ANOTHER CASE OF POISONING BY THE SO-CALLED "HOMŒOPATHIC SOLUTION OF CAMPHOR".

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I AM indebted to my friend Mr. Philip Grubb of Warminster for the following notes of a case of poisoning by homœopathic camphor. The notes were sent to me in consequence of my having published some cases of poisoning by this dangerous drug in the *Clinical Society's Transactions*, 1874, vol. vii, p. 27. Subsequently, cases of the same kind were published by myself and others in the *JOURNAL* (1874 and 1875). The following is Mr. Grubb's history of his recent case.

"On Wednesday, April 11th, the following case occurred in my practice. A young gentleman aged eighteen years, reading for Oxford, of fair average health, in whose family no trace of hereditary tendency to epilepsy exists, for the cure of a cold took on sugar, between 6.30 A.M. and noon, seven doses of homœopathic camphor. Each dose, he says, was three drops, though I fully expect that he took more than three drops each time. Within five minutes after taking the last dose, without the slightest warning, he had a severe epileptic fit, in which his tongue was badly bitten. I did not see him during the actual convulsion, but from the description there can be no doubt as to its nature. It lasted more than fifteen minutes. He has been under treatment ever since the fit, feeling, as he says, 'queer', complaining of a peculiar cold sensation on the tongue, extending for about half an inch from the tip. After the immediate effect of the attack went off, I put him on the bromide of potassium, which, however, did not seem to agree with him. I am now (May 7th) giving him *nux vomica*, liquor potassæ, and infusion of cuscuta; and he is all but well, though not yet quite what he was before this occurred. I enclose the two labels which were on the bottle containing the camphor.

"Saturated Spirit of Camphor, as used by Dr. Rubini. Ten times the strength of the ordinary Spirit of Camphor."

"Concentrated Solution of Camphor. Dose: two or three drops on sugar every fifteen minutes; less frequently when relieved. Prepared by J. J. O. Evans, Chemist, and Agent for Homœopathic Medicines, Medical Hall, Teignmouth."

"It is right to mention that, about a month before the fit, my patient had a fall while hunting; but he declares that this left not the slightest trace of injury."

DEDUCTIONS FROM THREE HUNDRED AND NINETEEN OBSERVATIONS OF THE ACTION OF CHRYSAROBIN—A NEW EMETIC-PURGE.*

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CHRYSAROBIN is the term which has been selected to designate what is more commonly known, because so first known, as Goa-powder. It has been chosen for these reasons: that Goa-powder is so called only because it is derived by the rest of India from the port named Goa; that the same powder is known over South America as Bahia-powder, except in the province of that name from which the other parts of the country receive it; while in that province it is known by its native name of Aroba-powder. But since this powder is the active part of a whole tree, rather than continue the compound word Aroba-powder, it is convenient to substitute the single word arobin. Yet further, while Goa-powder (or old powder) is brown, Aroba-powder (a newly prepared powder) is yellow. Yellow is its right colour. Hence, to arobin is added the prefix chrys-, and thence is formed chrys-arobin, *i.e.*, yellow Aroba-powder. The following is

Professor Attfield's Analysis of Chrysarobin.†

Constituents.	Parts per cent.
Moisture	1
Glucoside	
A bitter principle or principles }	7
A variety of arabin	
Chrysophanic acid	80-84
Resin-like bodies	2.
Woody fibre	5-5
Ash	.5

* Read before the Harveian Society of London.

† The *Pharmaceutical Journal*, March 1875.

