

Researches on the chemical and medical properties of the root of kahinca / by Messrs. Francois, Caventou & Pelletier ; a memoir read at the Royal Academy of Sciences (Institute,) the 27th December, 1820 ; (extracted from the Journal general of medicine, May 1830) ; translated by John Baxter, M. D.

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RESEARCHES

ON THE

CHEMICAL AND MEDICAL PROPERTIES

OF THE

ROOT OF KAHINCA,

By MESSRS. FRANCOIS, D. M., CAVENTOU & PELLETIER,

PHARMACIENS, MEMBERS OF THE ROYAL ACADEMY

OF MEDICINE.

A MEMOIR READ AT THE ROYAL ACADEMY OF SCIENCES,

(INSTITUTE,) THE 27th DECEMBER, 1829.

(Extracted from the Journal General of Medicine, May, 1830.)

TRANSLATED BY JOHN BAXTER, M. D.

MEMBER OF THE MEDICAL SOCIETIES OF PHILADELPHIA AND NEW-YORK.

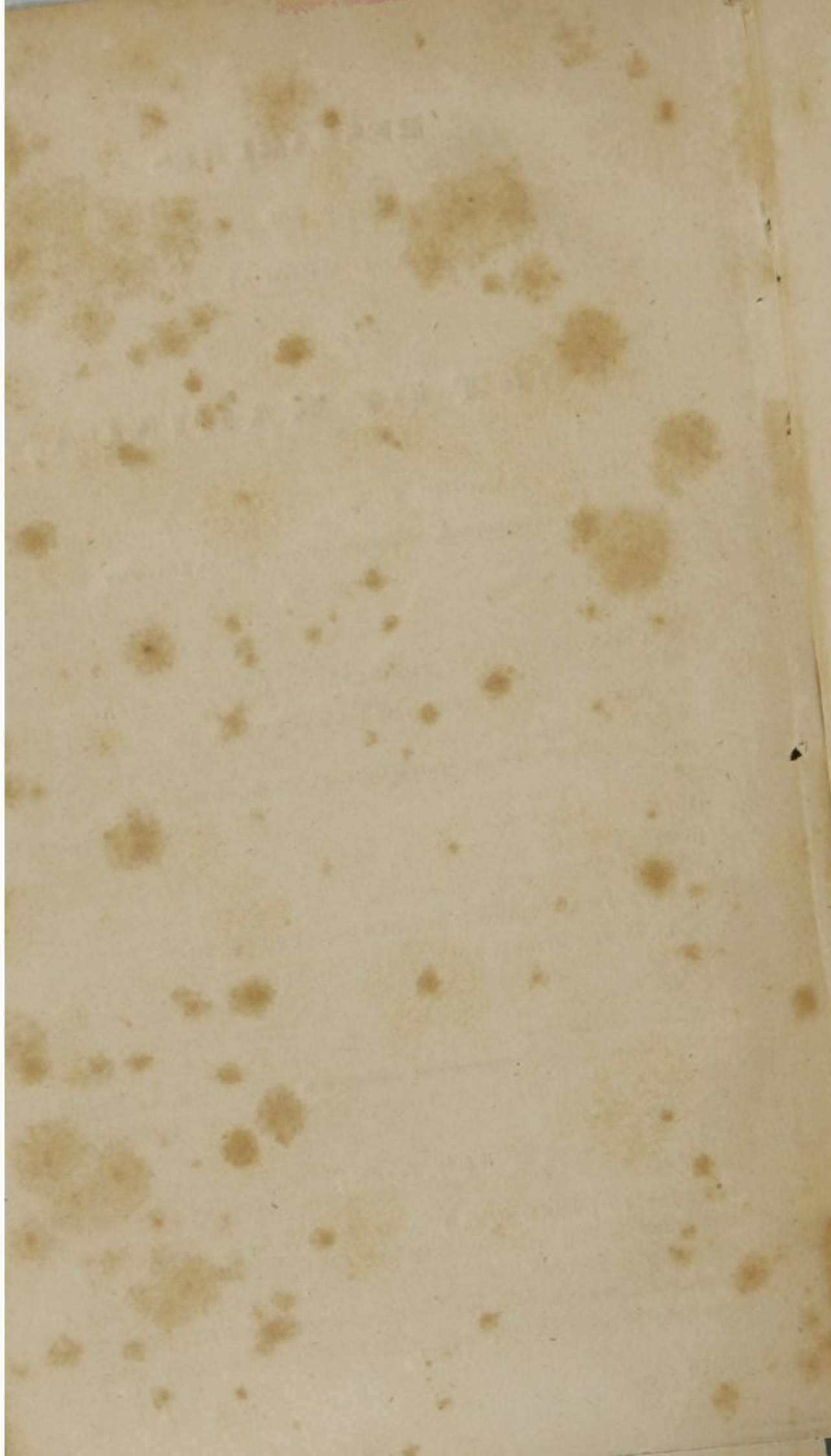
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TRANSLATOR'S PREFACE.

CHEMISTRY has again conferred a scientific favour on Medicine, by the present of another article, to assist an important physiological operation; and if the expectations held out in this paper be fulfilled, will contradict the asserted opinions of many physicians, so tenaciously held, that the action of the absorbent vessels could not be increased or accelerated. That we were formerly of that number we are free to confess, and still do not conceive the paradox resolved; but the observation of several years, and the respectable testimony now laid before us, cannot but cause the suspicion, that articles do exist, which augment the power and action of those vessels. The rapid diminution of the swelling in some of the detailed cases of dropsy here given, would seem to forbid the conclusion that a simple diminution of secretion alone could have been the mode of relief; and must induce the belief that the removal of the effused fluid has been produced by actual augmentation of absorption; but whether the increased urinary and other secretions preceded as a cause, or merely followed as an effect, of the increased quantity of serosity in the blood vessels, must probably remain as yet undetermined. Another physiological question is implicated in the operation of this medicine—one, too, in which not a little warmth has been shown occasionally—viz. : whether it effects its purposes by being absorbed into the circulatory system, or sympathetically, through the medium of the nervous system. Besides that the short space of a preface does not allow the discussion of these questions, so interesting in physiology and pathology, we would prefer to watch the operation of the medicine in question a little more, before taking for granted all that is asserted of it. The disease to which the *Kahinca* seems most applicable, is certainly one which baffles our skill sufficiently often

to make it worth an experiment with it, and is of a nature sufficiently distressing to justify that experiment.

We see by this new effort of the French chemists, that Chemistry, beside having removed from our shelves the quantities of rubbish which burthened our *Materia Medica*; having caused to be laid aside quantities of inert matter, with which the stomachs of our patients have been deluged for centuries past;—beside that medicines, supposed to be beneficial, have, by its means, been laid aside to make room for the active principles of those drugs which observation and experience have proved useful in the healing art;—beside that its analysis has detected, among the woody fibre, the carbonaceous substance, the greasy oleaginous matter of vegetable growth, the portion to which a shrub or root owes its medicinal virtues, and thus reducing to something like a certainty our professional efforts, simplifying and facilitating our prescriptions, enabling us better to understand the effect of what we prescribe, to vary our remedies with a better reliance on the effects by abstracting from among them those parts calculated to produce injurious effects, as well as the useless and inefficacious;—we say, besides these benefits, Chemistry, by standing porter at the threshold, preventing the admission of new remedies without the scrutiny of her analytical test, will guard our temple against the continual imposition of new drugs, whether herbs, roots, or plants, to which we are continually liable—making pharmaceutical medicine a vague, varying, and uncertain science, and committing upon the people imposture after imposture, by which their confidence in the means of the healing art is shook to its base and destroyed.

In the *Kahincic Acid* and the *Extract of Kahinca*, an account of which is here offered to the Profession, we have another effort of skill and science. That it may realize all that its friends assert of it in relieving suffering human nature, is the sincere wish of the

AMERICAN TRANSLATOR.

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SINCE the spirit of analysis, applied to the sciences, has served as a guide to observation, Medicine, enlightened by pathological anatomy and chemistry, has been better able to appreciate facts, and the value of therapeutical means. Empiricism, fruit of experience, has become rational; we no longer swear on the word of the master; we have doubted, examined; we have chosen, we have created a method: eclectism has replaced systems, and conjectural theories have disappeared: with the habit of observing, the spirit of investigation must awake. In seeking truth, we have perceived the necessity of science: and each has directed his labours towards the means which he had thought the most proper to satisfy them.

Medical matter, submitted to a rigorous examination, has appeared very trifling to all good spirits, notwithstanding the immense number of substances furnished by the three kingdoms of nature, recognised in books, and exposed in abundance in the shops. How few medicines enjoy really the properties according to which they have been classed, or deserve yet to be proclaimed efficacious against such or such disease!

Diuretics, so useful in the treatment of many heavy diseases, are very numerous. If we consult our pharmacopias, we are embarrassed in our choice; but in practice we soon perceive that some have no other action than that of the abundant vehicle in which it is administered, and that others, by their action, more or less

irritating, determine momentarily a larger emission of urine, but that we are soon compelled to abandon their use, because the stomach can no longer support them, or that they irritate the urinary apparatus. All practitioners agree that until now we do not know any substance which we can regard as truly diuretic, and the use of which can be continued sufficiently long to arrive at the end which it is proposed to attain, without fatiguing the digestive organs. We like to believe that this gap in the *Materia Medica* will be replaced by a shrub of the family of *rubiaceæ*, a family to which therapeutics already owe the quinquina and ipecacuanha. We flatter ourselves that it will furnish hereafter a good diuretic in the *Kahinca*, (*chiococca racemosa* or *anguifuga*,) which it appears no physician has as yet attended to.

In 1826, a journal gave a fragment of a voyage of Major Langsdorf, Consul General of Russia at Rio Janeiro, in which the author speaks of the medicinal virtues of this plant.* They employ it, he says, against intermittent fevers,† morbid appetite, amenorrhœa, and dropsy. We spoke of it to Dr. Clemençon, who arrived from Brazil, where he had penetrated into the province of Minas Geraes, and resided for some time in the district of Diamonds. He tells us that the *Kahinca*, called also *Kahinana*,‡ but more known at Bahia by the

* Dr. Kapeler had the complaisance to communicate to us to-day, 30th October, 1829, a letter written in 1825 to the Marquis of Pedra Branca, by M. Joaquin Candido Soares, of Meirelles, in which this physician assures him that the knowledge of the antihydopic property of the *kahinca*, or *cainana*, due no doubt to the savages, dates from more than an age; since his father, his grandfather, and himself, made use of this root, and obtained happy results, not only against dropsy, but also as anthelmintic. The father of M. Soares collected several cases on the Congonahas do Sabera, where it may be said that dropsy is endemic.

† We must not confound the *kahinca* with the *coutarea scepiosa quina* of Rio, the efficacy of which against intermittent fevers is known, although it is inferior to that of the *kina* of Peru. (See *Reise nach Brasilien durch Spix und Martius*, Munchen, 1826, 4to.)

