

Observations on poisons : and on the use of mercury in the cure of obstinate dysenteries.

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OBSERVATIONS
ON
POISONS;
AND ON THE
USE OF MERCURY
IN THE CURE OF
OBSTINATE DYSENTERIES;

By THOMAS HOULSTON, M.D.

PHYSICIAN TO THE LIVERPOOL INFIRMARY,
AND HONORARY MEMBER OF THE LITERARY AND PHI-
LOSOPHICAL SOCIETY OF MANCHESTER.

"Sparsa coegi."

L O N D O N:

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THE following papers, most of which have appeared in different publications, though at different times and on different occasions, have such a relation to each other, as to be thought proper to be collected and re-printed together. In compliance with the sentiments of those who have judged favourably of them, and hoping, with them, that some utility to society might possibly thence result, they are now offered in a more commodious, and less expensive, form to the Public.

And as a proper introduction, connecting in some sort the whole together, I have prefixed a paper, which I drew up lately at the instance of a friend, who requested I would arrange, and transmit to him, my thoughts on the subject of Poisons, of which I had already treated in some casual and detached publications. And, if part of what is contained in these shall appear to be repeated therein, as it is done with brevity, it may probably stand excused, and

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and answer the purpose in some sort of a recapitulation ; — though, in the circumstances in which it was wrote, every one must perceive it was unavoidable.

At the end, though not immediately connected with the subject, I have added a paper, not before published, but which I sent sometime since to the Edinburgh Medical Society, on the good effects produced by Mercurials in some cases of obstinate Dysenteries : to which are now subjoined, some further observations on the use of the Dry Vomit, and on the success attending the method of treating Intermittents recommended by Dr. Lind.

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I.

An E S S A Y,
ON THE
LIVERPOOL SPA WATER;

WITH AN
A P P E N D I X
ON THE
ACCIDENTAL USE OF LEAD.

II.

A New METHOD
OF CURING
The S M A L L - P O X;
WITH A SPECIMEN OF
MISCELLANEOUS OBSERVATIONS
ON
MEDICAL SUBJECTS;

From the LATIN of *JOHN FREDERICK CLOSS, A.M.*

Philos. & Med. Doct.



OBSERVATIONS

ON

POISONS.

I.

*A Summary Account of the several Poisons, and
of the Means of counteracting their Effects.*

AS the subject is avowedly of the highest importance, and one on which every person, concerned in medical practice, cannot have too clear and prompt ideas, it may not be an unprofitable labour, if we take a general view of the nature and effects of that class of substances, which, given in small quantity, interrupt and destroy the vital functions: and, whilst we cannot but lament, that their action

is so sudden, so violent, and so certain, as frequently to render every effort, to save life, fruitless, it may be useful to point out those means, which reason and experience shew to be the most likely, and most efficacious, to counteract the baneful effects of the several kinds of poisons.

It is believed that, in former times, the knowledge of different kinds of poisons, as well as of counter-poisons, was much further extended than it is at this day, and happily, in this country, the art of poisoning has been less studied and perfected, than in some of the more Southern ones, where men are prompted, and accustomed to take so base and cowardly a method, to satisfy their jealousy and revenge. It is related, and credited, that, in Italy, methods are known, and practised, of poisoning persons, by giving them a drug, which will not prove fatal 'till many months afterwards, or, (which is more probable,) producing the same effect by repeated, and imperceptible, doses gradually undermining and destroying the health. May these, and the various kinds of poisons they are said to prepare and employ, ever remain a secret amongst us. It is a secret
of

of too dangerous a nature for a man to wish to be in possession of.—The same may perhaps be said respecting the Woorara poison, with which the Indians smear the points of their arrows, which has been mentioned by Dr. Bancroft in his History of Guiana. The smallest particle of this, introduced into the system by a wound, proves instantly fatal, and yet an animal so killed may be safely eaten, it being no longer a poison when introduced into the stomach.

The poisons known amongst ourselves act, either mechanically, or chemically; on the primæ viæ, or on the nervous system. Thus pounded glass has been given, and occasioned certain death, by bringing on inflammation of the stomach and intestines: thus sponge has been given, to produce stoppage of the passage; and strong caustic alkali, swallowed hastily by mistake, has been followed by death. The former act mechanically, only on the parts to which they attain; the action of the caustic alkali, though chemical, is also only topical, and did it not, even in its passage, before it reaches the stomach, produce irreparable and fatal mischief, its power might be lessened, by

the mucus it met with, by oily or mucilaginous medicines, by fixed air, or by means of an acid exhibited.

