

A glance at the indications, contra-indications, and use of the mineral waters of Contrexéville (Vosges) : in gravel, gout, dyspepsia, gall-stones, habitual constipation, congestions of the liver, spleen, and intestines, in catarrh of the bladder, prostate, or urethra, and in leucorrhoea : followed by a table of diet according to the temperaments / Doctor Tamin-Despalles.

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DOCTOR TAMIN-DESPALLES

CONSULTING PHYSICIAN AT CONTREXÉVILLE.

A G L A N C E

AT THE

Indications, Contra-Indications, and Use

OF THE

MINERAL WATERS

OF

CONTREXÉVILLE

(VOSGES)

IN GRAVEL, GOUT, DYSPEPSIA, GALL-STONES, HABITUAL
CONSTIPATION, CONGESTIONS OF THE LIVER, SPLEEN, AND
INTESTINES ; IN CATARRH OF THE BLADDER, PROSTATE,
OR URETHRA, AND IN LEUCORRHŒA.

FOLLOWED BY

A TABLE OF DIET ACCORDING TO THE TEMPERAMENTS.

SIXTH FRENCH EDITION.

LONDON:

BAILLIÈRE, TINDALL, AND COX,
20, KING WILLIAM STREET, STRAND, W.C.

1877.

PATIENTS seek Contrexéville from the 20th of May to the 15th of September, by way of the government network of railways, and Neufchateau station. The quickest route, and the shortest from London, is through Paris (Strasbourg railway terminus), Troyes, Chaumont, and Neufchateau. Omnibuses and private carriages run from this last station to Contrexéville in two and a half hours. The total length of the journey from London is twenty-two hours, and the price, first class, is 115 francs.

The fertile and picturesque province, of which the department of the Vosges is a part, has for a long time been traversed by fine roads, which permit of easy access to its various towns.

The hotels of Contrexéville are notable for their comfort.—Telegraph—post-office.

A theatre has recently been joined to the Casino, and the employment of evenings is thus agreeably assured.

It is not necessary to quit the village in order to find that freshness and vivifying air which are presented by the magnificent shades of the park, in the middle of which the naiad of Contrexéville springs.

At a few minutes' distance from this, the promenades of the Glaçière and of Bellevue give access to more extended horizons, and to the keener air of the higher plains.

The intervals of treatment may be utilized in picturesque excursions in the mountain lands of the Vosges, and in visiting its poetical lakes, as well as the important stations of Plombières, of Bourbonne, and the dwelling of Jeanne d'Arc, the patriotic shepherdess of Domrémy.

REFERENCE TO CONTREXÉVILLE.

From Holland, Belgium (viâ Metz), North-east of France, Germany, &c.—*Tickets to Neufchateau by Pagny-sur-Meuse junction (Strasbourg line).*

From Italy, Switzerland, South and South-east of France, &c.—*Tickets to Neufchateau by Chaumont junction.*

From England (viâ Charleville, Rheims, North), &c.—*Tickets to Neufchateau by Blesmes junction and Boulogne junction.*

From England to Neufchateau (viâ Paris) *by Blesmes junction and Boulogne junction (Strasbourg line) or by Chaumont junction (Belfort line).*

From London to Contrexéville, twenty hours. Fare (1st Class) £4 12s.

THE MINERAL WATERS OF CONTREXÉVILLE.

In order to prevent any mistake in the symptoms arising from incomplete information furnished by the patient himself, Dr. Tamin-Despalles requests his *confrères* to give all persons that address him at the Waters a letter, in which their antecedents shall be very succinctly explained.

ON CERTAIN PHENOMENA OBSERVED IN THE WATERS OF CONTREXÉVILLE.

WITH rare exceptions, as soon as a patient drinks a quart of water, the current establishes itself either by the intestine or by the kidneys. Pretty frequently the waters promote, at the same time, very slight purgation and an abundant flow of urine.

The physician must, therefore, according to the case, determine if it be suitable to favour expulsion by the one or other passage.

From the earliest days of their treatment, at least a third of the patients affected with gravel pass uric acid crystals, with or without nephritic colic, or, better still, only observe a red sediment in their urine increase.

Often, at the end of the season, or some days after, the same phenomenon is reproduced, and at that moment patients affected with phosphatic urine pass fragments of stone broken up, rather like wet plaster or curdled milk.

GOUTY PULSE.

A great number of gouty patients come to Contrexéville with well-marked intermittence of pulse. This intermittence shows itself at regular or irregular intervals.

The pulsation which is wanting is followed by four or five rapid and irregular pulsations, called *à temps de galop*. Sometimes the intermittence takes place every four or five pulsations ; at other times even after the hundredth, but generally about the thirtieth or fortieth pulsation.

Under the influence of the waters, the interval of the intermittences augments more and more, and gradually becomes inappreciable. The baths and douches are contra-indicated, in the case of persons with gout and gravel, where the pulse has this peculiarity. They are also contra-indicated whenever there is any tendency to flying gout.

RETENTION OF URINE.

When the patient is affected with stricture of the urethra, it is wise, whilst the physician is making use of progressive dilatation, to give the waters in small and very fractional doses, if we would not have sudden retention of urine, which might make it be thought that a stone existed, and necessitate exploration, which patients always dread a little.

HYDRO-MINERAL DRUNKENNESS.

Shortly after the commencement of their treatment, the generality of patients of both sexes who drink, without serious medical attention to their case, experience a certain nervous agitation, rather like what authors have called *thermal fever*.

A great heaviness of head, loss of memory, vertigo,

weakness of the lower limbs, and confusion accompany this state of nervous tension and excitement, which the waters of Contrexéville are far from having the reputation of producing.