‡ The name of *kahinana* has been given to this vegetable, says Dr. Soares, because formerly it was employed to cure the bite of a serpent, called in the country *Cainiana*.

name of *Raiz Preta*, black root, shrub of the *Pentandrie Dyginie*, grows in the part the most remote of the province of the mines, towards the forest of the Virgin. This plant prefers uncultivated and sterile places, the barren earth of which is hard and compact, as may be judged by the solidity, the close texture of the fibres of the root, and the facility with which the bark is separated. This substance, administered as a medicine, was pointed out to us by our enlightened brother just named, as eminently tonic, and of a taste strongly bitter. He told us that the natives employ this root by maceration and decoction, in the dose of one to two ounces in cases of dropsy, dyspepsia, and to cure intermittent fevers, very common on the borders of the river San Francisco. M. Clemencon could give us no other marks.* Upon our intimating a desire of procuring a specimen of the root of the kahinca, he had the complaisance to give us nearly a pound, which, with some little which one of us already possessed, was submitted to a chemical examination. Afterwards, we obtained also about two pounds, from the extreme politeness of Professor Dumeril; but this small quantity was far from being sufficient for our attempt, which took place in 1827. To continue them, it was necessary to wait for M. Clemencon to procure 50 kilogrammes, which he has obtained from Rio Janeiro.†

Botanical Character and Natural History of the Root of Kahinca.—The root of Kahinca, (*chiococca racemosa anguifuga, flore luteo*,) of which we have the honour to present to the Academy a specimen well preserved, is a plant originally from Brazil; it grows in the interior

* It will be asked, perhaps, why M. Clemencon has not employed the bark of the kahinca during his residence in Brazil; it is that there, as in Europe, the indigenous plants are neglected, and there, too, the remedies coming from Europe, and indicated in our pharmacopeias, were alone wanted.

† This was not without expense, and moreover without trouble, since his correspondent was obliged to cause the plant to be uprooted in places very distant from any habitation, because this root, not being an object of commerce to the natives, they do not seek it but when they have need of it, and do not keep it by them.

of the soil of this vast country : the use of this plant having been in general confined until this moment to the natives, it is only known to the botanists ; no work in medicine or materia medica makes mention of it, and it is only lately that it has attracted the attention of the learned.

There exist two individuals of this shrub in the Museum of Natural History, (greenhouse Buffon ;) they have attained nearly two feet in height. We believe we cannot do better than to quote here the description which M. Achille Richard has given of it in the Journal of Medical Chemistry of 1826, vol. ii.

“ The *chiococca racemosa anguifuga*, flore luteo, belongs to the family of rubiaceæ, and to the pentandria dyginia. It is a shrub of five to six feet in height, or sometimes a tree of moderate size, rising to the height of thirty feet. It is glabrous in all its parts : its twig is woody, ramified ; its branches are slender and thin ; its leaves opposed, elliptical, acuminate, very whole, glabrous, and of a clear green upon their two faces, contracted underneath, with stalks quite short. Between each pair of leaves is found on each side of the twig a small caduquous stipula ; the flowers are yellow, forming at the crotch of the leaves small simple clusters, nearly of the length of the leaves. All these flowers are pedunculous and straight. Their calice is globular and adherent with the ovary inserted ; it is terminated above by a limb spreading out to five small teeth ; the corollary is regularly monopetal, widening, and almost bell-shaped, with five reflected lobes. The five stamina are slightly salient ; the fruit are small berries, very white, compressed, a little lenticular, and umbilical at their summit.”

The root of kahinca is of a moderate size ; it is composed of a bark of a brown amber colour, of an aromatic and nauseous odour ; it is of a very bitter taste ; this bark is hard, brittle, compact, nearly a line thick ; it covers a white medullium, insipid, inodorous, and which makes, alone, almost the whole mass of the root. It is sufficient to break this between two hard bodies, to produce

easily the separation of the bark from the medullium, on which it is only as it were placed.*

If, as there is reason to believe, the gathering of the root of the kahinca becomes a new branch of pharmaceutical commerce, it will be necessary to attempt to strip on the spot the bark from the root, as is practised with the quinquina; by which there will be avoided great expense in the transportation; and we shall diminish in proportion the price of the root, of which the medullium constitutes at least two thirds the weight.

Chemical Researches on the Root of the Kahinca.—An undeterminate quantity of this root, cut in small rolls, very fine, was put in maceration in alcohol at 35°. It requires a large number of successive macerations to exhaust the root of all soluble matter, and to deprive it of all sapidity. The alcoholic tinctures coming from these macerations were united and distilled in a water bath, in order to separate the alcohol. When three quarters of the alcohol was obtained, the residue was decanted into a capsule of platina, and the evaporation continued at a slow heat, until there was perceived upon the sides of the capsule some concrete zones of matter.—The evaporation was stopped, and the capsule placed in a dry place; in about 24 hours it was remarked that the liquor had formed a concrete gluey mass, in which was observed a matter which seemed opposed to a regular crystallization. The mass was then treated with cold distilled water, in sufficient quantity to dissolve all that was susceptible to be in this vehicle. It was filtered, in order to collect a flocculent matter, of a yellow brown, aromatic, and which presented all the characters of a greasy matter: it was still bitter; but many successive ebullitions in water, and a cold solution in sulphuric ether, was sufficient to bring it to a convenient state of purity. This greasy matter is of a green colour, and

* I have been favoured with a view of a specimen of this root, which was sent to Dr. Mitchell from Rio Janeiro, by Benj. Leach, Esq., and an account of which is published in the 29th No. of the N. Y. Medical and Physical Journal, for April, 1829; the characters are precisely as described above. A. T.

the whole virulent matter of the root resides in it ; the ether leaves undissolved a pulverulent substance, granular, insipid, of the colour of Spanish tobacco, soluble in alcohol, and to which we shall return hereafter.

The aqueous liquor filtrated in order to isolate the greasy matter and the aforesaid substance, retains all the bitterness of the root, and presents the following properties : it was very bitter, acid to the tournesol, does not give any precipitate by the caustic ammonia, is troubled lightly by the alkaline sub-carbonates, precipitates by the acid, and by the tincture of the gall-nut. Thus, these simple preliminary attempts show already very evidently that there does not exist in the root of the kahinca vegetable alkaline matters, insoluble, or little soluble in water.

This aqueous liquor, upon one portion of which we have just studied the action of preceding re-agents, was evaporated by a slight heat, in order to see if, left to itself at a point of concentration judged proper, it would give crystals ; it finished by forming, as before, into a concrete mass, but without presenting distinct crystals. We vainly attempted to treat it in divers manners by alcohol and by ether, in order to isolate some crystals of this concrete mass : either these fluids have little action, by reason of their great concentration, or they had too much when they were much extended. Convinced, then, of the impossibility of separating the substances which composed the bitter extractive matter by precipitating agents, we had recourse to chemical means, employed with much success in the analysis of vegetables, which consists in employing the liquid subacetate of lead. We poured into the aqueous bitter liquor the subacetate of lead, in sufficient quantity to precipitate all that was susceptible of being by this chemical agent. We filtrated the liquor, in order to collect the very abundant precipitate which was formed ; the liquor was almost colourless, and deprived of all bitterness ; consequently the principle in which the bitterness resides is found precipitated, in the state of combination with the lead.

The precipitate obtained by the salt of lead was

washed in distilled boiling water, until the washings were no longer troubled by sulphuric acid. These waters of the washing were re-united to the first liquor in which the precipitate had been produced. The whole of the liquor was submitted to a current of hydro-sulphuric acid gas, to the effect of isolating all the lead: separated from the sulphuret of lead, formed and evaporated to a proper point, it was left to itself. At the end of several days, it formed a crystallization, very distinct in the midst of a thick visquous matter, with odour like raw sugar. These crystals, washed with a little spirit of wine, were of a handsome white, brilliant, and of a fresh taste; it was the acetate of lime: as to the visquous matter, it had no sensible taste, and was abandoned as worthless.

All the interest from experience was necessarily spent upon the precipitate, in which was found fixed the bitter principle; and we made all our exertions to examine it. It was first steeped in distilled water, and treated by sulphuretted hydrogen. When we judged that all the lead was converted into sulphuret, the refuse liquid was poured upon a cloth covered with filtering paper, and left to drop: it was washed with distilled water; the liquor was yellow, and a little bitter; it was evaporated, and an extractive matter obtained in place of crystals, of a deep yellow, and slightly bitter.

As to the sulphuret of lead, it was sufficient to put a few grains in the mouth, to perceive, almost immediately, a sensation of bitterness very strong. Well convinced, after this attempt, that the greatest part of the bitter principle was interposed in this mass of sulphur, and of the little solubility of this principle in water, since the washings with this liquid only took away some atoms, perhaps by means of the yellow colouring matter, we attempted the action of another vehicle. Consequently, we dried in a water bath the bitter sulphuret of lead, and treated it by different returns with boiling alcohol, until this fluid ceased to bring away the bitterness; we reunited these alcoholic tinctures, and distilled them with a moderate heat, so as to draw off two thirds of the alcohol, and the residue was left to cool. The liquid,

while yet warm, let fall, almost en masse, needle-shaped crystals, very distinct, but coloured by a brown yellow matter. We took up again this mass by new boiling alcohol, into which we threw animal carbon; the liquid was filtered, and evaporated with moderate heat; and a handsome crystallization was obtained of the bitter principle.

Thus, from the whole of the preceding, we have a right to conclude that we have separated four vegetable substances, very distinct; that is,

1st. A crystallized bitter principle, and which presents all the bitterness of the plant;

2d. A fatty, green matter, of a nauseous smell, and in which resides all the odour of the root;

3d. A yellow colouring matter;

4th. A coloured visquous matter.

Of all the bodies, the bitter principle is that which ought necessarily to offer the most interest; for, presenting all the sapidity of the root, it is in that equally we ought to find the virtue the most characteristic of the plant; also it has been the object of all our attention.

Of the Bitter Principle of the Root Kahinca.—The bitter principle obtained, as we have just shown, is white, crystallizable in small thin needles, which are arranged among themselves in the manner of muriate of morphine. It has no sensible odour; its taste, nothing at first, is not slow to develop itself in a very marked manner; it leaves a slight sense of astringency in the throat, which is soon dissipated. It is neither efflorescent nor deliquescent, when exposed to the open air.

Submitted to the action of heat, it neither changes in colour nor form at the temperature of boiling water; we have exposed it in a small cup for twenty-four hours at a temperature of 100° centigrade, (212° F.) and we have not remarked that it has undergone any alteration of its properties, or that any portion of the substance had evaporated; it merely gave off a little water which was interposed between its molecules.

If we heat it in a glass tube, to the temperature of a

spirit of wine lamp, it softens, carbonizes, and diffuses a white vapour, thick and heavy, which sublimes and concretes on the sides of the tube, partly in mass, partly in very light and small brilliant crystals; these crystals, like the concrete vapour, are deprived of all bitterness, and appear to be of another nature; thus is the bitter principle affected by fire, like many other principles of vegetables, which give birth to pyrogenious products of a different nature. Besides, we do not find ammonia in the products of combustion.

Calcined in a platina crucible, it leaves no residue, when it is very pure, and moreover when it is totally deprived of lime, which it retains with great energy, and which it carries even through filtering papers.

The bitter principle is very little soluble in water, and it requires more than six hundred times its weight of that liquid to dissolve it. It is also very little soluble in ether, thirty-two grammes (13 14 grs.) did not dissolve five centigrammes (not a grain) of this principle.

Alcohol appears to be its especial solvent; it is soluble in this fluid in large quantities, but less cold than hot; it crystallizes on cooling.

The chemical property the most remarkable in the bitter principle is, without contradiction, that which it possesses, of reddening the paper of tournsol, in the manner of acid.