The poisons, however, the effects of which we are commonly called upon to obviate, may be considered under the different heads of the mineral, vegetable, and animal poisons, upon each of which, it may be of use, to make some few general observations.—Of the minerals, the saline preparations of mercury, lead, and antimony, i. e. the solutions of these metals in different acids, are, in very small doses, useful and powerful medicines, but, given in ~~to~~^{the} great quantity, are active and virulent poisons. When these have been taken, it has been recommended to dilute largely with water, to evacuate by vomits, and to blunt their acrimony by oil, milk, &c. but no medicine will have so immediate, and beneficial, an effect, as a solution of any alkali, which, uniting with the acid, decomposes the salt, and precipitates the metal in the form of a calx, nearly, or wholly, inactive. When this is done, the former methods may be used with much greater advantage.

It is surprizing, that so obvious a remedy against the action of these metallic salts should not have been noticed by Tiffot, Buchan, and others who have written on the subject; especially as these excellent authors wrote avowedly for the public. In the *Edinburgh Medical Commentaries* (Vol. 6. Part 3.) * I have endeavoured to supply this deficiency, and given a remarkable instance of the good effect of salt of tartar, in the case of a woman at Liverpool poisoned with corrosive sublimate. This is one of the most powerful of the metallic salts, and is also difficultly soluble in water, and as in this case it was swallowed in a solid form, it only acted, as it dissolved, gradually and repeatedly; the violent symptoms produced by its solution yielded, almost instantaneously, to the alkali.

Medical men are often called in to cases of poison, where the particular kind swallowed cannot be known. There, it is always prudent to give, instead of water alone, water in which an alkali is dissolved. If the ill effects arise from a metallic salt in the stomach, such as
subli-

* See, in the following pages, No. II.

sublimate, sugar of lead, extract of lead, or tartar emetic, all future action of it will immediately be guarded against. And should it be arsenic, the most dangerous and insoluble of the metallic poisons, the addition of the alkali would serve to render the arsenic more easily soluble in water. In this case, however, the stomach should be washed with very large quantities, as arsenic requires about fifteen times its weight of water to dissolve it. And in all these cases, besides the alkali, it is advisable to give water most copiously, and also oil, and to promote vomiting as expeditiously as possible.

We see then, that with respect to mineral poisons, there is a rational ground of hope, that, by a proper management, they may be decomposed, their effects counteracted, and the danger resulting from their exhibition be guarded against, and prevented.—But the poisons taken from the vegetable kingdom cannot be said to admit of such a remedy: we know no certain means of counteracting their effects, and all medical help is almost solely confined to attempting, as speedily as possible, to evacuate them. Nor can this be done, even
by

by the most powerful emetics, as the white vitriol, verdigris, or emetic tartar, unless they be administered at an early period, before the poison has rendered the stomach insensible to any stimulus, or has brought on such a degree of spasm as to create an impossibility of vomiting. For one or the other of these is the certain consequence of their continued action on the stomach, they then cannot be evacuated, and their continuance there is inevitably fatal. Of the suddenness and certainty of the action of poisonous vegetables, we have had two remarkable *recent* instances, (in 1781,) the one in the case of Sir Theodosius Boughton, poisoned by the distilled water of the lauro-cerasus, (frequently, but improperly, employed in cookery, in small quantity, under the name of laurel water,) which event gave rise to a useful work on the poisonous vegetables of this country, by Mr. Wilmer; the other, in that of a youth poisoned accidentally, at Liverpool, by eating the roots of the oenanthe, or hemlock-dropwort, the circumstances attending which I published: they are inserted in the London Medical Journal for July, and, (together with a plate of the plant,) in the London Maga-

Magazine for August, 1781.* Similar are the effects of the *cicuta aquatica*, or water-hemlock, which, like the two former, almost certainly and speedily produces death. Mr. Wilmer enumerates further the following indigenous plants of a poisonous quality, though their action is neither so speedy, nor so unavoidably fatal, as that of the foregoing ones.

THE

<i>Hyoscamus Niger,</i>	<i>Henbane :</i>
<i>Belladonna,</i>	† <i>Deadly Nightshade :</i>
<i>Napellus Coeruleus,</i>	<i>Blue Monk's-hood :</i>
<i>Cynocrambe,</i>	<i>Dog's Mercury :</i>
<i>Stramonium,</i>	<i>Thorn Apple :</i>
<i>Cicuta Major,</i>	<i>Common Hemlock :</i>
<i>Agaricus Muscarius.</i>	<i>Bug Agaric : and</i>
<i>Fungus Piperatus,</i>	<i>Pepper Agaric.</i>

The

* See No. III.

† Children, and ignorant people, are often induced by their appearance to eat of the berries of this shrub. In Doddsley's Annual Register for 1780, we read of two women, who, gleaning in a field near Cambridge, were found nearly dead from this cause, and were successfully assisted by Mr. Hoffman of that city. Other instances are there also brought, of persons dying, or being almost dead, from having eat of these berries or the plant itself. The
method

The effects they produce, according to that gentleman, are, vertigo, faintness, delirium, madness, stupor, and paralytic or apoplectic symptoms. To obviate these, he advises the immediate exhibition of active emetics, cathartics and glysters; and the copious use of some acidulous vegetable liquor, as weak sparkling perry or cyder; and for the paralysis which may afterwards remain, the usual means, of sinapisms, blisters, and electricity. Tissot recommends, as what is chiefly to be depended upon in such cases, to give a large quantity of vinegar, besides the evacnants before-mentioned, and says, that by means of these, together with large dilution, 37 soldiers, who had eat the hemlock drop-wort roots by mistake for carrots, were all saved, except one, who died before he could be assisted. This celebrated author considers the noxious effects of these vegetable poisons as depending on their narcotic quality, and similar to those of opium.