The large proportion of chrysophanic acid which enters into the constitution of chrysarobin gives some reason for believing that it may be the active principle. The crude powder and the extracted acid, indeed, have the same locally irritant effects. Either, kept in contact with the skin, produces irritation, inflammation, and discoloration of the cutis. Either, introduced in minute quantity to the eye, causes conjunctivitis. Farther, some other vegetables, which contain chrysarobin, possess active properties which are in some respects similar to those both of chrysarobin and of chrysophanic acid. Thus, the common dock contains chrysophanic acid; and the common dock, made into a poultice or used as an infusion, is well known to be in common use by the country people for the cure of some cutaneous disorders—the same purpose for which Sir Joseph Fayrer introduced chrysarobin to the notice of the profession in 1874. Senna has purgative properties; and, without asserting that this power is owing to the chrysophanic acid which senna contains, it may be stated that purgation is one of the properties of chrysophanic acid taken internally. The same may be said of rhubarb, and more too; for rhubarb is a cholagogue, and I believe I have ascertained that chrysophanic acid is a purgative of decided cholagogue powers.

These facts led Professor Attfield to surmise that chrysophanic acid might be possessed of active therapeutic powers; and, upon his suggestion, Messrs. Young and Postans of Baker Street entrusted me with the clinical investigation of this body, in the course of 1875. With the exception of one or two specimens elsewhere procured, this firm has supplied all the preparations employed in the three hundred and nineteen observations, the deductions from which I shall presently describe.

Chrysophanic acid occurs as a granular powder of a fine bright orange colour. It possesses neither odour nor taste. It may be crystallised. The resin, as appears from Professor Attfield's analysis, is of two kinds. I used a combination of these two; they form a body of a deep reddish-brown colour, brittle, and shining. The aqueous extract is black. The crude chrysarobin presented the usual appearances, which are well known. These constituents were offered as perfectly isolated from each other.

First Series of Observations.—All that could be proved of chrysarobin was that it would be slightly purgative; for such is the action ascribed by Schroff to chrysophanic acid. All that was known of it was its powerfully irritant property, shown by its action on the skin and the conjunctiva. It seemed possible that it might prove an irritant poison. I soon ascertained, by a series of personal experiments, that it possesses no power, in a moderate dose, so active as this. On reaching a dose of six grains, I experienced, at the fourth hour, sensations of nausea, accompanied and followed by sensations of disturbance in the bowels; even an abortive attempt at vomiting; then relief from all symptoms; sixteen hours afterwards, a loose action of the bowels. The next higher dose was given to my brother, a student of medicine. He dined at seven; at half-past eight he took eight grains of chrysarobin made into a pill with confection of roses; at half-past ten he vomited; he then slept, but at twelve o'clock was roused by another attack of vomiting. The bowels remained unaffected. There was no depression except during the act of vomiting.

Second Series of Observations.—This includes ninety cases—thirty children and sixty adults.

The action of chrysarobin is emetic and purgative. Vomiting is always the first sign of action. This is not attended by any depression at all comparable with that caused by tartar emetic or ipecacuanha. In the doses presently to be named, it has not caused any distressing retching; and in children, as well as in adults, the acts of vomiting varied between none in three out of the whole number, and six in two out of the whole number. They were usually two or three; very often only one. The action on the bowels was much more variable—from none in a few cases to nine or ten in equally few cases; most often the range was between three and seven. There is no gripping pain, but the nausea continues more or less markedly until the bowels recover. The motions are very watery, and of such a brown colour as suggests its origin with the powder taken. If the vomiting be very early, then the purgation, although marked by a fluid stool or stools, will certainly not be violent; and in some cases, in which there was no vomiting, the bowels acted very freely. It does not always happen so, however, under the same condition; and I conclude, therefore, that some persons can take a larger dose than others. I cannot distinguish these persons any more than I can accurately gauge the amount of any other purgative which a given person will require at first seeing him. If the dose be taken into a full stomach, that delays its action and determines it to the bowels.

With regard to the dose of chrysarobin, from thirty of these observations which were made on children, I draw the following conclusions. A dose of six grains produces scarcely any effect upon children of twelve,

eleven, ten, or nine years. Upon children of eight and six years, the effect is uncertain. Upon children of from five years down to five weeks it is certain to operate; but the time which elapses before its action is manifested may vary between ten minutes and nine, or even twelve, hours. The effect of the same quantity is not increased as the age of the child is diminished. (Thus, three children of five weeks, of three years, and of six years respectively were affected by the six-grain dose to precisely the same extent.) I am not able to say upon what this peculiarity depends, but the intervention of sleep delays the manifestation of any effect, and was the cause of delay in the two cases in which alone so long intervals as nine and twelve hours elapsed.