The action of concentrated acid on the bitter principle is not less remarkable: the sulphuric dissolves it, and carbon immediately decomposes it; the hydro-chloric acid dissolves it, but at the instant it becomes a transparent gelatinous mass; if we dissolve this jelly in water, it is separated in the form of white translucent flakes, which, being washed, are deprived of all bitterness. The acid washings reunited, saturated with the sub-carbonate of barytes, evaporated with ease to dryness, and restored to alcohol, do not abandon any bitterness. Thus, the simple contact of cold hydro-chloric acid, concentrated, is sufficient to destroy the bitterness of this principle, and to convert it into a gelatinous matter, almost insipid. The nitric acid acts in an analogous manner; but the elements of these two bodies are

not slow to be put in action; it produces nitrous gas, and finally, after an action for a long while prolonged, we find a yellow colouring matter, bitter, without trace of oxalic acid. These two acids, (hydro-chloric and nitric,) diluted with water, and put in contact with the bitter principle, scarcely dissolve it.

The action of the radical acetic acid on the bitter principle differs according to the temperature at which it is employed: thus, at the ordinary temperature, it dissolves it, and if we expose this solution to the open air, the acid is evaporated, and leaves the bitter principle to crystallize with all its properties; let it be heated, the solution colours slightly of a brown; and if we leave it to itself, it leaves a gelatinous matter, similar to that produced by the preceding acid, and we find no more trace of bitterness.

From the characteristic property possessed by the bitter principle, of reddening the paper of tournesol, we might believe that it ought to saturate alkaline bases.* If we dilute the bitter principle in water, where we pour caustic ammonia, it is dissolved very well; the liquor reduced, does not crystallize—it leaves a plaster which remains attached to the side of the capsule. It is sufficient to triturate this salt with a little potash, to disengage the ammonia. The water of barytes dissolves equally well the bitter principle, but without giving the crystals; it is the same with the potash; as to lime, its mode of action presents a particularity which deserves to be cited. Lime water, saturated with the bitter principle, preserves its transparency, but if lime be added in excess, there is produced, instantly, a considerable precipitate, which is a sub-combination of the bitter principle and lime. This sub-salt dissolves well in alcohol, but better warm than cold: in the first case it separates in part, in form of large white flakes, very alkaline, which restores to blue the tournsol, reddened by an acid.† The neutral solution of lime and the bit-

* We only give here a rapid sketch of the properties which the bitter principle presents, when put in contact with salifiable bases: they will compose the subject of a special work.

† Analogous combinations have been mistook by many pharmacians for vegetable alkalies; in treating with lime water ve-

ter principle, evaporated, does not crystallize more than the preceding ; it separates in the form of small pelli- cles, which resemble very much those we see formed on many vegetable juices by their concentration, and which, at another time, was designated generally by the name of hydrogenated extract. It is perhaps to analo- gous combinations that are owing the most of the phenomena which the evaporation, by heat, of many ve- getable decoctions present.

The property which the bitter principle has, of form- ing with lime a sub-combination, will present us soon a means of obtaining more directly this principle. All these combinations of the bitter principle with bases are soluble in alcohol, and possess great bitterness ; dis- solved in water, they let fall the bitter principle when we pour in an acid. It is easy to comprehend, from all that we have said on the mode of extraction of this pro- duct, that it exists in this plant in the state of sub-salt with base of lime.

From the whole of the chemical properties of the bitter principle of the root of kahinca, it is evident that we may consider it as a principle immediately new, and very distinct from all others known. If we add to these chemical properties that not less important one of being a powerful diuretic, as the rest of this memoir will prove, it seems to us useful to designate it by a special name. We propose that of Kahincic Acid, which will have the merit of indicating the origin of this substance.

Different Means of obtaining the Kahincic Acid, and Reflections on this Subject.—The procedure which we have described above, and by which we are enabled to extract the kahincic acid, is without contradiction the most exact which can be followed ; but it will become very long and very expensive, if it be necessary to ap- ply it in the manufacture ; therefore we have sought to obtain the same result by as exact and more economical

getable decoctions, and retaking the calcareous precipitate with boiling alcohol : it was thus that we thought to have extracted an alkali from rhubarb, as M. Caventou shewed, some time since, in a memoir, read to the Royal Society of Medicine.

way. Thus, having remarked that boiling water can deprive the root of the whole bitterness, we had recourse to decoction : the decoction water, reduced what was necessary, we precipitated by the subacetate of lead ; the precipitate, obtained in quantities and well strained, through a cloth treated directly by diluted sulphuric acid, in order to avoid the use of sulphuretted hydrogen. Independent of the bitter principle, the sulphuric acid eliminated, in this manner, a remarkable quantity of brown colouring matter, as well as acetic acid, which had been released by the precipitation. Having nothing more to do than to bring in the action of the alcohol upon the mass thus divided, we would previously expose it to the heat of a water bath, in order to expel the exceeding humidity, and not weaken the dissolving power of the spirit of wine. It required several hours to arrive at this result, and that but imperfectly : however, we treated it with boiling alcohol, and we obtained tinctures highly charged with colour ; but, scarcely thrown upon filters, they became a gelatinous mass, when we were much astonished to find it completely deprived of bitterness. All the sulphate of lead, formed and interposed with this matter, was thus exhausted by the alcoholic decoctions, without our finding the least trace of bitterness.

A result so unexpected could not be produced but by two causes : the first, in consequence of the volatility, not yet proved, of the kahincic acid ; the second, by the decomposition of this principle. We paused, at first, at the first cause, because it appeared the most probable. How, in fact, could we presume that a vegetable principle had undergone decomposition at the temperature of boiling water ? but, however, it was established afterwards, when we had understood better the action of chemical agents upon the bitter principle, that this acid had been decomposed. It was sufficient, in fact, from the quantity of acetic acid released by the action of the sulphuric acid upon the precipitate obtained from the lead, to determine a chemical re-action in the elementary constitution of the kahincic acid, and to occasion a change so remarkable in its physical properties, chemical and medical ; for the new body, formed

in consequence of this reaction, is neither crystallizable, bitter, nor diuretic, as we are well assured.

If it be recollected that we have said, on the subject of the action of acetic acid on the kahincic, that that acid dissolved it, when cold, and left it to crystallize, without alteration—while, when hot, it decomposed it, and transformed it into a gelatinous matter deprived of all bitterness,* we shall explain very well the result preceding. We did not know then the mode of action, so singular, of the acetic acid upon the bitter principle of the root which occupies us, and we avow frankly that it deceived us so far as to regard the matter obtained in the new operative proceeding as having escaped us in the chemical examination of the plant. We have thought that we ought to go further into a phenomenon so little foreseen at the period of our labour when it was remarked, because it proves, in a conclusive manner, the difficulties of organic analysis, and at what point certain bodies can easily be altered by the action of chemical agents and re-agents, which we employ to extract and study them with.

If, instead of decomposing the bitter principle, still moist by the dilute sulphuric acid, as we have just done with no unfavourable result, we dry it immediately in a water bath, then we boil it with the alcohol into which we have poured the sulphuric acid, we obtain the bitter principle easily; because it is dissolved in proportion to its elimination in the alcohol, without the acetic acid, also released, but too diluted, being able to alter it; it is sufficient, then, to filter these solutions, and to leave them to evaporate, to obtain the crystallized kahincic acid; still there is formed always a little gelatinous matter, if the liquors have been too concentrated by means of heat.

* This new matter may make the object of a particular examination: it is white, uncrystallizable, of a taste slightly styptic, inodorous, insoluble in water, and very soluble in alkaline liquors, from which the acids precipitate it in the state of jelly, resembling pectic acid; but it differs essentially from this in its solubility in alcohol. The body it approaches the most will be the acid kinovic, discovered by Messrs. Pellatier & Caventou, in the bark of the kina-nova.

Thus, this proceeding, upon which we thought to have dilated, does not appear to us susceptible of general application ; for, independently of this, that it gives products much coloured, and purification long and difficult, its execution may cause to run the risk of loss, which must always carefully be avoided in the manufacture.

Having remarked the property which the kahincic acid possesses, of forming, with lime, a salt with excess of base, insoluble in water, we attempted to precipitate the aqueous decoctions of the root of the kahinca by that base in excess. We attained effectively to extract all the bitterness of the decoctions, by fixing it upon the lime ; but the precipitate dried, and treated with alcohol, charged with oxalic acid, in abandoning the kahincic acid, separated itself at the same time from a quantity of colouring matter, which rendered so difficult and long the obtaining the kahincic acid in a fit state of purity. We could, it is true, modify this proceeding, in treating, at first, the dried calcareous precipitate, by boiling alcohol, which dissolves the subkineate of lime, and leaves the major part of the combination of lime and colouring matter undissolved ; but it is necessary to employ in this case a quantity of very strong alcohol, which would destroy the desired economy.

The procedure which appears to us to deserve the preference, consists in dissolving the alcoholic extract of the root in water, and to filter and precipitate with lime in excess, until the liquor is deprived of bitterness ; to collect the precipitate, and to decompose it by oxalic and boiling alcohol.

Finally, there remains yet a means of procuring more directly the kahincic acid. This means consists in pouring, by drops, the hydrochloric or acetic acid into an aqueous decoction of the bark of the root of the kahinca. The kahincic is deposited slowly during several days, and in the state of small crystals ; but it is much coloured, and there remains besides a notable quantity in solution in the liquor, in consequence of the colouring matter, which bind and retain it. Not having examined the root of the kahinca chemically, but with the view to discover to which of its principles belonged the diuretic property, we thought our principal task fulfilled when

we had separated this principle, and established its characteristic property. We propose, hereafter, to return to some necessary details, which seemed to us of a nature to fatigue the attention of the academy. We believe, also, that examined as a therapeutic agent, the kahincic acid, by reason of its feeble solubility in water, ought to be administered under the same circumstances in which it is found in the plant ; that is to say, in the state of sub-kineate of lime.

Of the Employment of the Root of the Kahinca in the Treatment of Diseases.—It would perhaps be temerity to wish to draw from a chemical examination of this substance rigorous inductions for therapeutics. The action of medicaments can neither be purely chemical nor mechanical ; it is entirely determined by the particular vitality proper to each of our organs ; it is also modified by the morbid state. We know effectively that in the diseased state our organs have a true tolerance* for certain remedies, which they will not support in the state of health ; and that, on the other hand, some diseases exhibit a susceptibility so great, that the slightest medicinal doses carry irritation to the highest degree. All that we can say is, that there is reason to believe that the double action of the extract of kahinca, is due to a bitter principle, which has no analogy with any other known ; it is this principle which we present under the name of acid kahincic.

It is difficult to establish the doses of a medicine on the use of which we can procure but general and variable evidence. This was the case in which we found ourselves, when it was necessary to try the root of the kahinca. Dr. Clemencon informed us that it was employed in the dose of one or two ounces, in infusion and decoction. Dr. Soares, cited by Richard, prescribed it in decoction, from one to two drams, and in powder, from 20 to 30 grains.† It is presumable that the

* Example : an emetic in acute pulmonary phlegmasia ; mercury in puerperal peritonitis, tetanus, &c.

† The patients who took the Cainana infused in white wine, were saved in greater number than those who used it infused in tafia. (See letter cited note 1, page 2.)