If, in certain circumstances, the physician do not intervene to cause this aquatic drunkenness to cease, and to proportion the quantity of water to the special tolerance of the drinker, the accidents which I have adverted to may take on a grave character, and simulate a true *delirium tremens*.

I have observed that the cerebro-nervous phenomena due to the imprudent ingestion of the waters present a frequency and intensity which are greater in proportion as the skin is less active in its functions, and the air colder and damper. In this case the elimination of liquids was almost exclusively devolved upon the kidneys.

Physicians and patients ought, then, to exercise a certain amount of circumspection in their use of the waters of Contrexéville.

In fact, if these symptoms disappear rapidly, as soon as we proportion the quantity of liquid to the tolerance of patients, if the waters do not produce on the economy an anæmia consecutive to their use so prolonged and unpleasant as waters containing bicarbonate of soda, it is yet very evident that waters containing fluoride, bicarbonate, and sulphate of lime, of which Contrexéville is the type, ought not simply to be looked upon as pure water, acting by its mass and without any dynamic special activity on the whole of the functions.

As the hydro-mineral drunkenness cannot depend either on the small quantity of carbonic acid or on the inorganic matters which the waters of Contrexéville contain, it has appeared to me interesting to point out briefly to the attention of the Academy this pheno-

menon, produced doubtless by an organic substance not yet isolated or defined.

CONCLUSIONS.

Persons have so often repeated that the waters of Contrexéville, in whatever quantity ingested, were of no danger, that patients believe willingly that the treatment will be the more successful the more mineral water they swallow. Certain drinkers take as much as twenty glasses, or about seven quarts, in a morning.

This deplorable prejudice makes many victims. Thus each year we see some persons return home suffering more than they did when they came, and that by their own fault.

To cure themselves of the gravel, they drown the stomach, and cause atony of the digestive organs, and the patient voluntarily gives himself a grave dyspepsia or inflammation of the kidneys.

The physician, generally consulted rather late, when the accident has taken place, is not always able, by reducing the doses to suitable proportions, to re-establish the equilibrium in the troubled functions.

In short, we must blame energetically the habit of taking or of ordering the waters of Contrexéville in quantities beyond eight glasses, except in very out-of-the-way cases.

About two quarts (six glasses) appear to me to be the wise medium.

Again, in certain cases, it is preferable only to take the half of this in the morning, in half glasses, and the other half in the afternoon.

If the physician try to obtain analeptic effects, three or four glasses, very small in dose and at long intervals, are generally sufficient.

The mode of action of the springs is not the same,

and the choice of one or the other, or alternately of the one and the other, depends on the temperament, on the toleration of the patient, and the degree of the disease.

When *the stomach is cold*, and the water drunk in the morning is scarcely expelled by the evening, it becomes sometimes indispensable to order hot aromatic drinks or composite stimulating wines, in order to make it tolerated, or to hasten its elimination, by the kidneys especially, when the temperature or exercise do not favour the expulsion of a part of the liquid by the skin.

I will terminate these conclusions of a practical nature by expressing the desire that physicians would recommend during the season a diet less succulent and more in harmony with rational hygiène.

In order to get rid of the effects of gout or gravel, we must, above all, suppress the usual good cheer and the causes and irregularities of diet which produce or which keep up these diseases.

DR. TAMIN-DESPALLES.

CONTREXÉVILLE.

AFTER the works of Dr. Victor Baud,* to whom Contrexéville owes at once its reputation and its prosperity, their remains but little to add.

I will then limit myself, in this little work, to setting

* 1. *Contrexéville* (goutte, gravelle, urinaire, gravelle biliaire, maladies des voies urinaires), by Dr. V. Baud, Chevalier de la Legion d'Honneur, médecin en chef des épidémies de la Seine, &c. 1 vol. in 8vo. Price 2 fr. 25 c.

At Paris, chez Trinquesse, dépositaire général de l'eau de Contrexéville, 23, Rue de la Michodière, and at Contrexéville, au bureau de l'Etablissement.

2. *Traitement des maladies des organes génito-urinaires et de la goutte*, par les eaux de Contrexéville, 1868. 1 vol., grand in 8°, 2^{me} édition. Price 5 francs. Georges Barba, libraire, 7, Rue Christine.

forth certain general and useful considerations. Friend and physician of that learned practitioner, I was nominated by him to continue his work and practice, and to annotate the succeeding editions of his work. That confidence honours and obliges me.

In our long conversation about the properties and application of the waters of Contrexéville, and circumstantial details concerning the patients, Dr. Baud was able to communicate to me the fruit and summing up of his twenty-two years of hydro-mineral practice. The majority of chronic diseases are produced or kept up by anæmia.

Now, the treatment of anæmia being absolutely the contrary of that of gout, in sanguine persons, the therapeutic relations are then so exact, that the experienced physician can at his pleasure produce anæmia by exaggerating the anti-plethoric treatment, as he can produce plethora by overpassing the wise limits of anti-anæmic medication. I may add that almost all chronic diseases present, as a dominating symptom, different dyspepsias or vices in the digestion, and consequently in the nutritive reparatory powers.

Dyspepsia of different kinds produces also a tendency to greater or less acidity of the secretions.

To energetic acidity there correspond uric acid gravel, tonic gout, and all the numerous diseases characterised by the presence of an excess of uric acid in the blood. To neutrality, or alkalinity, are attached phosphatic or white gravel, atonic gout, gouty rheumatism, biliary gravel, and in general all the diseases in which anæmia and chloro-anæmia predominate; that is to say, not only when the blood globules are wanting in iron, but when the denutrition and diphosphatisation of the tissues are not counter-

balanced by alimentary repair, and in which the local contractility and the general nervous power are considerably lessened.

