seen from an analysis of them. By its aid only very weak mineral constituents are found, certainly taken altogether in far less quantity than in a spring of ordinary drinking water. The water contains besides them a tolerably large volume of oxygen, nitrogen, and carbonic acid gas.

On account of their surprising effects in the maladies in which they are habitually employed, some physicians have entertained the notion that chemistry has not yet come to a final conclusion with respect to our waters. Others have thought that they saw in them a homœopathic medicine. The truth about them seems to me to have been best grasped by an eminent practitioner of Paris. After having shown the incontestably favourable results obtained by Evian water, he believes that its mineral constituents are held in solution under such precise conditions of weight and volume, as to render it far more easily tolerated by the stomach than perhaps any other water, and that its manifold action on the system is especially produced by the water itself.

With this object, he had some Seine water distilled and then aerated by being beaten during a few minutes ; and this he then gave to some of his patients whom the price of our waters did not suit. The results would have highly been successful, if this distilled water could have been taken easily and in sufficient quantity.

Just as with Evian water, so this distilled water, analysed on its leaving the bladder, was saturated with urea and uric acid to an amount three or four times greater than is the case with ordinary water, as will be shown in a work about to be published by this learned specialist.

Thanks to their feeble mineralization, our waters have an action identical with the above, but with the important difference of presenting such conditions of aeration, coolness, purity, and limpidity, that it is possible to swallow without any fatigue and without any repugnance enormous quantities (from four to thirty glasses of half a pint each in the twenty-four hours) *provided that care has been taken to properly train the stomach.*

The great physiological advantage of this enormous facility of absorption will be thoroughly appreciated, if we think of the small degree of solubility of uric acid. One part of this salt, as is well known, *requires at least 1720 parts of water to dissolve it.* Hence, as we shall see, our water being so slightly mineralized, has beyond any other, the power of saturating itself with the salts which it dissolves whilst passing through the system.

We have indeed the conviction that no other water except that of Evian could, to the same degree and in sufficient quantity, bathe the whole system with impunity, carry its dissolving action even to the furthest extremities, and sweep away with the same success any offending substance towards the natural emunctories.

This action, which is the basis of the marvellous effects of our water in gout and uric conditions, is not a mere mental view. It is solidly supported by nume-

rous observations drawn up by all the medical men of our health resort, concerning gouty deposits, even those of long standing being dissolved and eliminated after one or more courses of treatment by Evian water. Our own personal observations are decisive on this point.

As will be seen further on, it is to this property of our waters that are due all their beneficial effects in gout and in uric dyscrasies.

IV

Physical and Chemical Properties of the Waters of Evian

The water furnished by all the five springs is inodorous, colourless, and without any particular taste. Its temperature is 11°,6 cent., and the quantity is invariably the same, whether during the heaviest rains or the longest droughts. It is cool, limpid, light, and very agreeable to the taste, it has an oily feeling, and softens the skin, to which it gives a suppleness and bloom highly appreciated by the world of fashion.

Many analyses of our waters have been made at different periods.

The first was made in 1807 by Tingry and done over again by Peschier of Geneva ; Barruel of Paris made a third in 1825 ; in 1851 the Paris School of Mines

proceeded to a new one. In 1850 M. Cahours also analysed the waters of Evian; in 1850 the Guillot spring was the object of a special and thorough analysis made by M. Morin of Geneva. Finally M. Brun, chemist, submitted them to a last analysis in 1870, with the following result :

Comparative Analysis of the different Springs made in 1870
by M. Brun, chemist, of Geneva

SUBSTANCES CONTAINED in one litre of Water	BONNEVIE SPRING		MONTMASSON SPRING	
	By volume	By weight	By volume	By weight
Oxygen Gas.....	°c. 6,6	0,00946	6,4	0,00917
Nitrogen Gas	19,6	0,02456	19,2	0,02409
Free carbonic Acid		0,03672		0,06569
Bicarbonate of Potash.		0,00372		0,00316
— of Soda		0,0134		0,00866
— of Ammonia		0,00024		0,00021
— of Protoxide				
— of Iron ..		0,0028		0,00208
— of Lime		0,27878		0,26897
— of Magnesia		0,12279		0,10582
Chloride of Sodium		0,00244		0,00164
Acetate of Lime		0,00386		0,00661
Sulphate of Magnesia ..		0,00283		0,00646
Alumina		0,0036		0,00349
Silica		0,01312		0,01037
Phosphate of Soda		Traces		0,00093
Glairine		0,0152		0,0196
Total :		Gramme 0,53352	Gramme 0,53695	
Residuum at 110° cent.		Gramme 0,3097	Gramme 0,3049	

SUBSTANCES CONTAINED in one litre of Water	CACHAT SPRING	
	By volume	By weight
Oxygen Gas	5,5	0,00788
Nitrogen Gas	1,65	0,0201
Free Carbonic Acid		0,03538
Bicarbonate of Potash		0,00388
— of Soda		0,01401
— of Ammonia		0,00026
— of Protoxide of Iron		0,00282
— of Lime		0,27797
— of Magnesia		0,1064
Chloride of Sodium		0,00104
Acetate of Lime		0,00577
Sulphate of Magnesia		0,0081
Alumina		0,002
Silica		0,01002
Phosphate of Soda		0,0006
Glairine		0,0146
Total	Gramme	0,51083
Residuum at 110° cent.	Gramme	0,300

Analysis of the Guillot Spring by M. Pyrame Morin, of Geneva

The weight of the salts is calculated without their water.

1st In every 1000 parts of gas escaping at the spring itself there are.

Carbonic Acid	77
Nitrogen	769
Oxygen	154

2nd Substances in solution in every 1000 grammes.

GASES MIXED OR IN SUSPENSION

Oxygen	cubic cent. 1,2	} 0,009
Nitrogen	5,7	
Carbonic Acid	0,6	0,0012

DISSOLVED GASES

Oxygen.... cubic cent.	4,65	}	0,0292
Nitrogen...	17,85		
Carbonic Acid	12,17		0,0241

SALTS, ETC.

Bicarbonate of Magnesia....	0,2439
— of Lime.....	0,1256
— of Soda	0,0194
— of Potash	0,0062
— of Protoxide of	
Iron.... ..	0,0033
— of Ammonia....	0,0006
Oxide of Manganese.....	Traces
Combination of Protoxide of	
Iron with an organic sub-	
stance.....	Traces
Sulphate of Magnesia.....	0,0068
Nitrate of Lime.....	0,01
Chloride of Sodium.....	0,0037
Silica	0,0080
Alumina.....	0,0027

ORGANIC SUBSTANCES

Glairine	0,035
Bituminous matter.....	perceptible quantity
Total.....	0,5287 Gramme

From a study of these analyses we learn that the mineral water of Evian is slightly alkaline and that it contains bicarbonates of potash, soda, ammonia, and magnesia; that the water of the Bonnevie and Montmasson springs contains phosphate of soda, which is not found in the Guillot spring, and which exists in only a very feeble proportion in the Cachat one. The Guillot spring also contains nitrate of potash and bicarbonate of magnesia.

V

**Physiological and Therapeutic Properties
of Evian Mineral Waters**

The water of Evian is exceedingly diuretic. It is very rare that this effect is not produced within a few seconds and in such proportions, that sometimes for one glass drunk from one and a half to two glasses are parted with; and there is often besides some little irritation of the neck of the bladder, which attracts attention and rapidly disappears about the second day. We must however acknowledge that the diuretic effect we have just mentioned, is chiefly produced in healthy subjects. On the contrary, in certain states of the heart, in which cardiac sensibility is less, in which all the vessels more easily undergo distention without any sharp re-action, as also in certain maladies arising from too slow nutrition, such as diabetes, uratic diathesis, etc., in which different abnormal products in the blood necessitate several equivalents of water for their solution, diuresis is only produced later on, about the third or fourth day of the treatment. We have observed this effect many times, notwithstanding the employment of large draughts of the water from the beginning. In these cases even, from the fourth day, the diuretic effect shows itself with the greatest activity until the end of the treatment. This quick physiological effect singularly surprised the learned professor Bernutz of Paris, who, whilst passing through

Evian, was able to prove it on himself, and was greatly inconvenienced by it for several hours. Only a few months ago he expressed his astonishment to us about this matter.

It is evident that to obtain such an effect upon the kidneys, the cutaneous surface must not enter into too great a competition with them. This action is always more intense at the beginning and the end of the hot season, at the time when the heat, being only moderate calls perspiration less actively into play. For this motive, all things being otherwise equal, large doses of the water ought to be diminished at these two periods, as also on wet and rainy days.

This diuretic action has been proved by all our medical men, and every year we see patients who say to us : That they do not know where all the water comes from, that they get rid of, adding. "We certainly do not drink all this quantity."

Little by little, the activity communicated to the skin by douches and baths, proportionally relieves the functions of the kidneys.

The water excites the appetite by its low temperature bracing up the muscular coat of the stomach. This tonic action, regularly repeated with each glass of water every quarter of an hour, is one of the great agents in promoting that often ferocious appetite, which is felt by patients from their very first days of taking the water.

In large doses especially, the water rouses the non-assimilative functions to such a degree in certain cases, that we have seen persons become thinner, who however largely repaired their loss by copious repasts. They themselves perceived this with affright, and drew our attention to it. Yet they did not lose their

strength, although they could judge of their becoming thinner by their clothes, which had become too large for them, when fifteen or twenty days before they had filled them exactly. We remember an eminent Paris practitioner, a physician to one of the hospitals, who seeing himself getting thinner in this way, hesitated about continuing the use of our waters, and at all events would never exceed very moderate doses.

However we ought to add that, in general, the appetite, being much improved, makes large compensation for the loss caused by drinking our waters.

Dr Campardon of Paris cites with much reason, at the fourth page of his little work on Evian, excessive obesity as being among the affections successfully treated by our waters.

During the many years that he has been our visitor, he has taken particular notice of a fact, which we have ourselves observed for a long time : namely, that the too corpulent or those who have a tendency to become so, see their fat diminish and feel themselves considerably better by a prolonged usage of Evian water. This is easily explained by the property, which our waters have, of exciting the non-assimilative functions by bringing back to a normal condition the equilibrium between the incomings and outgoings.

But in order to obtain the full effect which is to be looked for from our waters in this respect, it is indispensably necessary to turn a deaf ear to one's appetite and to leave the table whilst still hungry. At Evian this habit is a real act of courage and of strong will ; for during the time we have been in practice here, we can scarcely call to mind one patient, who, after a four or eight days' methodical use of the Cachat Spring, for example, has not felt his appetite revive,

even sometimes to such a degree as to demand some moderation in satisfying it. Every year there arrive numbers of sick persons, many old men, worn out by abundant and old standing suppurations of the urinary passages, and having for a long time had an utter distaste for all kinds of food, and these, from the very commencement of their treatment, may be found at the pastry-cook's before lunch, not being able to wait till the usual hour of the midday repast.

Evian water augments the excretion of urine and of all compounds of urea. It carries off particles of sand and gravel together with all other *detritus* of the urinary passages, most probably by diluting the mucus that renders them adherent. It washes the urinary passages throughout their whole course without fatiguing them, according to the expression of the eminent professor, M. Berne of Lyons, who is one of our most constant visitors. "I come," as he said to us in his language at once expressive and learned, "I come to Evian to drink about my twenty glasses a day of the Cachat Spring, and I have the certitude, based on several years' experience, of getting my internal washing done with pleasant water, which will neither wear nor burn my linen, which I am thus sure of preserving both far better and for a longer time."

It is impossible to define the action of the waters of Evian more exactly or in fewer words.

In addition, our waters possess eminently calming and sedative properties in the greater part of those maladies complicated with nervous erethism, hyperæsthesia, as we shall see later on. This important peculiarity is well-known to the first physicians of Europe, who every year send to Evian a great number of these patients of both sexes.

VI

On the Employment of Evian Water as a Drink, in Baths, in Douches, and as a Lotion.

As a drink, the dose varies from two to twenty-five glasses of 230 to 250 grammes each in twenty-four hours according to the affection, the diathesis, the temperament, former illnesses, age, sex, etc., and according to the period of the season. At Evian more particularly, the physician ought to convince himself that he is treating a patient far more than an illness.

The invariable rule is to commence by small doses, beginning very early in the morning. Generally, when large doses are to be reached, the following precautions ought never to be departed from: one to three glasses in the forenoon, at an interval of an hour each, walking about moderately in order to facilitate absorption, ceasing half an hour before eating, and never beginning to drink again in the afternoon, when so necessary, until three hours and a half after luncheon. We insist upon two-thirds of the whole twenty-four hours' dose being taken before the midday repast. Another absolute rule is to be assured of the water being carried off by the natural passages, and only to augment the number of the glasses when such is the case.

In some cases of lesions of the heart's orifices, as stricture and insufficient opening, in weakness of the

circulating system, after the hasty absorption of a certain quantity of water, the forces of the heart being taken unawares, are powerless to make head against this additional work, and instead of seeing the arterial pressure augment, it diminishes. The beatings of the heart become tumultuous, the patient complains of uneasiness in the precordial region, with headache, and the pulse is less strong, more frequent, sometimes irregular.

Whenever such cases have presented themselves to our observation, they have been almost always those of patients who thought that they could dispense with medical supervision.

In these cases we must immediately prescribe a strong drastic purge, provoke perspiration by external warmth, and afterwards exhibit some preparation of digitalis.

These same patients, being sent back to the water treatment a few days afterwards, greatly exceed their primitive doses, not only without fatigue, but even with great benefit to themselves. It is sufficient to train the stomach and the system by gradually progressive doses. These patients however ought to avoid the very large doses.

These accidents, rare after all, and certain cases of indigestion, are often enough produced among those patients who take the water without medical direction, or who being in a hurry to finish their course of treatment, for different reasons, say to themselves: "Instead of eight glasses daily, I will drink sixteen, and in this manner my *"cure"* will last twelve days instead of twenty-four." These visitors so oddly expeditious, are to be met with nearly every year.

Lastly there is one dangerous case that we shall have occasion to mention when we speak of hypertrophy of the prostate gland. We have never observed any other inconvenience attend the use of the waters of Evian, and all that may have been alleged beyond the facts we have mentioned, seems to us purely imaginary.

It is advisable to drink the waters slowly, and not at a single draught.

With some rare exceptions, the waters of Evian are little or not at all purgative. The reason of this is their weak mineralization.

The employment of our waters has shown us that all constitutions are very far from presenting the same degree of sensibility to remedies. As regards the intestinal action produced by the waters we see, every year, three perfectly distinct classes of patients:

First, those who complain of not being able to swallow four or five glasses without experiencing violent purging; four, five, and even up to twenty stools in the twenty-four hours. The number of these patients is very limited.

It would be too long to recount all the anxieties that this class of patients occasion us in order to succeed in making them absorb from six to eight glasses daily, the quantity demanded by a chronic state of the urinary passages. In these patients, the water, in order to be efficacious, ought to traverse their urinary passages, whereas its purgative effect does nothing but fatigue them unprofitably.

It seems to us that these are veritable homœopathic constitutions, if we may be pardoned such an expression. It is very probable that these idiosyncrasies are to be explained by some anatomical preponderance

in the organs of vegetative life, the secret of which science will one day be able to penetrate. Such patients are to be found amongst nervous and hæmorrhoidal temperaments, already past middle age.

It is in vain that we make them change from one spring to another, they cannot take our waters except with strong doses of bismuth, or mixed with syrup, etc.

The second class, which is the most numerous, comprises those who are moderately influenced by the small quantity of magnesia contained in the waters. Their stools are somewhat easier: the water is carried off by the natural channels, and produces all the therapeutic effect that one has a right to expect from it.

The third and last class complains of difficult motions from the very first. In general these patients are habitually constipated from different causes; such as their kind of food, sedentary life, intestinal sluggishness either pathological or congenital.

It is rare that these patients do not suffer from some dyspeptic or gastralgic uneasiness. They ought to drink the water of the Guillot spring, which contains a little more magnesia than the others, or add some appropriate laxative dose to their first glass of water each morning.

Most frequently it happens that after several days' usage of our waters taken concurrently with a *cooling* system of diet, such as green vegetables, fresh butter, strawberries, coffee with plenty of milk, honey, at the end of lunch, the intestinal functions, hitherto painful, become regular in the most satisfactory manner possible.

BATHS — Dr de Ranze in a work very well written and entitled: *Physiological and clinical Study on the phenomena of excitation produced by a series of moderately warm baths in a feebly mineralized mineral water*, read before the Paris Academy of Medicine, appears to us to have the fault of generalizing too much. We are convinced that he has perfectly observed the phenomena of excitation which he describes, but his “*Study*” is peculiar to the water of Neris or similar waters; he does not go further. It is scarcely possible to establish general data based on the study of one particular kind of water.

The skin, which of all our organs offers the vastest surface, is at the same time the nervous network which presides over the course of the relations and connexions of the different parts of the body. The extremities of the nerves are upheld and distributed by the true skin, which is itself covered by the epidermis. Its office is to become assured, by contact, about external objects and to convey the news about them towards the encephalic centre. But we do not yet know the precise measure of the impressions produced upon the cutaneous surface by different remedial external influences. And in what specially regards mineral baths of a moderate temperature, there must be a study of each variety of mineral water before attempting any generalization. In fact the water of Loeche for example, in which no particular substance is found, has such an influence upon the cutaneous surface, that a rash (*poussée*) is the habitual result of it. The baths of Lamalou have an effect which it is wished to assimilate to-day to the effect produced by the influence of metals upon the skin. The water of Baden in Switzerland has again effects *sui generis*. And lastly if

we compare the effect of bathing in Evian water with that produced by bathing in Neris water, we shall find it very different.

The baths of Evian produce two well defined effects of excitation, any explanation of which would be purely hypothetical. The first is the facility with which an attack of gout is brought on in those subject to its subacute form. Sometimes a single bath suffices; generally from four to twelve are necessary to bring it on.

Secondly, among certain excitable patients troubled with nervous affections, if baths of a moderate temperature are prolonged beyond twenty-five or thirty days, they bring on general excitation, which is betrayed by diminished appetite, want of sleep, impatience, and a state of discomfort undefinable for the patient, not indicated by the pulse, but quite noticeable to the relatives and the medical man in attendance.

Beyond these two conditions, we have never seen the febrile action spoken of by Dr de Ranze, general feverishness, slight rashness of the skin, nor that special excitation varying with the nature of the disease, and the particular constitution of each patient, consisting in the *exacerbation* of the symptoms, which he presents, and principally of those which are the most salient and the most painful. Nothing of all this occurs from bathing in water so calming as that of Evian.

Dr Campardon takes the answer upon himself as regards this matter, in his work on the waters of Evian, wherein he states what he has himself seen, found, and experienced during several years.

“The baths of Evian”, he writes, “when their temperature is not too high, produce general and rapid

relaxation, promptly calming the sharp pains of cystitis, nephritis, and enteralgia. In nervous and irritable persons they also bring on restoring sleep, of which these patients have sometimes been long deprived, and it is especially in such cases that we see a renewal of health and strength, whilst a series of ordinary warm baths would only have brought about fatigue and prostration.

“The alkaline salts contained in this water by saponifying the fatty matters spread on the surface of the skin, clean it and render it, as we have said, soft and oily. Thus is easily explained the action, quickly curative, *always sedative*, of these baths in different forms of pruritus, in itching about the vulva, in intertrigo, in lichenous affections, and generally in all those skin diseases which are modified by alkalines.”

And we will add that we have always seen Evian baths at a moderate heat gradually exercise a calming, sedative, and soothing action on any painful symptom and nervous excitation during the first twenty five days of treatment. They may be continued longer, but then one must attend the patient and carefully study his case.

It appears that a former medical Inspector prescribes one and *even* two glasses of the water to be taken whilst in the bath. Dr. Campardon announces this at the 11th page of his work, as a scientific discovery. We must believe both one and the other to be ignorant of the fact that for the last fifty years, it is such an inveterate custom at Evian to drink one or *even* two glasses of the water during the bath, that the attendant brings you a decanter of the water and a glass as a matter of course, when he prepares your bath. There is not a

medical man who does not prescribe it, there is not a patient who does not take it, even without advice.

DOUCHES. — We have only one word to say about douches at Evian. The two establishments are organized according to the latest requirements of science and of comfort. They are provided with medical superintendence which has no other guide than the excellent hydrotherapeutic principles laid down by professor Fleury and perfected by Beni-Barde. The attendants come from the school of Aix-les-Bains.

INJECTIONS. — Prolonged injections of the water during the bath are of incontestable utility in certain cases of catarrh of the neck of the bladder, in leucorrhœa, in catarrh of the uterus, and in diseases of the rectum. These injections are tonic if the water is at its normal temperature : they are sedative if the water is tepid.