For adults, I chose a dose of twenty grains. From sixty observations, I make the following deductions. A scruple is a moderate dose for an adult, operating, except under circumstances to be mentioned presently, with tolerable uniformity. The interval which elapses before it begins to operate may be so long as five hours; but, if the dose be well adapted to the individual, that is quite exceptional; four hours is a pretty frequent interval, but two hours or less is the most common interval. It may be so short as fifteen minutes, but is seldom shorter than thirty.

From these ninety observations, I conclude that chrysarobin is, in a dose of twenty-five grains for adults or of six or more grains for children, an emetic-purge of which the action is unattended by any inconvenient symptoms; while, on the other hand, it is as certain as other medicines which act in either of those ways, at the same time that the speed and thoroughness with which it operates recommend it for use in most of those cases in which such an effect as it produces is desirable.

Third Series of Observations.—From chrysarobin I pass to the action of chrysophanic acid. Of this body something is known, but not much. It is stated by Schroff to be mildly purgative. It is a constituent of rhubarb, which contains other active principles. It is but very sparingly soluble in most other fluids than benzole; only it is freely soluble in the alkalies, and, in proportion, in alkaline fluids. I shall again refer to this fact in considering the mode of action of the bodies under consideration. The series from which I draw the following conclusions upon the dose and action of chrysophanic acid includes one hundred and sixteen observations upon persons of all ages and both sexes.

The action of chrysophanic acid is similar to the action of chrysarobin, with this difference; that while in a suitable dose each will cause vomiting and purging, if the dose be too small, chrysarobin is most likely to purge only, while chrysophanic acid is most likely to cause vomiting only. For this reason, and from giving too small a dose, I was at first inclined to anticipate that the acid would prove to be a simple emetic. With reference to the details of the amount and kind of action, whether on the bowels or stomach, which the acid produces in a suitable dose, I have not been able to formulate it, and I believe I have acquired evidence enough to say that it is not possible to formulate it. I do not know of any other equally extensive series of observations upon any other given emetic or purge; but I believe that the same statement might be made of any of them, and I make this statement in that sense. A larger full dose, that is to say, from fifteen to twenty grains, will always both vomit and purge the patient very freely at the same time that it causes an inconvenient amount of either of those effects very rarely indeed. Farther, there is but little danger of inconvenience from too large a dose.

The dose of chrysophanic acid.—In this case, as in that of chrysarobin, I observe first of all that, with a quantity which acts well upon a child of five or six years of age, no increase in effect is observed with the same dose upon the very youngest children. Yet farther, of chrysophanic acid I am obliged to say what does not hold good of chrysarobin; that on children of less than four or five years its action is uncertain in that it sometimes fails to act entirely, or acts very feebly, or most often of all causes vomiting only. It never acts upon them with unexpected violence. Of course, it will be borne in mind, as before, that it is difficult to insure the perfect administration of powders to babies; and that an attempt to give this powder in water, contrary to instructions, may perhaps have contributed to the uncertainty. I have found that six grains of chrysophanic acid is a good dose for children of ten years and under; and that in that dose it may be depended upon, with the above exception, to operate speedily and effectually. For adults, I find the action of the acid certain in a dose of fifteen grains; upon some adults I have found ten and even eight grains act as often as fifteen grains upon other adults apparently of similar physique; and again I have found some, but very few, who demand as much as a scruple for the manifestation of a reasonably brisk action. But I am able to say that that is a large dose, and should not, or rather need not, be given as an initial dose to any person except in case of emergency.