Brazilian physician only used the bark, and that Dr. Clemencon had intended the dose of the whole root. However that may be, it was prudent to commence in small quantities, which would not produce any effect. No doubt we shall be pardoned the uncertainty, the changings, the timidity, of our first essays, especially, when we know that a physician to whom we sent a certain quantity of the powder of the bark of kahinca, having given two drachms to a hydropic patient despaired of, caused a super-purgation which frightened him, but which had no bad effect for the patient.* It was necessary, then, to proceed with the greatest caution, that no accident might happen. We obtained no effect at the first trial. The increase of the doses produced variable results, which, however, sufficed to obtain a knowledge of the properties of this substance. The patient did not take it voluntarily; in the form of powder, its extreme bitterness, as well as the quantity of powder to swallow, was fatiguing; we thought it more advantageous to administer it in aqueous extract; thenceforth, all was positive in its action, and each new fact proved to us still more the innocuity of this remedy, as well as its double property of purging, and of exciting diuresis, without fatiguing the stomach, or irritating the urinary apparatus.

We shall report all the facts—many only summarily. It is not the histories of dropsy that we wish to collect; we have not wished to speak in detail of the treatment of this disease, the causes of which are so variable, after the Nestor of French Medicine, who sits in this Academy. We have only thought to have established the medical virtues of the root of kahinca, and then to indicate it to our brethren, as one of the means the most powerful which we know of to combat dropsy; we say to combat, because, too often, this disease is incurable; but if it do not always cure, we can at least solace the

* M. Vesey informed us to-day, 23th October, that a Prussian, M. Albert Samuel Lœveinstein, published at Berlin, in 1823, a dissertation in Latin on the botanico-medical and anti-hydropic properties of the root of the kahinca; if we had known it, the documents which it contains would have spared us much research.

patient, and prolong his existence. In order better to judge of the effect of the kahinca, every time we have prescribed it, it was given pure, without mixture. We prescribed at the same time, a regimen appropriate to the state of the patient, in abstaining from employing any other analogous medicine, to which could be attributed in part the results obtained.

Independent of our own observations, we shall give several which our honourable brethren have laboured to collect, on the request which we have made them.

It is possible that the collection of facts which we present may appear monotonous and prolix; but notwithstanding all our efforts to avoid this fault, we have been obliged to enter into details, fastidious perhaps, but which have appeared to us indispensable to the proper making known the manner to administer the kahincic preparations, their effects on the patients, and the different results obtained from day to day.

Observations on the immediate effects of the Bark of the Root of Kahinca.

No. 1. A man thirty-five years old, strong and robust, convalescent from a bronchites, had need of a laxative: we gave him thirty grains of the powder of the bark of the root of the kahinca: he had two stools without a cholic.

No. 2. A man nearly of the same age, having undergone a dieting, and fatigued by several bleedings, which had been made with the intention of relieving him from the megrims, which had lasted six weeks, having shown symptoms of gastric uneasiness, took thirty grains of the powder of the root of kahinca; he had three stools without cholic.

No. 3. A German nurse, Madam Mangin, living in street Montorgueil, No. 35, a brunette, and robust, having had occasion to be purged, took at 7 o'clock in the morning ʒj. of the powder of the bark of the root of the kahinca. At 1 o'clock in the afternoon, as she had only experienced some borborygmes, she took thirty grains more. She had three copious stools and frequent de-

sires to urinate, but without the result. In the night, the urine flowed in abundance; the nurse was purged without cholic.

No. 4. A man fifty years old, afflicted with pedionalgia, experienced no effect from forty grains of the powder of kahinca which had been given him.

No. 5. A young girl of Noisy-le-Sec, near Pantin, aged eighteen years, scrofulous, irregular courses, took as a laxative twelve grains of the extract of kahinca; there were six stools; the urine was not remarkably augmented. It should be noted that the extract of kahinca did not cause any cholic in this young girl, who always experienced it by the most mild purgatives.—Some weeks after, and for a similar cause, we gave her again twelve grains of the extract, which she swallowed with her soup; she had no purging, but a copious evacuation of urine.

Observations on Anasarca, treated by the Root of Kahinca.

No. 6. Œdema of the lower extremities. The widow Chemin, aged sixty-eight years, of a feeble constitution, worn out with fatigue and misery, living in the street Feronnerie, No. 29, had her legs swelled, so that she could not quit her chamber. The administration of a drachm of powder of kahinca produced no stool, but determined for twenty-four hours the flow of a very large quantity of clear urine; the limbs diminished in a great measure: the next day she went to the Hospital.

No. 7. Riblier, aged fifty-nine years, an old soldier, a porter for fifteen years, having passed from a very active life to one of the most complete inaction, in a habitation damp, narrow, and where the light never penetrated. This man was seized with an habitual catarrh, and an anasarca of the lower extremities, which kept him confined to his chair; however, his digestion was good; he only was constipated, and the urine was small, but natural. In this state of things, he lost his place, and went to lodge in sixth story, street of Petit-Lion, No. 7. It was thus we saw him the 17th July. Sixteen grains of extract; no stools—a little more urine. The 19th,

twenty-four grains ; no sensible effect. The 21st, thirty grains in two doses : evacuation of a greater quantity of coloured urine ; the articulation of the knees are diminished, and allow the movement of flexion. The 23d, thirty grains in two doses. The 25th, twenty-four grains in one dose ; continuation of amelioration ; but each of these days he had only one passage, and the urine was more abundant, but coloured. Seeing the little action of the extract, we tried the medicine in form of powder. The 26th, two drachms of powder ; trouble of the intestines, borborygma ; no stools, plenty of urine ; evident diminution of the swelling of the limbs. The 28th, sixteen ounces of the wine of kahinca, to take in four days : a stool every day, urine high coloured. August 2d, the feet alone are swelled ; the patient can descend and mount to his sixth story. The 6th, thirty grains of the extract ; no sensible effect. The 7th, the feet are so diminished as to support a roller bandage. August 20th, he took again forty grains of the extract in several doses. After the 22d, he goes out and works at his business.

The kahincic extract only acted with this patient as a bitter and tonic, in stimulating absorption, and in augmenting the action of the lymphatic vessels. Notwithstanding the strong doses of the medicine, the organs of digestion never showed the least sign of irritation.

No. 8. Taken at the Hotel Dieu, Hall St. Martin, No. 23. Helen Gabot, washerwoman of a boat, aged forty-nine years, was seized with anasarca, after an intermittent fever of several months, a short time after this woman had closed up an issue which she had in her left arm. To cure her anasarca, she had already taken, at home, several active purgatives. The 24th July, six grains of extract ; two stools, three times the quantity the urine of the night before. The 25th, eight grains in two doses ; four stools, abundant urine. The 26th, we began to perceive a diminution of the size of the legs. The patient having eaten too much, a diarrhœa came on : anodyne injection, rice water, julap with sixteen grains of thridace : the looseness having ceased, 29th, we gave six grains of extract ; four stools, much urine ;

the legs are almost natural. The 30th July and 1st August, eight grains in two doses. The 3d, ten grains; the urine flowed in abundance; there was no more swelling. The patient was discharged on the 9th.

No. 9. Collected at Hotel Dieu,* same Hall, No. 74. Clement Brunet, aged thirty-four years, washerwoman, is affected with anasarca of the inferior extremities. The skin is distended, and there is perceived here and there, particularly on the calf, swellings containing a red serosity. The patient complains of a continual coldness of the extremities, and of vivid pain extending from the great trochanter to the external maleolus of the left side: she has little appetite, no thirst; otherwise the belly is free, and the digestive passages are in a good state. The cause of these affections is attributed by the woman to this: that, being in a sweat after a painful labour, she was obliged to go into the cellar, and remain there some time. Several modes of treatment have been fruitlessly put in operation, for the six months that the disease has lasted. The 29th July, twenty grains of the extract: the pills having been taken with extreme repugnance, and vomited almost instantly, we thought that since the kalinca acted particularly on the large intestines, we might administer it in a glyster. Thirty grains, dissolved in a pound of warm water, were then injected, and produced seven stools, accompanied with intestinal cholic, and followed with much urine during the following night. We thought we remarked that the swelling of the left thigh softened. In fact, during the two first days of August, the urine having continued to flow very abundantly, the thigh and right leg were very much diminished; this extremity was soon reduced to its usual size, as well as the left, which only preserved a slight œdema around the knee and maleolus. In consequence of a quart injection, with the addition of thirty grains of extract, which was taken the 3d August, ten waters and stools took place without cholic, and the urine flowed in such

* Dr. Clemencon visited with us all the patients which we treated at the Hotel Dieu, and assisted us often with his advice.

abundance that the patient was obliged every minute to resort to a vessel. However, the pain of the left extremity continued always: happily, she was then covered with a moisture which exhaled an azotic odour, very strong, which did not cease but with the entire cure of the anasarca. The 5th, thirty grains of the extract in glyster: seven watery stools, no colic; the patient having ceased walking, the neuralgic pain became very acute, and the skin coloured red at the joints. We observed that the swelling of the limb did not diminish by the repose of the 6th and 7th August. The 8th, thirty grains were injected; six stools, urine very abundant, disappearance of the swelling; diminution of the pain, as well as of the azotic exhalation. The following day the state of the patient continued to amend, so that no more kahinca was given. The anasarca has entirely disappeared, and we are only employed in treating the neuralgia after the method of Contugno. The 7th September, the patient began to walk, had no more pain, and may go out of the hospital in a few days. The 20th March, 1830, we saw the woman Brunet, entirely cured of her dropsy, but yet suffering with her neuralgia, which tormented her at the time of her residence at the Hotel Dieu, in September, 1829.

No. 10. Henrietta Troublain, an old clothes woman, living in Perdue street, No. 11, aged forty-five years, courses irregular, is affected with anasarca of the lower extremities, which prevents her from walking. She experiences an habitual feeling of cold in her feet and legs; she has an appetite, sometimes thirst; digestion often painful, the passages difficult, the urine rare, red, and burning: this state has lasted six months. For two years, this woman has found herself in a similar state, but not so distinct; she has been treated for four months, she says, with very costly drugs. Notwithstanding an attentive examination, it has been impossible for us to assign sufficient cause for the development of the existing disease; the viscera of the abdomen and of the chest appearing in a normal state. The 11th May, a drachm of the powder of kahinca, in two doses; no sensible effect. The 12th and 13th, a drachm in one dose. The first day, the patient urinates more

easily and more abundantly ; the same the following night, which had never happened to her. The second day, the urine continued to flow : a first stool took place : the legs appeared less heavy, and the thighs less swelled. The 12th, two drachms of powder, in one dose : three copious stools without colic ; augmentation of the urinary secretion ; diminution of the swelling of the legs ; facility in the movements of the hams. The 17th, 18th, 20th, and 22d, two drachms each : continuation of the evacuations, without fatigue of the digestive organs ; the swelling of the thighs and legs continues to diminish. The 24th, twenty grains of the extract of kahinca : ten watery stools, urine very abundant ; the patient can walk easily enough, the feet alone being yet swelled. The 26th, the menses, which had been wanting for several months, appeared for a moment ; the woman Troublain came on foot to inform us of it. The 27th, twelve grains of extract ; the menses again appeared for several hours ; the patient having made a long tour, the swelling, which had totally disappeared, returned again around the ankle and knees ; sixteen grains of extract ; the swelling again went down ; to prevent its return, we prescribed the use of the roller bandage to the knees : The 14th June, Henrietta Troublain came to thank us, and to inform us that she was doing well.