C

Opium

method Mr. Hoffman recommended, and which he has before time found to succeed, is this. To give a vomit as soon as possible, and, in the course of the day, about a pint of vinegar, or lemon juice, mixed with an equal quantity of water, and to walk the patient about to prevent sleep, which he thinks would be fatal

Opium is sometimes taken in too large a dose by mistake; sometimes by design; and occasions stupor, convulsions, apoplectic symptoms, and death, unless quickly and powerfully counteracted. Dr. Mead has said much in favour of acids, in this intention, given with alkaline salts in repeated doses; but we ought probably to place a much greater dependance on promoting evacuation by the methods before proposed. It is also believed to be highly necessary to prevent the person from sleeping, by using every method to rouse the action both of the body and mind, to stimulate the nose by volatile alkali, and the skin by blisters. Bleeding will also certainly be of use, and lessen the determination of blood to the head, which there is some ground to fear every stimulating method may possibly contribute to augment. Dilution has been recommended in this case, but is much more indicated, and indeed seems almost solely to be relied on, when persons are dying from the effects of a poison, not less certain, and which, as it is sought after with avidity, and swallowed with profusion, oftener calls for our attention. I mean the different kinds of ardent spirits; gin, rum, brandy, &c. which besides bringing
 thousands,

thousands, gradually, and silently, to the grave, in very many instances, prove fatal in a few hours when drank in large quantity. The frequency of these accidents in the great sea-port town of Liverpool, drew my attention to a subject of such importance, and induced me to draw up, what appeared to me the most eligible method of attempting the relief of persons thus unfortunately circumstanced. This paper *, which was dispersed in Liverpool, was reprinted and preserved in Dr. Duncan's Medical Commentaries for 1780, Part 3. I therein proposed, 1st. to evacuate the poison by the means before enumerated; or 2dly, to dilute it, and thereby weaken its action. I have advised also the warm bath, bleeding, blisters, warmth, friction, and motion; but have laid the greatest stress upon largely diluting that poison, which, in such circumstances, we in vain attempt to evacuate. This I proposed doing by passing a pipe, something like a catheter, beyond the glottis, and pouring down, through that, very large quantities of water only, (which probably may be best cold,) or of water mixed with vinegar, or with any

C 2

acid.

* See No. IV.

acid. In the Reports of the London Humane Society for 1780, I have communicated the case of a soldier * whom I rescued from death by pursuing this mode of treatment.

The last class of poisons, but on which I mean not here to enter minutely, is that of the animal ones. Amongst these we might reckon several morbid ones, particularly the venereal, and variolous, matter, which act on the system, inducing disease, and assimilating to their own nature the juices of the body into which they are admitted. These are subjected to certain laws, and may be counteracted by certain means, appropriated for the cure of the particular diseases which they produce. It may not be amiss to observe however, that the same means, mercury, is found to counteract in some sort both the variolous, and venereal, virus. But leaving these as the object of more general medical enquiry, I shall proceed to such as more particularly relate to our subject.

To

“ — Bailey, one of the Cheshire Militia, in very
“ imminent danger from drinking brandy in a large quan-
“ tity, by bleeding, diluents thrown down into the stomach
“ by means of a pipe passed beyond the glottis, and proper
“ attention, after remaining many hours in a very uncer-
“ tain state, was with difficulty recovered.”

To remedy the bite of the viper, of the scorpion, and other venomous insects, olive oil alone applied to the part is related to be sufficient; though for further security, it has been recommended to suck the wound, and to take vinegar plentifully. But we are much more commonly, and seriously, alarmed, by the bite of a mad dog, or other mad animal; the frequent, though, I believe we may assert, by no means constant, effects of which are, heaviness, melancholy, hydrophobia, violent delirium and a dreadful death. Various medicines, some of little utility and which ought not to be relied on, have gained reputation as preventives of these effects. These medicines are mostly such as take off irritation and spasm; as bathing, musk, and opium; or such as promote perspiration and the other secretions. Dr. Mead speaks more highly than one would suppose it deserved of his medicine, of ash-coloured-ground-liver-wort and pepper, joined with cold bathing. The public confidence has been much placed on a remedy kept a secret, prepared, at Ormskirk in Lancashire, by Mr. Hill; but with what foundation that confidence has been placed herein, appears from its having failed of success in several instances, but particularly

ticularly in that of Mr. Bellamy of Holborn, of which the late ingenious Dr. Fothergill gave the public a circumstantial account. Nor will the following receipt for the making the Ormskirk medicine, communicated by a medical friend, and obtained from an authority which it seems with good reason may be depended upon, increase our expectations of success from its use.