The two hundred and six observations with which I have been dealing were made upon persons who were out of sorts rather than ill, with the exception of the last twenty or thirty. In these (which included cases of various acute diseases), I employed chrysophanic acid to produce what I had then ascertained to be its proper effects. I have, therefore, perhaps lacked the opportunity of observing its specific effects, if it possess any. Of chrysophanic acid I have, however, observed this effect: that, whatever the condition of the patient, it causes the evacuation, one way or the other, of large quantities of bile. I have utilised this observation in a few cases of hepatic obstruction—congestive, catarrhal, and the like—with marked advantage to the patient. Rhubarb, it will be remembered, has a distinct power of increasing the amount of excreted bile, and is used, with other cholagogues, for that purpose every day. Rhubarb also contains some chrysophanic acid; and perhaps it is not going too far to suggest, upon a knowledge of the fact I have just stated, that this power of rhubarb may be owing to that constituent. At least, I consider it worth the trial whether repeated small doses of chrysophanic acid are or are not serviceable in such cases as I have just mentioned, and which are at present a little tedious of cure.

The Resin of Chrysarobin: the Fourth Series of Observations.—I have made ten observations upon adults with the resin of chrysarobin. It was made into pills with a little tragacanth and glycerine. One grain had no effect upon two individuals. In three cases, three-grain doses caused vomiting from twice to five times, and purging from five to seven times. In one case, two grains were taken by a man aged 20, instead of four as was intended. In six hours, the bowels began to act, and then they acted very loosely three or four times. There was no vomiting, but considerable nausea, which lasted for eighteen hours. In the remaining four cases, four grains were taken for a dose; and this in every case acted within two hours—in one within half an hour—vomiting being the first sign, and purging very quickly ensuing. In three of these cases, the acts of vomiting were three to five; of purging, from five to ten. In the fourth, a stout woman, fairly strong and the subject of habitual constipation, the vomiting and purging were continued during five or six hours with very small intervals. She was suffering from neuralgia, which I had traced to the state of the bowels; and it disappeared during this violent action. The sickness, except in the last case, was not said to be attended by much depression. It will thus be seen that the action of the resin of chrysarobin is identical with that of the crude powder, and of chrysophanic acid, but very much more powerful.

Mode of Action of these Bodies.—Are these bodies direct irritants, like mustard or the sulphates of zinc and copper? or concentric irritants, like apomorphia? or eccentric irritants operating, like ipecacuanha, during elimination? With these questions in view, I devised the fourth series of observations, including one hundred cases. I shall, for the most part, avoid distinct reference to the indications which they may appear to afford. Such an investigation cannot be completed without many planned experiments upon the lower animals—experiments which I have neither the time nor the opportunity of conducting. The first question which presented itself is, Does chrysophanic acid act as a direct gastric irritant or in a more circuitous manner? Twenty observations were first made upon the modifying effect which a full or empty stomach might have upon the operation of this drug. Owing to the inherent variability of action which this shares with all other medicines of its class, the result was not very satisfactory. I believe I am warranted in making the following statements. That, if a dose of chrysophanic acid be taken and immediately followed by a meal, its action will be considerably delayed; that, if it be taken after a meal, its action will be delayed in proportion (more or less) to the progress which has been made with digestion; that, if it be taken upon an empty stomach, its action is manifested quickly; that there seems reason to believe that fullness of the stomach or the consequent delay in action determines its effects to the bowels, without, in all cases, obviously diminishing its emetic power; but that emptiness of the stomach does determine it rather to emetic action, and does also diminish its purgative action, notwithstanding that, except in the case of babies, the latter is never entirely absent.

Does the food, then, protect the stomach from direct irritation? I made the observations with draughts consisting of ten grains of the acid, fifteen grains of tragacanth gum, and three ounces of water. This forms quite a thick solution of the gum in which the acid is suspended. So far was this from protecting the stomach, however, that I observed action to begin earlier, to be more violent, and to be more evenly divided between vomiting and purging than after any other mode of administration.