No. 11. *Recorded by Dr. Prost, Physician at Vienne, in Dauphiny.* " A man of St. Sorlin, aged forty-two years, strong and robust, was affected with anasarca of the lower extremities, without being able to give any positive reason for the origin of the complaint. I sent him twenty-eight pills of two grains each, that is to say, fifty-six grains of extract of kahinca, to make use of in four days, and in a progressive manner. The unfortunate man, thinking to hasten the cure, took the fifty-six grains, in several doses, the first day, between four o'clock in the morning and noon. Fortunately, nothing resulted but a super-purgation, which lasted forty-eight hours, and which diminished the swelling considerably. He found himself so well, that, seventeen days after, being at a fair, he bought of a charlatan I know not what drastic, in powder, which purged him so that he expired the next morning."

*Case of Anasarca, complicated with Affection of the Heart,
and treated with Root of Kahinca.*

No. 12. Madam Giraud, mantua-maker, aged forty-four years, living in the street Beaurepaire, No. 16, brunet and strongly made, became leucophlegmatic five years since. She was cured, then, by a number of scarifications: since that time, she is subject to numerous and violent palpitations. It is three months since the menses scarcely flowed, and that infiltration has returned. There has existed every evening a febrile action, followed with a moisture which does not yield: the belly was continually bound; the urine was sometimes clear, sometimes cloudy, but always rare; the patient has been bled, and leeches have been applied, without any amendment. The 19th February, a drachm of the powder of the bark of kahinca, in two doses, dissolved in half a glass of white wine, produced no effect. The 20th, the same quantity of powder, in one dose, had also no effect during the day; but the following night, which never happened, even in the state of health, the patient urinated copiously, and the next day, there was scarcely any infiltration. The 22d, two drachms of powder, in two doses, infused this time in water, determined two stools, and abundance of clear urine, during the evening and night; there is no more thirst; swelling of the legs considerably diminished; the palpitations alone continued; we stopped seeing the patient. The 11th March, we were again called, being in the same state as formerly: the use of the same medicine increased still considerably the urinary secretion, and dissipated in a great measure the new infiltration. However, Madam G., whom the remedy nauseated, refused to continue it. Some days after, having passed the night at work with her needle, an inflammation came on, and the legs swelled considerably; pain in the loins, and abundant leucorrhœa took place: two drachms of powder in one dose determined two stools and a great flow of urine. The next day, the menses appeared, the legs diminished rapidly, and were in a healthy state in a few days. This time, a relapse, as regards the infiltration, did not again appear; for Madam Giraud came, the 27th

August following, to consult us for the disease of the heart; but there was no more question of anasarca.

No. 13. Felix Cholet, aged twenty-six years, coach painter, living in street of Sevres, No. 66, had not worked for three months, on account of an affection of the heart, and general œdema. During three days that he took, morning and evening, a half drachm of powdered kahinca, he had no stool; the urine only was a little more abundant, and from red, which it had been, became of a natural colour, besides which, there was no sensible diminution of infiltration.

No. 14. The woman Darblin, aged seventy-eight years, tormented, for a long while, with an affection of the heart to the highest degree; began, a year since, to be affected with anasarca, which came on, she says, after the application of forty leeches. Besides the swelling of the extremities, the face is puffed; there is cough and mucous spitting; neither sleep nor appetite; urine small; however, the thirst is moderate, and the pulse very good. The 21st July, twelve grains of extract: the patient took her soup an hour after. In the evening, she experienced agitation, uneasiness, to which succeeded six stools and abundant urine; weakness of the patient forbids the continuance of the remedy.

No. 15. Maria Magdalen Bidaut, aged sixty-five years, lodged at Hotel Dieu, Hall St. Martin, No. 81, gardener, entered the hospital, being affected with hypertrophy of the heart: the thighs, legs, and feet, were so infiltrated, that she could not bend the ham. There was little thirst, appetite, or sleep; the pulse beat 125 times a minute. This state, which commenced three months since, has made very rapid progress. The 29th July, sixteen grains of extract, in two doses, procured three stools, and urine double the quantity of the evening before. The 30th and 31st, twenty grains each day: the urine surpassed in quantity very much the liquid taken in; the swelling begins to soften. The 2d August, twenty grains produced three stools and much urine; the knees diminish, and the patient can easily move her legs. The 4th August, twenty-four grains, two strong stools; more than two pounds of urine; a little moisture during the night; the pulsa-

tions of the radical artery vary singularly. The 5th, twenty-four grains; continues to improve; the patient complains that a too frequent desire to urinate interrupts her sleep. Three stools took place during the day, but there is neither fatigue, nor irritation of the organs of digestion; the number of pulsations has diminished: the beating of the heart is less violent; the patient herself remarked it.* From 6th to 15th, leaving a day of rest, we gave the extract in dose of ten to twelve grains. The thighs and legs gradually diminish; which is owing to the stools and the more considerable evacuations of urine, which continue to take place. The pulse has varied from 112 to 116. The 15th August, as there is nothing more than a slight œdema of the feet, a roller bandage was applied and kept on for three days. The patient was discharged, cured, the 25th of the same month.

Cases of simple Ascites.

No. 16. Madam Lefebvre, living in street St. Denis, No. 256, is affected with ascites. Two drachms of the powder of the root of kahinca having produced twelve stools, abundant urine, and relieved the patient, she came herself to request a new dose; but we could not find any more; we were assured that there was no more in Paris.

No. 17. The woman Fontaine, lodged at the Hotel Dieu, Hall St. Martin, No. 58, aged thirty-three years, is affected with ascites, which came on two years since, after a miscarriage, and for which she has undergone, five times, the operation of paracentesis. She is subjected to frequent palpitations, to cough, and to vomitings. Otherwise, the appetite and thirst have nothing particular; the urine is clear, but not abundant. For fifteen days, the woman has been under the use of the

* M. Bally gave the opinion that it might be possible that, in this patient, the root of kahinca may have acted like digitalis, by a sedative principle; we had already observed the same effect on the subjects of cases 24 and 25, and moreover with Madam Giraud, (case 12.) But it requires a series of observations, to be certain that this substance possesses this precious property.

wine of colchicum and digitalis. The 24th July, we administered to her sixteen grains of the extract of kalinca, which produced eight large stools, but little urine. The 26th and 27th, twelve grains each day, which produced, each time, six watery stools, but still very little urine; there is, however, a little diminution in the swelling of the belly, which appears less hard and voluminous. The 28th, the patient refused to take the remedy, pretending to have a stitch in the side. We ceased our attendance.

Cases of Ascites and Anasarca.

No. 18. An hydropic, aged fifty-five years, having the belly large and hard, the extremities infiltrated, took thirty grains of kalinca; he had seven stools, and the urine flowed well. The patient disappeared; without doubt he entered an hospital.

No. 19. *Collected by Dr. Prost, already mentioned.* "A woman, Marin, aged sixty years, living in the commune Isigny, affected for a long time with ascites, with considerable swelling of the legs, was brought to me as soon as it was known I had returned from Paris. I made her take, in my presence, a half drachm of powder of kalinca, dissolved in half a glass of wine. It having been rejected, almost wholly, five minutes after it was taken, I made her swallow, two hours after, the same dose, which this time was retained. Three hours after, she had, without colic, three abundant stools; towards evening, the patient commenced voiding a great quantity of clear urine, less red, and very foaming. The next day, a drachm of powder, taken in three doses, produced three stools during the day and the evening, and during the night, a quantity of urine more than double that which the patient could render in the state of health. After a day of rest, the remedy was continued with the same success. The swelling of the legs, the thighs, and the belly, having still considerably diminished, this woman thought herself cured, and returned to her village; having no more powder at my disposal, I did not keep her."

No. 20. *Collected by the same Physician.* "The woman

Bourdier, aged fifty-nine years, a washer in lye, of a lymphatic temperament, borne down with fatigue and misery, sent for me the 7th of July. The ascites and anasarca kept her fixed to her truckle bed. The stomach was painful to the touch, the tongue white and humid, the face pale, the pulse apyretic, feeble and regular. There was neither appetite nor thirst. The urine which the patient rendered was acrid and abundant. The mind, as much cast down as the body, was without energy. The 8th, I gave her twelve grains of extract of kahinca to take, in four grains every hour; she had pains of the stomach, spasm, and oppression. At noon, one only stool, quite abundant, took place; the urine was less deep, less burning, and rendered in greater abundance. The 9th, sixteen grains of the extract determined two stools, and colic, which lasted until evening, and did not cease but with an oily glyster; much discharge of urine. The patient slept five hours, which had not happened to her for a long time. On awaking, she felt uncommonly well, which relieved her mind. During the day of the 10th, and the following night, the urine continued; it was clearer, but deposited upon the sides of the vessel a brick-dust sediment. The 11th, fourteen grains passed well, and produced four stools without appreciable colic. The belly was prodigiously diminished in volume. The patient found herself happy, and did not doubt of her cure. The 12th, eighteen grains did not produce any remarkable result. At the third dose, given the 13th, there was a vomiting, but almost without effort, of a large quantity of thick liquid, yellow and very bitter. The urine continued to flow, without the quantity being enormous. However, the action of the remedy is visible, for the belly diminishes much; the extremities have become soft, and the articulations can accomplish their movements easily. The 21st and 22d, after several days of rest, I renewed the use of the pills: there was no stool, but the urine flowed abundantly. The pills being exhausted, I sought to supply the extract of kahinca with the decoction of uva ursi. To-day 30th July, the patient slept and ate sufficiently: the tongue is clean, the digestion good; the urine flows well,

the patient can raise herself; the feet only have preserved the swelling which they had at the commencement of the treatment; there remains, also, the same infiltration in the abdominal integuments; but I hope the cure will be complete.

No. 21. Widow *Honore*, aged sixty years, has been affected with a serous leucorrhœa for six years, during which she was not regular in her menses. She said, also, that she had been treated for scirrhus uteri, which came on after floodings and long sorrow. However that may be, at the time we saw her, the belly was swelled, as in the state of pregnancy; it was hard, and a liquid was easily felt by percussion; the legs and feet were œdematous. There was cough, oppression; the appetite was whimsical; the urine not abundant, red and acrid; the stools difficult. The 25th, 28th, and 30th June, we administered from twelve to sixteen grs. of extract of *kahinca*; the purgative and diuretic effects of the medicine were remarkable, and without irritation. Already the swelling of the legs and feet were so much diminished, that the patient could put on her garters, and come to our dwelling; the volume of the belly was no longer considerable. Towards the 2d of July, the mouth having become bitter, and the tongue mucous, we suspended the *kahinca* until the 7th of the same month; however, the effects of this medicine continued to be manifest, for the belly still diminished, the leucorrhœa dissipated, and the throat became better. Sixteen grs. of extract administered again, rendered the abdomen entirely supple, and reduced it to its ordinary state. The patient considered herself as completely cured—her health, in fact, continued until 25th September, when we lost sight of her.