Take elecampane, flowers of sulphur, liquorice powder, oyster shells burnt, of each as much as will lie on a shilling; alum, turmeric, bole armeniac, all in powder, of each as much as will lie on a six-pence, mixed.

From this, which is strongly believed to be the original receipt, some small deviations are made; e. g. a larger proportion of bole is now added*. Cobb's Powder, or the East India Specific, being a mixture of cinabar and musk, promises much fairer. Mercurials, especially if

* It is observable that Dr. Heilham (de Rabie Caninâ) from analysis, concludes Hill's medicine, which he examined nicely, to be compounded nearly of these ingredients, with the addition of a few drops of oil of aniseeds.

if used 'till they bring on an increased secretion from the salivary glands, (which seem a principal seat of the disease, or, at least, are the parts to which it has the principal determination,) afford a much more rational ground of hope. Although many respectable characters have declared, that nothing yet known could be depended upon to cure the hydrophobia, or scarcely to prevent it, yet we may place some degree of dependence on mercury, if there be only time to produce salivation, and if its exhibition be pursued with regularity and perseverance. To judge properly on this subject, we should attend to what has been said upon it by the late Dr. James, who first proposed the mercurial treatment in his Essay on Canine Madness, and by many other writers, particularly amongst the French, who have pursued this idea with advantage; Sauvages especially. A late work published by authority at Paris, of which I have given an abstract in Dr. Duncan's Medical Commentaries, Vol. 8.* lays down as the most successful, a mode of treating persons bit by mad animals, of which salivation appears to be the basis, if not the only essential part; though they endeavour to prevent

* See No. V

prevent the mercury salivating by purging every four or five days, and lay the great stress on the external application of the mercurial ointment round about the part which is bitten, and to the edges of the wound, which should be enlarged and brought to suppurate.

Of fifteen persons bit nearly at the same time by a mad wolf, in December, 1775, in the district of Macon, eleven were treated in this manner, by Monsieur Blais, a physician at Cluny, and the four who were not treated thus died, in a few days, raving mad. Of those under this gentleman's care, one died with the true hydrophobia, (though without convulsion or any violent symptom,) after pursuing the treatment regularly ten days: a second died much in the same manner, after using it near a month, during which time however he had made a practice of drinking privately to great excess; and a third, a boy, died at the expiration of six weeks, under the care of his friends, not with any symptom of madness, but from a caries of the scull neglected. (A fourth also died with the hydrophobia six weeks after having passed through the treatment, but as, subsequent to it, he had exposed himself

himself to fresh danger from a like cause, it is not clear that he should be included in this number.) The remaining seven recovered: in most of them salivation took place, and in all, the inunctions were continued a month or more. From these, and other like instances, there seems reason to conclude, that, not on the quantity of mercury administered, but on its bringing on salivation in time, depends the only rational ground of security from canine madness.—But in preference to any medicine, one should advise, when it can be done, the immediate removal of the part bit; destroying either by the knife, caustic, or the actual cautery, all the flesh in which may be lodged so formidable and fatal a virus, the effects of which are gradual, and in this respect similar to those of the matter used in inoculation.

It may not be improper to add here some considerations suggested very lately by the following accident. In the evening of December 14, 1783, an old woman, a nurse in the Liverpool Infirmary, privately took into her bed room, which had no chimney, an iron pot with some lighted charcoal, by the vapour

D

of

of which she was probably soon destroyed, and in the morning, on forcing the door open, was found dead.

Nothing can be more dangerous, or destructive, than the vapour emitted by burning charcoal, of the effects of which, Dr. Guthrie, physician at Petersburg, has given a very curious account in the Philosophical Transactions for 1779, vol. 69. He observes that accidents from this cause are so frequent in Russia, and are there so familiar to the people, that medical assistance is never called in to remedy them. The Russians heat their apartments by means of stoves, in which they burn wood, and, to save fuel, when the wood is burnt quite clear and bright, they close up the vent, or chimney, of the stove to keep in the heat. But if, as often happens from negligence and inattention, any bit of wood remain not burnt clear, but of a blackish colour, the noxious vapour, or *ugar* is certain to spread itself through the chamber, and is productive of the following effects. All the persons in the room are affected with a drowsiness, and a reluctance, or inability, to move, and, if unaccustomed to it, with

with a nausea, and an inclination to vomit. Any one disposed to sleep falls into so sound a sleep, as renders it difficult to awaken him, nor is sensible of any pain or inconvenience. A little before death, however, he groans, so as sometimes to call to his relief those who are near. The steps taken to assist him, and which frequently succeed, if removed or discovered within an hour, from the commencement of this insensible state, (beyond which time they think all probability of succeeding at an end,) are these. He is carried out and laid upon the snow almost naked; his stomach and temples are then well rubbed with snow, and they pour cold water or milk down his throat. These frictions are continued till the body is restored, from a livid, to its natural, colour, and life returns. A violent head-ache, which often remains, they cure by binding on the forehead a poultice of rye bread and vinegar.—It is a very curious fact which the same gentleman informs us of, that effects, perfectly similar, are produced (which are remedied in the same manner) by “an incrustation formed on the
“ insides of the glass windows during severe
“ frost, composed of condensed breath, per-