Notwithstanding all that has been said and written about injections of the bladder given with a double-current catheter, we absolutely forbid them. We have seen far more cases of catarrh of the bladder exasperated and sometimes even rendered incurable by this practice, than we have seen relieved by it. Finally, it is now abandoned by the first specialists of the day.

VII

Diet at Evian

As a matter of course we must needs say something about the diet which patients ought to follow at Evian.

All our visitors not being sent hither for the same disorder, we can consequently only give a few general directions about eating and drinking.

The great difficulty as regards food in a watering place, that we have heard put forward by all house stewards in hotels, is this : In a family of four or five persons there is often only one member ill. The other four care very little about depriving themselves of a number of good things, permitted them both by their taste and their health. On the other hand, unless one is very seriously ill, and in that case, one does not go to the table d'hôte, when the appetite begins to grow imperious, as is the rule at Evian, where can one find the courage to resist the majority of well prepared dishes, which tantalize one by their savoury odour? To do so would be an act of no common heroism. Lucullus would rather have had the trouble of winning three battles than have resisted a similar temptation. But we must not forget that our patients at Evian, without belonging to the family of this famous epicure, are among the first aristocracy of the whole of Europe.

There is evidently the resource of a separate table, but this means solitariness which few care to put up with.

However that may be, here are our formal though general indications : Mixed food of white and brown meats, sufficiently well done and seasoned as simply as possible; eggs and fish in all forms; all green vegetables except French beans, asparagus, sorrel, tomatoes, and cabbage. A very moderate use of feculents of all sorts. In general avoid acid fruit; other kinds ought to be perfectly ripe. Claret diluted with plenty of Evian water has always seemed to us the most preferable drink. Some white Swiss wines are diuretic, but one is never sure of getting the real thing.

Two meals a day are sufficient, and this number has the advantage of permitting the stomach to absorb the mineral water, more at liberty and more easily. There are peculiar cases that require a special regimen, as will be seen further on. It is impossible to indicate them all in this place.

VIII

Diseases treated at Evian

The number of diseases and chronic affections successfully treated by the waters of Evian is limited. The list of diseases hitherto presented by our predecessors has always seemed to us too extensive. From the very beginning we have always thought that a thorough

examination, based upon exact and rigorous observation of facts, would not fail to limit it. We have systematically put aside all those theoretical views and deductions, that are inseparable from every commencement. Anxious to be heard by men of science to whom we address ourselves, we have, during the last eighteen years, collected more than three hundred notes of cases, according to the scientific or positive method, restricting ourselves exclusively to facts, which alone are capable of carrying conviction to men's minds. It would be very difficult to treat them all in detail in this short treatise. They would occasion interminable repetitions which would certainly never be read, and which would at all events quite uselessly impede the perusal of what we have written.

Several years ago, we might, after the example of so many others, have brought out a work on the waters of Evian. This would have been the easier since we had already treated of the *question of the waters of Evian* before the Paris Faculty of medicine, on the occasion of our inaugural thesis.

If we have put off the matter, it is because we were bent upon presenting a conscientious work sanctioned by long experience and secure against every imperfectly understood question, either local or private.

This will be our excuse to our fellow-townsmen, whom we esteem so highly and who have so long honoured us with their confidence, for not having yet written any thing upon our mineral waters, notwithstanding their pressing solicitations. They will understand that a hasty work badly put together is prejudicial, whilst long and mature observation of facts, can alone inspire confidence and security both amongst medical men and patients.

Disorders of the Digestive Canal

DYSPEPSIA. — Under the name of Dyspepsia are comprehended all those chronic difficulties of which the important function of digestion can be susceptible. These difficulties may proceed from any kind of perversion, diminution, or augmentation of the different elements necessary to digestion. These elements are *mechanical*, as trituration and mastication : *physiological*, as deglutition and muscular or peristaltic movements of the stomach and intestine : *physical*, as insalivation and saturation by the gastric juices : *chemical*, as transformation of feculent matters by diastase and of quaternary aliments by the gastric juices, *emulsion of fatty substances* by the bile, and finally completion by the pancreatic juice of the transformation of the food.

Integrity of the digestive canal, for the absorption of the chyme and the first products of the stomachic digestion of azotised substances : *integrity of the nervous system* which presides over the accomplishment of these different functions, and over the proper richness of the blood to be furnished to the different digestive secretions.

Lastly, substances to be taken into the stomach and these ought to be in good condition and perfectly assimilable.

Such are in a general way the conditions of good digestion.

No doubt if one of them were defective, digestion would therefore suffer. By the very reason of the

united working of these different functions, it is seldom that one alone is defective.

Nevertheless in clinical study there is not an absolute need of these numerous classifications.

Moreover these affections of the digestive canal, which were still so imperfectly understood four or five years ago, have powerfully benefited by the progress of organic and biological chemistry, and by the physiological experiments which have lately been multiplied in Europe. We by no means assert that before that period, experience had not led practitioners authorized to speak about clinical medicine, to treat dyspepsia and gastralgia successfully. But we can affirm that the scientific and classical knowledge of these affections was scarcely roughly sketched out. It has needed all the experimental work of the last twenty years, the grand knowledge of masters, such as M. Raymond, Professors Damaschino and Germain Sée, to throw on the affections of the digestive canal the bright light which illuminates them to-day. The eminent professor of the Hôtel-Dieu, in his learned treatise on gastrointestinal dyspepsia appears to us to have made somewhat of a sacrifice to pure science at the expense of clinical medicine properly so called.

We do not know if he has seen cases so clearly and well defined as his book seems to indicate. One understands that from the didactic point of view he has thought it necessary to divide and subdivide as he has done; but we doubt if a beginner, who mostly finds himself face to face with complex cases, implicating several portions of the digestive canal as well in a clinical as a physiological and physical point of view, could derive from this book all the benefit that he has a right to expect from it.

However that may be, this treatise is an immense step in advance and marks an important if not decisive stage in the study of dyspepsia.

According to Professor Sée's book, there is need to restrict the term, gastric or intestinal *dyspepsia*, to the chemical disorders alone of the digestive canal. In a word, for him, gastro-intestinal dyspepsia consists in defective chemical operations.

Everything that can be connected with this disorder, or can precede, accompany, or follow it, is for the Professor of the Hôtel-Dieu, an accidental, episodic phenomenon of dyspepsia or some secondary effect, the consequences of bad digestion.

He opposes with great power the German tendency, indorsed by Broussais, which makes gastritis the cause more or less direct of all stomachic pathology.

Our task is more modest. It consists in enlightening our readers about those conditions of the stomach and intestines, dyspeptic gastralgia, which are successfully treated by the waters of Evian.

Professor Sée divides dyspepsia into true and false.

True dyspepsia is that which arises from a defect in the secretion of the digestive juices, or from their perversion by whatever cause.

False dyspepsia may be of five kinds :

First : False dyspepsia from simple atony of the intestine with habitual constipation and permanent tympanism ;

Secondly : Atony of a hæmorrhoidal or mechanical origin ;

Thirdly : Atony followed by muco-membranous enteritis ;

Fourthly : Intestino-hepatic atony from an asthenic

condition of the intestine and diminution of the biliary secretion ;

Fifthly : That false dyspepsia which results from spasmodic atony of the stomach.

May we be permitted to say that we have very rarely seen these conditions perfectly defined and separate? True dyspepsia is nearly always found associated with some false form.

Gouty Dyspepsia

From the very beginning of our practice we have observed at Evian a certain number of gouty subjects who presented veritable dyspeptic fits characterized by sudden cramps and colic of the stomach with incessant hiccough, a burning feeling followed by repeated vomitings of acrid matter ; a union of peritoneal accidents followed by leipothymia, syncope, coldness, livid discoloration of the lips, and by cardiac pain often formidable. Sometimes in the matters vomited we have found little bits of gravel that we have recognized as being uratic products.

In one case notably these attacks came on without any other gouty symptom. The patient was the heir of a succession of gouty progenitors. The uric acid, instead of being eliminated by the kidneys, seemed to have chosen the stomach and intestines as its natural mode of elimination. Yet the kidneys appeared to be intact ; the urine was natural. During several days after these attacks, which before the use of the waters, occurred about three times every two months, digestion was bad and want of appetite almost permanent.

These attacks, which so greatly alarm the patient's friends and the physician himself, and which his usual prescriptions are nearly powerless to calm, yield with astonishing readiness to the use of Evian water. As soon as the treatment has commenced, the attacks never fail to diminish and they often disappear by a prolonged exhibition of our waters.

In large doses the water does not delay dissolving and carrying off the deleterious matter, and the flow of urine being itself soon augmented, the urates are eliminated from the system by the kidneys, their natural emunctories. By reason of its lightness and its physical and physiological properties which will be studied more in detail when we speak of *Gout*, we do not think that any other mineral water or any other remedy can be compared to Evian water in similar cases.

A second form of gouty dyspepsia which we meet with much oftener at Evian is *chronic uræmic dyspepsia*.

There are no longer sudden attacks but one permanent dyspepsia from adulteration of the gastric juice. The gouty products have acquired the habit of being eliminated by the gastro-intestinal passages. In the majority of these cases the patient is saturated with uric products; often indeed the natural emunctories are more or less obstructed. The kidneys are affected with interstitial nephritis, the heart and liver are more or less sclerotic, the arteries are atheromatous, the articulations are tophaceous, etc. It is rare that these cases of dyspepsia of which we are endeavouring to sketch an example, are not accompanied by false dyspepsia, that is to say, by atony, by spasms, etc., of the digestive canal. These varieties

of dyspepsia may even go so far as to produce ulcerated lesions of the stomach and intestines. These are particularly the cases, which are amenable to the waters of Evian, as will be seen further on.

In general the dyspeptic gouty patient is beyond middle age, and four times out of five, he is gouty by inheritance. He has already suffered several attacks of gout. His fingers, ears, etc., have collections of chalk stones at the usual spots and are more or less deformed. If he is English, he will have consulted Dr. Garrod and every celebrated physician in every capital in Europe. The problem he seeks to solve is not to cure his gout, he knows that to be impossible, but only to be able to live without too much irritating his unwelcome guest.

He has generally preserved his appetite; only, scarcely has he risen from table, before first his stomach, then his intestines, swell enormously. During two or three hours afterwards he has very troublesome, inodorous eructations, which succeed each other every eight or ten seconds.

His respiration is impeded as is also his walking. It is in his easy-chair that he awaits the end of his painful attack. He has but moderate faith in all kinds of medicine and remedies, for his stomach has long ago tried them one after another, without feeling the least amelioration.

During the last five or six years, we see every season a more considerable number of these cases, that have been generally sent to us by former patients who have been cured or seriously benefited at Evian.

Rich Englishmen have the speciality of collecting information from one another and that with the greatest care, about the place, the means, which have

been the most useful to them in such or such a malady ; hence we see these dyspeptics come to us and merely ask for the treatment, the douche, and the shampooing that have cured such a one of their acquaintances.

To all these patients we prescribe a very strict diet whilst under treatment, carefully indicating what meat and vegetables they may eat ; also before meals a few drops of tincture of *nux vomica* and quinine. During meals four or five tea-spoonfuls of the eupeptic elixir of Tizy ; no stimulants, very little dessert, perhaps a few strawberries, grapes, or very ripe pears ; from five to twelve glasses of the water, and a couple of *epigastric douches* every day. We do not fear to affirm that the ordinary result of this treatment is cure, and in cases not absolutely cured, the amelioration is serious and lasting.

We have sometimes seen patients of this variety of dyspepsia expel along with the *fæces* particles of gravel composed of urates and uric acid. The baroness d'E... of Paris has collected a box full since we drew her attention to this matter. Her physician told her that the liver alone could furnish stones by such a passage. The microscope showed that these were indeed crystals of urate of soda and rhomboids of uric acid. We have also observed several other cases.

In order to form an exact idea of the influence of Evian water, when taken concurrently with douches over the epigastric region, we shall give our full notes of one or two cases :

Mr N... an eminent barrister of New York, aged 67, strongly built, a great worker, a lover of good living, the son of a gouty father, very gouty himself since the age of thirty-two, has had from quite the beginning, reiterated attacks of acute gout, later on very violent

gastric paroxysms radiating towards the liver and lasting from twenty-four to thirty-six hours.

He has undergone sharp attacks of nephritic and hepatic colic. He has expelled particles of sand and gravel with bloody discharges. Actually his urine is perceptibly albuminous, he suffers about the lumbar region and along the course of the right sciatic nerve. Arrived July 2nd, 1875, at Evian, whither he has come for the special purpose of being treated for this gouty dyspepsia and gravel, Mr N., particularly complains of his stomach. When he has not eaten for six or eight hours he has no pain there. His abdomen alone remains a little tympanitic and hard. At meal-times he manages to eat with appetite, but scarcely has he finished his repast, than his stomach swells as also do his intestines. He feels heavy, respiration is impeded, he is obliged to sit down, and cannot bear the least pressure over the epigastrium. Then violent eructations set in, are repeated every four or five seconds, and continue for two or three hours without intermission. We have witnessed this scene, which is repeated twice a day.

This dyspeptic state, which is rather troublesome than painful, must not be confounded with those violent gastric attacks, often exceedingly painful, from which he already suffered at sufficiently long intervals, and which were nearly always brought on by some excess, or moral impression, or from eating indigestible food, etc.

To-day his stomach is permanently and constantly out of order, the gases expelled are tasteless, inodorous, and are produced after every meal. The most annoying eructations succeed each other almost without interruption.

Mr. N. has been put upon a very strict diet, and enjoined to thoroughly masticate his food, which is to consist of roast meat and fresh vegetables, with but few feculents, etc. A spoonful of old brandy in a glass of Evian water instead of wine at his meals, Tizy elixir, bitters, Limouzin's powdered charcoal, etc., all of which he has been taking for upwards of two years without any success.

Then six glasses of Evian water during the day, four in the forenoon, two in the afternoon: an epigastric douche morning and evening.

During the douche, the eructations recommence with a certain intensity, especially at the beginning, then they diminish daily. About the tenth day, the eructations are sensibly less after meals, the patient can then walk about instead of being obliged to sit down. About the twentieth day, some gas still escapes both upwards and downwards, but he himself says that he is absolutely better. His sister and daughter, who accompany him, express their satisfaction to us at such a result. His course of treatment lasted forty-two days, and then Mr. N. left Evian cured of his flatulent dyspepsia. We saw him again the next winter in Paris, the cure continued permanent. He no longer felt pains in his loins, since his kidneys had been scoured by our waters. Nevertheless he continued to diet himself strictly, according to our directions.

Flatulent Dyspepsia

Flatulent dyspepsia is met with ordinarily enough among persons having all the appearance of health, but whose character is not open, and on whom grief and care take strong hold. In the families of these patients we sometimes find different nervous manifestations of an hysterical or hypochondriacal character, etc.

It is difficult, we believe, to connect in any exclusive manner this variety of dyspepsia with one of the forms described by Professor Sée. Is it a true, false, or mixed form? Does it exist from any chemical defect of secretion or from atony? It is difficult to say precisely. It is always a well characterized clinical form and is in general very stubborn in its resistance to the best understood ordinary methods of treatment.

Among these dyspeptics, the stomach and intestines after eating, sometimes swell to such a degree that the abdomen resounds again on percussion. They cannot breathe easily, neither can they support any tightness nor any pressure about the abdomen. They are troubled with eructations that are almost always without taste, and with wind, but this seems to ease them. The swelling continues four, five, or six hours with varying intensity according to the food they have taken. At meal times appetite makes itself felt, they eat with pleasure, but soon the experience of the sufferings they endure, disgusts them with food. They then eat most sparingly, but this selfdenial does not exonerate them from their troubles.

It is in these cases, almost always very stubborn,

that we see all ordinary modes of treatment fail, such as nux vomica, bitters, charcoal, opium, belladonna, purgatives, travelling, hydropathy, etc. One medication alone has almost always completely succeeded with us, and in the small number of cases where it has somewhat failed, the amelioration has been certain and considerable; we allude to our epigastric douche, joined to the exhibition of Evian water. We do not fear to say that it has been *marvellous* for that is the very word which describes the effect produced.

The douche is given morning and evening in the manner indicated further on; it is generally followed by a cold shower douche of a few seconds. After some instants' rest in a woollen dressing-gown, the patient takes a thirty or forty minutes' walk.

For nearly the last ten years, we have treated numerous cases in this manner. We have seen the greater number of them again the next winter and in the following years; the result has been a complete cure in the majority of cases, and a durable amelioration in the others.

This result too is the more noteworthy because the patients sent to Evian have mostly been treated by the best known practitioners without any serious improvement.

It is scarcely necessary to add that with our douche and water, we have always taken care to aid our course of treatment by strict diet and all medicines appropriate to the case submitted to us. Notwithstanding this we have the conviction that in the affections in question, Evian water and the epigastric douche are the active and preponderating curative elements.

In certain inveterate cases, we have continued this treatment for more than two months.

During the first days the patient, particularly if a woman, complains of a feeling of soreness over the whole abdomen; sensibility appears exaggerated in this region, and the work of shampooing, the first three or four days, is certainly disagreeable. She however grows accustomed to it, provided the female attendant who rubs and manipulates the parts, knows how, from the very beginning, to accommodate the pressure to the degree of sensibility.

Case of Flatulent Dyspepsia

M. Th. of Paris, greatly occupied in business on the Bourse, aged 42, health moderate, complains of flatulence and swelling of the stomach and intestines, which showed themselves three years ago after great business troubles. He particularly suffers after his meals; he cannot bear any pressure over the epigastric region, he has some gaseous eructations, great precordial uneasiness, often transient palpitations, and obstinate constipation.

This condition coincides with a character anything but frank, sometimes even sombre and hypochondriacal. M. Th. loves solitude, he exaggerates his malady and despairs of being cured, because he has already been treated by the first practitioners in Paris, without any result. He however begins to sleep immediately on his arrival at Evian, July 15th, 1869, although almost without sleep for several years past.

M. Th. is submitted to identically the same treat-

ment as the preceding case. After thirty-eight days of it, he is much better and attempts dining at the table d'hôte.

He cannot remain any longer. He leaves in infinitely better health, as is acknowledged by his wife and mother-in-law, who accompany him, and tend and watch his case with affection and intelligence.

On his return next year, M. Th. still suffers from uneasiness in the stomach which his wife rates at four times less in amount than last year. The patient has passed the winter well and he might have been still better, if he had been willing to abide by the hygienic rules that we had laid down for him.

After his second course of treatment which lasted forty-five days, M. Th. leaves quite cured, and we feel convinced that certain attentions to his diet carefully carried out, will maintain the good effects of his two "cures."

We prescribed 30 grains of bromide of potassium in a clyster every night, which had an excellent effect on our patient's state of mind. This time M. Th. cordially joins his relatives in acknowledging that his condition has undergone a decided improvement, which in our eyes amounts to a cure.

It appears to us that in these flatulent conditions united with a depressing nervous state, the effect of the douche was less prompt than in any other case, and that it ought often to be employed for more than two months.

We have cited our notes of these two cases, which certainly are the most conclusive on account of their intensity and their stubbornness.

We could bring forward cases in every stage of illness, in which Evian water joined to our douche has

produced most decided effects. But this would be to uselessly overload the perusal of this short work.

Our waters, which cured or ameliorated the different forms of dyspepsia of which we have just spoken, were frequently insufficient, notably in the last two varieties. To-day, by the help of the epigastric douche, their action is almost assured, provided there be no organic cause of disease.

As regards symptomatic dyspepsia arising from chronic obstruction of the liver, from uterine or ovarian lesions, or from any other genito-urinary organ, equally in man as in woman, the indication is precise: these affections must themselves be treated and the dyspeptic condition will most frequently disappear with its cause. The difficulty is not to fulfil the indication but to recognize it. We have more especially seen women complain of their stomach, of bad digestion, who have not even thought of speaking about the copious leucorrhœal discharge which was exhausting them by robbing the blood. In all these cases the stomach is the first organ that suffers and complains. Among these patients are particularly to be found nuns and sisters of charity, old maids, women of excessive modesty, or even people who see in their condition only an over-worked stomach. All these patients have already been under treatment for a long time for bad digestion, when indeed the dyspepsia is only an accessory symptom. It is the physician's office prudently and firmly to search these timorous consciences, that foolishly form their estimate of a medical man in proportion to the fewness of the questions he puts to them.

Irritative or Catarrhal Dyspepsia
of the Hôtel-Dieu Professor.

This form of dyspepsia is produced in persons otherwise healthy, who are great lovers of good eating and generous wines, and who lead a sedentary life. Before gout reaches them, as it will do, but later than if they had an hereditary tendency to it, they are seized every year, generally towards the end of winter, by a continuous feeling of uneasiness, which simulates some gastric trouble, joined with expectoration of mucus every morning.

They feel no relief from emeto-cathartics which make them worse because the mucous membrane of the stomach is more or less inflamed. Liqueurs and brandy produce a feeling of pricking and even of burning in the epigastric region. Their stools, generally difficult, are often accompanied by muco-glairy matters.