No. 22. One named *Francois*, commissioner, aged thirty-three years, of a strong constitution, living in the street *Montorgueil*, No. 22, was, after a fright, seized with jaundice, of which he was cured by the aid of diluents. Hardly convalescent, he sawed wood all day. Tormented by an ardent thirst, he drank several pints of sugared water, and was taken with fever and pain in the side, probably from acute hepatitis, to which soon succeeded a green jaundice. Having come out of the

hospital, without being cured, he saw an ascites develop itself, and the lower extremities become infiltrated. The 11th May, the period at which we were consulted, his state was frightful; the leanness was extreme; there was thirst, oppression, constipation; no sleep. The patient did not render, in twenty-four hours, but a glass of thick urine, red, and burning the passage. He prayed us to make him urinate. Twelve grains of the extract of kahinca gave place, really, to a black and fishy stool, and to a great quantity of urine, of a deep brownish yellow. The unfortunate man thought himself in the way of cure, and asked for a new dose. We refused it, under the pretext that it was necessary to have an interval in taking them. We did well. He expired forty-eight hours after.

No. 23. Hotel Dieu, Hall St. Martin, No. 64, Margarine Gauthier, aged fifty-seven years, a ley-washer, living at Gros-Caillon, street St. Dominic, No. 41, complained, for two years, of a stoppage of the menses, of an habitual catarrhal cough, which incommoded her a little. It is eighteen months since she was first affected with ascites and anasarca of the inferior extremities, without being able to assign the cause of these complaints. Notwithstanding a long use of digitalis, nitre, and squills, during eight months past, in hospitals, her state has not been improved. No appetite or thirst. Some developement which the abdomen has acquired, there may be perceived, in feeling it, a considerable indolent tumour, which, proceeding from the pelvis, mounts obliquely backward, and appears to belong to the right ovary. Otherwise, the patient only complains of an obstinate constipation, and of passing but little urine. Her sufferings are supportable. The 20th August, eighteen grains of extract; augmentation of the secretion of urine; no stools. The 21st, six grains of the kahincic acid; much urine—no alvine evacuation. Thirty grains of extract; abundant urine; borborygmi; useless strainings. We proposed to inject the extract of kahinca into the bowels; but the patient obstinately refused, pretending that she never could take injections; neither would she swallow pills. The 25th, she determined, nevertheless, to take ten grains of kahincic

acid, which only had a diuretic effect. 26th, we gave a drop of the oil of croton tiglium: the patient vomited a little after taking it; five moderate stools; little urine. The 27th, twelve grains of kahincic acid: discharge of wind; very strong desire to evacuate, but without effect; the right thigh and leg are nearly abated; the left extremity softens very much. The 28th, thirty grains of the extract were taken with extreme repugnance, swallowed with much pain, and rejected a quarter of an hour after. There were then two bilious vomitings, then a stool of black matter. The 29th, colic, tenesmus, tongue red at the borders, thirst. Diet, barley water; potion with fifteen grains of thridace; two emollient clysters, which were refused. The 30th, the same state; same prescription: at night, fever. Sept. 1st, the state of the patient gets worse; overcome by pain, she consented to take a glister, which, received with much difficulty, produced two stools, watery and fœtid; soon after, there was bilious vomiting, with blackish brown striae. The patient died in the evening. Necropsy was practised twenty-four hours after death. The right pelvic extremity was only of the size which it could have been in health. The left had lost much of its swelling; the abdomen, much distended, contained a large quantity of liquid, of a limpid lemon colour. The integuments being cut through, a tumour, as large as the head of an infant ten or twelve years old, was discovered occupying the right iliac fossa; its thin walls contained a fluid entirely similar to that which filled the belly. The cyst, which appeared to owe its existence to the disorganization of the right ovary, pressed upon the intestinal mass, which it compressed with its weight. It was borne up by two other pouches, full of the same fluid, and situated in the pelvis. These last cysts were formed, and acquired a great developement at the expense of the left ovary and uterus; this last was only a spheroid; the neck had disappeared; the opening of the mouth was obliterated, and had the appearance of a cicatrix. The bladder and the loins, the heart, and lungs, were sound. The stomach offered, on the exterior, near the pylorus, a cancerous tumour, which projected inwards. A carcinomatous, lardaceous substance

embraced and compressed the rectum at its inferior part; the liver, softened, offered several cancerous points; and the glands of the mesentery presented a mass of the same nature; the most part were red; the epiploon was covered with masses of tubercles, soft and white.

Case of Ascites and Anasarca, with disease of the heart.

No. 24. A woman, Charles Bruxelles, aged thirty-three years, lived in the street of Clichy, No. 24, had enjoyed a good constitution, now exhausted by three years of suffering, the cause of which must be attributed to a manifest hypertrophy of the heart, and to the state of the abdominal visceral. The physicians, who had attended her, had made her take much digitalis, squills, and nitre, which had so fatigued her, that they thought it best to cease the use of them, and abandon the woman to the sole resources of nature, after having established several issues by caustic. For seven months, in fact, the patient has taken no other medicine than a tisane made of the inner bark of the elder. Here is the sequel, her state the 15th of June: the legs enormously swelled; discharged some by the issues, which made her suffer considerably; the belly extremely distended; the loins and haunches were œdematous; the heart beat with force and fully: the patient could only remain sitting; and the palpitations became frightful, at the least movement. There was constipation, little thirst, no sleep; the appetite was tolerable; the tongue was moist and clean; the urine was red, seldom, and burning. A sentiment of cold existed in the lower extremities; the courses have not appeared for two years. The 16th, twelve grains of the extract of kahunca; two small, black, fishy stools; the next day, the urine commenced flowing with greater facility, without burning, and in greater abundance; the colour was less deep. The 19th, twenty grains: dejection of hard and black matter. The patient estimated that the quantity of urine which she rendered during the night was six times what she had évacuated before in twenty-four hours. The 21st, twenty grains: évacuation of very black and very

hard matter; more than two pints of urine; the belly softens, and appears to diminish in volume; the œdematous swelling of the loins and haunches is less hard and less thick. The patient experiences neither colic nor fatigue; the appetite is good; no thirst—and there would be some sleep, without the pains produced by the issues of the legs, which appear to discharge more serosity than before she used the medicine. The 22d, twelve grains: useless strainings; two pints of urine. The 23d, an ounce and a half of the marmelade of Tronchin: seven copious stools; less urine; uneasiness. The next day, two spontaneous stools; the wound in the legs much swelled, discharge an acrid, burning serosity, which produces painful erythemia around them. For three days, the weather has been stormy, the wind south and south-west, which oppresses the patient. The 25th, twenty grains; one stool; the urine rendered easy and plenty; the swelling of the loins and haunches has disappeared; that of the thighs has diminished; the patient can bend her enormous limbs. The weather, warm, humid, and stormy, continues to fatigue her. We thought it best to suspend the doses of kahinca, and to replace it by thridace. Four grains of this last medicine procured four hours of very good sleep. The diminution of dropsy continues. The 2d July, we renewed the use of the kahinca; the purgative and diuretic effect took place, producing a still more remarkable relief; also, the thighs are nearly reduced, the articulations of the knees are free; the belly diminished; the wounds in the legs discharge still abundantly; it was remarked that the beating of the heart diminished in frequency, and that the palpitations are much less violent when the patient rises from her arm-chair to go to bed by aid of one arm. The 4th July, twenty grains: three stools; much urine. The general recovery is such, that the woman Charles said that she could walk but for the pain caused by a deep wound, large as a 20 sous piece, situated at the bottom of the calf. The weather continuing to be unfavourable, the patient would not take medicine. The 13th, sixteen grains: two stools; urine plenty. The 19th, twenty-four grains, prescribed in two doses, but swallowed in

the first spoonful of soup, produced bilious evacuations, without colic or fatigue; always much urine. The belly, reduced to its ordinary state, allows a tumour to be felt, quite voluminous, which we believed to be the right ovary, become scirrhus. The 23d, twenty-four grains in two doses, taken in soup: twelve stools; urine plenty. The patient went out into the court without experiencing those terrible palpitations which made her fear the least movement; she also no longer doubts of her cure. We think otherwise; however, we thought it best to accede to the wishes of the patient, in ceasing to administer the kahinca. We saw her again the 6th of August; the belly is free, and has not again enlarged; the appetite good, and she has sleep. This woman is satisfied at the very great amelioration of her state, and only concerns herself with the issues in her legs, which discharge a large quantity of serosity. We have recommended her to foment them with a decoction of trefoil and elder. The 27th August, the weak ulcers of the legs have made terrible progress, and the patient entered the hospital Beaujon. Since the 24th July, the woman Charles ceased to make use of the kahinca, and all the time she took it, she experienced all the benefit which it was possible to expect from the remedy. In fact, she had no colic; the gastric organs experienced no irritation, and the affection of the heart has been perhaps moderated. We thought, then, that this case is one the most proper to be made known well, to appreciate the properties of the extract of kahinca. We cannot finish it without saying, that we perceived that the woman Charles was affected with pica, and ate cinders; we had been told that this medicine cured the depraved taste; we can affirm that this affection has not been changed in this patient.

No. 25. William Lagny, aged six years and a half, son of a chimney-doctor, street of the Three Gates Maubert, No. 14, fell sick more than a year since, after a viscous eruption of the head, suppressed imprudently. He has at times an access of fever, sometimes of diarrhœa. Otherwise, here is the state of the patient at the moment when we saw him for the first time, at the beginning of June. The tint is a dirty yellow, the eyes

saliant, the conjunctiva blue, the skin dry and hot, the pulse frequent, accelerated, without hardness; the respiration deep and laborious. There was observed a sensible swelling in the superior and middle of the left side of the thorax: the full and regular beatings of the heart were perceptible through the vestments. The belly large, hard, and much distended, contrasted with the leanness of the rest of the body; the column of water was very sensible to percussion. The feet and the lower part of the legs are œdematous; there exists a light cough which is exasperated in the morning. The appetite is fantastic, the sleep long and peaceable; there is constipation, at times thirst; the urine is red, fœtid, and burning; the quantity rendered in 24 hours, equals, at most, a full drinking glass. The child seeks solitude, and scarcely answers to questions put to him. The 24th June, six grains: four stools, abundant, green and viscous, without colic. The quantity of urine is more than double, but is still red and fœtid. The two following days, it is rendered easily, and without smarting. The 27th, six grains; two yellow, viscous stools; urine still more abundant, of natural colour, has lost its fœtidity; there is already a sensible diminution in the volume of the belly; the appetite is better; the thirst more moderate. The 30th, eight grains; seven yellow liquid dejections; the urine became so abundant that the child wet the bed, which had never happened to it. The belly is scarcely any more distended; the legs and the feet are nearly in a healthy state; the beating of the heart appears less violent and more regular; the face is better; the child speaks rather more, and eats with pleasure. But the heat of the skin, the cough, the oppression and alteration remains the same. The 2d July, the belly, become very soft, makes perceptible a tumour as large as an egg, which appears to suspend from the inferior edge of the liver. The 3d, four grains in two doses; a stool, urine sufficient, groanings during the night; in the day, the child appears well; he has appetite, and a little less oppression. The 5th, after a long and very violent cough, there came a very abundant expectoration of white and thick matter, after which the oppression disappeared, but which gave rise to a pain

in the left side of the thorax, in full and deep inspirations. Otherwise, the amendment continues, and the urine flows abundantly. We let the child rest a few days. The 12th, four grains: three stools, ordinary diuretic effect. The belly is reduced to its ordinary size. The little patient complains no more; is less melancholy, and eats well. However, there is a febrile action every evening. We left giving the kalinca. Nevertheless, we still saw the patient the 18th, the 20th, and the 24th; the cough and fever became intense. The 26th, the child discharged a vomica, and we ceased to visit it, because the kalinca could not be appropriate to its state.