The persisting alkalinity of the urine at one time indicates a grave lesion of the kidneys or bladder, at others a profound trouble of the innervation, at others again an extreme debility of the organism.

The acidity of the saliva is one of the symptoms of diabetes in the beginning.

It becomes easy to understand how much the treatment of different morbid states observed ought thus to vary, according to the causes which produce them, and the danger which the patients would run, if they were the object of a mistake, or too superficial examination on the part of their physician.

A patient with gravel comes to us; he has dizziness; his high colour imposes on the observer. He is placed on the diet of the gouty or plethoric gravel patients, at the same time with the use of the alkaline waters of Vichy, Ems, Carlsbad, Vals, Evian, &c., when his disease is confounded with an unrecognised anæmia. This fact is not rare. The consequences of such an error in diagnosis may be serious, as we may suppose.

The urine contains sugar, and, on first examination, the physician diagnoses essential diabetes. If he had deferred his judgment, some symptoms of gout would have shown that this diabetes was only intermittent or alternating, that is to say, infinitely less grave.

The engorgement of the biliary apparatus causes the examination of the spleen often to be neglected.

Yet how often does a hypertrophy of the spleen, which has been neglected in examination, become a cause of the engorgement of the liver?

The great peril in medicine is to take the effect for the cause, and consequently to apply, without result, the treatment which appears the most rational.

How many times has the true cause of the frequency of biliary calculus and of hepatic colic been unrecognised, because the relation which so intimately exists between the brain and the nerves was forgotten, those centres of the production of cholesterine (the base of biliary calculi), and the liver, which is charged with its elimination under the form of stercorine.

The cerebro-nervous superactivity provokes, indeed, a superabundance of cholesterine. If the liver do not eliminate it rapidly enough, biliary concretions are progressively formed. Thus attacks of biliary colic, in subjects who are predisposed to it, are observed almost always after great mental perturbations, or disturbance of the nerves or the emotions.

Frequently nephritic colic is produced in the same circumstances.

Errors of diagnosis might, then, have for the patient the most dangerous consequences, *if, in place of thinking of the spleen and the cerebro-nervous centres, exclusive attention were directed to the liver.*

Anæmia, much more frequently than plethora, causes, complicates, or maintains biliary calculi, white gravel, and gouty rheumatism. It demands a general treatment at the same time as the hydro-mineral treatment.

Before authorising the patient to take the water, we must carefully seek out the true cause of the symptoms observed, *and take great account of the temperament, digestive toleration, and principally of the organic lesions of the heart and great vessels, the lungs, the intestines, the liver, and brain ; in a word, we must abstain from, or at least give the waters with prudence, until assured*

that there is no *organic lesion*, for, in this situation, especially with *slow fever*, the mineral waters are *absolutely counter-indicated*.

Were the physician promptly to order the ordinary doses in such like conditions, he would risk the compromising in a more or less short time, and even suddenly, the existence of the patient and the reputation of the waters.

Many drinkers are foolish enough to drink the waters, without previously having themselves examined by a physician, and yet, in the interval between the seasons, some organic lesions may have arisen, and forced either complete abstension or precaution, which it is impossible for the patient himself to appreciate, before or during the season, in all their variety and extent.

The mineral waters are not like the lance of Achilles. They do not always cure the wounds which they make.

It is right to drink the waters with prudence ; but to prevent them being taken, when, on attentive observation of their action, in place of curing, they make the patient run serious risks, is still, in my opinion, much better.

COMPARATIVE VIEW OF THE MINERAL WATERS OF EUROPE.

THE temperature of the mineral waters is that of the deep strata which they traverse. It allows us to calculate their level below the surface of the ground.

The temperature of the strata of the earth rises about one degree for every 32 to 35 mètres in depth.

The waters of Ax, in l'Ariège, of which the temperature is 75°, must come from a depth of about 2,500 mètres.

Mineral waters are ranged in the following classes:—
Acidulated waters—cold, characterised by the presence of pure carbonic acid.

Examples: Saint Galmier, Condillac, Seltz, Chateauneuf-Mornay.

Alkaline bicarbonate of soda waters—(up to 7 grammes a litre) hot or cold, from 14° to 43°.

Examples: Vichy (Grand-Grille, Celestins), Evian,* Ems, Carlsbad, Vals, Royat, &c.

Chlorine waters—hot or cold (3 to 30 grammes of alkaline chlorides).

Examples: Hombourg, Kissingen, Baden-Baden, Wiesbaden, Brides, Bourbonne, Eau de Mer.

Sulphurous waters—hot (0 gr. .02 to 0.50 of sulphide of sodium per litre).

Examples: Bagnères, Uriage, Aix-la-Chapelle, Barèges, Aix-en-Savoie; cold (20 to 120 cubic centimètres of sulphuretted hydrogen per litre)—example: Enghien.

Ferruginous waters—0 gr. .007 to 0.600 per litre.

Examples: Forges, Spa, Bussang, Luxeuil, Orezza.

Bromo-iodine waters—(0 gr. .05 to 0.1 and more of iodides, and 1 to 10 grammes and more of bromides per litre).

Examples: Hall, Alleverd, the bromo-iodic water of Heilbrunn, the chloro-bromide water of Kreutznach, Challes.

Alkaline arsenical waters—

Examples: Bagnère de Bigorre, Mont Dore, and especially La Bourboule, the waters of which contain as much as 21 milligrammes of arseniate of soda per litre.

Sulphatic waters—

Soda (14 to 20 grammes of sulphate of soda per litre).

* The waters of Evian are hardly mineralized; they contain about 25 centigrammes of alkaline salts. Their action is almost nil.

Example: Seidlitz water.