These patients ought to give up their habits, their cares, and their pleasures. They have need of change of air and diet. They ought immediately to proceed to a thorough scouring of their stomach with some cool and slightly alkaline water.

Evian water has certainly no equal in such a case. A few baths alternated with douches complete the treatment, of which drinking the water constitutes the chief part.

Here from eight to fifteen glasses of water daily are sufficient. In very marked cases it is useful during the first four or six days to add a wineglass of Hunyadi János water or a dose of laxative medicine every morning.

**Chlorotic Dyspepsia united often enough
with an Hysterical Condition.**

These patients, almost always young, present an impoverished state of the blood, which only furnishes insufficient gastric secretions.

This variety might well be put into the category of the true dyspepsia of M. Sée; acid being partially defective. The blood is not rich enough to furnish the normal secretions.

These patients (generally of the female sex) still go on eating, but they instinctively prefer acid food; scarcely have they left table when they feel a weight, often painful, and a swelling in the epigastric region.

This painful sensation is ordinarily prolonged for three or four hours, with throbbing of the heart, palpitation, and difficulty of drawing a deep breath. It is only after this period that eructations come on, and they seem to afford relief. Obstinate constipation from defective intestinal secretion and sluggishness of the muscular coat, ordinarily accompanies this variety of dyspepsia.

The treatment of this affection is almost indicated by the patient's own instinct; we must restore to digestion the acidity which it demands: two drops of hydrochloric acid properly diluted; we must give tone to the muscular coat of the stomach by a little nuxvomica and bitters, by choosing simple food easy of digestion; next give back strength to the red globules of the blood by the employment of iron, bark, etc.; and lastly see to the functions of the skin. Now, we have seen all these rational prescriptions fail or only

have an insufficient effect in this sort of obstinate dyspepsia, when the treatment has been carried on in the patients' usual place of abode. From the moment of their arrival at Evian on the contrary, the new vigour imparted to the formation of blood, the tone restored to the stomach by the absorption of a few glasses of the water, give such an impulse to the whole system, that generally about the eighth or tenth day, the treatment may be reduced to a few douches, combined with exercise, five or six glasses of ferruginous water from the Petite-Rive or from Amphion near Evian, together with abundant and varied food.

We could cite numerous and very conclusive notes of cases of this affection rapidly cured at Evian.

Acid Dyspepsia

This variety of dyspepsia is ordinarily accompanied by pyrosis, eructations, gastrodynia, pain.

This disorder is generally connected with a nervous, arthritic, or lymphatic condition, and is found in persons of delicate constitution. In these cases we have exaggerated acid and gaseous secretion, and there is also acid fermentation in the stomach. The neuralgic pain or gastrodynia is often produced by simple moral influence, as well as by ingestion of certain rather heavy articles of food, such as *foie gras*, some kinds of shell-fish, highly seasoned sauces, unripe fruit, salad, etc. Sometimes the pain shows itself under the form of a real paroxysm and lasts several hours. Often also the pain appears during the

night after coition, or even without any apparent cause.

For these patients, the entire pharmacopœia is ransacked in vain : alkalines, charcoal, magnesia, opium, ether, turpentine, etc.

We generally succeed in curing these disorders at Evian; but in all cases, we are sure of ameliorating them by submitting them to the following treatment : diet of white meat and green vegetables very well done and unseasoned, claret greatly diluted, or better still, water with a little old brandy. Milk in the morning ; no sauces, salad, fruit, pastry, or cheese, at meals ; no tea nor coffee. Should there be obstinate constipation as is generally the case, then a tepid “*douche ascendante*” every morning before the bath, four glasses of water in the forenoon at regular intervals, two in the afternoon. A complete warm bath every morning, and a hot douche with vigorous shampooing over the whole abdominal wall during all the time of the douche, which ought to last from five minutes to a quarter of an hour according to the case.

We have ourselves introduced this douche over the abdomen and notably over the epigastric region, in the treatment of certain varieties of dyspepsia.

We cannot too highly recommend it on account of the great service it has rendered us during several years. It merits a detailed description.

This douche, called at Evian “*The epigastric douche*,” ought to be given according to certain rules, that may be considered empirical, but which are sanctioned by long experience.

Epigastric Douche

The shampooer (*masseur*) ought to be strong and skilful. He places himself on the right of the patient who stands upright. He begins by circular frictions with the palm of the hand from right to left or from left to right, but he must continue *always in the same direction*. The frictions extend over the epigastrium and the abdomen. The pressure ought to be gradual and accommodated, especially at the beginning, to the patient's sensibility, which is sometimes acute. The pressure or rubbing is augmented in proportion as the patient can bear it and until the abdominal wall is strongly depressed. We have not met with any patients who have not succeeded in supporting the pressure at its greatest intensity towards the sixth or seventh day. Concurrently with the rubbing and at the same time, a skilful attendant directs on the same parts a douche of water from a high pressure pipe, as hot as the patient can bear it, following as much as possible the hand of the rubber. It is important that an equally hot rain or shower douche be directed on the back at the same time, in order to avoid the feeling of cold, to which these patients are very sensitive.

However, in the simple forms of the kind of dyspepsia of which we are speaking, Evian water, a few pharmaceutical preparations, and strictly regulated diet, generally form the principal part of the treatment; the dyspeptic douche is here only an adjuvant of great power. In inveterate cases, on the contrary, it is indispensable and gives the best results.

False Dyspepsia

As to cases of false dyspepsia which the Professor of the Hôtel-Dieu makes out to be accessory symptoms of true dyspepsia (we have already enumerated them) they are in the first place amenable to our waters and to the long continued use of our epigastric douche. We repeat that in actual practice these two kinds of dyspepsia cannot always be separated one from the other. It appears to us that this last variety nearly always forms an integral part in the train of true dyspepsia.

We have on different occasions performed the operation of washing the stomach with Evian water by means of Faucher's tube; notably in two cases of dilatation and in one of cancer of that organ. In the two former cases success was complete, and in the third this means proved a powerful adjuvant. In this respect the waters of Evian may rival those of Vals and of Vichy.

IX

Diseases of the Urinary Passages

The waters of Evian are employed with great success in affections of the urinary passages, not only at Evian itself but also at the patients' own houses.

We believe it to be the best means of thoroughly washing and cleansing the kidneys in catarrhal or desquamatus nephritis whether primary or secondary.

In support of what we advance in this respect we cannot quote a higher authority than the learned Professor Noel Gueneau de Nussy, who, speaking to us and praising the water of Evian, added : “ For my part, the greatest advantage that I have derived from it during the last twenty years, has been in parenchymatous nephritis, which I have always most successfully treated with Evian water, particularly at the commencement of the disease.

“ It is the lightest water known, it passes easily in virtue of its eminently diuretic properties. It carries along with it, without fatiguing the kidneys, epithelial and other *débris*, which, in case of inflammation, encumber the renal filter; it generally succeeds with me. ”

Such is the veritable definition of the mode of action of our waters. This declaration of so eminent a practitioner may be looked upon as the consecration of our work after so many years. We have seen and observed exactly like this master in the faculty, as we will proceed to show.

For the sake of order, we shall commence with diseases of the kidneys and then take those of the urinary passages, treating in succession those affections which are amenable to our waters.

Albuminuria

Thanks to the important works of learned medical men in all countries, among whom France can count a preponderance, albuminuria is beginning to be disengaged from the mists which enveloped it.

We know to-day that if the urine contains albumen, this may depend upon two principal causes : either the filter, that is to say, the kidney is diseased primarily and lets the more or less normal albumen of the blood pass; or the albumen of the blood, changed in its molecular constitution, through faulty assimilation, acquires an abnormal facility of being filtered, which causes it to traverse the healthy kidney. Soon, however, this deviation of function produces disorders in the kidney itself.

Cold may be a rare cause of nephritis. This disease, however, arises much more frequently from inflammation of the inferior urinary passages extending upwards to the kidney, from chronic gout, from the elimination of certain irritant substances, cubebs, copaiba, and above all cantharides.

The subacute and chronic forms of nephritis, which are met with in certain weakened, lymphatic, and scrofulous subjects, with a manifest diathesis, in whom the mucous membranes secrete with very great facility, and in whom on account of this disposition, restitution *ad integrum* is not always easy, these forms, we say, derive great advantage from prolonged and repeated courses of treatment at Evian. The water is especially of great efficacy in cases of catarrhal desquamatus nephritis, following inflammation of the urinary passages. The evil commenced by simple gleet, for which numerous balsams, specifics, and all kinds of urethral injections have been employed.

For a long time already, the urethral secretion is only mucous, slightly thickened, yellowish after sexual intercourse, a long walk, or a more copious repast than ordinary. At this moment also a pricking sensation is felt in the deeper parts of the canal. The neck of the

bladder is affected in its turn; there is heat, pain in making water, and micturition becomes more frequent.

The catarrhal condition is next propagated from the bladder to the ureters, the pelvis, and the papillæ. If the usual diet be continued, the evil is not slow to extend itself from the summit of the pyramids to their base; soon the dilated tubes are filled by epithelial cells in a state of proliferation. The cells are round, slightly adherent to the walls of the canaliculi; often smooth, they are rarely eliminated under the form of an epithelial cylinder which reproduces their shape. In old standing cases the cells are filled with adipose granulations. These conditions, which are far more frequent than is generally believed, very often pass completely unperceived. Both physician and patient are convinced that they have only to do with an old discharge, relegated to the prostatic region, or with a very obstinate inflammation of the neck of the bladder. However the patient gets paler; he does not profit enough by what he eats; he easily becomes weary and fatigued; from time to time he complains of lumbar pains.

All these symptoms continue obscure, until the urine has been submitted to chemical and microscopical examination. By heat and nitric acid we recognise the presence of albumen; and after standing, the microscope discovers in the middle of a sediment by no means abundant and of a dirty and powdery appearance, some epithelial cells, free or aggregated into cylinders, and some small and homogeneous mucous coagula. These cells are sometimes granular, rarely oily, and by the action of acetic acid, the granular contents become clear and let the nucleus be seen.

It is rare that catarrhal nephritis is transformed into

parenchymatous nephritis; yet if the microscope shows the epithelium to be manifestly granular and oily, it is highly probable that this transformation has taken place or even that the nephritis was parenchymatous from the very beginning.

As a general rule, when we see a patient complaining of an old discharge from the urinary passages, or of slight and inveterate cystitis, of general debility, and who, instead of gaining strength, seems rather to lose it; without even waiting for the appearance of a tell-tale œdema, very rare in these cases, we must not hesitate to examine the urine and for this purpose some of it, but not that first voided, must be reserved in a glass vessel. We shall certainly find in the urine traces of retractile albumen and the other signs of inflammation having reached the kidney itself. From the cause being known, it would be difficult to confound this well-marked condition with nephritis from chronic stagnation or with amyloid degeneration, and still less with a sclerotic state of the kidney.

In some cases of catarrhal nephritis, which must already have been of some standing, the dirty and powdery sediment was replaced by a deposit of ammoniaco-magnesian phosphate, which was expelled every morning, and not without painful effort, in the form of a little soft lump, at the end of the first act of micturition. This substance arrived after urine of almost the ordinary colour, which only reddened litmus paper slowly and with great difficulty.

We have observed a case of this kind in a young man 29 years old, of great intelligence and already at this age occupying a high position. He had all the appearance of health, was tall, well-built, fair but rather pale, and the mucous membranes were whitish.

Nothing however in him indicated an albuminous diathesis.

His mother died, whilst still young, of inflammation of the lungs, so her son said, but his own respiration was perfect.

He had had gleet, which had continued for more than seven years in a chronic state in spite of all imaginable kinds of treatment. For the past year he had noticed nothing more of it, since he had been obliged to go to Ragatz in company with a member of his family. He himself took baths there, and it was after the twentieth day that he felt difficulty in terminating the first act of micturition in the morning. He was immensely astonished at voiding, after some efforts, a small worm-like lump of soft chalky matter of a whitish gray colour.

He was sent to us at Evian, and we were present two or three times at the arrival of this little cork shaped lump, which seemed to us to be ammoniaco-magnesian phosphate. An analysis made in Paris at the Necker hospital fully confirmed our hypothesis. The patient was greatly excited. He was seen in consultation by a physician of one of the Paris hospitals, who was under our care at Evian. The patient was put on a regimen of mineral acid, meat, and tonics of all kinds quite in vain. We were obliged to return simply to the use of Evian water in large doses, which, after eleven or twelve days, greatly diminished the quantity of the deposit.

The young gentleman became impatient, and he left for Paris, when, in our opinion, he ought to have prolonged the treatment to a more sufficient extent.

We afterwards learnt that phosphatic diabetes was suspected. But this hypothesis appeared hardly

probable to us, on account of his general state of health which was good and could scarcely give rise to such an hypothesis.

On examination the urine presented a slight albuminous cloud, and the microscope revealed some round epithelial cells. Does it not seem probable that the catarrhal mucus of the kidney, a sequel of the propagated gonorrhoeal inflammation, serving as a ferment, had transformed the urea into ammonia, which was then precipitated in the presence of the phosphate and salts of magnesia?

We saw this patient again some months later in Paris, when he owned to us that there was no change in his condition, notwithstanding advice most learnedly given and most scrupulously followed.

We should not have mentioned this case, from which no conclusion can be drawn as regards our waters, had we not several others almost identical, which have greatly benefited from the methodical employment of our waters.

We extract from our note-book the two following cases: M. de la F..., aged 42, well-built, fair with fine and very white skin, is lymphatic with pale face and dark cercles round the eyes, perspires but little; he has been a great sportsman. He hunts still, but being on horseback tires him and causes him pain about the lumbar region. He more quickly becomes fatigued and weak and his appetite has become capricious.

Eight years ago he had gonorrhœa, the injections for which brought on chronic cystitis of which he has complained these three years past. This last affection having been treated by several specialists without any great result, he was sent to Evian for it, June 29th, 1877.

Besides a considerable ropy mucous deposit, which keeps at the bottom of the vessel and does not separate on falling thither, an abundant powdery sediment of whitish gray appearance is also found.

By ebullition his urine yields a flaky precipitate of albumen; under the microscope, it presents purulent corpuscles, epithelial cells, some fine crystals of oxalic acid, and dustlike earthy phosphate, which acetic acid dissolves: diagnosis, catarrhal condition of all the urinary passages.

We prescribe at the commencement a Russian bath at 35° centigrade in the morning alternately with a warm douche and shampooing of the whole body. To begin by drinking eight glasses of water and then to augment by one every day, the food to be well salted, and to take two granules of arsenious acid at each meal, together with moderate exercise and nourishing diet.

After eight or ten days the appetite has become keen, the skin acts better, the ropy mucus has disappeared from the urine, the globules of pus have considerably diminished, and the patient micturates very easily. There is always some albumen and perhaps there are more epithelial cells than before the treatment commenced, some crystals of oxalic acid are also present.

Towards the twenty-sixth day the patient feels himself much stronger and he looks exceedingly well; *not a trace of albumen* after three different testings, the urine is normal. M. de F. says he is cured. Unknown to us for several days past he has been on the lake in a little boat, and on the thirty-first day he gets caught far out by a sudden squall which forces him to row with all his might for a good hour. When

he reaches home he is thoroughly soaked by the rain and next day his urine is as bad as ever, the albumen, pus, etc., have reappeared. He feels stiff and weary and is feverish. Dry cupping is applied over the region of the kidneys and he is confined to his room for four days. The course of treatment has absolutely to be begun all over again.

Ten days suffice to bring about his recovery afresh. The urine is slightly acid without trace of albumen and no pus is seen under the microscope. M. de F. leaves in good health after fifty-five days' treatment. We saw him again in Paris during the winter, and the following year he returned to Evian to let the water give him a slight internal washing; his improved health was perfectly maintained.

A third case far more conclusive, although it was less inveterate.

M. K., a banker of Geneva, was sent to Evian for inflammation of the neck of the bladder, which had refused to yield to different plans of treatment. M. K. is 38 years old, tall, fair, pale, lymphatic, rather anæmic. He cannot tell what brought on his malady. When young he had several attacks of gonorrhœa which were long and difficult to cure, but he never perceived that the bladder was implicated. He has now been married five years. A year ago, after a grand dinner with plenty of wine, he felt tenesmus at the neck of the bladder whilst making water. Since then his urine has never again been perfectly clear. He has undergone various medications, which have slightly ameliorated his condition. For more than two years he has felt a general sense of fatigue. On the advice of his physician he avoids all sexual intercourse, which pulls him down too much. His urine

is muddy and deposits mucus interspersed with purulent globules.

His urine is neutral and in order to induce it to boil we add a drop of nitric acid. The presence of albumen is most marked. The upper part of the liquid in the testing tube becomes characteristically opalescent. Under the microscope we see pus and crystals of uric acid, but no epithelial cells. After drinking the waters for three days the cells are found in great number enough but no cylinders. Diagnosis, chronic inflammation of the neck of the bladder and at the beginning catarrhal nephritis.

Treatment nearly identical with that in the preceding case. After a fortnight the patient's external appearance is not to be compared with what it was at first. On the thirty-ninth day all traces of albumen, pus, and mucus have completely disappeared.

M. K. micturates very easily and without any disagreeable sensation. He leaves perfectly cured and his wife declares to us that she has never seen him so well since the first days of their marriage.

He must however avoid all fatigue and violent exercise of every kind. During the year we receive two letters from him confirming the maintenance of his cure.

We also receive from his physician, who is a professor at the Geneva School of Medicine, a letter sending us another patient and begging us to treat him like the last, who is, he says, perfectly cured.

We must however confess that we have not always been so fortunate, especially in the majority of cases in which the patient has been old and the malady of long standing. Here we generally obtain an amelioration which continues more or less. Every year we see at

Evian a certain number of patients suffering from Bright's disease, who come hither to regain their appetite, wash out their kidneys and recover their strength. When the disease is only beginning, some of them find serious and permanent improvement at Evian; others must content themselves with such an amount of amelioration as will enable them to pass endurable winters.

We thus see them retard from year to year those grave complications which this cruel disease almost fatally entails.

Whether the kidney be primarily attacked, or whether it has undergone alterations in consequence of the filtration of albumen or other abnormal elements, it is easy to explain the happy effect of our waters in these affections. Evian offers to these patients a water of incomparable lightness, agreeable to drink, and one that aids digestion, is eminently diuretic, and which carries off throughout its course all deposits of epithelium, cells, fat, mucus, and sand; all which elements are found in quantity under the microscope after the first few days of treatment. Here also they breathe air of perfect purity, very rich in oxygen, and one that powerfully pushes forward the formation of blood, excites appetite, and carries new life into the inmost recesses of the system. Lastly they find at Evian all the means of sudation, the best understood hydrotherapeutic arrangements, a truly splendid situation, with excursions on the lake which provide amusement without inducing fatigue. These are truly exceptional conditions for this class of patients, and such as no other health resort can furnish.

It is with the most profound conviction and after having attended a rather large number of this kind of

patients for several years past, that we affirm that a conscientious medical man really cannot do better for a patient afflicted with Bright's disease, than advise him to spend a season every year at Evian.

Secondary inflammation of the kidney resulting from eruptive fevers, especially from scarlatina, is generally cured very easily here.

However certain indolent conditions among those with some constitutional predisposition, which present no active tendency towards resolution notwithstanding the young age of the subjects, derive much benefit from a course of treatment at Evian. On different occasions we have seen children just convalescent after scarlatina, but still offering some traces of albumen, very rapidly re-established at our health resort.

In general, our treatment was not too active; one or two glasses of water taken by a half or quarter glass at a time and between meals, a few very quick tepid baths, moderate walking exercise in the open air, and a good result has not long to be waited for.

X

Chronic Pyelitis and Chronic Pyelo-Nephritis

What has just been said of catarrhal nephritis, can be equally applied to pyelitis and pyelo-nephritis.

These are produced often enough by the spreading of inflammation from the inferior urinary passages, but more especially by the presence of lithiasis.

If the patient has already had antecedent attacks of nephritic colic, if the particles of gravel be pointed or angular, and if, one fine day, his urine be catarrhal, purulent, viscous, and gelatinous, precipitating ammoniaco-magnesian phosphates; then, if not suffering from any affection of the bladder beforehand, it is probable that it is a question of pyelitis or of pyelonephritis.

However it is far from easy always to establish such a kind of diagnosis. Should the patient have formerly had nephritic colic, should he have gravel that has produced chronic cystitis, or even should cystitis have preceded all other lesion, it is not always easy to establish a precise diagnosis.

The presence of albumen and of imbricated epithelial cells is special to nephritis; but when matters have lasted several years, as we have observed in some patients, chronic, purulent inflammation has generally invaded the whole course of the urinary passages.

One may rinse out the bladder in such a manner that the last injection is returned clear and limpid; then, if a few short instants afterwards, the catheter draws off a purulent viscous liquid with a deposit of phosphatic salts, of round or imbricated epithelial cells and of albumen, you may affirm that the disease is continued along the superior passages.