“spiration, &c.—the phlogiston of candles,
“and of the stove, which, when converted
“into water by a thaw, lets loose a principle
“producing all those terrible effects on the
“human body, which the principle emitted
“from charcoal is so well known to do in this
“country, (*Russia*,) where people every day
“suffer from it.” They cannot be persuaded,
however, that these effects are occasioned by a
cause apparently so trifling, but attribute them,
without the least foundation, to the former
one, a mismanagement of the stove. By this
account we find then, that exposure to free air,
and continued frictions, succeed in recovering
persons in these circumstances. Dr. Guthrie
thinks the cold applied may probably contri-
bute thereto, by “some how or other freeing
“the body from the load of phlogiston with
“which the system seems to be replete”; as
the person becomes considerably colder, when
recovering, than when first brought out of the
room.

A mode of treatment differing however in
this respect, the application of warmth, has
been found successful, in restoring to life per-
sons

sons nearly dead from a cause apparently similar,—the vapour emitted from burning lime stone, of the fatal effects of which we have had repeated instances. Some years ago a very fatal accident happened from this cause in Liverpool, where the vapour from a lime-kiln penetrated through the wall of a house adjoining, and occasioned the death of several persons. In the Reports of the London Humane Society for 1778, I have related the circumstances of two women, who, having lain down to sleep in a hut, built adjoining to a lime-kiln to keep the tools in, were found, a few hours afterwards, the one dead, the other nearly so, but by care, and diligent perseverance for several hours in employing the means recommended by that excellent institution, she was with difficulty recovered.

Great numbers of people have been destroyed, almost instantaneously, by sudden exposure to mephitic vapours, the gas emitted by fermenting liquors (in the large vessels of breweries) air long confined and stagnating, in wells, vaults, privies, &c. From some parts of the earth there arise vapours highly
noxious,

noxious, and injurious to animal life ; as for instance from the Grotto del Cane in Italy*, in which an animal exposed to them a very short time is inevitably destroyed, but, if withdrawn

* It has been doubted, whether this vapour is really deleterious in its nature, or only, by its density, unfit for respiration, and therefore occasions the death of animals immersed in it. In this idea, in the winter of 1768, Richard Paul Jodrell, Esq; (a gentleman well known in the literary world, as a man of genius and erudition) and I, tried the effect of it upon a viper, which we had procured for that purpose. It was no sooner plunged into this *vapour* in the grotto, (*which* arises apparently about a foot in height,) than it manifested evident signs of its being greatly incommoded. It endeavoured to get to the walls, and being prevented, raised its head up as much as it was able, opened its jaws wide, seeming to gasp for breath, and after nine minutes, became motionless, but being then thrown out into the open air, soon recovered. Dogs, who generally are subjected to this experiment, are nearly dead in less than half that time ; but this reptile was made choice of, as it is known to be, if I may use the expression, peculiarly tenacious of life. That it will live long without any supply of air, or food, is very certain, and the one I am now speaking of accidentally furnished a sufficient proof of it. When recovered, it was replaced in the box in which we had brought it, and was shut up close, and carried back with us to Naples, where it was laid by and forgotten, 'till on Mr. Jodrell's preparing to leave that city three weeks afterwards, the box was again found, and the viper in it, alive and vigorous.

withdrawn before it be quite dead, and laid in the open air, it will gradually recover; though in consequence of such experiment, especially if repeated, its life is said to be much shortened, and that it will linger for a few months and then die. This has a property, which is common to the other mephitic vapours, and which affords an opportunity of detecting their presence, and guarding against them. They extinguish flame; and it is therefore highly imprudent for any one to venture down into a place long shut up, without first trying, by letting down a candle, whether the air be such as will admit of its continuing to burn, and, of consequence, may, safely be respired.

When life is destroyed, or rather suspended, from exposure to mephitic vapours, the immediate removal of the body, and placing it in the open air, is of the most urgent necessity, and will alone, sometimes, be sufficient to bring about a recovery. But it will frequently, in such cases, be proper to have recourse to frictions, inflation of the lungs, and the other means recommended by the Humane Society,—an institution which does
great

great honour, and has rendered important service to the cause of humanity; which owes its introduction amongst us to the laudable zeal and exertions of Dr. Cogan and Dr. Hawes, and its support, to that spirit of benevolence and compassion, which forms so bright, and striking, a feature in the national character.