Magnesian (10 to 15 grammes of sulphate of magnesia per litre).

Examples; Pulna water, Birmenstorf, Friedrichschall.

From all the groups that I have just rapidly enumerated, there are separated the *fluoro-bicarbonate and sulphate of calcium waters*, of which Contrexéville is the type.

The analysis of M. Ossian Henry gives 2941 parts of mineral principles in the litre. I found 3277 in the *Pavillon*, 3435 in *le Quai*, 3380 in *le Prince*, 2070 in *la Souveraine*.

					LITRES.
VOLATILE PRINCIPLES	{	Free Carbonic Acid - - -			0.023
		Nitrogen, with a little Oxygen -			{ indeterminate grammes.
	Anhydrous Sulphates -	{	Lime - - -	-	1.236
			Magnesia - - -	-	0.167
	Bicarbonates -	{	Soda - - -	-	0.140
			Lime - - -	-	0.712
			Magnesia - - -	-	0.241
			Anhydrous Soda -	-	0.308
			Iron and Manganese	-	0.011
			Lithine and Strontia - - -	-	0.0053
FIXED PRINCIPLES	{	Chlorides -	Sodium - - -	-	0.224
			Potassium - - -	-	
			Magnesium - - -	-	
	Silicates -	{	Silica - - -	-	0.123
			Alumina - - -	-	
	Fluorides -	-	{	Alkaline or Earthy -	0.0017
	Iodides -	-			
	Bromides -	-			
	Phosphates of Lime or Alumina			{	0.082
	Nitrogenized Organic Matter -				
Arsenical Principle - - -					
Loss - - -					
Mineral Principles - - -					3.277
Pure Water - - -					996.723
Grammes - - -					1000.000

SOURCE DU PAVILLON.

PARALLEL BETWEEN ALKALINE WATERS AND THE
WATERS OF CONTREXÉVILLE.

In diseases characterised by the predominance of acids in the economy, gout, gravel, and the variety of affections of the genito-urinary passages which depend on these, the end of therapeutics is to moderate this excess of acidity; but we run the risk of substituting in its place the contrary state—*alkalinity—and of producing stone in the bladder, by favouring the precipitation of the soluble salts only in an acid fluid, and of weakening the organism.* The bicarbonate of soda waters of Vichy, Ems, Carlsbad, Vals, Evian, Royat, &c., expose us to this grave danger, whilst the depressing effects of those of Contrexéville are their own safeguard, thanks to the presence of iron,* and of analeptic salts, bicarbonates, bisulphates, and fluorides of lime.†

Under the influence of the waters of Contrexéville, the urinary secretions never become excessively alkaline. At the same time that they are acting chemically as dissolvent and saturant, they modify the acid temperament, without producing anæmia and exhaustion, the redoubtable consequences of alkaline waters properly so called, the living victims of which come to Contrexéville to demand a double cure—that caused by the strongly alkaline waters of bicarbonate of

* The small proportion of arsenical substances contained in the waters of Contrexéville corrects the disposition to herpetism, or darts disease, which frequently complicates arthritic disease, or gouty diathesis.

† See my memoir at the Academy of Sciences, October, 1874.

soda, and that of their primitive disease. It is lucky when there is yet time !

MODE OF EMPLOYMENT OF THE WATERS OF CONTREXÉVILLE.

ACCORDING to individual toleration, the waters of Contrexéville make the patient urinate more or less rapidly, or more or less abundantly.

If we have to do with an anæmic organisation, with a bilious-nervous temperament, or with persons with susceptible digestive organs, we ought to proceed with prudence, and dread the depressing effects of the purging, which it is necessary to moderate.

The *Pavillon* spring is *stimulating* ; that of *le Quai* is *laxative* ; that of the *Prince*, more ferro-arsenical, is also more *anti-anæmic* ; and that of *la Souveraine* is *sedative*.

Like my learned friend and regretted predecessor, Dr. Baud, I advise, during the whole year, the use of a bottle a day, taken with wine at meals. This custom keeps the organism under the influence of the minerals, and prepares it marvellously for the salutary results of the following cure at Contrexéville :—

BATHS—DOUCHES.

The administration of various baths and douches ought to be subordinated to the reaction of which the patients are capable. Whether in duration, in mode

of application, or in temperature, we must proceed with method, and progressively.

We ought not to forget that the means to be used differ according to the temperaments, and require in all cases the greatest prudence in their employment, unless we would provoke the gravest accidents.

The length of the baths varies from a quarter of an hour to an hour—rarely more—and the temperature from 25 to 32 degrees centigrade.

If the patients have any tendency to congestion of the head, they will take a foot-bath when they enter and quit the bath-room; and the temperature of the water should rather be tepid or fresh than hot.

Persistent headache, as well as tendency to gout in the viscera, formally contra-indicates the use of baths and douches in gouty persons.

Generally, in first douches, the little rose of the douche should be made use of, and the water should be directed upon the sides, the loins, and upon articular engorgements and stiffness, the water being made colder and colder, according to the facility and rapidity of the reaction, which, besides, may be aided by manipulations and frictions.

We shall progressively arrive at the spinal column, and at shower-baths, at first tepid, then colder and colder.

The duration of the douches is, like their temperature, extremely variable.

Generally it is wise to try our patient, and to commence at first by one or two minutes with tepid water, gradually made cooler and cooler.

Douches in a circle and ascending douches, Scottish douches, anal and perineal, are submitted to the same general indications.

DIAGNOSIS BY THE STUDY OF THE URINE.

FOR the instructed physician, the urine, or ashes of the body, are the mirror where the comparative expenditures of the organism is reflected. Observations are directed to—

1. The changes observed in the general characters of the urine ;

Its quantity, limpidity, colour, and odour.