But all patients will not lend themselves to so detailed an examination, besides its often not being prudent to proceed to it.

We possess eleven notes of cases in which the patients discharged pus throughout the whole course of the urinary passages, and we followed these cases during several years in succession at Evian. They had been treated by masters in the faculty and yet we can

say that not only did they not find any real relief except at Evian, but further they owed the prolongation of their painful existence to our watering-place.

We shall quote the following case for it appears to us the most complete, because presenting the most severe disorders, by the very fact of the patient's own negligence and from the limited resources which he had at his command.

M. M., of Villefranche, engineer, age 65, strongly built, arrived at Evian in 1867.

For many years past he has been afflicted with a bulbous stricture of the urethra, that has occasioned inflammation of the bladder for which he has been sent to Contrexeville, Vals, and Vichy. Having been ill for ten or twelve years the inflammation has gained the upper parts. He feels very weak about the lumbar region, for the last three years he walks slightly bent and slowly, he has become very thin, and can scarcely eat at all. For some time before his arrival here he had taken milk which had done him a great deal of good and had enabled him to get to Evian. He discharges much viscous pus and some deposit of ammoniaco-magnesian phosphate, a little albumen, and some free and cylindrical epithelial cells.

In the first place we take in hand and cure the stricture of the urethra that had been inadequately treated and neglected for the last two years. From the outset, the patient takes from six to eight glasses of water daily, a tepid bath also, then the dose of water is increased by one glass every day up to fifteen.

After eight or ten days, appetite not known for several years, returns again, and the urine becomes less purulent. After forty days, no trace of albumen nor of cells. The patient leaves after forty-eight days'

treatment in an incomparably better state of health. The urine, however, remains ropy, and deposits pus (but about three-fourths less than on his arrival) and also some phosphates.

He passes a relatively good winter. He returned every season for eleven years in succession, and then we heard nothing more of him.

Truth to say, M. M. derived little benefit after his first year. Yet we do not think that we exaggerate in affirming that M. M., according to all appearances, was worn out in 1867 and no one could have supposed that he had more than a year or two to live. In our opinion and also in that of the patient himself, these eleven years of extra life are in great part due to the long course of treatment which he underwent at Evian, and which he followed out at home during all the year.

At each visit his appetite improved, he recovered his strength, and scoured the urinary passages with water without an equal for such an object. At Evian he found a renovating, *cleansing*, and sedative influence, that he could not find anywhere else under such remarkably suitable conditions.

We subjoin remarks upon an affection happily very rare, the cure of which reflects the greatest credit upon our water.

Rev^d Mr. P., English, 50 years of age, son of a gouty father, has suffered from nephritic colic for two years. A year ago, after one of these attacks of renal lithiasis, he could no more either walk quickly or take a drive without discharging floods of blood from the urinary passages. He arrives at Evian August 4th, 1878, after having been at several watering-places. He is perfectly well formed, and is the father of six children.

He complains of almost continual pain in the left renal region.

He habitually discharges sand. He is very pale, anæmic, and greatly alarmed at his condition about which he is in despair.

His urine contains mucus and numerous white blood corpuscles, uric sand and some crystals of oxalic acid.

He drinks from eight to ten glasses of water per day and reaches twenty-two at the end of a fortnight. He has a hot douche over the lumbar region and a tepid bath daily, and takes slow and short walks. On the twenty-fourth day his general condition is much better, and he does not part with any blood. He attempts a long walk with his children. On his return bloody urine and faintness.

We advise him to stay a long time at Evian and to drink the waters unceasingly, insisting upon several cases, that we shall hereafter mention, of patients having had severe nephritic colic with hæmaturia and great pain produced by very angular and very sharp particles of gravel. After three or four long courses of treatment at Evian, we have seen these patients discharge only gravel *of which all the points were blunt*, after they had had attacks of colic, the sharpness and intensity of which were incomparably less than in preceding ones.

In all these cases, we do not hesitate to attribute the destruction of these sharp and keen points to the continual passage of our waters alone, that is to say, of an infinitely light and slightly charged water, the almost entire elimination of which takes place by the kidney. It is indispensably necessary to continue its employment a very long time.

By our advice the Rev^d Mr. P. took up his abode at Evian with his whole family. At all his meals he drank only Evian water, besides as much of it as he could during the day. During three years he saw the bloody discharges gradually diminish. He left Evian after having made long excursions both by carriage and on foot, which he bore perfectly well and without the slightest derangement in the bladder. Pus had disappeared from his urine and his general health was excellent.

XI

Uric Acid, Gout, Lithiasis.

Since the magnificent works of Garrod, Edwards, Eisenmann, Lecorché, etc., etc., we can affirm that we have seized the deleterious agent in gout and perhaps also in some varieties of rheumatism. We have not yet gone deep enough into the generation of uric acid in the system; yet the constant presence of this product in excess in all cases of gout and in some forms of rheumatism is an important fact.

There is every reason to think that in cellular digestion we shall arrive at a knowledge of the secret operation which presides over the formation of this pathological element. It is the same with the formation of uric acid as it is with that vital operation by means of which every organ knows so well how to appropriate to itself its own proper histological elements to the exclusion of all others offered to it by the capillaries; we are still ignorant about both.

Uric acid is thought to be the consequence of an im-

perfect combustion of azotised matters. Such at least is the opinion put forth at the present day, although this theory leaves doubts in the minds of some learned men authorized to speak on the subject.

To-day, since the works of Beneke, one attributes to this same cause such diseases as diabetes, albuminuria, obesity, biliary calculus, rickets, and softening of the bones.

This opinion seems to have acquired singular consistence since the learned treatises of Beneke and Professor Bouchard on the disorders of retardative nutrition.

It is the protoplasmatic cell which the eminent Professor of the Faculty of Paris takes as the starting point of his researches.

Cellular life, with its double movement of assimilation and disassimilation, that is to say, of creation and destruction, is composed, first : of assimilation which comprises a physical act, the translation of penetration, and a chemical act, vivifying translation; secondly, of disassimilation, which equally comprises a chemical act, retrograde transmutation, and a physical act, the translation of expulsion.

This eminent professor shows with great force of logic that a malady arising from slow nutrition may be the necessary consequence of a defect in one or in several of these four physiological or vital acts.

As regards what touches our subject, i. e., the production of uric acid, M. Bouchard, after a long and learned criticism of the theories on the production of uric acid, seems to conclude thus : There is in gout an exaggerated formation or too slow a destruction of the *organic acids*. Here is one of the characteristics of what he calls retardative nutrition. In addition, gouty

people, says he, offer other characteristics of this slowness of nutrition. The gouty burn their fat badly and transient glycosuria is observed often enough in the course of gout. In the disassimilative metamorphoses that the *proteic matter* undergoes in them, a more considerable portion than in a normal state is eliminated under the form of uric acid, without arriving at that more perfect state of oxydation, which gives rise to *urea*.

Gout would then be, according to this eminent Professor, a malady essentially characterized by retardation of nutrition; although he refuses to place gout, as it has been tried to do, under the dependence of a torpid state of the liver.

Without wishing to contest this affirmation of M. Bouchard, which makes of gout a malady of retardative nutrition, he will not take it ill, if we submit to him the result of our own experience. If the eminent Professor had divided gout into commencing or acute gout and chronic gout, nothing would have appeared to us more true or more exact than to say of this last, that it has become a disease, a diathesis, from retardation of nutrition. By changes in cellular activity, which we do not yet know, and which certainly are the consequence of a long deviation of this activity, it may happen, that such a failure constitutes at a given moment the disease itself. But M. Bouchard will acknowledge that these manifestations of atonic gout have hardly anything in common with acute gout except the presence of the uric element in the blood. It will be very difficult to establish that the lactic and other acids of retarded nutrition are to be taken into account. Could one say for example that a subject who had never had a case of gout in his ancestors,

who, enjoying good health, abuses it in order to eat and drink to excess, who leads a sedentary life, and indulges immoderately in pleasures of every kind, and who becomes gouty, is ill from retardative nutrition? That appears difficult to us. Using a common expression, does not this organized machine seem to us like a mill that one fills awkwardly and which is powerless to regularly grind the grain that one does not know how to supply properly? Will not the first attack of gout be quite independent of all gouty diathesis? Could one apply to this state the name "*brady-trophique*." It is difficult to think so. All the more because this same system subjected to severe hygienic influence will not retain even a trace of the gouty attack, which had been inflicted on it. In a word, is it not a case in which the income depasses what the system can spend and does indeed spend? The whole of the twenty-fourth Essay of the eminent professor seems to us to lead to this conclusion.

What M. Bouchard has made evident in an irreproachable manner are the numerous relationships more or less near of hereditary, that is to say, of chronic gout, with extreme obesity, asthma, rheumatism, diabetes, gravel, eczema, biliary calculus, hæmorrhoids, neuralgia, sick headache, and especially with dyspepsia. Todd also alleged that gout was a dyspeptic disease entirely due to dyspepsia augmenting the lactic acid in the system.

However that may be, uric acid appears to be a normal product of our system, in the hygienic conditions under which we live. In a litre of urine we find on an average 30 to 50 of uric acid. These figures represent less than the real quantity, for they represent only the amount excreted by the kidney. But the skin

excretes a certain quantity, as may be seen in the liquid produced by a blister. (Garrod.)

Until lately, we had been habituated to consider gout and a certain form of rheumatism as having a common uratic origin; (we except those forms of it which the ancients called catarrh of the serous membranes).

To-day, although several arguments still seem to plead in favour of this hypothesis, the progress of pathological anatomy would tend to radically disassociate these pathological conditions. However we should not forget that among the progenitors of a great number of gouty persons it is rare not to find some rheumatic subjects (Heberden's nodes, tendinous, muscular rheumatism, etc.), that certain forms of *non-infectious* rheumatism are, like fits of gout, powerfully influenced by salicilate of soda. The action of this medicine, well known now, consists in hastening the elimination of the products of urea, etc., in both cases.

It is incontestable that we know little of the facility with which certain systems produce uric acid at the expense of azotised aliments. This facility is hereditary or acquired.

Hereditary tendency is explained by the property possessed by organic substances of transmitting by simple contact with substances of another kind, the particular molecular state which certain circumstances have produced in themselves. Or again in a similar case we may conceive an hereditary tendency as proceeding from certain more or less vicious practices, long continued in the recesses of the system and which extending towards the nervous vegetative centre, have at length impressed some anatomical modifications upon it, either by exalting some one cellular activity or by

facilitating the decay of some other activity which served as a counterpoise to it. This habitude or aptitude acquired by usage is what dominates and subdues the innateness, which parents bequeath to their offspring. Just the same as they transmit to them any vegetative, intellectual, or moral strength or weakness.

Evidently, if the father and mother have both been gouty or rheumatic, their children will be almost fatally doomed to rheumatic or gouty manifestations, of which such sad specimens are met with, particularly in the English upper classes. These systems will almost invincibly produce uric acid in excess from the sole fact of an hereditarily transmitted predisposition. In these cases of well marked predisposition it is not at all indispensable for the appearance of gouty symptoms, that the expense be less than the receipts, that the person have the habits of sedentary life, etc. Perhaps by diet he will be able to avoid sharp paroxysms, but his life will not pass without some normal or half developed symptoms, such as nodes, chalk-stones, some dyspeptic derangement, gravel, sand, hepatic or nephritic colic, headache, pains along the course of some nerve, enlargement of the liver, sclerotic degeneration of some organ or portion of some organ, diabetes, etc.

In all these affections the best instituted treatment will only take slight hold and will only produce transient amelioration; forgetting some small detail of hygiene, change of weather, etc., will bring back the manifestation of the diathesis.

But if hereditary gout almost evades our prophylactic and curative means, it is no longer so with acquired gout. It depends upon us, upon our regimen, our hygiene to avoid it and even to cure it after

a first attack; we must have the will and courage to do so.

One of the first clear intimations of gout is the presence in the blood of uric acid in excess, the cause of which, in the opinion of all authors, is certainly the too plentiful supply of nitrogenous food, which only undergoes imperfect elaboration from default of combustion or of interstitial digestion.

In truth we must at present be content with this explanation, for the vital action which goes on deep down in the recesses of our organs, is still little known to us. It is connected with the problem proposed by the illustrious Claude Bernard, when he invites physiologists to seek for the mechanism and cause of life in the cell itself. It is in this fertile ground that Professor Bouchard has just made as it were a first trial, which has gained us his brilliant Lessons on diseases from retarded nutrition.

Uric dyscrasia, of which nobody can deny the presence in gout, appears to us to give a sufficiently good explanation of the clinical progress of this disease. The accumulation in the blood of an absolute excess of uric acid is already an internal and silent indication of the disease. The simple effect of some exciting cause such as emotion, bad digestion, a chill, etc., is sufficient to bring out its external manifestation. Our system, so patient of and so easily accustomed to weak daily doses, becomes absolutely refractory to those large doses of uric acid, which are the sudden consequence of the partial or total suppression of some function that eliminates this product.

It is the same with this poison as with the majority of poisons to which one can habituate the system without destroying it at a blow.

What is there astonishing in the kidney, surprised by some unaccustomed work, becoming obstructed or yielding to a spasmodic condition and thereby finding itself powerless to excrete its usual dose of uric acid?

The whole system struggles to get rid of its enemy. It pushes him towards the extremities and strives at last to exclude him from its midst by fixing him under the form of urates, of tophaceous matter around the joints, and later on in a slight degree throughout its entire cellular tissue.

An acute attack of gout is justly regarded by Professor Bouchard as a means employed by the system to burn up and eliminate urate products. He concludes from this that nothing ought to be done during an attack of acute gout, if it be not too protracted. According to this author, it is not during the attacks themselves that one ought to treat gout, but rather in their intervals.

An acute attack of gout is a long time in preparation. For some time past the system and the kidneys have become accustomed, the one to a gradually increasing production of uric acid, the other to a more active and considerable elimination of it. The system must have either some excess at table, or a fit of indigestion, or a lively mental emotion, or the action of cold on the skin, in order to determine an outbreak.

In these cases the gouty fit will not be produced by an absolute excess of uric acid in the blood. The kidney, accustomed to excrete a certain quantity of uric acid, may be taken unawares and rendered spasmodic by a double or triple amount of extra work, and perhaps also by urate products too carelessly elaborated for its delicate filter. There may also be the fact of a simple obstruction. It will only be a few days afterwards, that

being better prepared for this new work, it excretes greater quantities of it. It is at this moment that the system has already sought to make up for the insufficiency of the renal functions by driving the enemy towards the extremities and articulations, which become congested and inflamed.

Can acquired gout be cured ?

Does a first attack of acquired gout imply gouty diathesis or a "brady-trophique" state ?

In order to attempt an answer to this question we will simply relate the case of Dr. B..., professor of Obstetric Medicine. Whilst staying in London in order to visit the hospitals of that vast city with reference to gout, this eminent Professor of Obstetric Medicine tells us that he became convinced that acquired gout could be cured. "It is more than ten years ago", says Dr. B..., "that I was seized with a violent attack of gout, and I promised myself that it should be the last. As soon as the paroxysm was over, my diet, which hitherto has been that of a strong, vigorous man with a good appetite, was greatly modified. I renounced wine, coffee, tea, fat ; my meals consisted of slightly seasoned meat, fresh vegetables, and plenty of water. I increased the amount of exercise of every kind. In short, the result was most satisfactory. For the last ten years," says he, "I have not felt the least touch of gout. At the beginning this change of diet was very difficult to carry out, but with a will, everything is possible"¹.

(1) We gladly take this opportunity of tendering our thanks to those eminent members of the profession who gave us such a cordial welcome in London. We would especially express our gratitude to Dr. W. Miller Ord, Dr. Barnes, Sir I. Spencer Wells, Sir Henry Thompson, Sir William Jenner, Mr W. F. Teevan, and Dr. Milner Fothergill.

Dr. B., notwithstanding this strict diet, seemed quite well and strong, with an appearance of perfect health at the age of 64 years.

Besides, who does not know the story so wittily told by the illustrious Trousseau of that famous gouty subject, who having become poor, with his wealth also got rid of his gout? Later, being anew favoured by fortune, he was soon again nailed to his sofa; and thrice did he undergo the same curious alternations.

The truth is that the majority of those who suffer from non-hereditary gout, do not really wish to be cured; pain once over is quickly forgotten!

It is so difficult to renounce for ever the delicious and aristocratic sensations procured by a good table, generous wines, and other pleasures in their train.

Our experience has shown us that such a thing is not even to be thought of. The majority of gouty people promise to take more exercise, to suppress the small liqueur glass of brandy and also perhaps their coffee after dinner, to eat less farinaceous food, etc.; and they remember their promise for hardly a fortnight after each attack. The evil would be less if these gouty individuals ceased to have children; but such is far from being the case. And without even thinking of the unhappy victims whom they bring into the world, they doom them without mercy to all the disastrous consequences of an hereditary disease, which will almost entirely elude the most intelligent care.

Perhaps nothing is so prejudicial to the human race as this absolute forgetfulness of the laws of natural responsibility, as well moral as physical, which govern our world.

We are convinced that a well-digested book clearly establishing the scientific connexion of facts and of sociological, biological, and pathological phenomena from one generation to another, would actually be the best and most useful present that could be made to civilized humanity. Here is a work well suited to tempt a powerful mind, endowed with vast learning and a profound knowledge of men and things.

However that may be, should the patient have neither courage nor a will strong enough to be cured of gout from its very first manifestations, it only remains to try to attenuate its attacks and to lessen its multiplied consequences.

Here again it is to hygiene, to as severely regulated a diet as the kind of life which one is obliged to lead, will bear, that we must address ourselves. Above all, the skin, that vast expansion of connecting nerves fixed and contained in the true skin, ought to be the object of our particular care. Orientals alone have truly understood the importance of the cutaneous functions. Therefore they have neglected nothing as regards the most refined fitting up of baths, shampooing, douches, etc.

A person with subacute gout never ought to pass a day without undergoing strong rubbing over his whole body with a hair-glove moistened with some exciting fluid. Once a week at least he should take a Turkish bath properly adapted to his condition.

With equal solicitude will he take care to keep his bowels regular; one motion a day is indispensable, whatever may be the means by which it is to be procured.

Lastly as soon as the gouty patient has passed the period of free and sthenic attacks, it is to Evian that

he ought to come every year to bathe his whole system both internally and externally, to try to dilute, to dissolve, and to get rid of the uric acid in excess by the natural outlets.

In reference to the incontestable effects of our waters, let us hear what is said by M. Bouchard, the eminent Professor of Pathology and Therapeutic Medicine, by quoting his words at page 301 of his 27th Lesson on disorders from retardative nutrition: "Water ought to be abundant for it diminishes uric acid as is shown by Genth, and augments urea. Mosler has seen the quantity of urea increased one-fifth after swallowing 1,500 grammes of water, and Beneke values at 1 gramme (about 15 $\frac{1}{2}$ grains) the quantity of extra urea produced by 300 grammes of water added to the ordinary drink.

"Water exerts another favourable action in facilitating the dissolution and active elimination of uric acid. If such be the first effect sought for, if we wish by the water swallowed to produce a dissolving effect upon the urates deposited in the tissues, this water must not merely traverse the blood and be eliminated immediately by the kidneys; it must remain in the system, it must dilute the blood, it must pass into the tissues. We obtain this long sojourn of water in the system by making use of warm water. If on the contrary, we wish to provoke rapid elimination, to cause to flow over the concretions deposited in the kidneys or in the bladder, a current of water scarcely charged with urates and consequently more capable of washing and even of wearing away the gravel, cold water will be preferable; for inversely to warm water, the former contracts the vessels of the abdominal organs and, carrying into the main circulation the blood

accumulated in the system of the portal vein, it augments arterial tension and forwards the renal function. It is in the morning that one administers cold water, diuretic water; it is before sleep that one advises the taking of warm water. Preference will be given to a LIGHT WATER, the most perfect type of which is, without exception, the water of Evian."

After these words, the authority and weighty competence of which constitute a law to the medical world, our part will be singularly facilitated in trying to make the *modus agendi* of our waters understood. They convey at the same time the clearest explanation of that instinct of old gouty people who, before science had uttered a word, came in crowds for more than a century, to seek at Evian relief and sometimes in a definite form too, if an appropriate system of diet were superadded.

It is to the gouty who have passed the acute stage, properly so called, that our waters address themselves, and quite especially to those who suffer from its subacute and asthenic forms.

Let us quote the very words of the eminent Professor Bouchard with regard to aqueous drinks in the treatment of uric conditions of the system. (Page 254.)