II.

Observations on Mineral Poisons.

IT did not, 'till very lately, occur to me, that in treating of the antidotes, or remedies, for mineral poisons, alkaline salts are omitted to be recommended, both in Tiffot's Advice to the People, and Buchan's Domestic Medicine, books very generally read and esteemed. As the effects of these poisons are often so sudden as not to admit of calling in medical assistance, it seems the more necessary to add this remedy to those recommended for common use to the people; and as the following history of facts will tend to demonstrate the importance, and to establish the reasonableness, of this practice, (although it happened some years ago,) I have thought it might be productive of good to society that it should be more extensively known.

In 1774, one Jones, a cow-keeper of Liverpool, was convicted at the Lancaster assizes, of poisoning his sister-in-law, in revenge for her

having opposed him in the sale of some property, of right belonging to the children of her sister, his former wife. Under an appearance of reconciliation, he had treated her, and the wife of the intended purchaser, William Ashcroft, one morning, at a public house, with some ale, which he himself had warmed. He put sugar in it, and had repeatedly poured it backwards and forwards from one cup into another. The sister-in-law went thence into the neighbourhood of Ormskirk (thirteen miles distant) where, in a few days, she died. The Coroner could not attend as soon as was desired, and the body was in a very putrid state when it was opened. In the stomach were found, some small particles of what was judged to be corrosive sublimate; but of this circumstance I was not informed 'till after the other woman was better.

Mrs. Ashcroft came to me, May 5th, a week after her drinking this ale. Immediately after she took it, she set out to go to Prescot (seven miles) part of the way in a carriage, the rest on foot. She had not gone far before there came on a violent pain in her stomach, with continued vomiting, and intolerable thirst,
so

so that she stopped to drink water almost at each ditch. Her tongue, from her own account too, was considerably swelled. After much vomiting she was somewhat relieved; but, to the time she applied to me, she had continued to vomit up every thing she took, and complained of a heat and pain in her stomach; at some times much more violent than at others. As she seemed not in much pain then, and had vomited so frequently, I only advised her, whenever she was sick, to wash her stomach plentifully with chamomile tea; hoping, that in a little time, the vomiting might be checked. The account of the death of the other woman alarmed her greatly, (as they had drank out of the same cup,) and on the 7th in the evening she was extremely ill; her stomach swelled, and was violently painful, and she could scarcely speak to be heard. On considering the story she had told me, of the man's having put sugar in the ale, and bestowed so much pains in mixing it thoroughly, it occurred to me, that the poison added might probably be corrosive sublimate, which does not easily dissolve, and that some of it, having been swallowed undissolved, might remain in that state enveloped in the mucus and attached

to the coats of the stomach; which, as it gradually dissolved, irritated, and caused heat, pain, and vomiting. In this idea, I gave her a few spoonfuls of a solution of salt of tartar, with a view to decompose the sublimate, and she had no sooner swallowed it than she was easier. A little while after she took a vomit, and I caused some blood to be taken away to guard against inflammation of the stomach; she was much better the next day, eat her dinner well, and did not vomit; but, on the 9th at night, the pain returned, with great violence, and yielded, as expeditiously as before, to the solution of salt of tartar. I now first heard of there being something found in the stomach of the other woman, supposed to be sublimate; and, on questioning my patient, learned, that she had always been most relieved, when, after several efforts, she had vomited up a small quantity of something, which, as she herself expressed it, tasted like milk which had stood in a brass pan. From these concurring circumstances, I had now no longer doubt of the poison being, as I had supposed it; sublimate; and, from the return of the symptoms, concluded that there was still some of it retained, whose solution, and action, was only very gradual.

dual. After repeating the vomit, I advised her to continue constantly the solution of salt of tartar. This, however, she had neglected, and on the 11th she had a fresh attack, which yielded readily to a repetition of the same means. As her objection to the salt of tartar was its disagreeable taste, I ordered her some pills, containing each three grains of it, which (convinced of the necessity) she did not omit taking. On the 15th she was perfectly well, and so continued.

The conclusion I would draw from hence, is this; in all cases of poison it is prudent immediately to give a solution of an alkali, followed by a vomit. If the poison be corrosive sublimate, an alkali, either fixed or volatile, will decompose it, and precipitate the metal in a form nearly inoffensive. It will have a similar effect on the sugar of lead, the extract of lead, emetic tartar, or any metallic salt. If the poison be arsenic, Newmann observes, "that alkalies will very plentifully dissolve it." And if so, as it is difficultly soluble in water, the vomit will then succeed the better to discharge it. Whether or no sulphur, exhibited in any form, might lessen the danger of

of arsenic is not clear, though these two, when united, are not poisonous. If the poison be of the vegetable class, an alkali can be of no service, nor interfere with the other means of remedying by evacuation, nor yet by the subsequent use of acids, so strongly insisted on by Tissot, as counteracting the effects of narcotics; since acids given together with alkaline salts, are pronounced to be attended with great success in this case, by Dr. Mead, and others.