2. Quantitative changes, referring to the normal urinary principles :—

Re-action—solid residue in the urine.

Variations of urea in—

Jaundice,

Diseases of the liver,

Chronic diseases,

Nervous affections,

Diabetes,

Polyuria, or super-abundance of urine,

Oligouria, or absence of urine,

Albuminuria,

Anæmia,

Cachexiæ, or Consumptions ;

Variations of uric acid,

„ of hippuric acid,

„ of extractive matters,

Variations of colouring matters,
 „ of chlorine and common salt,
 „ of the sulphates,
 „ of the phosphates,
 „ of lime and magnesia,
 „ of soda, iron, and potash,
 „ of ammonia.

3. Abnormal principles in the urine :—
 Albumin,
 Glycose,
 Materials of the bile,
 Fatty matters, blood, chyle,
 Oxalic acid, lactic acid.
4. Sediments, gravel, and urinary calculi.
5. Diverse products of the organisation, pus—
 Blood,
 Spermatozoids,
 Microzoaires, worms.

TABLE I.—INORGANISED SEDIMENTS.

CLEARLY CRYSTALLINE BODIES.	{	Very voluminous crystals, generally isolated and transparent, with sharp edges; typical form, the cover of a tomb.	{	Soluble in acetic acid.	{	Ammoniacomagnesian phosphates.
		Voluminous crystals, but generally grouped, coloured yellow or brown, with a surface often cleft, and dark contours.		Insoluble in acetic acid.		Uric acid.
		Very small crystals, isolated, very transparent and refringent, with sharp edges, octahedral in form, often like the envelope of a letter (when a power of 400 diameters is used).		Insoluble in acetic acid.		Oxalate of lime.

AMORPHOUS BODIES.	Rounded or oval granules, with dark contours, or darkish, isolated or united three or four together, in stars, in a chain, &c.	Soluble in acetic acid without disengagement of gas.	Phosphate of lime.
	Very pale granules, much smaller, very transparent and difficult to see, always united in irregular plates, punctuated (the most common appearance).		
	Grains rounded, isolated, with concentric striæ, or radiated (sometimes both), more or less opaque and darkish in colour.	Soluble in acetic acid, with disengagement of bubbles of gas.	Carbonate of lime.
	Small yellowish granules, sometimes very small, and disposed in ramified series (recent sediments), sometimes more voluminous in the form of globules with dark contour and yellow centre, united in masses, or again isolated and bristling with points.		
	Very fine granulations, isolated, agitated with a whirlpool movement (Brownian movement).	Soluble in acetic acid, and slowly, with appearance at the end of some moments of white crystals of uric acid.	Urates.
	Rounded granulations, of variable size, very refringent, soluble in a mixture of alcohol and ether, especially on addition of a trace of soda.		
		Insoluble in acetic acid.	Molecular granulations.
		Insoluble in acetic acid.	Fat granules.

TABLE II.—ORGANISED SEDIMENTS.

CELLULAR FORM, MORE OR LESS ROUNDED.	Globules, always round with smooth or crenated borders, without nuclei, more frequently presenting a depression in the centre, isolated, in piles or buried in the filaments of fibrine or of mucus.	Swollen by weak acetic acid, or shrivelled up, and presenting a raspberry appearance; not coloured by carmine.	Blood globules.
	Round or oval globules, with but slightly marked contours, with greyish white contents, granular or nucleolar, isolated or united in masses, and then polygonal, often buried in mucus and elongated.		
		Made paler by acetic acid, which makes them to be seen in their interior 2 or 3 nucleoli coloured by carmine.	Leucocytes.

MORE OR LESS ROUNDED.	Round or oval globules, very small, very refringent, presenting sometimes one or two nucleoli, brilliant or with warty expansions, on their contours; isolated or united in chains (500 diameters).	Not modified by acetic acid, and not coloured by carmine; the nucleoli, or interior of the cell are not coloured yellow by iodine water.	Spores.
	Very small oval, refringent corpuscles, hyaline, furnished with a tail, in the form of a fine very long filament.	Not modified by reagents.	
FORMS CYLINDRICAL OR FUNIFORM.	Rounded elements, cylindrical, fusiform or polygonal, with granular contents, and most generally furnished with one or more nuclei.	Made pale by acetic acid, which causes to appear clearly the nuclei by deforming them; coloured by carmine, especially the nuclei.	Epithelium.
	Voluminous cylinders with variable aspect, more or less long, sometimes twisted or waved (120 diameters).	Becoming pale with acetic acid, and retracting themselves anew by alkalies.	
	Cylinders or rods, very short and small, in general numerous and resembling each other, transparent, often agitated with wavy movements.	Not modifiable by acetic acid, which slackens or arrests their movements.	Vibrios.
		Not modified by acetic acid.	Algæ, mushrooms.
FILAMENTS OR CLOUDS.		Made pale by acetic acid; the fibrillary appearance disappears and gives place to an amorphous mass, swollen, transparent, and becoming again fibrillary by action of potash.	Clots of fibrine.
	Very fine filaments, more or less modified or crossed.	Rendered more clear by acetic acid, which gives them a punctuated look or striated appearance.	
			Mucus.

TABLE III.—ACTION OF ACETIC ACID ON SEDIMENTS.

Add, under the microscope, a drop of acetic acid to four equivalents of water. It will penetrate by capillarity.