"In an individual who swallows from 1200 to 1300 grammes of water per day, Genth observes the uric acid oscillate between .52 and .71. If the quantity of liquid be carried to 3200 cubic centimetres, he only finds traces of it; and lastly with 5500 cubic centimetres swallowed daily, he finds no trace at all of uric acid. One will not say that the uric acid has been retained in the blood by this superabundant drink. The nitrogenous matter has no longer formed uric acid, because it has been totally transformed into urea, and

we know by the experiments of Genth and of Mosler that this abundant quantity of liquid increases the amount of urea."

At Evian gouty patients begin by drinking from three to four glasses, and with an addition of an extra half-glass or at most a whole one per day, they will arrive at twenty glasses at least.

We insist at the outset upon small doses, swallowed slowly, and beginning early in the morning. Two-thirds of the prescribed quantity per day must be taken in the forenoon, the other third in the afternoon after 3 o'clock.

We must draw attention to the fact that those suffering from cardiac diseases require particular care; just as those with masked gout need special direction.

Baths generally, and often also douches, are forbidden to those actually suffering under violent paroxysms of gout. Nine times out of ten, fits of gout are brought on by the baths of Evian. They have sometimes been very useful in determining gout towards the surface and extremities in certain cases of gout in the viscera. And it is perhaps from failing in firmness in this respect that we too soon lost an old and excellent lady friend.

Madame El... of Paris, aged 71, had come to Evian every year for more than nineteen years, for a gouty condition of tendinous form. For several years past there remained a swelling of the left wrist, rather painful on pressure, on abduction, and on change of weather. We made her take a dozen glasses of water daily. Baths, which at the outset had brought on fits of gout, were absolutely forbidden.

She breathed our excellent air which with the water, gave her, as she herself said, her quantum of appetite for the coming winter.

She left us each year, of course with the articular swelling but little diminished. But it was less painful during the five or six months that followed her "*cure*".

In 1879 she returned much better than usual and without the slightest swelling at the wrist, which she could use almost as well as the other. She attributed her improvement to some turpentine baths with shampooing which she had taken at Passy in the spring. In truth for several years past, she had not enjoyed so satisfactory a state of health.

She was greatly astonished at finding us less enchanted than she was herself at this grand change. "Come", said she, "do not look so thoughtful, this will not be the last visit of your old patient." She knew well, dear old friend, that we were not thinking of ourselves, but she could not comprehend, she so happily rid of her gout, our regrets with regard to her articular swelling. This time also we insisted upon her taking the baths. She refused, alleging that they would bring back the articular swelling or some other attack. She appeared so well that we had not the courage to insist.

Four months after her departure, she expired during a cerebral attack which scarcely lasted five or six hours.

We have always thought that our baths, whilst bringing back the usual external condition, would perhaps have still preserved two or three years of that existence which her delicate mind and exquisite goodness rendered so dear to all her friends.

Atonic gout, so frequent at a certain age in those gouty by inheritance, requires care and supervision, especially at Evian, which it is very difficult to state in a general form. Each case ought to be studied and

followed in a special manner. One need be somewhat advanced in the practice of this astonishing diathesis to conceive its thousand forms, its various susceptibilities, and its truly extraordinary singularities.

We have still a lively recollection of a case of acute gout engrafted on an old gouty condition, that is worth being related, although we could not take any very detailed notes of it. Mme de G., age 35, daughter of the marquis of N., gouty from father to son, having always had chalkstones in her fingers, arrives at Evian, September 12th, late in the season, as one sees. She had never had a well-pronounced attack of gout, but she complained of an odd kind of dyspepsia, which from some ill-defined cause was followed by uncontrollable vomiting for fifteen to twenty-four hours at a time. Together with the invasion of her hands by enormous chalkstones, her hearing also lost something of its acuteness.

Well, as soon as she had arrived she was in a great hurry to take a bath in spite of our forbidding it. At the end of her bath she said she felt cold. Having gone back to her hotel before lunch, it was only in the evening that she was seized with a fit of vomiting that nothing could arrest, neither opium, nor ice, nor Rivière's drink, nor blistering, nor tincture of iodine. During twenty-four hours the patient vomited from twenty to twenty-five times liquid, yellowish-gray, matter, but notropy. The pulse only beat seven times in five seconds. Everything was brought up again, broth, iced milk, etc. Towards 6 o'clock the vomiting became calmer and the patient can have a little cold broth, which she kept down. Bowels not moved; and she obstinately refused to have a clyster. The night was agitated but the pulse did not mount up. Next morn-

ing at 7 o'clock prostration, cheekbones flushed, eyes brilliant, and slight stitch on the left side, pulse seven and a quarter in five seconds. Auscultation disclosed defined crepitating *râles* of a peculiar sound in the lower two thirds of the left lung. These sounds were excessively loud, well marked, almost acute, on a level with the skin, as if they had been produced in the shell of the ear.

We had a large blister applied which greatly tried the patient, much more she said than the illness itself. We thought that the inflammation of the lung would run its ordinary course; but on the sixth day, without *râles de retour*, without expectoration, without defervescence, the left lung began to perform its functions almost normally. Rather surprised, we naturally gave all the honour of this extraordinary resolution to the blister.

However the heat and slightly marked feverish state remained as before. The night of the sixth to the seventh day in the evening we were no little astonished at finding in the right lung at the same level the same crepitating *râles* just as loud and just as well marked; in fact all the symptoms identical with those in the preceding pneumonia.

Without even asking the patient's opinion, we sent for a blister like the first one. This the patient refused to have applied most obstinately; and we were obliged to submit.

We were quite in despair at this obstinacy, the effect of the former revulsive having appeared so decided.

This pneumonia followed the same course as the preceding one and had completely disappeared on the sixth day without blister, purging, *râle de retour*, expectoration, and almost without cough.

We must acknowledge that being insufficiently acquainted both by practice and by reading with the fact that pneumonia could run such a course, it was only at this moment that we perceived that we had had to do with a rare form of gouty inflammation, which after having abandoned the stomach and intestines, had successively invaded both lungs, and then next fixed upon the endocardium.

There were tumultuous beatings of the heart, irregular, intermittent pulse, præcordial uneasiness, without however our being able to determine the presence of well marked *bruits de soufflet*. The patient was very low, very weak, and in a state of prostration the reverse of re-assuring; we thought we should lose her.

Towards the end of the fifth day, everything had nearly got back to its usual order. The urine was charged with urates and the patient, feeling hungry, asked for something to eat.

In accordance with her wish, they brought her some ham and bread with a little old rum which she found excellent and which she digested perfectly.

The intermittent state of the pulse continued during several months; a preparation of iron given in order to combat the state of profound anæmia in which she was, restored the regularity of the pulse as if by enchantment. Since then the patient has had a few other less intense gastric attacks, but her health improved considerably after she resigned herself, during a visit that we made to her in Paris, to have an issue opened in her leg.

It cannot be expected that we should report all the cases of gout treated and improved at Evian.

Gout is not cured any more at Evian than elsewhere. The reputation of Evian in this disease has been

created by the gouty themselves, who, every year, bring us uric patients like themselves. Medical men at a distance were often enough astonished at their patients asking to be allowed to go and make a "cure" at Evian from the simple report of some friend or neighbour. They consented and had not to repent of doing so.

During many years past among our medical connexions in Paris, London, Marseilles, Lyons, our brethren have often put these questions to us: "What is it you do at Evian for the gout? Have you a lithic water? All our old gouty patients wish to go to Evian and they return thither afterwards with our consent, for there is no doubt that after having undergone the Evian treatment, the paroxysms are further apart and are considerably diminished in intensity. In another direction, those suffering from atonic gout gain strength, recover their appetite, digest their food on their return, and see the masked manifestations of their disease subside."

The truth is, we believe that, as we have before said, the water of Evian, being slightly alkaline and admirably supported by the stomach, traverses the entire system, which it impregnates whilst saturating itself with uric salts more easily than any other water. It dilutes the crasis of the blood, produces greater activity of all the emunctories, and thus rids the economy of the morbid product. For producing such an effect, no other medicament can be compared to the water of Evian.

Over and above this incontestable effect of cleansing and of internal dilution, we cannot ignore the impulse given to all the blood elaborating processes by our atmosphere of such extraordinary purity and of such

richness in oxygen, that all our visitors have felt and acknowledged its wonderful qualities.

It is important not to forget that if those local affections which demand the use of our waters derive more benefit from being treated at the beginning or end of the season, such is not the case with patients of any particular diathesis and especially of the gouty one. These latter ought to choose for their stay at Evian the period of great heat, July and August, when cutaneous activity is at its highest. This is an adjuvant of the utmost importance in all those constitutional maladies which derive benefit from our waters.

Here comes in an observation that we have made often enough, not only with regard to gouty patients but also those suffering from other diseases, and which has also struck one of our Paris brethren, Dr. Campardon; viz. that very frequently after one or two courses of treatment at Evian, some gouty patients having passed the winter without any fresh attacks, return to us by the advice of their physicians in order to undergo another course, but being convinced that they are cured, they do everything carelessly and with so many deviations from the proper regimen, that they naturally bring about new paroxysms.

"The amelioration," adds Dr. Campardon in his work, "shows itself as rapidly in muscular and tendinous gout as in any other form. There is then no inconvenience in continuing to drink the waters notwithstanding the imminence of another paroxysm."

Perhaps the action of our waters may be still better understood by pointing out a fact which has been noticed by all our medical men here and which appears to us to give great force to our preceding explanation.

It is the absorption and disappearance of recent chalkstones and even sometimes of old ones in gouty people produced by the methodical employment of our waters with or indeed without the help of shampooing.

These simple facts will give, better than the most ingenious physiological explanations, the key to the healing action of our waters in gout.

Before finishing what relates to gout, we will mention a fact that struck us forcibly some years ago, the explanation of which we thought we found afterwards.

In 1869, M. B., of Berne, a rich manufacturer, great lover of good wines and good cheer, age 51, gouty since his 35th year, was sent to Evian with this diagnosis: slight albuminuria, incipient hypertrophy of the heart without apparent lesion of the valves, gravel, chalkstones in both large toes, dyspepsia, and frequent attacks of lumbago. During four seasons he underwent a long and serious course of treatment under our care.

From the very first year an improvement showed itself. The dyspeptic condition ceased. He voided much gravel and sand. In short he became much better. The fits came on at far greater intervals and were much less severe. In addition, his physician and we ourselves had noticed after the first year, a notable diminution of albumen in the urine and its total disappearance after the third year. Besides all this, the state of his heart not only had not become worse, but had rather got better.

Where could this generally improved condition come from? The explanation of it escaped us in great measure and it was only nine years afterwards during a stay in London, that being present whilst Dr. Fothergill saw his out-patients at the West London Hospital, that

learned physician showed us some microscopical preparations from a gouty kidney, in which the capillaries were almost entirely blocked up by deposits of very fine uric sand. The patient had died uræmic and with enormous hypertrophy of the heart. Our first thought was to connect this case with that of our patient from Berne, who, according to all appearance, must have presented an incipient similar condition of the renal capillaries, which had given rise to a commencement of cardiac hypertrophy.

Our waters, by their facility of transudation, had very probably succeeded in diluting and dissolving the uric acid and in thus freeing the renal filter. At any rate, we thought ourselves justified in giving to this action all the honours of the amelioration of our patient's condition.

This fact shows that there certainly exists hypertrophy of the heart from renal causes of an exclusively uric nature. On our return from London, being present at a clinical lecture by Dr. Potain on the heart in renal disease, the eminent professor attributed to spasm of the capillaries of the kidney the effort displayed by the heart and its thence resulting hypertrophy.

We took upon ourselves to acquaint him with what we had just seen in a gouty kidney. He expressed to us his regret at not being able in France to make autopsies of gouty patients, which would give an opportunity of showing such interesting anatomico-pathological details.

XII

Renal Lithiasis. — Nephritic Colic.

Three principal theories have been put forth concerning the formation of concretions. First, the old theory founded on that diathesis of the system which renders it prone to produce uric, oxalic, and phosphatic substances in excess. This excess itself is the cause of their precipitation in the urinary passages. The second theory, also ancient, is based upon the specific or lithogenous catarrh of Meckel, which favours the precipitation of sand and gravel in the urinary passages. The first deposit is always oxalic mucus, and its transformation into uric acid, urates, and phosphates is a secondary matter. Lastly, the third theory, that of Scherer, seems now to be adopted by the majority of observers.

As urine, when standing in a vessel, undergoes a certain amount of decomposition or fermentation, so these may already be present during its passage through the urinary passages, and the products of this premature fermentation form the starting point of the formation of concretions.

It seems to us that each of these theories includes a portion of the truth. Since chemical analysis shows nearly the same elements in gravel, calculi, and sand, as in the tophaceous concretions of gouty and rheu-

matic people, it is difficult to maintain that a state of catarrh has preceded the formation of these tophaceous matters deposited about the articulations, in the cellular tissue, and in the walls of the arterial vessels under the form of certain atheromatous growths, etc.

Here there is neither primitive catarrh nor urinary transformation. There exists then a diathesis capable of depositing urates in excess in the tissues, without any previous fermentation.

What occurs as regards tophaceous deposits around the articulations is still easier in the kidney, which is a natural means of excretion. But in this latter case a new element may be present: viz. a catarrhal condition with fermentation along the whole course of the urinary passages, which must evidently give products *sui generis*, that is to say, concretions of chemical elements arranged alternately in layers.

This explanation seems plausible and above all sufficiently in accordance with those anatomico-pathological phenomena that we can ordinarily follow.

Durand-Fardel distinguishes two kinds of gravel, that arising from diathesis and that arising from catarrh.

Gravel due to a general morbid condition is uric gravel, sometimes also, but with less frequency, oxalic gravel. These may be present together, or may be substituted one for the other.

Phosphatic or earthy gravel is, as we have just said, most often united to some local affection of the urinary passages. It may depend upon fermentation of the urine or catarrhal or ulcerous inflammation of the pelvis of the kidney or of the bladder. It may also likewise depend upon some general nutritive derangement. For its production indeed it is necessary that

the urine be alkaline; and this excess of alkalinity of the urine may depend upon an excess of alkalinity of the blood. If the urine be secreted alkaline, it is because the blood delivers to it an excess of carbonate of soda and of potash. If the blood also deliver to the urine ammoniacal compounds, we may have ammoniaco-magnesian phosphate, or phosphate of lime, or carbonate of lime.

Excess of alkalinity of the blood, whether resulting from nutritive derangement or from abuse of alkaline waters, will very often occasion a deposit of phosphatic salts on already existing calculi; we have then mixed calculi, of which the nucleus may be formed of uric acid or of oxalate of lime, the crust being phosphatic or earthy.

A third condition is that which depends, as we have said, upon fermentation of the urine. According to M. Bouchard this fermentation supposes the existence in the urinary passages of a ferment, and most often at least this ferment is some conserved vegetation. It is not always, it is not indeed most frequently the ferment of Pasteur and of Van Tieghem, namely *torulæ* in chaplets or rather the bacteria of urea or of hippuric acid. These bacteria can live and develop themselves in the bladder, sometimes indeed they form in it very elegant chaplets, flexuous, elastic, and of excessive length.

But there is another sort of bacteria, which is much oftener met with in the bladder; namely, the bacillary bacteria, analogous to, if not identical with, the bacterium termo, which may also undergo great development and form chains or threads consisting of ten or twenty of them placed end to end. If the ferment of Van Tieghem transforms the urea into carbonate of

ammonia, the rod-like bacteria (*bacterie en bâtonnets*) also make ammonia appear in the urine. These two vegetations necessarily come from outside; but if the bacteria of Van Tieghem only exist in the bladder on condition of their having been mechanically introduced into it, the bacillary bacteria may penetrate thither by their own proper movements.

The adult vegetation form is motionless; but when by segmentation it begins to be resolved into young elements, one sees in the new isolated rod-like organisms or in the groups formed of two such joined together, some movements of oscillation and of slow progression, which may explain the penetration through the ureter into the bladder of this vegetation, which is always found in considerable quantity on the moist prepuce of those who void urine by regurgitation. The introduction of the catheter into the bladder is then a cause but not the sole cause of ammoniacal fermentation in the bladder.

Uric acid is according to all probabilities a product of the mediate transformation of azotised substances; uric acid must then depend upon alimentation. And let us say at once that uric acid is augmented by good living, by copious repasts, by abuse of azotised food, by acid dyspepsia, *by taking too little of watery beverages*, and also by effervescing, acid, and sugared drinks, by champagne, cider, and spirits, by insufficient or exaggerated muscular exercise, by want of cutaneous activity, by cold, by obstacles to respiration, by a sedentary life, by continually living in a close, confined atmosphere, by nervous atony, by sadness, and by hypochondria (Bouchard).

But increase in the quantity of uric acid is not sufficient to produce gravel; in addition, its solubility

must be lessened by concentration of the urine (insufficiency of aqueous beverages) or by augmentation of the acidity of the urine, or by excess of acid phosphates. The last two conditions are realised by insufficiency of the nutritive changes.

As soon as renal concretions are formed, they are to be seen under the form of sediment or sand in the papillæ and the straight tubes. According to their composition they are designated under the name of *uric infarctus* or *calcareous infarctus*.

The more voluminous concretions which constitute the common form of renal lithiasis or gravel, occupy the papillæ, the calyces, and most often the pelvis of the kidney.

Like gout, lithiasis, which is equally a consequence of uric dyscrasia is transmissible by inheritance.

The principal concretions are formed: 1st, of uric acid and urates; 2nd, of calcareous oxalate; 3rd, of ammoniaco-magnesian and calcareous phosphate; 4th, of mixed concretions of uric acid and calcareous oxalate, which are far more frequent than those of oxalate alone.

Ordinarily the nucleus is uric and the crust is formed of the calcareous salt. The red or white colour of the layers indicates the stratified composition of the calculus. Uric acid is also combined with calcareous phosphate; the other varieties are very rare.

The size of the concretions varies from that of a very fine grain of sand to that of a pigeon's or hen's egg. Their form corresponds with the locality of their origin and their situation.

In order to form an exact idea of the different positions of these concretions in the kidney, one must have paid a visit to the museum of the Royal College

of Surgeons of London, in which the collection of kidneys more or less filled with sand and gravel is superb. In particular there is one specimen attacked by hydronephrosis, which contains six bits of gravel of a pale brick red, of the form and size of a large French bean. They lie superposed one on the other by the extremities of their long diameters. They seem as if they had been placed in this position by a human hand. It is difficult to account for the formation of these six large pieces of gravel so regularly framed and placed one upon the other.

Situated in one of the compartments of the kidney, the piece of gravel rests inert or produces hydro-nephrosis or pyelitis; or again it may be eliminated and carried off by the urine, without producing any symptom, or lastly its passage from the kidney into the bladder is accompanied by a symptomatic connexion known as *nephritic colic*.

Gravel which is expelled must be divided into two categories very important in practice; that which is more or less round and smooth and that which is angular or rough.

The patient who has once expelled round pieces will almost always afterwards part with similar ones without intense colic; most often indeed without any feeling of pain. The greatest difficulty presented by these gravelly patients is that which we have often enough met with at Evian among those who have passed 50 years of age and in whom there is a beginning of prostatic hypertrophy. Gravel of the size of a large pea or French bean passes from the kidney to the bladder almost without difficulty. But such is by no means the case as regards its expulsion by the canal of the urethra. We find difficulty in not believing that

if certain of these patients had not been at Evian, the gravel would not have failed to stay in the bladder in order soon to form a stone there. But under the influence of Evian water in sufficient doses, the bladder being slightly excited, becomes impatient to rid itself of the foreign body irritating it.

Ordinarily the bladder takes from three to eight days to prepare itself for the expulsion of its unwelcome guest. Several times a day vesicular contraction presents the gravel at the neck of the bladder, and dysuria at times becomes very great; the patient micturates drop by drop with heat and pain, under the form of tenesmus radiating towards the anal region. The neck of the bladder seems to be preparing itself for the necessary dilatation, just as does the uterus at the moment of parturition.

There is no means of intervening otherwise than by very hot and very brief hip-baths, by protracted tepid baths of the whole body, and by water-drinking. Sometimes however, in very painful cases in very irritable subjects, we have been obliged to order calming suppositories and small emollient clysters. It is generally towards morning that expulsion takes place and immediately after it everything goes on in its usual order.

We could quote a certain number of our notes on these transient conditions which surprise and alarm many patients and sometimes even their medical advisers, especially at the first time of their occurrence. The patients overwhelm the doctor with questions. They look anxiously into his eyes and carefully weigh his words in order to discover his inmost thoughts, and if he show the least hesitation about his diagnosis, their confidence in him is lost,

and all they think about is to be off to the capital.

This once happened to ourselves when we first commenced practice. The patient was sounded at Lyons and one recognized the presence of a small calculus that it was intended to crush; when on the very morning fixed for the operation, the patient voided easily enough a piece of gravel as large as a good-sized kidney bean.

Diagnosis is not without difficulty when we have to do with a patient who has never had either nephritic colic or gravel (such however is very rarely the case) and who is suddenly seized with the pains of dysuria which go on augmenting in the next twenty-four hours.