To supply the omission then in those popular writers, might not the following directions be given on this subject? “ When symptoms of
“ poison appear, mix a tea-spoonful of any of
“ the following articles, salt of tartar, salt of
“ wormwood, pearl-ash, pot-ash, spirit of
“ hartshorn, or of sal volatile, with half a
“ pint of water, and of this let one half be
“ given to the patient immediately, and the
“ other in a short time afterwards. It will
“ sometimes give great relief, and the vomit-
“ ing will cease. That, however, is still to
“ be promoted, and if it does not return on
“ drinking warm water, &c. after waiting a
“ while, it will be proper to give a vomit of
“ ipecacuanha, or, if that is not sufficient,
“ one

“ one still stronger. After each vomiting, a
“ dose of this solution of salt of tartar should
“ be given, and it may be repeated every two
“ or three hours, especially if the pain of the
“ stomach returns. It should be continued
“ too, in small doses, for some time after the
“ symptoms disappear. If none of these salts
“ are at hand, a little wood-ashes mixed with
“ boiling water will answer the same end,
“ suffering them to stand 'till they settle, and
“ pouring the water clear off, or filtering
“ through linen. By tasting it, the degree of
“ saltiness will determine if the solution be
“ strong enough; if it be not disagreeably so
“ it may be given.”

At Liverpool, August 27, 1783, a young child of Captain Bibby's, playing in a neighbour's house, got to some Jacob's-Water sweetened, placed there to poison flies, and drank so much as occasioned its dying the day after convulsed. As this poison is often used, and as similar accidents in consequence thereof are by no means rare, the following cautions may be

be useful. 1. If this poisonous mixture (which ought not to be indiscriminately sold) is to be used at all, it should be placed out of the reach of children, and mixed up in a manner dirty enough to disgust, and deter any one else from a desire to taste it. 2. As soon as it is known that a person has unfortunately taken any of it, immediate assistance should be procured; a vomit should be given directly, and salt of tartar, or pot-ashes, dissolved in water, should be drank very freely. The poison sold under the name of Jacob's-Water is sometimes arsenic dissolved in water, but that properly so called is only a weak solution of corrosive sublimate; and in that case there is the strongest reason to believe, that by taking a little of the above alkaline salt after it, (and the sooner after it the better,) if violent symptoms are not already come on, no danger whatever would ensue: and even if such symptoms have appeared, this is one of the most effectual means of relieving and removing them. And if the poison swallowed be a solution of arsenic, this would be one of the most likely means of guarding against its effects, whilst at the same time it will not interfere with any of the usual methods of obviating the danger.

III.

*Case of a Boy poisoned by the Root of the Hemlock
Dropwort, on the 9th of June, 1781.*

THE eldest son of the Reverend Mr. Kirkpatrick, a dissenting minister, about nine years old, rambling with several other children in the fields adjoining to the Leeds canal, near Liverpool, gathered, and gave to the others, a number of the roots of the Hemlock Dropwort, which he believed were ground nuts, and of which he eat a much greater quantity than the rest. As he was returning home he grew giddy, and if he had not been prevented, would have reeled into the canal. His inability to direct his motions encreased gradually, and he was soon affected with stupor and convulsions. His mother, apprized of his situation, speedily came to him, and immediately, as she said, conceived the idea of his having eaten something, the effects of which were similar to the poison administered to Sir Theodosius Boughton, 'till

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which

which time no such thing had been apprehended. Some water out of the canal was given him to drink, and he vomited a considerable quantity of the root he had swallowed; he however grew worse, raved, became heavy, and convulsed, and was carried into a house adjoining; Mr. Shertcliffe, a surgeon in the neighbourhood, was sent for, who, with a view to evacuate what he had taken, gave him a solution of emetic tartar, and a purgative glyster.

He had swallowed at least twenty grains of the tartar emetic, when I was sent for to him about eight in the evening. I found him quite in the epileptic state, with the pupil of the eye vastly dilated, total insensibility, and all the appearance of a person in the last degree of intoxication. Convinced that unless the contents of the stomach could be expelled, no hope of his recovery remained, I gave, in solution, a scruple of white vitriol, most part of which was got down.

The convulsions for some time past had been strong and frequent; they seemed to begin with an effort, as it were to vomit,
(though

(though after he got into the house he never vomited in the least). The head was drawn to the right side, and thrown back, general spasms succeeded, the eyes started prodigiously out from the sockets, and the tongue was thrust out and forcibly bit. Some æther was sent for, and I poured a small quantity into the mouth, on the temples, &c. It was thought at times to relieve the fits, which interrupted the circulation, so as to render the pulse imperceptible, and often to give reason to suppose it was irrecoverably stopped. In this manner, however, the scene was closed at last, rather placidly, about ten o'clock at night, after he had suffered thus above four hours. The respiration, though slow, continued tolerably easy almost to the last. The glyster operated a little before he died, and a very offensive stool followed.