MAY APPEAR.	NOT MODIFIED.	{	DISAPPEAR.	<i>Ammoniaco-magnesian phosphate.</i>
				<i>Phosphate of lime.</i> Is dissolved more slowly than the preceding.
				<i>Carbonates.</i> Dissolve with disengagement of gas bubbles which appear at their surface. If the urine was ammoniacal, the entire mass of the liquid would give out large bubbles of carbonic acid.
MAY APPEAR.	WILL BE MODIFIED.	{	{	<i>Urates.</i> Slow dissolution. They are gradually replaced by tablets of acetic acid.
				<i>Epitheliums.</i> The nuclei, if they exist, becomes more evident, but deformed.
				<i>Certain urinary cylinders,</i> epithelial cylinders, and those covered by urates.
				<i>Fibrine.</i> It is swollen, and its fibrillary appearance disappears.
				<i>Leucocythes.</i> Made paler, with appearance of two or three nuclei.
MAY APPEAR.	NOT MODIFIED.	{	{	Are made paler and crumpled or swollen. } Blood globules.
				Uric acid.
				Oxalate of lime.
				Spores, algæ, vegetable filaments.
				Spermatozoids, vibrios, bacteria.
MAY APPEAR.	{	{	{	Molecular granulations.
				<i>Uric acid.</i> In crystals in the form of tablets, without colour, transparent, and often arranged in series, striated or punctated upon filaments of mucus.

TABLE IV.—ACTION OF POTASH ON URINARY SEDIMENTS.

Insert a filament of fine cotton between the two glass plates which contain the preparation. Moisten it with a solution of caustic potash diluted ten times.

ARE MODIFIED.	{	{	{	<i>Urates.</i> Dissolve the more slowly the older they are.
				<i>Uric acid.</i> Slowly and progressively dissolves.
ARE MODIFIED.	{	{	{	<i>Blood globules.</i> These are seen to burst and to dissolve spontaneously.
				<i>Leucocythes.</i> Become pale and rapidly dissolve.
				<i>Nuclei of epithelium.</i> " "
				<i>Urinary cylinders.</i> " "
				<i>Fibrine and mucus.</i> In the granular cylinders the potash separates the granulations which then swim in the liquid.
				<i>Epitheliums.</i> The nuclei disappear; the cell becomes pale at the same time, swells and becomes rounded like a vesicle: the contours are not seen then except with the help of oblique light. The pavement epitheliums are those which best resist the action of potash.

ARE NOT MODIFIED.	{	<i>Ammoniac-magnesian phosphate.</i>	
		<i>Phosphate of lime.</i>	
		<i>Carbonate of lime.</i>	
		<i>Oxalate of lime.</i>	
		<i>Spores, vibrios, bacteria.</i>	Their movements are arrested.
		<i>Spermatozoids.</i>	
		<i>Vegetable filaments.</i>	
		<i>Molecular granulations.</i>	

CONGESTION OF THE LIVER AND GALL-STONES.

IN my treatise on the *Food of the Brain and Nerves* (p. 231), I have expounded at great length what relates to cholesterine, to the liver, and to the analysis of stercorine, as a diagnostic element in diseases of the biliary organs.

Biliary calculi are rich either in cholesterine, or in biliary colouring matters, or in different cells which sometimes surround the cholesterine as in a kind of shell, or most generally occupy the centre of the calculus.

The richer the sediments or biliary calculi are in inorganic matter, the more efficacious will be the dissolving action of the waters of Contrexéville.

On the other hand, this efficacy will be the less, according as the calculi contain cholesterine in a pure state. In this case it will be necessary, whilst attending to the liver, to endeavour to modify the general temperament, the anæmia and general nervous constitution of the patient, by applying to him the principles of diet laid down in my work on the brain and nerves.

A great number of patients arrive at Contrexéville with an enlarged liver. As soon as, under the influence of the waters, the gall-stones are eliminated in the stools, the biliary organs diminish in size, the dull

pain in the right side disappears gradually, the nervous accidents amend, and the colour becomes clearer and more natural.

HABITUAL CONSTIPATION.

Reserving for further on any longer details as to the grave inconveniences caused by habitual constipation, so common in women, I will only say in a general manner, that when the intestinal circulation is ill conducted, all the organisation suffers and languishes. Difficulty in menstruation, abortions, leucorrhœa, and the different hemorrhages, piles and dyspepsia, vapours, congestions, nervous phenomena in an exaggerated form, migraine, congestions of the liver, gall-stones, and all the sympathetic actions attached to them, are very often the consequence of intestinal retentions or obstructions, which I have called habitual constipation. As soon as the expulsive functions are made regular, the digestion and nutrition regain their physiological course, and all the accidents are progressively amended.

The waters of Contrexéville have in this case, as in all the therapeutic framework they embrace, the immense advantage of regulating the stools without weakening the patients, or irritating the intestines, like chlorine or sulphuretted waters, the use of which, as also that of purgatives, very frequently brings on such a great susceptibility of the intestines, that diarrhœa appears on the slightest provocation, and alternates with obstinate constipation.

On the contrary, the physical and chemical action of these waters of Contrexéville is counterbalanced by their remarkably tonic properties and their analeptic effects.

RESUMÉ OF THE INDICATIONS AND COUNTER-INDICATIONS.

The waters of Contrexéville are principally indicated in cases of urinary gravel, gall-stones, gout, or in the varieties of catarrh—vesical, urethral, or prostatic; in chronic metritis, leucorrhœa, habitual constipation, engorgements of the liver, spleen, and intestines, as well as in the different forms of dyspepsia, especially in dyspepsia with acid tendency of the saliva, and joined to intestinal obstructions.

Given in small doses and methodically, they are ana-leptic, anti-anæmic, and anti-lymphatic, thanks to the lime salts, iron salts, and the arseniates and fluorides they contain.