First of all the symptoms might be confounded with those of acute prostatitis produced by a chill. But the antecedent circumstances and examination by the rectum, together with the complete calm during the intervals between micturition, will easily lead one to a correct conclusion.

Angular, pointed concretions even when small, scarcely ever pass without producing a whole assemblage of very painful and depressing symptoms called *nephritic colic*.

The description of nephritic colic is so well given by medical writers, that it seems useless to dwell upon it here.

We may add that we have more than once seen nephritic colic especially in women and on their right side, mistaken by practitioners of unquestionable ability, and mostly from their not having sufficiently studied the antecedents of the patient.

Nephritic colic, with all its train of such alarming

and painful symptoms, *is always cut short at Evian* provided it appear within two or three days after the commencement of a methodical course of treatment.

In the numerous paroxysms that we have witnessed at Evian, we have never seen either vomiting or hæmaturia among the patients under our care. Once only we were called in to a man who, during a very sharp nephritic paroxysm, filled a chamber utensil full of blood. But he had only arrived a few days before and had been occupied with anything else rather than with taking proper care of himself. Our Evian water soon caused the hæmaturia to cease as well as the pain which after all was not very intense.

On the third day he passed a tolerably large piece of irregularly triangular and very pointed gravel. He had already at different times suffered paroxysms of far greater violence, and had voided several morsels of gravel. Henceforward he was from precaution our constant visitor.

He was one of those gravelly patients in whom we remarked, after their second or third course of treatment, that the gravel voided had lost much of its roughness. This was noticed by the patient himself.

When speaking of these re-occurring cases and of the necessity of undergoing several successive courses of treatment one after the other, we are often asked if certain mineral waters do not definitely cure gravel. No water will cure gravel in those who inherit it, nor even in those who, having it for the first time without any hereditary disposition thereto, have neither the courage nor the will to follow a proper diet and mode of life.

The same causes invariably produce the same effects. During the many years that we have been in practice

at Evian, we have seen at least as many patients suffering from gravel, who had already made many numerous "cures" at all those watering places which have the reputation of curing gravel, as of those who were sent to a watering-place for the first time. The former then had not been cured. Without naming any particular places, we have seen people arrive from those best known, and in which they had passed several seasons without in the least getting rid of their malady.

The waters of Evian still occupy the first place among those whose effect is most decided in gravel and gout.

As to the lapse of time during which the patient will be safe from nephritic attacks after treatment at various similar watering-places, we can equally affirm that according to our own manifold and conscientious observations, Evian may be placed in the first rank.

Those who have pretended to cure gravel definitively by one or two courses of treatment by any one particular water, have advanced what is inexact. At most could one say so of an *acquired gravelly condition* and that too in a patient whose will and force of character would be capable of withdrawing him for ever, by a most severe and carefully observed system of life, from the causes which have made him a producer of uric acid in excess. But it is sufficient to have had some experience of this kind of patients, on whom fortune has smiled and who for years have been habituated to good living and comfort, to be sure that they will not abandon them.

Any exception to this rule is very rare. Other patients who derive their dyscrasia from gouty ancestors, we repeat, will produce more or less uric acid in excess as long as they live, and our experience

permits us to add, and whatever they may undertake in the matter of treatment.

Treatment by mineral waters will help them to prevent the accumulation of sand and gravel in the kidneys, to avoid hydronephrosis, pyelitis, and pyelonephritis, to cleanse their system, to improve their digestion, to hinder atheromatous productions, to increase the activity of the cutaneous surface, to rid the bladder and urinary passages of sand, mucus, epithelial detritus, pus, etc., which might encumber, obstruct, and irritate them. In a word, the course of treatment will serve to re-establish the three great digestive, cutaneous, and renal functions, always more or less overworked, changed, or damaged in uratic people. And we think that these are incontestable advantages of the highest importance and well worthy of being sought after.

Now the Evian course of treatment indubitably produces all these immense results as much as any other mineral water can do, and in certain defined cases, in a far surer and above all in a far more inoffensive manner than any of its rivals.

We have said how we understand the mode of action of our waters. Here is the opinion of Dr. Dupraz which seems to be based on rather a homœopathic point of view, as one might have supposed :

A water slightly alkaline which the stomach can support in large doses and without fatigue, has the double advantage, first of exciting diuresis, of rendering the urine more abundant and less concentrated, of diluting mucus, of favouring the expulsion of sand or other concretions and of opposing the formation of new ones by the deposit of salts ; in the second place of presenting to the system an extremely subdivided medicament, the easy and prolonged absorption of which, by changing the substance of the blood, combats calculous

diathesis, and thus brings numerous modifications into the secretions of the kidneys. Herein lies the entire secret, I believe, of the efficacy of certain alkaline mineral waters and particularly of those of Evian, which have, as their base, lime, soda, and magnesia, and which have further the property of exciting the stomach by the carbonic acid which they disengage, whereby the latter is enabled every day to digest large quantities of water with impunity and without overwork.

However, we attach but little importance to all these theoretical explanations, considering that rigorous observation of facts and results is far more decisive in affording light and carrying conviction.

The characteristic feature in the usage of our waters in gravel is, as we have said, to *cut short* nephritic colic, if it present itself after two or three days of treatment.

The patient will see all the symptoms become weaker ; there will still remain a feeling of uneasiness, weight in the lumbar region and along the course of the ureters, without however his perceiving that vivid radiation towards the bladder, thighs, and testicles, so common in accentuated nephritic colic. There is very rarely some slight nausea which does not go so far as vomiting ; the pulse does not change, there is neither perspiration nor coldness of the extremities, and no hæmaturia. The patient can get up and walk about. By drinking the water and taking some tepid baths, the gravel, although irregular in form, generally succeeds easily enough in leaving the bladder.

Besides gravel capable of producing nephritic colic, we, as well as other observers, have seen sand formed into agglomerations by thickened mucus occasion true nephritic colic, which only differs by being less violent and far less acute. At Evian this kind of colic passes

almost unperceived. The patient expels by the canal of the urethra this mucus *in globo*, which had not even had time to be diluted and which contains a large quantity of uric acid.

In some cases of gravel, after treatment at Evian, ordinarily towards the end, patients complain that the water no longer agrees with them, and that they support it badly. They say that they have a dull feeling of uneasiness in the abdomen about the loins and groin. They talk about leaving the place. In these cases there is no room for hesitation, it is a general breaking up that is preparing and in a short time they void enormous quantities of sand and of more or less large gravel. We have seen these gravelly patients part with from two to three hundred pieces of gravel of different sizes.

Sometimes after this wholesale clearance, the state of weariness and uneasiness continues. "You see, doctor, there is something else besides the gravel for I suffer as much as I did before." Once in particular, the patient who was a very busy banker, after having passed an enormous quantity of small gravel, not seeing any immediate amelioration in his condition, and thinking that his uneasiness was caused by the prolonged usage of our waters, insisted upon leaving. We assured him that there was a much larger and longer piece of gravel about to come away (as is habitual in all those cases in which a first clearance does not rid the patient of everything). He left in spite of our advice, but he had scarcely been at home a few days, when he wrote to us that one morning he had heard a noise like that of the fall of a metallic body into his chamber utensil, and that nothing could equal his astonishment at finding in it a piece of gravel

of the size of a large kidney bean a little curved like a crescent. Thanks to our having advised him to continue the drinking of Evian water, he had ejected this almost without being aware of it. He also afterwards voided many other pieces of less size. We might quote hundreds of similar cases.

Angular and pointed gravel is not generally seen in such large quantity at once. It is almost always preceded, accompanied, and followed by red sand.

Sometimes patients under treatment can tell the instant at which an angular piece of gravel is detached from the kidney, and they can follow the progress of its descent every day. Some of this pointed and exceedingly rough gravel will have taken months to reach the bladder, from which it emerges in general much more easily if this organ and the urethra are in their normal state.

At other times, if the mucous membrane of the bladder is not perfectly healthy and if *the treatment has not been sufficiently prolonged*, above all if the prostate gland is hypertrophied, or the urethra attacked by stricture, small gravel will remain in the bladder and by the addition of new layers, it will not be long before it becomes a stone which will afterwards produce disorders that are not always referred to their true cause. A prolonged or repeated course of treatment will certainly avoid such difficulties.

The treatment of gravel at Evian consists in drinking, douches, and baths, which ought to be prescribed according to the indications, the disease, age, sex of the patient, etc. We repeat that at Evian particularly it is the patient rather than the disease that is treated.

The quantity of water drunk daily ranges from three to twenty-five glasses. There will also be a difference

as regards the employment of hot or cold douches with or without shampooing, in a single stream with the long hose or in a shower with the rose, local or general, for a long or short time, etc., according to the patient's age and disease, the delicacy of cutaneous sensibility, and the effect it is desired to produce.

The medical man himself ought always to show the greatest concern about the administration of the douche, especially at the outset, even when he has bath attendants on whom he can rely; as is the case at Evian where the douches and all the apparatus are admirably fitted up and where the douchers are real artists.

Hydropathists and patients who have been able to compare several establishments can alone judge of the importance of this recommendation and of the absolute difference which there is between hydrotherapeutic treatment carried out with intelligence and address and that left to mere routine without direction and without surveillance. The power and efficacy of all hydrotherapeutic medication is certainly only to be had at this price and we are profoundly convinced that no false shame will hold its ground before a man of science who has a true feeling of his dignity and of the high and difficult mission imposed on him.

Besides, these ideas are so well understood in Paris and in other scientific centres, that in all well-organized establishments it is the medical man who is the sole doucher in all difficult cases; and let us add that he alone has the qualifications requisite for acting according to veritable scientific data.

XIII

Vesical Catarrhs.

It seems to us that catarrh of the bladder, especially of its neck, without organic cause, is more frequent than Sir Henry Thompson thinks.

This master in surgery told us at the time of our visit to London when we had the great advantage of being included amongst the number of his clinical pupils, that he thought there were indeed very few catarrhs of the bladder, which had not some organic, instrumental, or calculous cause.

For our part, we think, judging from our own practice, that there exists at least a good third of cases of cystitis arising *a frigore*, and from arthritic, gouty, rheumatic, and scrofulous causes. The other two thirds would be caused by gleet, absorption of cantharides, residues of chronic nephritis, strictures, prostatic hypertrophy, calculi, tubercles, fungi, cancer, or further, they might be the consequence of manipulations connected with operations, of the employment of dirty catheters, of a catheter fixed and retained in the urethra, and of difficult parturition.

But here we must particularly occupy ourselves with those states of the bladder which can be cured or ameliorated by using Evian water.

At Evian a diagnosis has scarcely ever to be made.

Ninety-five times out of a hundred the patient is sent hither by his ordinary medical attendant, who has already employed everything he could against the disease.

Moreover the varieties of catarrh of the bladder in which our waters exert a powerful and decisive action are very limited.

They are generally subacute and chronic catarrhs arising from causes quite foreign to any organic condition whatever.

Dr. Campardon, in his short work on Evian, says that vesical catarrh will always be radically cured by the waters of Evian, if it be idiopathic and if the secretion be only mucous. Evidently this assertion is not the result of his own personal observations. He must have acquired his information from some practitioner who is little familiarized with the use of the microscope, and with the employment of large doses of Evian water. These two conditions just named are indispensable in order to be convinced: 1st, that urine containing pus even in quantity *can be cured and that radically at Evian by large doses of the water*, as our notes will show in the most convincing manner; 2^{ndly}, that there is never mucus exclusively in urine, that what is called mucus is simply pus. The name of mucus is retained on the patient's account, since he is less alarmed by it.

These two conditions are then indispensable in order to practise at Evian and to treat the affection which is occupying us now.

It were easy to convince oneself by the microscope that such and such a bladder produced pus and that too in large quantity, and that the large doses of Evian water that we have been extolling so long,

radically cure such and such catarrhs, provided that they are neither of too long standing nor in too aged a subject. In all cases they will certainly be ameliorated. The slightest trial would have been decisive. We have several notes of purulent catarrhs treated at Evian during two and three seasons *by small doses without any result* and which were afterwards cured and that in a durable manner by large doses under our direction. During the last fifteen years our experience is decisive on this subject. Cure in these cases can only be effected by large doses.

Purulent catarrhs of the bladder have never been cured by six or eight glasses of Evian water per day. Hence the same too credulous patients have been seen to return many years in succession without producing any change in their condition. And it is by such a practice that there has been depreciated in the eyes of the heads of the profession, an admirable medicament and one of high value, of which neither the principal employment nor the incomparable effects in the affection of which we are now treating, were known. So it is in this manner that the most eminent specialists in Europe have been disgusted with our health resort, and have been brought to doubt the efficacy of our waters.

We have the conviction that almost all vesical catarrhs from a non-organic cause, which can be cured or ameliorated by any ordinary medications, can just the same be cured or ameliorated far more surely by the methodical employment of the waters of Evian. Treatment by our waters will have the advantage of being able to be followed without the aid of the catheter, the use of which, being dreaded by some patients, is sometimes so irritating and so dangerous. Such is

also the case with balsamic remedies, which have often failed, as will be seen by our notes, in those cases where our waters taken properly and during a sufficient length of time, have arrived at a cure.

Lastly, the waters of Evian have often been the *ultima ratio*, that is to say, the sole and last means of ameliorating certain purulent catarrhs from an arthritic or other cause, which the most skilful and the best directed treatment has only exasperated.

Here are our notes of a case of purulent catarrh dating more than four years back, which was first considerably ameliorated and then cured by our waters after having resisted all sorts of treatment.

The Countess of L., fair complexion, age 23, has had four children all perfectly healthy. She has gouty relatives. Her skin presents small rough ill-defined vesicles, probably of a lichenous eczematous nature. The scalp is covered with pellicles which make her beautiful hair fall off.

Already in the first year of her marriage she felt a burning sensation during micturition, slight and transient at first, then much more intense after her first pregnancy. There was a mucous deposit at the bottom of the chamber utensil. She complained to her husband who wished to have a medical opinion. This she refused absolutely. The husband did not insist and the disorder made rapid strides until the end of the second year after her marriage.

She was seen and attended by a distinguished provincial surgeon, who prescribed the ordinary remedies, ptisans, balsamics, etc. Three years elapsed and the catarrh, that nothing had succeeded in modifying, became very purulent. Deposit green and sticky, frequent micturitions with pain both before and after

them. They decided upon going to seek advice in Paris. Treatment during six weeks. Useless to state that the most intelligent and best directed care was bestowed upon her. Nothing succeeded and the malady even became worse. Despairing of anything better the patient was sent to us at Evian.

The history of this affection did not leave us much room for hope. Nevertheless we must decide upon something, so after thorough examination we submit the patient to arsenical treatment concurrently with the use of Evian water in large doses and tepid baths every day.

In a week the patient arrives at eighteen glasses daily. From the fourth day there is diminution of pain in micturition, on the eleventh day the patient does not micturate more than once in the night instead of from five to six times and then without pain. The vessel always contains a large deposit of pus. However during the four years that she has been ill, the patient declares that she has never been better than at present. Delighted at this amelioration she cannot resist a ball which was in preparation, as also an excursion party. Shortly afterwards there is a new exacerbation of all the symptoms.

The same course of treatment strictly followed brings back the former improvement. The treatment lasted fifty days and the great amelioration obtained during her stay at Evian induces us to advise her to return towards the end of the season to make a "*demi-cure*."

Three weeks later she arrives in the improved state originally obtained.

We are not slow in convincing ourselves that this second course scarcely changes our patient's condition.

We think that under these new conditions the disorder might derive benefit from some slight substituted instillations in the bladder. We made half a score of them. They nowise changed the vesical secretion. The improvement made by our waters continued in its original form.

The following year the Countess of L. returned and after forty-five days of strict treatment, the patient found herself cured. There still remains a light, whitish cloud which is deposited along with some rare white blood corpuscles. But there is no pain during micturition, which is natural in frequency. The appetite is excellent as, for that matter, it has been since the first days of treatment; and the condition of the body as regards flesh most satisfactory. Evidently the patient must not depart from a strict diet and mode of life if she wishes to maintain her present restoration to health.

The Countess of L. arrives for the third year; she comes to thank Evian and to consolidate her cure, which is a superb and unhopèd-for success.

We could easily multiply notes of vesical catarrhs which have resisted every kind of treatment and have then been cured by our waters. We shall quote a few of them at the end of this short work.

And now, how do the waters of Evian act in this kind of affections? One can only answer by hypotheses, about which we should be quite indifferent, were it not the custom for every practitioner to give to his patients that explanation which he thinks the best.

Is it by the alkalines, is it by the water itself? Is it by the help which the employment of our waters finds in the cosmic conditions of our country, in quite a fresh formation of blood, in a more active disassimila-

tion, which facilitates the exchange of the histological elements? Lastly is their action due to all these conditions united together?

Notwithstanding a sufficiently long experience the answer is difficult.

It appears that the chief action of our waters consists in the facility with which they traverse the system and the kidneys themselves without occasioning the slightest fatigue, in order to dilute the mucus or rather the pus secreted by the urinary passages and by the bladder, thus taking away its irritant action and lastly carrying it off together with all other detritus as soon as formed. Briefly, as quickly as it is secreted by the mucous membrane, the pus is carried off and cannot stay on its surface. The mucous membrane thus set free can regenerate itself with new elements better fitted to fulfil its normal functions. In a word, it is a real internal sore treated by continual washing.

This explanation to which we do not attach more importance than it deserves, seems confirmed by facts which are themselves undeniable and perfectly conclusive.

Immediately on the absorption of the first glasses of mineral water, all the symptoms of cystitis become exacerbated; frequency of micturition, pain, tenesmus, etc. It is only on the second day that they become sensibly calmer. After the third day the patient voids urine often enough during the day but with infinitely less pain. About the seventh or eighth day, micturition during the night becomes less frequent; sleep is better, and the deposit at the bottom of the vessel becomes clearer and tends to diminish. The acuteness of the inflammatory condition is calmed, the deposit is less irritating, and the bladder more easily

holds a larger quantity of urine. Nine times out of ten, the state of the bladder progresses regularly enough towards cure, if the patient is still young and the disorder is not of too long standing; and eighty times out of a hundred there is sure and lasting improvement when one has to do with old-standing cases of cystitis in aged patients.

If, on the contrary, about the twelfth day, after having scrupulously followed a well-ordered course of treatment, without having deviated from any hygienic precaution and precept, the patient is all at once seized with pain whilst passing urine, with tenesmus at the neck of the bladder and about the anus, and with frequent micturitions; if the deposit after having cleared a little, again becomes thick, sticky, purulent, you have almost certainly to do with a calculous affection, or with some condition of the prostate, or with a tumour in the bladder, or sometimes simply with a hæmorrhoidal movement in which the neck of the bladder must be sharing. The paroxysm in this last case, ordinarily coincides with more or less intense hæmaturia.

In this last case one has only to diminish the dose of the water during four or five days.

In all these cases we must inquire with great care into the patient's antecedents, for they will powerfully aid us in forming a differential diagnosis. On several occasions it has seemed to us that the hæmorrhoidal condition had not always sufficiently attracted the attention of practitioners. It is considered as a more or less troublesome infirmity, whilst a deeper study of it would have shown it to be a constitutional condition, which often enough takes the proportions of a diathesis. The hæmorrhoidal condition is almost

always hereditary. We have seen it become general throughout the entire venous system, even in the orbital veins themselves. Professor Bouchard classes it as one of the varieties of retarded nutrition.

If it be ever so slightly marked, this condition brings on so powerful an action throughout the whole circulating system that it produces, as is well known, in a sufficiently periodical manner a recurrent condition similar to the menses in women. If for any cause this evacuation fails to take place, the patient is suddenly taken with headache, throbbings of the heart, cramps in the stomach, pains in the intestines, even with rachialgia, etc.

We have often observed these different states at Evian, especially in a young man aged 29, a headforester, with hereditary predisposition to hæmorrhoids, who at the age of 18 perceived once or twice that he lost a few drops of blood per anum whilst at stool. The wildness of youth, an active life, etc., had made all that disappear. There had never been any more question of it, when all at once after an interval of ten years, after some heaviness in the head, throbbings of the heart, want of breath, loss of appetite, and general feverishness, he vomited an enormous quantity of blood. The two medical men who were attending him, were greatly alarmed and suspected the rupture of an aneurism in the neighbourhood of the respiratory passages. Called into consultation, after having auscultated the patient and inquired into his antecedents, we were able to ascertain that it was a case of hæmorrhage of a hæmorrhoidal nature.

A few days sufficed to confirm the correctness of our diagnosis which at first appeared very doubtful to our colleagues.

These patients are almost always subject to uric sand in the urine, for which they have been sent to Evian.

Ordinarily enough they are plethoric and sometimes die of cerebral hæmorrhage. Professor Bouchard to whom we communicated some notes of a case of exceedingly well marked hæmorrhoidal diathesis, which had greatly struck us, said that the pathogeny of these states must generally be sought for in the narrowness of the vessels of the arterial system.