Chrysophanic acid being soluble in alkaline (but not in acid) fluids, I made three observations with draughts composed of ten grains of

the acid, fifteen minims of liquor potassæ, and three ounces of water, allowed to digest during three days. Their action was so evident, that I found it impossible to use any more so large doses. I, therefore, made seven other observations on the effect of similar draughts containing only six grains, and I found them to take all the effect which a dose of fifteen grains given as powder takes.

I made sixty observations with pills containing either the acid or the crude powder combined with confection of roses. I confine my remarks to those containing the acid, since I observe no essential difference in action between them. Each pill contained four grains of chrysophanic acid. I find the action of the drug in this form more uniform than in any other, except that of an alkaline draught. Eight grains are sufficient to take with effect in both kinds upon the majority of persons. Action is delayed almost invariably beyond two hours; often, if sleep intervene, the dose taken at night does not operate until the next morning. In that case, sickness, as always, is the first effect, but the purging ensues almost immediately.

It appears, then, that to give chrysophanic acid in the form of a pill, whereby its diffusion in the stomach is delayed, or as a partial solution (in an alkaline fluid), enhances its powers; for eight grains in the former case and six grains in the latter seem equivalent in power to fifteen grains given as powder. At the same time, by both of these means its action is rendered more equable, and in both, although chiefly in the latter, delayed. On the other hand, neither increased action nor the greater facility of absorption offered by these means increases depression.

Lastly, I repeat that four grains of the resin (which I do not know to have any irritant power as a topical application) are equal to from fifteen to twenty grains of the acid as measured by its effects. From these three hundred and nineteen observations, I conclude—

1. That chrysophanic acid is an emetic purge; that its action is as certain, when given in appropriate doses, as that of any other drug which acts in either of these ways; that, if either kind of action should be wanting, on account of the dose having been too small, it is the purging which will fail to appear; but that is rare.

2. That its action is favoured by its exhibition in a manner favourable to its absorption; i.e., by its diffusion in water, by its exhibition as a pill, and, above all, by its combination with a strongly alkaline fluid; that its action may be delayed by sleep and modified by a full stomach.

3. That its dose is, as powder, not less than six grains for babies; at twelve years, one may give ten grains; above that age, fifteen grains, a dose which it is not often necessary to increase. As a simple draught, perhaps ten grains is enough for most adults. As an alkaline draught, six grains is an average dose, if three days have been allowed for digestion and partial solution. As a pill, eight grains is an average dose, six grains often suffice, twelve grains are too much.

4. That the most convenient form for exhibition is, for adults, that of a pill. In children, the powder, which must be mixed with honey or jam, since it cannot be mixed with water; it is tasteless.

5. Lastly, that I see reason to regard chrysophanic acid as an useful addition to our list of remedies, because it affords a means of clearing out the *prima via* with a thoroughness and promptitude not equalled by any other medicine with which I am acquainted, a combination of tartar emetic and ipecacuanha alone excepted; while it is at once more certain to produce both purging and vomiting than that, and is unattended by the serious depression which is often an inseparable objection to its employment; that the power of evacuating large quantities of bile which I claim for chrysophanic acid especially fits it for the purpose named.

ON A NEW REMEDY IN CERTAIN FORMS OF SKIN-DISEASE.

By J. IVOR MURRAY, M.D., F.R.C.S. Edin., Scarborough.

NEARLY twenty years ago, when I went out as Her Majesty's Colonial Surgeon to Hong Kong, I accidentally became aware of the existence of a remedy, known to the natives of the Malay Peninsula (for the cure of ringworm and some other forms of skin-disease), and which in their hands had proved most successful. After much trouble, I obtained some of the remedy in the form of an imperfect tincture, prepared by immersion and maceration of the root of a plant in the impure native spirit called arrack, and verified the wonderful power it exerted in the cure of various forms of tinea and some forms of eczema. The quantity of the remedy I obtained was at first very small, and I encountered great difficulty in getting it in any quantity, as the secret appeared to be kept in one family. After much trouble, however, I succeeded in

increasing my supply, and got proof-spirit substituted for the arrack in its preparation. Subsequently, Messrs. Watson of the Hong Kong Dispensary negotiated with the natives to procure the remedy more freely; and, at my request, they have made arrangements to supply it, to any reasonable extent, through their London agent Mr. Edwards, 38, Old Change, of whom it may now be obtained. It is known as the fluid extract of *Tong Pang Chong*.