They have not the inconvenience of causing obstinate constipation, congestion, spitting of blood, and losses of blood, like waters which are strongly and only chalybeate. In small doses they are also precious auxiliaries in the *treatment of diabetes and albuminuria.*

It has seemed to me useful to rapidly mention the curative properties, which, in a therapeutic point of view, place the waters of Contrexéville in a category as special as they already are *in the matter of their chemical composition.*

The disappearance of the local symptoms or their diminution, whilst at the same time the examen of the saliva and urine become more and more normal, will indicate whether we should prolong or arrest the treatment.

All patients attacked with organic lesions or cachexia ought to abstain entirely from taking not only the waters of Contrexéville, but any other kind of mineral waters.

It will be often necessary to join anti-anæmic treatment of a complete kind to the hydro-mineral treatment, and to attempt to re-establish the integrity of the functions and cerebro-spinal tissues by an appropriate diet, in such patients as owe their disease to great labour or other excesses, or to moral affections or hypochondria.

The waters of Contrexéville are indicated after the operation for stone, whether for the expulsion or breaking up of the stone in the bladder, or in order to combat the predisposition to relapses.

It is wise to recommend the use of these waters to children and those attacked with the gout, gravel, or stone, in order to withdraw them early from the chances of a hereditary disease of formidable kind.

The waters of Contrexéville reveal the existence of a stone in the bladder, even when explorations made by sounds have failed to find one, although there existed all the rational signs of its presence in the bladder.

The alkaline waters of Vichy, Ems, Evian, Royat, &c., soften the surface of the stones, and cover them with a new layer, thus further masking their presence. The waters of Contrexéville, on the contrary, render their surface so rough, that the symptoms being exaggerated clearly demonstrate the existence of the stone.

ALIMENTARY REGIMEN.

For all questions of hygiène and diet, patients will act wisely to run through my work : *On the Diet of the Brain and Nerves.*

Excessive labour, high feeding, excesses of all kinds, want of sleep, and moral affections, in a word, cares, cerebro-nervous and intellectual conditions, and sedentary life, keep up a considerable production of uric

acid, and singularly predispose to congestions and engorgements of the viscera, and to all the disorders which result from its presence in the blood. The same causes acting also as an element of over active disassimilation, without sufficient compensation from repose and food, it happens that, on the one hand, the tissues lose their contractability and physico-vital properties; and that, on the other hand, the liquids and the blood are altered in their chemical composition.

After more or less prolonged dyspepsia, the organism presents all the characters and phenomena of anæmia, at the same time as those of gout, gravel, &c.

As general hygiène, in aid of the curative action of the waters, I recommend exercise under the trees, inhalations of oxygen, sobriety, moral calm, and above all, the avoidance of any over excitement, whether by work or pleasure.

DIET ACCORDING TO THE TEMPERAMENTS.

PLETHORIC TEMPERAMENT.

Tonic gout.—Uric acid in the blood.—Over acidity of the urine.—Red gravel.—Excess of urates.—Pulse full.—Coloration of face.—Injected conjunctivæ.—Powerful muscular system.—Rapid and lively reactions.—Easy congestions.

Vegetable diet.—Exercise.—Watery beverages.

BILIOUS TEMPERAMENT, LYMPHATICO-BILIOUS AND BILIOSO-NERVOUS.

Gouty rheumatism.—Atonic gout.—Phosphatic or white gravel.—Neutrality or alkalinity of the urine.—Engorgement of the liver.—Gall-stones.—Gastro-intestinal obstructions, and habitual constipation.—Reactions slow, but complete.—Pulse generally slow.—Jaundiced colour more or less marked of the sclerotics and of the skin.

Vegetable and animal diet.—No fat or fatty food.—Carrot juice.—Exercise in the sun.—Phosphorized foods.

LYMPHATIC TEMPERAMENT.—ANÆMIA.

Face more or less pale, or, in certain cases, well-marked redness in places, and sometimes, even, the skin with a little acne rosacea apparent.—Mucous membranes swollen or colourless.—Tendency to catarrhs.—Delicate eyelids.—Pulse quick or slow, but depressible.—Habitual coldness of feet and hands.—Slow and incomplete reactions.—Frequently, blowing murmur at the heart and in the arteries.—Tendency to the neutrality, or, in certain cases, to alkalinity of the urine.—Tendency to the acidity or neutrality of the saliva.

Tonic diet.—Preparations of iron.—Red meat.—Sea fish.—Generous wines and slightly stimulating drinks.

I am often asked about the alimentary regimen which should be followed, and it has seemed useful to draw up a table.

Patients ought not to exaggerate these indications of alimentary regimen. Their aim is simply to put them on their guard against a too frequent use of any bad diet.

The letter I signifies a diet hard of digestion, and consequently that very little of it must be eaten, even in good health.

(When there is no catarrh of the urinary passages, gouty patients or those with gravel may, without inconvenience, eat asparagus.)

FF signifies absolute prohibition.

FOODS AND DRINKS.

- B. Are not suitable for bilious temperaments. }
 N. Are not suitable for a nervous temperament. } or bilious-nervous.
 G. Are not suitable for sanguine temperaments.
 F. Foods or drinks forbidden to gouty or gravel patients.
 P. Phosphorized foods.
 A. Anti-anæmic foods.
 I. Foods digested with difficulty.
 D. Very digestible foods.

MEATS.

Horse-flesh.	B	Kid's-flesh	D
Beef	A	Lamb	D
Pork	IB	Chicken	D
Mutton	A	Rabbit	D
Turkey	A	Partridge	A
Goose	IB	Hare	A
Duck	IB	Teal	B
Veal	D	Paté de foie gras . .	IB
Pigeon	IA	Roebuck	A

FISH—CRUSTACEA—REPTILES.