It equally results from our own observation that among the victims of cerebral hæmorrhage from a hæmorrhoidal cause, in a great number of them, a fatal termination might have been avoided or at least certainly retarded, if people of this diathesis had been seriously warned by their medical attendants of the necessity of never departing from a strict mode of living, as regards sobriety, exercise, and the regular employment of aperient medicines.

It sometimes happens that hæmorrhoids show themselves through the bladder, under the form of hæmaturia. When they coincide with vesical catarrh, they constitute a real complication and often a most painful one. They increase the catarrhal condition, sometimes also clots are formed in the bladder, which finds a certain amount of difficulty in getting rid of them.

Here again Evian water taken in fitting doses is the best diluent, the surest and most inoffensive deterrent in all cases.

We always retain the recollection of an excellent Paris colleague sent to Evian by Ricord. He voided blood by the bladder in large quantities. He was at this moment sounded by a young medical man, who

by his manipulations of course greatly increased the hæmaturia.

It was in consequence of this unseasonable sounding that the weakness and anæmia having made great progress, a consultation of medical men presided over by Ricord, decided to send the patient to us at Evian. No diagnosis had been made. They carefully abstained from again searching the bladder to know what it might contain.

The patient, aged 66, arrived extremely fatigued, anæmic, and of the colour of yellow wax. He thought that he was attacked by some tumour. And what confirmed him in this idea was that before his attack on two different occasions, after coition the semen was mixed with blood.

After minute examination and his avowal that some fifteen years ago he had had hæmorrhoids, notwithstanding his doubts, and also the silence of our colleagues of Paris on the question of diagnosis, and although he had not voided blood per rectum, we rested convinced that we had to do with a simple hæmorrhoidal paroxysm. Time alone was able to convince our excellent brother, who afterwards became one of our friends.

Our waters had the happiest effect on the state of his bladder. In three weeks Dr. T. had recovered his former excellent appetite, his good looks, his plumpness, and all his usual gaiety.

To-day, at the end of seven years and a half, he enjoys the most perfect health.

What we have said of vesical paroxysms occurring from the tenth to the fifteenth day of the treatment in catarrhs of the bladder, has sometimes enabled us to diagnose the presence of small calculi which had never

been even suspected and which it would have been almost impossible to diagnose without this coincidence of treatment at Evian.

The patients were sent to Evian to be cured of catarrh of the neck of the bladder. But the excitation brought on by the use of our waters, by stimulating the functions of the bladder and the contractions of its muscular coat, almost forcibly brings the small calculus towards its neck, especially during micturition whilst standing upright. Then these patients are not slow in clearly showing the continuation, if not the exasperation, of all the symptoms of which they complained whilst passing their urine.

Sometimes during micturition in an upright position the stream diminishes in size, rarely does it stop and then immediately go on again more or less normally. If you ask the patient in order to find out if this symptom of stopping has been produced before, he will tell you that he has perhaps had the feeling of it once or twice after copious meals moistened with plenty of wine. This symptom never presents itself during micturition in a recumbent position.

In this case, the prostate which was slightly swollen at the beginning, becomes more sensitive to the touch and more congested. With the finger its small arteries can be felt pulsating. It is softer and can be easily depressed.

Such is the combination of symptoms which has enabled us to diagnose the presence of small calculi which were not even suspected, and the catheter has regularly enough verified our previsions.

In similar cases an operation is the only treatment, if our waters have not brought about the expulsion of the offending substance; and should the calculus

exceed a certain size, they are powerless to produce this result.

It is likewise to this excitation of the bladder, particularly of its muscular coat, produced by the employment of the waters of Evian in certain doses, that we owe the spontaneous expulsion of often tolerably large fragments, which have remained in the bladder after the operation of lithotrity. In spite of consummate ability in the operator, in spite of the greatest care and the most minute researches, there are certain bladders which offer nooks and corners almost inaccessible to the sound. These are bladders with very prominent columns which empty themselves badly, and in which anfractuositities, too narrow to hold the stone when it is entire, retain some of its fragments and hide them from the most skilful and experienced searchings.

Or again it is the hypertrophied prostate, the middle or lateral lobe of which being greatly increased in size, hangs over into the bladder and forms a kind of small internal arch. This cannot conceal an entire stone, but it perfectly well hides any few fragments which may be entangled in the prostatic-vesical folds.

We have seen patients who have recently most successfully undergone the operation of lithotrity, arrive at Evian in order that the waters may thoroughly wash out the bladder. They were still complaining of slight trouble in making water; their urine still made a deposit, but their medical advisers told them that Evian would soon put all that to rights.

They had scarcely drunk the water during four or five days, when all the symptoms were aggravated in a high degree : frequent and painful micturition, violent tenesmus at the anus; involuntary motions at the same

moment as the act of micturition, pain about the glans penis after micturating, dysuria, feverishness, want of sleep and appetite, etc. In a word the patient becomes greatly alarmed and attributes to the water he is drinking this terrible exacerbation of his evils.

All this train of symptoms is the certain proof that our waters have disturbed some sharp fragment of stone forgotten in the recesses of the bladder. With a little patience and courage, the offending substance will not be slow in making its appearance.

It is rarely that expulsion takes place before the end of the first week, but much depends upon the size of the fragment. So also the intensity of the evil corresponds with the roughness and pointed angles presented by the fragment.

Should there be several fragments they are most frequently expelled at the same time, the largest coming away first.

From this moment, everything quickly gets into order. Eight or ten days afterwards, if there be no anterior catarrh, the patient may leave in perfect health.

By reason of these facts, in support of which it would be easy to cite a number of notes, which are indeed exactly summed up in what we have just said, we are of opinion that a course of internal ablution at Evian is the veritable touchstone after an operation, to make sure that the bladder is completely cleared. In addition, treatment by our waters is sure to restore a bladder bruised and fatigued not only by the instruments necessary in an operation for the stone, but also by the stone itself.

We believe that more than one case of return of stone having as its nucleus a fragment of the pre-

ceding one, would have been avoided by a good course of waters at Evian after the first operation.

And now, if we return to catarrhs, properly so called, we must in strict truth confess, that every long-standing purulent catarrh in an aged person and still more if it is connected with some organic condition, can only be modified, improved by our waters. Every season will bring about a relative better state of things which will continue for a greater or less length of time. About spring the symptoms will again become more strongly marked, from the very fact of the departures from proper diet, etc. of which patients in advanced age will have been guilty. Every year we see a certain number of these cases of inveterate catarrh. On the return of every season we see these afflicted people come back more or less satisfied with their winter and consequently with their preceding course of treatment.

Often, if they were candid with themselves, they would easily find in their own conduct the cause of the exasperation of their sufferings.

But it is as difficult to confess that one owes one's sufferings to one's passions, as it is to acknowledge that one is the primary cause of tubercle or white swelling in one's offspring; *amour-propre* is the especial failing of the higher classes.

XIV

Catarrh of the Bladder from an Organic Cause.

Amongst the organic causes which produce vesical catarrh, the most frequent and the most difficult to deal with, is hypertrophy of the prostate gland. It is nearly useless to speak of cancer, fungus, tubercle of the prostate and of the bladder, which nothing or almost nothing can modify.

It is by no means the same with catarrh resulting from stricture or the presence of a stone, which is admirably cured at Evian after the primary cause has been treated.

Sir Henry Thompson, after numerous researches, has found that one man in twenty is subject to enlarged prostate. He thinks that every enlargement of this gland before the age of 50 years, should be regarded as a chronic obstruction, which is amenable to treatment.

On the contrary, hypertrophy of the prostate consisting in an enlargement of the histological elements of the organ, often supplemented with small tumours analogous to fibrous growths in the walls of the uterus, follows a fatal course, which no treatment has hitherto been able to modify.

There is no doubt but that an efficacious means of combating prostatic hypertrophy would be a real blessing to all those aged invalids who drag on, in this respect, a most miserable existence.

Without entering into those details which our work does not admit of, it may not be useless to make the mechanism of the evil consequences of hypertrophy of the prostate well understood in a few words.

The prostate formed of three lobes, the two lateral ones being well marked, and the middle one very slightly so in the normal condition, contains in its antero-posterior diameter the canal of the urethra, for a length of upwards of an inch from the neck of the bladder. But if the three lobes are enlarged simultaneously the prostatic portion of the urethral canal may be elongated by one and even by more than two inches, or narrowed and often elevated. In such a case, the level of the neck of the bladder, normally placed at the lowest part, finding itself somewhat higher than the base of the bladder, the latter will be subjected to a far greater contractile effort in order to empty itself completely.

At the outset, the bladder will struggle and successfully too, by more energetic contraction of its muscular coat. But this struggle, to which there can be no end, will exhaust the strength of the muscular fibres, which, in spite of their increase in size, will soon be unable to raise up the base of the bladder sufficiently. Then the bladder, worn out by a struggle now become unavailing, will never again empty itself in a complete manner. Its base will always be filled by some slight quantity of urine, which in the long run may bring about various complications.

The patient will experience all those difficulties of micturition which are inherent in this disorder. Micturition will be increased night and morning rather than during the day.

The first jet has to be waited for. A little later, the

invalid perceives that the first drops of urine appear more easily if he can walk a few steps beforehand.

He has never the feeling of perfect micturition. Later the urine may be decomposed as it is in the open air. The mechanism of this decomposition in the depths of the bladder is not yet an absolutely settled question. Whatever may be the process, the ammoniacal urine becomes irritant and produces pus. It is purulent catarrh in a bladder that does not empty itself.

These sufferers are sometimes sent to Evian. They ought to guard themselves against drinking the waters without the careful supervision of a medical man, who will judge if there is occasion to make a lavation with Evian water, and if these patients ought to take a few glasses of the water. He will determine, should there be need of it, the number of times indispensably necessary to empty the bladder artificially in every twenty-four hours.

Very often the improvement will only make itself felt some time after the treatment has ended, three weeks or a month, when all kinds of excitation have ceased.

As to those in whom prostatic disorder is only commencing, and in whom there is not yet any other complication but difficulty in micturition, they ought absolutely to abstain from drinking the water except when thirsty.

They ought to limit themselves to breathing the excellent air, to getting an appetite, and to taking a few baths and douches in order to accelerate cutaneous action, with a small clyster every night.

In order to terminate what relates to affections of the bladder, we will add that every year we see old

and anæmic invalids, afflicted with chronic cystitis, return from Vichy and Vals before the end of their "cure" with more or less intense hæmaturia and in a state of weakness only to be explained by a badly understood use of strong alkaline waters. Notwithstanding all the denials of which it is the object to-day, alkaline cachexia is an undeniable fact.

It is rarer in our time than at the period when Trousseau pointed it out to the medical profession, because the danger is better known and prudence is exercised, but to wish to deny its existence is an exaggeration that cannot be maintained. For our part, what we see every year is positive proof of what we are advancing and we shall not cease to protest with all our power against the idea of treating all chronic states of the bladder by strongly alkalinized waters.

We acknowledge that for some years past the medical men of these watering-places have become more circumspect about the employment of their waters. But they are almost disarmed before cases of anæmia of feeble organic resistance, and before aged patients whose vesical catarrh has above all need of a thorough washing with a weak and digestible water.

They are necessarily in danger either of too much alkalinising a system already sufficiently enfeebled or of being powerless to aid it by weak doses.

And how could one deny this cachectic effect of strongly alkalinised waters? When, we repeat, every year we see at Evian several patients who arrive from Vichy or Vals, weakened, anæmic, and voiding blood which is scarcely red enough to colour their urine.

It must be acknowledged that there are two great classes of urinary patients : the first, the still young and robust, may find great improvement at Vals or

Vichy. The others, old, anæmic, enfeebled by age and disease, ought not under any pretext to think of being treated at these two watering-places.

PUS IN URINE. — Patients who void urine mixed with pus derive benefit from a stay at Evian; every year their appetite becomes keener, and the formation of blood more active. The water properly taken washes out the urinary passages and diminishes the purulent secretion very materially.

Obstruction of the Liver and Jaundice

There is not a practitioner at Evian who does not count some successful cases by the use of our waters in obstruction of the liver with or without jaundice. In his treatise on Evian, Dr. Campardon affirms that he has seen several cures of obstruction of the liver at Evian and that he himself at Paris has obtained prompt and excellent effects from our waters in this affection.

We have heard that eminent man, Professor Siredey of the Lariboisière Hospital, relate the history of an obstruction of the liver, accompanied at its commencement with jaundice, having been cured at Evian in a fortnight.

Our own practice in this matter is most conclusive, but contrary to our colleagues at Evian, we have need to draw an important distinction.

We have seen the internal and external use of our waters cure almost all cases of obstruction of the liver with or without jaundice, if they were of recent date; but it seems to us that it is not absolutely exact to

write that the waters of Evian easily remove long-standing obstructions of the liver, and that the expulsion of biliary calculi is made with as great a rapidity as in the case of renal calculi.

Our experience has taught us that whenever the patient is debilitated, anæmic, little fit to support a course of treatment at Vichy, Vals or Carlsbad, etc., Evian is indicated. The result will be a rapid and most satisfactory one in recent cases and particularly in those of a gouty nature; it will be much slower in chronic cases and in hepatic colic and in *old* and *inveterate* obstructions.

We owe this rectification to truth, wishing as we do, to observe the severest exactitude as regards facts. We have always taken great care to submit our hepatic patients, concurrently with Evian water, to a methodical usage of various hydrotherapeutic practices.

In all these affections, hydrotherapeutic treatment is of the greatest assistance and often decisive by itself. It would be out of date to add anything to what has been so authoritatively taught in this respect by such masters as Fleury and Beni-Barde.

In all that relates to the fitting up of hydrotherapeutic apparatus, Evian possesses two establishments which yield to none in this matter. They have been built after our plans.

We have ourselves visited in detail eleven of the principal establishments of this kind known in Europe and we have spared nothing in order to excel our models.

XV

Sedative and Calming Action of the Waters of Evian

The waters of Evian, both as baths and as a beverage, are eminently calming and sedative in every kind of erethism, whether nervous, idiopathic, symptomatic, or as a sequel of any affection whatever. This action, well known to the majority of distinguished practitioners in Europe, receives powerful aid from the calming, we might almost say, *soporific* influence of the atmosphere of this region.

This beneficial and restorative action was particularly appreciated by the late eminent Professors Barthe and Blache, who every year sent to our health resort numerous nervous patients, whom their learned treatment had not succeeded in calming. The effect was assured, and we have had great pleasure in hearing quite recently from Dr. Blache, junior, that he received this opinion about Evian from the very lips of his excellent father.

We have sought to account to ourselves for these sedative effects of our waters and atmosphere. Perhaps they are due to the lively and active impulse given to the great functions of blood formation and assimilation, to the purity and bracing quality of the air of these parts, aided by the calming and sedative

action exerted by our waters on the blood and on the nervous centres.

Our regretted and learned Inspector, M. Humbert, so suddenly and unexpectedly taken away from the affection of his relations and friends, attributed this “to the eminently equilibrating qualities of our waters and atmosphere. Both these”, added he, “admirably concur in rapidly bringing back the system to its normal condition”.

These qualities of our waters are utilised with the greatest success in all affections coupled with nervous erethism, in hyperæsthesia of every kind, in obstinate want of sleep resulting from suffering, cerebral fatigue, preoccupation, grief, night watchings, or disease. Also in all those nervous excitations often accompanying certain chronic states of the heart, in enteralgia, in uterine hyperæsthesia with or without obstruction, especially at the period of puberty and of cessation of the menses, and in all hysterical conditions.

Certain recent obstructions of the uterus, of the ovaries, and of the neck of the uterus, certain leucorrhœal states in women of a nervous, irritable temperament, are cured easily enough, and certainly ameliorated by the lively organic impulse which they receive in the midst of the calm and tranquillizing influence of our country. In all these cases, wisely administered douches, drinking the water, bathing, and moderate exercise generally constitute, unless there be some special indication, almost all the treatment, which in the majority of cases, gives us the best results.

Chronic Gleet

Every year we see a tolerably large number of cases of chronic gleet which are sent to Evian in order that the mucous membrane of the secreting passages may undergo a thorough course of washing. About two-thirds of them are radically cured by the mere internal ablution; eight to fifteen glasses of water per day and a few douches constituting the treatment.

We have noticed that success is especially met with in those patients who consent to observe a very strictly regulated diet and who avoid the least departure from it. The treatment ought to last at least from thirty to fifty days.

Involuntary seminal discharges are treated at Evian with great success, especially those cases which arise from vicious and long continued habits, and from certain states of debility in those in whom the nervous system is too predominant. Well applied hydrotherapeutic treatment, exercise, and the use of the ferruginous water of Amphion and of the Petite-Rive, are naturally adjuvants of great power.

XVI

Diabetes

It seems that to-day the most recent utterances of science on the subject of glycosuria may be summed up in a few phrases from the lips of Professor Bouchard: "In the diabetic subject there is a normal formation of sugar by the liver; an insufficient utilization of sugar by the tissues; accumulation of sugar in the blood; accumulation of water in the blood by the sugar, which demands an equivalent of diffusion and borrows it from the tissues and from what is drunk; hence come augmentation of the total quantity of the blood and consequent over-activity of the renal secretion, giving rise to polyuria which carries off the sugar and moderates its excess. This polyuria, which carries off the sugar, is glycosuria."

And he adds: "Glycosuria is the safeguard of the diabetic patient; it must not be thwarted, one must not be afraid of favouring it. We must guard against refusing drink to the diabetic, as is so often done. We must on the contrary avoid aqueous ravages occurring otherwise than by the kidneys. And yet the profuse sweating, the excessive diarrhoea carry off sugar; but they eliminate it in the same proportion as that in which it exists in the blood. In a diabetic

patient it is rarely the case that one litre of sweat will carry off 5 grammes of sugar, whereas this one litre diminishes by so much the quantity of urine, and one litre of urine can carry off up to 140 grammes of sugar. ”

The reason is that the kidney, which is the moderating organ of vascular tension and of the whole mass of the blood, influences this mass only by the subtraction of water, not from the water of the blood itself, but from the superadded water. In diabetes, the superadded water is the water which holds the sugar in solution and if the blood does not unceasingly receive fresh quantities of superadded water by the tissues or the digestive canal, the kidney in a diabetic subject would eliminate only the water holding the sugar in solution that is to say, according to Becker's estimate, seven parts of water for one part of sugar eliminated.

We must then favour renal secretion and not seek to provoke any pretended vicarious function. Thus we know by an easy calculation that the whole quantity of sugar contained at a given moment in the system of a diabetic subject may be carried off by 212 grammes of urine, whilst it would require 5 litres of sweat, i. e. less than a quarter of a pint of urine and more than nine pints of sweat. It is with sugar as with urea, to the kidney alone belongs the duty of establishing the excretion of these two substances.

Like Leegen, Professor Bouchard has made the distinction of slight diabetes and grave diabetes, calling that form of diabetes slight in which glycosuria disappears when saccharine and feculent aliments are suppressed, and grave that form in which glycosuria, although lessened, persists when the diet has been thus modified.

In a clinical point of view he distinguishes three classes of diabetic subjects :

1st, Those in whom there is neither consumption nor azoturia;

2nd, Those in whom both consumption and azoturia are present;

3rd, Those in whom there is no consumption but in whom there is azoturia.

This last class exists only because there is polyphagia at the same time.

However it may be as regards these different forms, diabetes, according to Professor Bouchard, is a nutritive derangement of nervous or some other origin, sometimes acquired, most often congenital, This derangement essentially consists in slowness of nutrition.

If lastly, excess of sugar exists and if it resists the accelerating agency of the nutritive changes, recourse ought to be had to palliative measures, either to facilitate elimination of the sugar, or to destroy the non-utilized sugar. We must then on the one hand render the polyuria more active; and on the other demand assistance from the functional and respiratory changes in order to accelerate the combustion of the sugar in excess.

This threefold result is precisely the triumph achieved by our Evian health resort, as we have superabundantly demonstrated.

The introduction of sugar into the system must be restricted and its formation therein moderated.

We must guard against any accidents that may result from non-utilization of sugar by substituting for it in the food such substances as have the same office and such as will be, in this particular case,

better utilized by the organs themselves, whether for their own reparation, or for combustion in them.

We must strive against abstraction of water from the tissues by means of copious drinks and by those salts which, fixing themselves in the tissues, will there retain the water which holds the sugar in solution.

We must combat complications and especially albuminuria, azoturia, phosphaturia, and above all prevent them, by improving the conditions of nutrition by choice of proper food and by watching over the soundness of the digestive passages.