Case of Ascites and Anasarca, complicated with Neuralgia and Disease of the Heart.

No. 26. (Hotel Dieu, No. 52.) Adelaide Dodé, aged fifty-two years, a sutler washer, coming from the hospitals of Abbeville and Amiens, was sick for three years, at the period of the stoppage of the menses. This woman is subject to palpitations of the heart, which are, at times, very violent; the left ventricle appears highly hypertrophic; the pulse beats 88 in a minute; there is a little cough. The belly is voluminous, and the column of water is readily perceptible on percussion; the thighs are œdematous, but less than the legs and feet, which are enormous. Except habitual costiveness, the digestive canals are in a good state, and all the functions are executed regularly. The 14th August, sixteen grains of extract; a stool without colic; much urine, containing flocculent clouds. The 15th, four grains of kalinic acid: no stools; some light colic; abundant urine. The 16th, the patient complains of rheumatismal pain, which occupies the face, and part of the hairy scalp. Potion with twelve grains of thridace: relief of the pain. The 17th, sixteen grains of extract: three stools; little colic; less palpitation; the pulse only gives 80 pulsations. The belly softens, and makes perceptible a tumour, of the size of the fist, appearing to belong to the right ovary. The patient thinks the tumour was developed in consequence of a fall which she experien-

ced a little time after a laborious delivery. The 20th, six grains of kahincic acid : much urine, and abundant sweat. A window near her bed having been left open during the night, the neuralgic pains re-appeared. Fumigation, infusion of maiden's hair and chamomile, potion with six grains of thridace. The 22d, general amelioration ; the belly is almost in its natural state ; the thighs and legs are much reduced. The patient is pleased to repeat that, since she has taken our pills, the palpitations have left her very tranquil. This state continues, and improved, the 23d, 24th, and 25th. In the night of this last day, exasperation of the neuralgia, pains intolerable, eyes weeping, face flushed ; fever : ten leeches behind the ears ; diet : the pains are appeased. The 27th, ten grains of kahincic acid : one stool, and plenty of urine. A window, left open again, renewed the neuralgia. The 26th, blister to the neck ; the legs, especially the left, begins to renew the swelling. The 30th, thirty grains of extract : twenty stools, rather violent colic, attributed, with reason, to the cold which this patient took, when she quit her bed to go to the out-house. To-day, the temperature was in fact notably cold and humid ; the season is, besides, little favourable to the cure of hydropic and rheumatismal affections. However it may be, the palpitations sleep—(expression of the patient.) The 2d September, the vesicatory having been renewed by an ointment strongly charged with cantharides, there is difficulty in passing the urine. The 3d, twelve grains of kahincic acid : no dejection, urine easy, and in sufficient quantity ; the legs continue to be choked up. The 4th, fifteen grains of kahincic acid : there does not result much urine ; it is passed easily. The belly is supple : its volume varies in consequence of flatuosities ; there is constipation. The 8th, fifteen grains of extract in three doses : three stools ; little urine. The patient complains of pains, which go, she says, from the nose, eyes, and ears, traverse the stomach, and come to twist the bowels. It appears that the neuralgic affection, which occupied the face, is displaced, after the last dose of kahinca, to be carried to the intestines. In consequence, we thought it best to stop giving this medicine, which this patient cannot

take any more without repugnance. We are otherwise persuaded that, without the neuralgic complication, which has so often forced us to interrupt the use of the kahinca for four and five days together, the woman Dodé would be completely cured, and have returned to her work. She went out a few days after, and came on foot from Gros-Caillon, to request of us a certificate of the kind of disease for which she had been treated: her state appeared satisfactory.

Cases of Hydrothorax.

No. 27. Blanchard, plumber, aged thirty-four years, living in the street of Seine, is affected with hydrothorax in an advanced state; his urine is scarce, red, and burning. Two drachms of powder were taken in two doses, and produced three stools with tenesmus; the urine is easy, and flows naturally. The next day, Blanchard was taken with an access of fever quite strong, which determined him to enter an hospital.

No. 28. *Collected by Dr. Prost.* "A woman of a nervoso-bilious temperament, very irritable, thin and tall, tormented formerly with muscular rheumatism, which has fallen, in certain circumstances, upon the thoracic organs, presented actually all the signs of a serous collection in the left cavity of the thorax. This woman has already consulted many practitioners in Lyons as well as in Vienna, but followed none of their advice; however, she decided to try the remedy which I received from Paris. The 20th July, I gave her sixteen grains of extract of kahinca, to take in four grains, from hour to hour. Quarter of an hour after the last dose, she filled, in a little time, three quarters of a night vessel with troubled urine, frothing and burning; an evacuation which continued in the same abundance until evening; three aqueous stools, and some colic, terminated the action of the medicine. There followed a very sensible relief. After a day's repose, I gave twenty-four grains, to be taken in four doses, every hour. This time, the purgative action took place first, and continued until six o'clock of the evening, when diuresis was established: the urine was rendered without smarting, and the colour

became natural. The digestive tube appeared to me not to have suffered from the action of the kahinca; the tongue was well; there was no thirst; the belly supple; the respiration infinitely easier; the cough very moderate; but the strength has so diminished, that, notwithstanding the notable improvement obtained, the patient, who otherwise believed herself cured, refused to take a new dose. I did not wish to insist, regretting, however, not to be able to finish the cure; for the diseased and dilated cavity of the chest had evidently diminished under the use of the kahinca. Afterwards, this woman, naturally inconstant, gave herself up, for a long time, to the first that came, and left me."

No. 29. Hotel Dieu, Hall St. Martin, No. 18. The woman Housset, aged thirty-six years, was delivered, two months since, in the seventh month of her pregnancy; three months before, she was taken with a looseness, after which the legs and thighs swelled considerably. Now, 22d July, there is ascites, and complete anasarca of the lower extremities. The legs are enormous; the skin is red and shining; the hands and face are œdematous; state of general languor; pulse slow and soft; the patient speaks with a kind of difficulty; there is at times cough; the chest does not sound well; the patient cannot lie down but upon her back; from time to time she experiences some abdominal pains, not lasting long. Appetite very variable; no thirst; the tongue good; the urine clear, and very small in quantity; she does not pass more than a glass a day. 22d July, twelve grains of the extract of kahinca: one stool, double the quantity of urine. 23d, eight grains in two doses: one stool, and during the night, she filled two thirds of the night vessel. 24th, rest; the urine flows, but rather less; no stool. 26th, sixteen grains of extract; three stools, urine as the night before. 26th and 27th, no kahinca; each day two stools, urine enough; diminution of the puffiness of the face and hands. 28th, twenty grains: three stools, and half a pot of urine. 29th, twelve grains in two doses: one stool, three glasses of urine. 30th, twenty-four grains in two doses: she went four times to stool; there is urine sufficient; the feet are diminished; the belly appears a little

softened. The patient asserts that she does not take her drink of dog's grass and liquerice ; that she takes no liquid but her soup and wine. Since she has used the kahinca, the quantities of urine are much more considerable than the fluids swallowed. The digestive organs continue to be in a good state. The 30th, there has been a little agitation and no sleep. During the night, which was stormy, the pulse was raised, hard, and quicker than ordinary. The kahinca was not given : we prescribed a potion with sixteen grains of thridace. The following night was good. Four watery stools and abundant urine ; the belly appears to soften ; the red tint of the legs has disappeared ; but the swelling has not diminished. The 31st and 1st of August, the patient experiences anew, agitation, nausea, pains of the loins, a flying head-ache ; the pulse is hard, and quicker than common ; the tongue is good ; no thirst. The food she takes tastes good, and she attributes the trouble she experiences to the approaching appearance of the menses, which she has not had since her delivery, and the arrival of which corresponded with the very moment. In the intention of favouring the effort which nature appeared to make to re-establish this evacuation, we gave, the 3d, twenty grains of extract : a stool ; quantity of urine triple the quantity that passed the night before. The 4th, no kahinca. The 5th, twenty-four grains ; three fishy and black stools ; a little cloudy urine ; there has been sleep, no thirst, no appetite, face better ; the pain of the loins has disappeared ; the pulse has recovered its ordinary calm and slowness. The day of the 6th was passed astonishingly. The following night, agitation, no sleep, difficult respiration ; the pulse only gives 56 pulsations. The 7th, morning, there has been little urine ; it is very clear. The 8th, the night was better ; a little more urine. The 9th, nocturnal agitation ; no pain, no thirst, no gastric irritation ; the tongue is fine. The 10th, thirty grains of kahinca in a glister ; two stools, enough urine. The 11th, thirty-six grains were injected in the same manner : four abundant stools ; urine sufficient. The 12th, twenty-four grains of extract, swallowed in two doses : four stools ; urine more coloured ; fills one third of the night vessel ; swelling of

the legs softened ; the knee is emptied, the patient bends the limb. The 14th, three grains of kahincic acid : two stools, urine more abundant than last night. The 15th, four grains : three stools, urine as last night ; swelling of face and hands disappeared. Continuation of the remedy in different doses, with the same result, until the 22d, when we began to perceive a diminution of the swelling of the legs ; but the belly continues to preserve all its volume and hardness ; the patient complains of not being able to breathe. The 25th, having remarked a little moisture on the lower extremities, we prescribed a julep, with a drachm of acetate of ammonia ; the legs are enveloped with flannel, and an infusion of chamomile ; no sweat or urine, but much agitation and want of sleep. M. Bally insists that punctures should be made promptly ; it was performed the 25th, and discharged eight pints of limpid water ; the belly remains quite voluminous from infiltration of the integuments, so that we could not be assured of the state of the bowels. The 26th, no fever of reaction ; the patient only has frequent desires to urinate, which produces only some drops of red, cloudy, and acrid urine. Ten grains of kahincic acid : the urine flows easily, and without burning ; the quantity has been, during the night, nearly a vessel full. The 28th, there is some febrile action : less urine than last night. The legs having been measured before the puncture, it was found that the left has diminished an inch in the circumference ; the swelling of the right is less hard, and not so shining, but has preserved its volume. The 30th and 31st, no medicine : nevertheless, four stools each day ; she only urinates when she goes to stool. September 1st, the patient, who has slept well, experiences no pain, is content with her state, and assures us that she deprives herself of drink, for fear, she says, of aggravating her complaint. Nine grains of kahincic acid, in three doses : six watery dejections ; urine in proportion ; the tongue appears a little red at the borders. Potion with 16 grains of thridace. The 2d, 3d, and 4th, the urine flows well ; and each day, several watery stools without colic. Same state until the 9th, when the number of stools diminished ; the swelling of the legs was much less ; but the abdomen is so

filled that M. Bally advises to renew the puncture : we think that the use of the preparations of kahinca will be sufficient to effect a cure, seeing that the diarrhœa established does not fatigue the patient, *quo natura vergit duendum*. The 13th, she took eighteen grains of the extract : three stools, and urine very considerable. It was the same until the 19th : the belly is soft, less voluminous ; the legs, measured the 7th of this month, has lost two inches in circumference. Since this period, the woman Housset has continued to have daily, three, four, and five watery dejections, rendering urine enough. We were satisfied not to give the kahincic acid but at longer periods, to stimulate the kidneys. The days when she took it, the quantity of fluid evacuated was not less than double the drink. The state of the patient continued to be satisfactory in all respects. She experienced no other pain than the strainings which preceded the alvine evacuations ; the sleep is good, the tongue fair ; no thirst ; little appetite. The 7th October, the legs are entirely reduced ; the belly, reduced to its natural state, discovers the inferior edge of the liver folded, and a tumour of the size of a turkey's egg, which appeared to belong to the right ovary. The 9th, she left the Hotel Dieu in consequence of the evacuation of the hall ; but we sent her to pass her convalescence at the hospital St. Antoine.