Gudgeon	D	Salt cod	IF
Sole	D	Sardines in oil . . .	I
Limanda	D	Tunny (sea)	I
Turbot	D	Mackerel	D
Whiting	D	Fresh herrings . . .	D
Carp	D	Salt herrings	IF
Fresh cod	D	Oysters	DA
Pike	D	Cray-fish	IF
Anchovy	F	Prawns	IF
Ray	D	Lobsters	IF
Fresh sardines . . .	D	Crabs	IF
Sperlings	A	Large lobsters . . .	IF
Salmon	BI	Mussels	IF
Fresh Tunny	I	Snails	IA
Eel	BI	Tortoises	AP

DIFFERENT ANIMAL PRODUCTS.

Caviar	IP	Tortoise's eggs	PAD
Cow's milk	B	Brains	PAD
Ass's milk	D	Liver	B
Mare's milk	AA	Pudding	BI
Goat's milk	DD	Blood	A
Milt or roe	P	Different cheeses	D
Swallow's nests	I	Goat's milk cheese	D
Hen's eggs, raw or		Fresh white cheese	D
under-boiled	DPA	Double cream cheese	B

BREAD—VEGETABLES—CEREALS.

White bread, well		Cucumber	F
baked	D	Water-cresses	A
White bread of Rye	B	Different salads	F
Macaroni	B	Greens	I
Italian paste	D	Turnips	D
Semolina	DA	Radishes	I
Klébiss	ADP	Leeks	D
Rice	D	Asparagus	D
Barley groats	A	Onions	I
Potatoes	D	Sour crout	I
Tapioca	D	Tomatoes	FF
Sago	D	Artichokes, raw	F
Arrowroot	D	„ cooked	D
Peas	I	Sorrel	FF
Lentil-flour	PA	Spinach	D
Goat's bread	D	Lettuce, cooked	D
Carrots	I		

RAW FRUITS.

Chestnuts	I	Ananas	FF
Walnuts	I	Apricots	I
Hazel nuts	I	Plums	I
Green almonds	DP	Peaches	D
Olives	I	Melons	I
Gooseberries	F	Apples	F
Sour cherries	F	Fresh figs	D
Sweet „	D	Pears	D
Strawberries	D	Raisins	D
Raspberries	F	Medlars	F

Lemons	FF	Sorbs	F
Oranges	F	Quince	F

DIFFERENT VEGETABLES.

Mushrooms	I	Truffles. . . .	I
Morils	I		

DIVERSE.

Chocolate	B	Sweetmeats	B
Lard.	BI	Vinegar.	F
Butter	B	Anchovy butter	F
Pastry	B		

DRINKS.

Coffee	N	of France, or of	
Tea	N	Languedoc.	(GF)A
Spanish, or similar		Champagne wine	FN
Wines	(FG)A	Liqueurs, Brandy	G
Marsala	(FG)A	German beer	F
Port	(FG)A	English „	F
Burgundy, white	(FG)A	French „ (new)	F
„ red	(FG)A	Porter	(A)FF
White wine of Bor-		Cider	F
deaux	A	Acid Paris wines	F
Red ditto	A	Mâcon	F
Red wine of South		Vin Ordinaire	F

PREPARATIONS OF FOOD.

Frying, gridiron	D	Butter sauce	BI
Roasting	D	Oil sauces	IB
Boiling in water	D	Vinegar sauces, or	
With sauce, spiced		mustard sauces. . . .	F
or peppered	FI		

As a general rule, gouty and gravel patients will act wisely in only partaking of cooked fruits, and in avoiding raw vegetables, various sauces and fermented drinks.

A certain number of general matters are useful auxiliaries in the alimentary regimen of the gouty and gravel patients of various temperaments.

For example : the chloride of sodium and the sulphate of soda are the salts of bilious patients ; the phosphates of potash and soda, of sanguine and nervous ; the phosphates of lime and iron, the fluorides of lymphatic patients, chlorotic, and anæmic persons.

The physician, after the hydro-mineral seasons, *which neutralize the effects, will be able to suppress also the cause which keeps them up*, by modifying the temperament or pre-disposition of the patient, whether dyspeptic, anæmic, gouty, or gravel be present.

We must never forget that all these local manifestations of gout, gravel, and catarrhs are but the *local* expression of a *general* condition of the economy, which ought especially to attract the attention of the practitioner.

TABLE OF THE COMPARATIVE DIGESTIBILITY OF SOME FOODS.

	HRS. MIN.			HRS. MIN.	
Fresh eggs, raw ... about	1	30	Pork, roasted	5	15
„ „ fried ... „	3	30	Chicken, fricassee „	2	45
„ „ sur le plat „	2	15	„ roasted ... „	2	30
„ „ poached „	3	15	Rice, boiled..... „	1	0
Salmon, boiled..... „	1	30	Sago, boiled..... „	1	45
„ grilled..... „	2	0	Tapioca	2	0
Brains, boiled	1	45	Peas	2	30
„ fried..... „	2	0	Greens, boiled	4	0
Cod, boiled	2	0	Potatoes, boiled ... „	3	30
Liver, grilled	2	0	„ fried..... „	2	45
Goose, roasted..... „	2	30	Carrots, boiled..... „	3	15
Beef, boiled	2	45	Maize (bread)	2	15
„ roasted	3	0	Wheat „	3	30
„ fried..... „	4	0	Barley „	2	15
Duck, roasted	4	0	Turnips, boiled ... „	3	30

(Extracted from a work "On Food," by Professor Henry Letheby, late officer of health and analyst of the city of London. Baillière & Co.

In order to prevent any mistake in the symptoms arising from incomplete information furnished by the patient himself, Dr. Tamin-Despallès requests his *confrères* to give all persons that address him at the Waters a letter, in which their antecedents shall be very succinctly explained.

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