If by all our measures we have not succeeded in obtaining the utilization of the sugar, adds Professor Bouchard, and if sugar has not disappeared from the urine, if consequently, it exists in excess in the blood, its elimination must be facilitated, urinary secretion must be provoked. If we would obtain a copious flow of urine, we must begin by not provoking any increased action of those other emunctories which lead to spoliation of aqueous fluid in the system ; we must limit perspiration and all tendency to diarrhoea. In addition beverages must be given abundantly. Liquids ought never to be refused to diabetic patients ; their thirst must be quenched and they ought to drink every time that they feel the want of doing so. Water ought to be the beverage *par excellence*, above all cool water, and chiefly certain mineral waters of proved diuretic action, such as EVIAN WATER, which I place first. Evian water, taken as a drink, not only eliminates sugar, but may aid its combustion. Aqueous drinks accelerate acts of disassimilation and certainly raise the amount of urea.

We have made a point of reproducing almost in their entirety these different passages of the learned

work of Professor Bouchard. These ideas, these new notions on diabetes, clearly explain to us in what manner in numerous cases of diabetes, we have been able to derive the best profit from the use to satiety of Evian water.

In our first edition, we attributed but a very small part of the cure of our diabetic patients to the therapeutic action of our waters. It was difficult to establish the just measure between the action of Evian water, which did not appear anywise doubtful, and that of the remedies we used and the strictly regulated diet, which we never failed to enjoin on our diabetic patients.

To-day light has been thrown on the subject by that scientific voice which is most authorized to speak. It gives us the key to the success we have had at Evian in our treatment of diabetes.

The easy carrying off of non-utilized sugar, the acceleration of the acts of disassimilation by our water ; an incomparably active blood formation in the midst of the purest air, the richest in oxygen and at the same time the most calming ; lastly, the best adapted hydrotherapeutic arrangements, being together with hygiene the principal levers in the cure of diabetes, according to the eminent professor of the Faculty of Paris, we can say that no health resort possesses all these advantages in the same degree and more happily united than the thermal watering-place of Evian-les-Bains.

In conclusion we should like to make one remark that we wish to impress on the minds of those invalids who come to demand from our waters the re-establishment of their health.

A good quarter of the invalids who are sent to Evian for different affections arrange their whole day in such a manner as to give to their treatment only the least time possible. They are generally accompanied by some members of their family. These latter, having nothing to do with bathing, water-drinking, douches, and diet, only care for walks, balls, amusements, and pleasure parties, and nothing is more natural than all this; no relatives are so unnatural as to insist that every one should suffer the same ills as they themselves do.

During the first few days everything goes on according to agreement: the family amuse themselves and the patient follows out his treatment. But soon, becoming weary of the hard necessity in which he finds himself, of rising betimes, of counting his glasses of water, and of stoically watching the merry parties set off, he is not slow in yielding to the current and to the gentle persuasions of his friends. In the morning he may attend a little to his treatment, but his regulated diet is forgotten, and soon the time for departure arrives without his having obtained that result which he had a right to expect.

Everything will be blamed for the want of success

except the real culprit. It is especially so very wrong of the waters not to get themselves swallowed by force!

In these cases, in order not to lead into error the medical man who has sent them hither, would it be asking too much of the patients that they should be sincere and simply acknowledge that the treatment has been powerless because it has not been undertaken seriously?

XVII

Illustrative Cases.

SUBACUTE CYSTITIS. — Mr. K., of Marseilles, aged 65, weakened constitution, anæmic, rheumatic. After an attack of gonorrhœa, Mr. K. felt difficulty and pain in micturition. Urine was muddy, presenting a remarkable quantity of white blood corpuscles, and on exposure to the air it very rapidly underwent ammoniacal decomposition.

On pouring the urine into another vessel, it left the sides with difficulty and flowed like sticky marmalade, forming a semi-fluid and scarcely transparent sheet. Here were the characteristics of chronic purulent cystitis.

Before coming to Evian, the patient had been under treatment at Marseilles and at Paris, whereby the painful symptoms were relieved. The bladder emptied itself entirely, although a little sluggishly.

Micturition was frequent and more so during the night than the day, with tenesmus radiating towards the anus.

There was no appetite, there was a well marked state of general fatigue. Emaciation was considerable. Such was the condition of Mr. K. on his arrival at Evian, July 12th, 1867.

The following treatment was ordered : five or six glasses of water from the Bonnevie spring with regular intervals between each during the day, a complete bath lasting half an hour at 34° centigrade also every day. An additional glass to be taken every day until fifteen be reached. Elixir de Tizy to be drunk at meals.

From the very commencement the appetite made great progress. On the tenth day the patient could not wait until meal-times.

He was obliged to take a small roll before lunch. Also on the tenth day the urine was much clearer without any abnormal smell, and it only contained a small quantity of deposit. Micturition took place with much more force and without pain. His general condition was improved in a remarkable manner.

On the twelfth day the weather became dull with heavy clouds and the atmosphere was charged with electricity. M. K. felt this change in the weather a couple of days beforehand. The day before it he complained of slight pains in his kidneys and next day the deposit in his urine was greatly augmented. Twenty-four hours sufficed to restore the improvement of the day but one before; henceforth the urine was completely free from any deposit. M. K. was under treatment forty days. He left Evian enchanted with his general health, and with a strength and embonpoint that he

had not known for several years past. It was a real transformation.

Next year M. K. returned again; some departure from regimen had brought back a little deposit in the urine.

He went through a twenty-four days' course of treatment, after which he felt himself perfectly re-established.

The state of absolute cure was maintained without the least drawback. We saw M. K. at Nice during the winter of 1882; and he had seen nothing more of his malady. He was in admirable health and spoke in the most cheerful and lively manner of the grateful feeling he entertained for the waters of Evian.

CHRONIC CYSTITIS. — Mr. A., an American, aged 68, was sent to Evian, June 25th, 1869, by a Berne medical man for chronic cystitis. It was difficult to determine the cause of this affection. Mr. A. was of a good and sound constitution, had always enjoyed excellent health, had not been guilty of any excesses, but had always led a regular and laborious life, which has acquired him a large fortune. Three years ago he felt a more frequent desire to make water accompanied by a sensation which he called a *burning stricture* at the end of micturition. The prostate was slightly hypertrophied within the rectum, especially on the left. The affection of the bladder, which had increased since the very hot weather came on, had produced in the urine a tolerably well marked deposit of pus, or muco-pus. Micturition was very frequent and painful.

The patient commenced by drinking six glasses of water per day, and added on one glass a day until eighteen or twenty were taken. He supported the water very well. The first day the vesical symptoms

were exacerbated, especially during the night. Every day he took a warm bath at 34° centigrade. On the sixteenth day there was considerable improvement both as regards deposit and pain. After the fourth day the appetite had become so keen that Mr. A. could not wait for the ordinary meals; his cheeks were filling out and he was becoming stouter.

After fifty-five days of this treatment scrupulously followed out, Mr. A. no longer felt any pains during micturition; the urine only presented a slight whitish cloudiness.

This success affected him, he said, particularly in respect to his surgeon, who had wished to make some instillations into the bladder. And as he had absolutely refused, he was enchanted at being able to present himself perfectly cured.

It is certain that he appeared far more pleased at the idea of playing this little trick on his medical adviser than at having been delivered, after three years' suffering, from this detestable affection.

How truly American was such an idea!

Next year Mr. A. came back to Evian with all his family to spend the season. He enjoyed the best of health, and scarcely recollected having been ill and cured by our waters.

CHRONIC CYSTITIS. — M. X., of Aubenas (Ardèche), aged 72, after an abscess of the prostate which opened into the canal of the urethra, had purulent cystitis for which he was sent to Evian during the season of 1875. He was ordered to drink *five or six glasses of water per day* and to take a bath. During two years in succession he came and followed the same treatment without any improvement.

Towards the middle of his third year's course, he came to consult us and gave us in detail his history, of which the following is an abridgment. His state was as follows :

He suffered when making water, micturition every half hour with tenesmus towards the anus, coagulating, purulent deposit of medium intensity, Evian had brought back his appetite, although he was tormented by the frequent need of making water, particularly during the night, We had some reasons for wishing to be assured that the bladder did not contain any foreign body ; on examination none was found.

M. X. was submitted to a dose of eighteen glasses of water gradually increased according to our custom ; he hesitated because he had been frightened on the subject of large doses ; he had to take a bath daily. In a fortnight he reached twenty-two glasses of water per day.

The treatment was prolonged for thirty-two days and M. X. saw the pus gradually disappear from his urine, and although micturition was still frequent, it was painless. He left cured, with his urine in a normal condition though scarcely acid. He passed the winter without again feeling anything of his disorder. In the month of May his house got on fire, and the emotion thence resulting was a very vivid one ; the bladder was not slow in defraying all the expense of the constitutional commotion. Fresh deposits occurred and micturition soon again became more frequent and somewhat painful.

The following summer he returned to Evian ; his course of treatment, identical with the preceding one, again operated a cure after a month's residence. M. X. left in the most perfect health. He was, more-

over, a well preserved and hearty old man and had never had any other disorder than this of suppurated prostatitis.

CHRONIC INFLAMMATION OF THE NECK OF THE BLADDER. — M. W., of Lausanne, aged 41, of independent means, a great velocipedist, arrived at Evian on June 2nd, 1878; sent hither by his physician to be treated for a very painful inflammation of the neck of the bladder. Deposit slight and purulent, micturition very frequent, on an average thrice in an hour. Nights almost sleepless. Considerable emaciation, loss of appetite, and rather profound moral impression. For the last year and a half he had been treated by all ordinary means, any improvement had been but transient, and relapse very easy. We submitted him to high doses of the water, with a bath daily. In a short space of time he drank twenty-five glasses of water per day. Cessation of all the painful symptoms, Tremendous appetite, disappearance of pus and of all deposit. He awoke to a new life and asked if he could not again take to his velocipede.

He left completely cured and in the most perfect health.

In October following, whilst taking a walk in Lausanne with our excellent and eminent friend, Professor Proust of Paris, by the luckiest of chances, we met the famous velocipedist. I begged him to tell us his history and that of his cure. He acceded to our request with the best grace in the world, and it was not without lively pleasure that we were able to have confirmed to the eminent Professor what we had stated to him as to the value of our waters. M. W. finished by declaring that his cure was perfect and that he had however scarcely taken any care of himself.

CHRONIC CYSTITIS. — M. K., of Orléans, aged 39, corn-chandler, had suffered for five years past from purulent cystitis of the greatest intensity. Gonorrhœal origin; washing out of the bladder with double current catheter by means of a bucket placed about a yard high; exacerbation, green sticky pus, in quantity a good half tumblerful in the twenty-four hours. Micturition every ten minutes, no sleep, no appetite. He declared that he had seriously thought about committing suicide. Had been under treatment at Vals, Vichy, and Contrexeville during the preceding years.

On 29th April, he arrived at Evian in this miserable plight. The water somewhat calmed his sufferings after having exasperated them during the first two days; on the eighteenth day he drank, despite our advice, *forty-two glasses of water daily*; the appetite had become of the keenest; the twenty-fifth day the pus had diminished by three quarters, the urine was less muddy, and from being alkaline had become neutral. He did not micturate more than from nine to eleven times a night and almost without pain. His own words were: "*I am in Paradise.*"

Nothing could make him diminish the number of glasses. His course of treatment lasted forty-five days and resulted in a veritable transformation. He was the "*great attraction*" of the season. Everyone took an interest in this terrible water-drinker and inquired about the results which were the consequence of it. He left Evian quite stout, did not make water more than three or four times a night and without pain; the deposit was nothing more than a thick cloudiness in the lower strata of the liquid. Next year one of his neighbours assured us that he was cured and that he had

commenced business again. We have heard no further news of him.

As to the result in this patient, which the greater part of the visitors, especially his neighbours in the hotel, were able to follow day by day, just as did his physician, we have adhered to facts with the greatest exactitude.

During the last twenty-five days, this patient drank forty-two glasses of water of 230 grammes each (more than one-third of a pint) without any other effect than that of an unhopd for improvement, the keenest appetite, and the complete disappearance of pain.

We have the conviction that when the evil is not the consequence of an organic cause, the waters of Evian are sovereign in their effect. It is enough to employ them in a fitting manner and suitably to the case which one has to treat.

Is it necessary further to multiply notes of cases of cystitis, or of the other diseases which are amenable to Evian water?

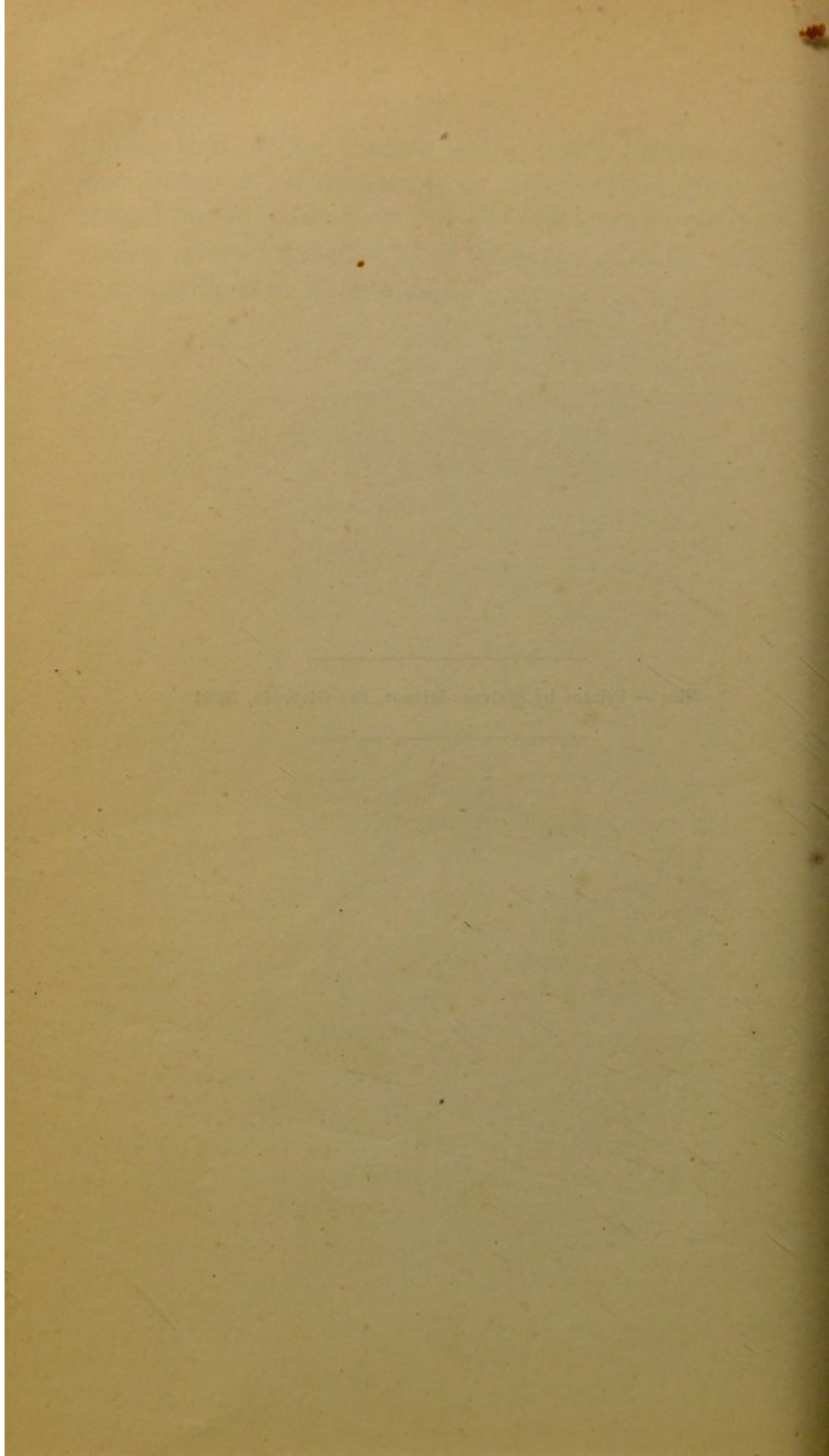
We should indeed fear to abuse the patience of our readers and unprofitably so, we believe, as regards the proposition which we are maintaining.

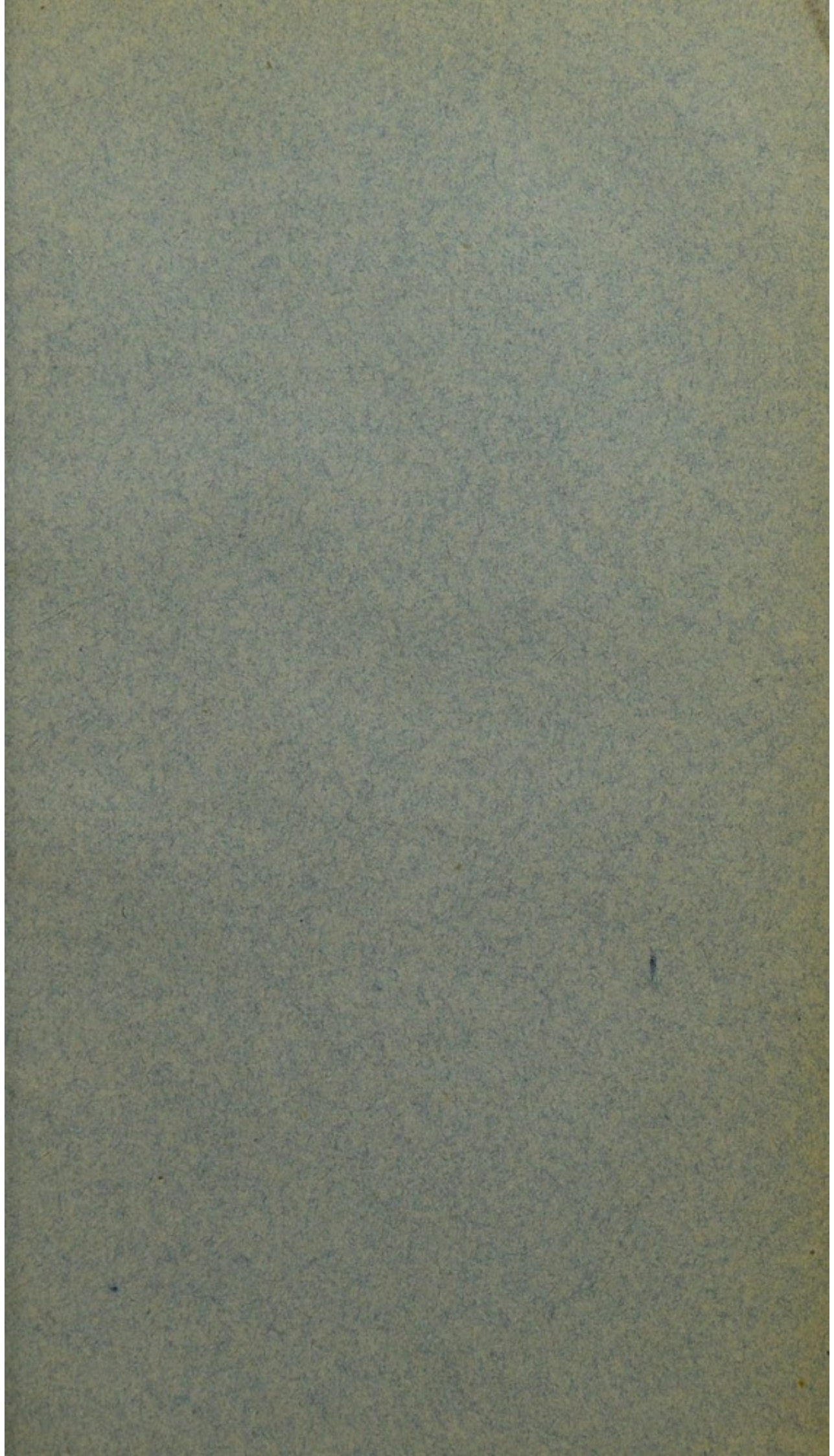
Such are the results of a rather long experience. It has been our scrupulous duty to give only as established what has seemed to us to be so in an irrefragable manner. We have equally taken care to leave in doubt those facts which did not present a sufficient degree of certainty when rigorously examined.

We have always thought that this upright and truthful manner is not only imposed on every conscientious mind, but that it is also the surest means of serving the cause which it is wished to defend.

The water of the Cachat spring bears transporting and preserves all its chemical, physical, and physiological qualities, and can therefore be used at patients' houses in the treatment of all those maladies for which it is employed at Evian itself.

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THE ALKALINE MINERAL WATERS OF EVIAN

ARE INDICATED IN

Painful and Flatulent Dyspepsia, Gastralgia, Enteralgia.

Anæmia and Chlorosis in Nervous and Hysterical Subjects.

Albuminuria, Bright's Disease.

Chronic and Parenchymatous Nephritis, Pyelitis, Pyelonephritis.

Subacute, Atonic, and Masked Gout.

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Obstructions of the Liver with or without Jaundice, especially if of a Gouty Nature.

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COMPLETE HYDROTHERAPEUTIC ESTABLISHMENT

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