The cure of this woman was remarkable ; of a soft temperament, without energy, it was necessary to take a large quantity of extract of kahinca, and its diuretic principle, before producing a sensible effect ; she was no wise fatigued, and seemed, on the contrary, to have more life. Nourishment and proper care would insure her cure, as much as could be expected, from the state of the abdominal viscera. Would it have been the same, if, instead of a medicine as mild as the preparations of kahinca, we had employed wine of Colchicum, squills, sirup of nerprun or digitalis ? We must be allowed to doubt it : for, from the 13th September to the 19th October, we thought it useless to prescribe either the watery extract, or the kahincic acid ; and M. Bally ordered her several times, juleps of squills, which produced no sensible effect.

No. 30. *By M. Gaillardot, Physician at Luneville.*
 “ A woman, 53 years old, mother of eight children, not having had her courses for six years, was subject, during that time, to frequent attacks of erysipelas in the face. In 1828, she had all the symptoms of the disease said to be epidemic in Paris, (pedionalgia.*) At the beginning of this year she experienced pains in the limbs, then a swelling of the articulations. In the month of August, the feet and legs were œdematous; she scarcely could move or raise them; the respiration was difficult, and the patient coughed frequently, without expectorating. The 15th September, after having made use of veal soup for several days, she took twelve grains of the extract of kahunca, which produced no stool, but the urine was more abundant than usual. The 16th, it is six days since the patient went to stool: sixteen grains of extract produced eight stools, no colic; the urine was less abundant during the day, but the patient urinated several times during the following night, which had not happened before; the respiration is visibly more free; the right foot is diminished. The 18th, twenty grains; four stools; the urine does not flow more abundantly than usual; but the quantity was notably increased the two following days. The 22d, twenty-four grains: ten dejections: urine copious. The patient finds herself entirely relieved. The left leg and foot have diminished. It may be remarked, that, from that time to this day, 13th October, the urine has continued in the same abundance as though the diuretic property of the extract of kahunca continued its action.

We owe to the politeness of M. Kapeler the communication of two cases of dropsy, treated by him at the hospital St. Antoine, by means of kahunca. We will give here a summary view of them.

CASE 1. The woman Bizaut, (Margueret,) aged 40 years, a mantuamaker, after a long stay at the hospital of Middy, where she had undergone already, several times, the operation of paracentesis, entered the hospital of St. Antoine, 13th July, 1829; there remained then no other syphilitic symptoms

* A nervous affection of the leg and foot.

than an engorgement of the glands, which have since suppurated. Her belly was enormous, and the emaciation of the rest of the body extreme, as well as weakness and difficulty of breathing; very little sleep; no appetite; finally, a serous diarrhœa filled up the measure of the unfortunate. The 14th, we drew off, by puncture, a pailful of yellow, viscous, inodorous liquid. The next day, the belly commenced again to augment its volume. The progress was so rapid that, on the 21st, the patient desired to repeat the operation. M. Kapeler refused, and tried the use of the kahinca; he prescribed fifteen grains of the watery extract. The 23d, the same quantity: neither one or the other dose produced any sensible effect. The 26th, a new puncture. The 31st, fifteen grains of the extract: two stools; the flow of urine is re-established. The 2d August, same dose: no stools; the flow of urine continues, but is in small quantity. The glandulous abscess is re-opened; the state of the patient requires that we recur to an anti-syphilitic treatment: we ordered the esquine sarsaparilla. From 2d to 5th of August, 13 grains of extract every day; two stools, urine as usual; abdominal pains less intense and less frequent. New puncture the 7th; death the 8th. Autopsy, the next day, showed no trace of inflammation either in the stomach or intestines; the cœcal appendix is bluish, but not ulcerated; this blue colour must be attributed to the same cause which produced the ecchymosis which appeared, the 5th of August, on the right wrist.

CASE 2d. Dubois, (Hyacynthe,) aged sixty-eight years, a mender of stockings, mother of three children, having lost them at 40, without trouble to the general economy has been subject, for five years, to some colic, which did not prevent her from following her daily labours. Three years since, she had a fall, which produced an acute pain in the right hypocondrium, and which stopped in a few days; but there remained a drawing and constant state of anguish. The symptoms soon aggravated; the abdomen increased in volume; the colic became stronger, accompanied with fever, and was dissipated. The woman Dubois continued her labours; finally, she entered the hospital St. Antoine, the 30th of May, affected with ascites, very voluminous; she complained of an inconvenient heat in the bladder; emission of urine very seldom and difficult; the stools are no less so; bitterness of the mouth, nausea, some vomitings, red tongue, thirst, extreme leanness, legs swelled. The 14th June, M. Kapeler prescribed fifteen grains of extract of kahinca: abundant alvine and urinary evacuations. The 15th, same dose, same result. Continuation until 19th; we began then

to recognise a general amelioration ; the belly visibly diminished. It was the same until the 23d, although the pills of kahinea had been suspended since the 19th. The evacuations are not accompanied with any intestinal pain. From 23d to 27th, fifteen grains a day. The 30th, the belly resumed its natural size ; a light deep pain continues in the region of the liver. Until 7th July, the amelioration is maintained, the appetite augments, the strength returns, and the patient often walks out. The 8th, she experienced a violent indigestion. The 10th, all the symptoms of enteritis are developed, and are relieved rapidly. The 16th, we perceive that the abdomen has increased a little in volume ; the fever is renewed ; the abdominal pains are intolerable. The 20th, a bleeding calms them. A colliquative diarrhœa appears, and death takes place the 26th. The 27th, on opening the body, there flowed out two pounds of water ; the gastro-intestinal mucous membrane, examined with care in all its extent, was pale, and without softening.

The beginning of November, M. Bally was called to M. —, affected with chronic laryngitis ; he had his legs œdematous ; the urinary secretion was very much diminished ; the patient only passed a few drops of dirty urine, and experienced great inquietude. Eight grains of kahincic extract were given in two doses, one in the morning, the other at night ; from the second day, the flow of urine was completely established. 3d, no more medicine was given. Since that time, this function experienced no more trouble, and the œdema diminished in a very sensible manner.

Dr. Lefort, Physician of the King at Martinique, now at Beauvais, wrote us, under date of 3d October, that he treated a lady, thirty-seven years old, dropsical for four years, by means of kahincic acid, and that the results obtained surpassed his hopes. This case offered a remarkable particularity, it was that almost every dose produced repeated vomitings of thick viscous matter, which, far from fatiguing the patient, procured her visible relief. The alvine and urinary evacuations were not any less abundant.*

General Recapitulation of Facts.

From the cases which precede, it is established, that the bark of the root of kahinea, given in powder, has very va-

* This patient has been operated on several times by paracentesis ; the first cause of the disease appeared to be a suppression of the menses.

riable results; the aqueous extract, on the contrary, possessing all the properties of the bark, and deprived of what is useless, acts very well and constantly, in the dose of 12, 15, and 20 grains. The action of this medicine is long to be perceived; it is necessary to continue the use of it a long while. Often there is an advantage in making an impression by a large quantity; the effect of which is prolonged by then prescribing it in small doses, three or four times in 24 hours. It is very easy to administer, since we can, without diminishing its efficacy, eat a little while after having taken it. Given in injection, its purgative virtue is more energetic. (See case No. 9.) As to the effects of the kahincic acid, they are more evident in an inferior dose. When we propose to administer the kahincic acid to any one to whom has been administered, previously, some violent medicine, either a hydragogue, colchicum, or some other, it is best to leave the patient in repose for some days, in order to loose the habit of the organs to the action of a stimulant so energetic; otherwise, the kahinea will produce no effect.

It is impossible to contest the diuretic and purgative properties of the kahinea bark; for there has been no single patient upon whom this result has not been produced, in a manner more or less marked. The variations observed in the urinary or alvine evacuations have seemed to us to depend on the organ upon which the medicine spent, in preference, all its action: if it acted with force on the intestinal tube, the diuretic properties were scarcely sensible, and the purgative effects took place in a remarkable manner.—When the contrary effects took place, then the urinary apparatus received principally the influence of the remedy. We have several times observed this alternative of action, in the same person. When it develops its two properties, the diuresis does not come on but a few hours after the cessation of the effect on the intestines.—(See cases 3, 25, and 31.) But it is remarkable that, in almost all the cases, the urine was modified in its qualities; from rare, red or dirty, acrid or foetid, it returned quickly to its normal state, and flowed in abundance, and with facility. We ought to observe that, with some individuals, there occurs uneasiness, nausea, and even colic. These effects can only be attributed to a real and particular irritability of the subject; for there are those who have experienced these symptoms after a light dose, who have perceived nothing after a dose much stronger.—(See case No. 7.) Otherwise, the innocuity of this substance is proved by the fact of the man of St. Sorlin, (see case No. 2,) who took, in one morning, what had been prescribed for four days. If some persons have re-

ADDITION.

1ST MAY, 1830.

The patient who is the subject of case No. 6, entered, paralytic, the 8th of January, 1830, the hospital of Salpetriere, entirely cured of the anasarca.

The Medical Review, of January, 1830, contains, (pp. 13 and 14,) the analysis of a thesis sustained at Berlin, in 1828, upon the properties of kahinca root, by M. A. S. Lævenstein. We think we should give here the most important passages. We should have spoken of it in the body of the Memoir, if we had had earlier knowledge of it.

“*Kahinca, kainana, cruzidinha, raiz preta, chiococca anguifuga, flore luteo.* This plant grows in the forests occupied by the Coroatos Indians, as well as in that called Virgin.” M. Lævenstein thinks that it ought to be distinguished from *chiococca racemosa flore albo*, which Messrs. Humboldt and Bonpland have found in the environs of Caraccas. Patrick Brown affirms that this kind has been administered with great success in obstinate rheumatism.

“As to the medical history of kahinca, the author reports the observations and opinions of Messrs. Langsdorf, Martius, Eschwegge, Julius, Gerson, Hufeland, Spitter, Soarez de Mairalles, and his own. It results from the union and comparison of all these, that the root of kahinca exerts stimulant action on the digestive canal, that it promotes its peristaltic motion, that it provokes the antiperistaltic motions, that it occasions numerous stools, and often, also, vomiting; and that, moreover, it ought to be considered as possessing the diuretic and diaphoretic power; and that, giving its impression to the lymphatic system, it augments absorption; that it acts but feebly upon the circulating system, but, nevertheless, that it augments often the number of pulsations; that, finally, it acts as an emmenagogue, and that it calms the nervous system, without exerting an influence on the sensorium commune.”

We cannot be of the opinion of M. Lævenstein, relative to the vomitive action of the kahinca. Upon more than fifty patients, to whom the medicine was given, we cannot count but four or five hysterical women in whom it excited vomiting: such, for example, was one of the patients treated by M. Lefort, and one other by M. Prost: these facts are cited in the Memoir. M. Gendrin saw the same effect in a female, affected with dropsy of the ovary, and extremely irritable. The extract of kahinca, administered in twelve grains, produced three times a vomiting, at several days interval.