I have submitted some of the root, through the kindness of my friend Dr. Hooker, to Mr. Jackson, the curator of the Kew Museum, who pronounces it to be "the produce of a Berberideous plant, and nearly identical with *Akebia quinata* (Decaisne)". Mr. John Thomson of King's College has extracted from the tincture a crystalline substance, which may prove to be allied to chrysophanic acid, and so account for its action.

I shall not pretend to enter into any explanation of the *rationale* of its curative power, but limit myself to the statement that I have used it in hundreds of cases, often with almost magical effect, and that it is now much employed in the East. It is necessary, however, to discriminate in selecting the cases in which to test its value. I have found it most useful in tinea circinata, where the circular margin of the disease is maintained; and perhaps it is even more successfully used in that very troublesome form of eczema (tinea?), which attacks the inside of the thighs and perineum, and the parts around the anus, which I have known to resist every description of treatment, internal and external, even in the most experienced hands; and I may add that, both in this and other forms of disease, I have found it succeed where the Goa powder had completely failed.

The method of application which I follow is to paint the part over by means of a camel's-hair pencil three times, allowing it to dry between each coat, and this is done every night at bedtime, until the part resumes its natural appearance.

I have employed it successfully in many cases in this country, both in my own practice and in consultation with other practitioners. The following is a characteristic case:

A. B., a gentleman high in the Bengal Civil Service, arrived in England in July 1874, then suffering from eczema marginatum in a slight degree. He placed himself immediately under the care of a distinguished specialist in London, and subsequently was treated by one of our most celebrated physicians, who ordered him to Harrogate. From the latter place he came here, having, from the first, steadily got worse; so that, when he put himself under my care on September 22nd, or fourteen months after the first appearance of the disease, the patches were over eight inches in diameter, and the patient in agony, and almost sleepless. After trying other treatment unsuccessfully, on September 29th I applied the *tong pang chong*; and, on my visiting him next day, he declared the result to be almost miraculous. He was obliged to leave Scarborough on October 4th, and shortly afterwards returned to India. The disease had entirely left him before he embarked.

In conclusion, if this new drug prove, in the hands of other practitioners, half as efficacious as it has done in my own, it will be a valuable addition to the means of treating one of the most troublesome classes of disease, and quite justify me in bringing it before the notice of the profession.

CASE OF SYNCOPE FROM ETHER INHALATION.

By R. J. PYE-SMITH, F.R.C.S. ENG.,
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HARRIET T., aged 14, was admitted into the Sheffield Public Hospital on May 3rd, 1877, suffering from disease of the right hip, of two months' duration. She was a delicate-looking child, and did not appear so old as fourteen. She was somewhat feverish (temperature about 100 deg. Fahr.); the heart's action was rapid (about 120 beats per minute), but it was not accompanied by any *bruit*, and the pulse was regular and fairly strong. As the hip was completely flexed and very tender, it was determined to administer ether, in order to examine the part and to apply a splint. Accordingly, on May 5th, the assistant house-surgeon, Mr. A. H. Denton, proceeded to anaesthetise the patient, who was lying in bed. An American inhaler was used, composed of a number of folds of webbing stretched on a frame, surrounded, except at the top, by India-rubber; and an ounce of ether was poured on to it. At the first whiff, the child began to cry and to struggle slightly; but on being told to breathe quietly, she at once began to inhale in an exemplary manner—long, deep, regular respirations—and in less than a minute was evidently becoming anaesthetised. I was commencing to manipulate the limb, when we noticed the breathing was quickly becoming extremely