Notwithstanding the boy had thrown up a considerable quantity of the root, yet I had no doubt, but that such a part of what he had eaten remained in the stomach, as would render every effort to save him ineffectual. The event unfortunately answered my expectation, and dissection confirmed the truth of the conjec-

ture. Mr. Shertcliffe found in the stomach above an handful of the root, and noticed very sensibly the smell peculiar to it, the moment he cut into the cellular membrane, tho' it was not twenty-four hours after death.

It was at first supposed, that what the boys had gathered and eaten was the water-parfnip; and afterwards, that it was the water-hemlock. Indeed Boerhaave in his *Historia Plantarum*, under the article *Sium* (water-parfnip) commends the first species for its aperient, emollient, and detergent qualities, but adds, "that he never had dared to administer it, from the resemblance which it bears to the second species, the *cicuta aquatica*, of which those who have eaten, unless relieved by vomiting, died dreadfully, and singularly convulsed." The latter (the water-hemlock) which is extremely poisonous is frequently confounded also with the hemlock dropwort, the plant now spoken of; which is equally dangerous, and is termed by Lobel, Ray, and others, *œnanthe cicutæ facie*. This however, it is certain, was the one pitched upon by the boy who with difficulty recovered, as the root he and his companions had eat of.

Four of the other boys in company had partaken, though more sparingly, of the noxious repast; but, on the first alarm, vomits having been exhibited, they all escaped. One however was with difficulty made to vomit, tho' he took largely both emetic tartar and ipecacuanha, and he was affected with giddiness, drowsiness, and twitchings so much, that for some hours his recovery remained doubtful. He told me he had eat one root and an half; and more than two hours had elapsed before he was sensibly affected by it.

This unfortunate accident, as well as the one which was lately the subject of a judicial discussion, proves how fatally certain is the effect of the poisons of this class. These vegetable poisons, do not, like the mineral ones, become fatal by producing inflammation of the stomach: though at first they stimulate and endeavour to promote their own discharge, yet their baneful action is solely on the nervous system. Like to opium, or spirits, they bring on such a degree of insensibility, or as some suppose of spasm, as wholly to destroy or counteract the power of the stomach to expel them, whilst their continuance there must inevitably

vitably prove fatal. Whereas many mineral poisons may be decomposed by any alkali; and even the danger from drinking spirits, may be greatly lessened, by conveying into the stomach (by means of a pipe passed beyond the glottis) large quantities of water to dilute them, after the power of vomiting as well as swallowing is lost. (See two papers which I drew up on this subject, and which are inserted in the Edinburgh Medical Commentaries, Vol. VI. page 325, and in those by Dr. Duncan, part III. 1780.)

To render a poisonous vegetable in the stomach, which cannot be evacuated, inactive, is what we are yet unequal to;—to dilute it would probably be at least a vain attempt, if it did not (by the liquid acting as a menstruum) elicit, and render more active, the poisonous quality;—and unfortunately, to evacuate it after it has remained long enough to produce, in a certain degree, its effect on the stomach seems next to impossible. We should, however when there is the least ground to suspect any thing of this kind, immediately endeavour, by an active emetic, to evacuate the stomach whilst there yet remains a possibility of doing it.

it. On the early exhibition of a vomit in such cases depends its operation, and on that only, perhaps, the security of the patient.

*Botanical Description of the Hemlock Dropwort,
and of the Earth Nut.—See the Plate.*

OENANTHE CROCATA.	BUNIUM BULBOCASTA-
OENANTHE CICUTÆ	NUM.
FACIE.	<i>Earth, Kipper, Pig, or</i>
HEMLOCK DROPWORT.	<i>Hawk-nut.</i>
A. The roots.	A. The roots.
B. The leaves.	B. The leaves.
C. The universal umbel.	C. The universal umbel.
a. The partial umbel.	a. The partial umbel.
b. The universal involu-	b. The universal involu-
crum.	crum.
c. The partial involu-	c. The partial involu-
crum.	crum.
d. A single hermaphro-	d. A single flower.
dite flower.	* Ditto magnified.
* The same magnified.	e. The calyx.
e. The calyx.	f. The petals.
f. The petals.	g. The stamens.
g. The stamens.	h. The germen.
h. The germen.	i. The seed.

i. The

- i.* The seed. *k.* The same when ripe
l. The same as it divides into two. divided by Nature.
m. A male flower. This plant grows in mea-
n. The petals. dows and other pasture lands,
o. The stamens. and in woods, in which it is
p. The hermaphrodite most abundant.
 flowers standing in the disk ;
 and are fertile.
q. The male flowers form-
 ing the ray; and are abortive.

This plant is found, scat-
 tered up and down the banks
 of rivers, and in abundance
 upon those of the Thames.