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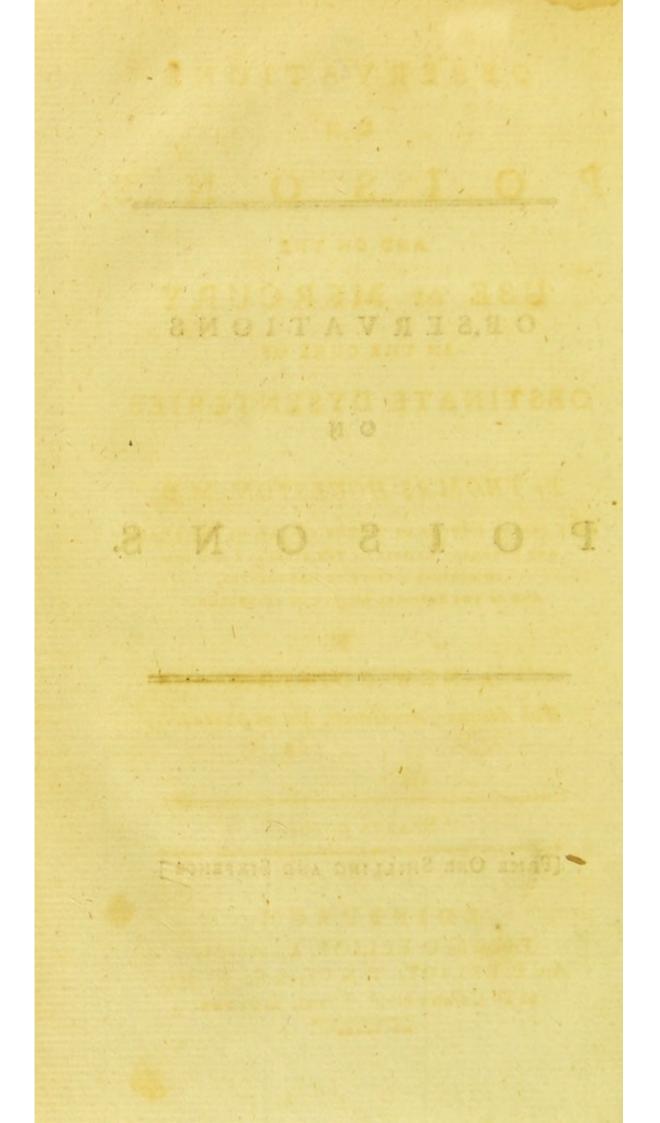
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OBSERVATIONS

ON

POISONS,

[PRICE ONE SHILLING AND SIXPENCE.]



OBSERVATIONS

ON

POISONS;

AND ON THE

USE OF MERCURY

IN THE CURE OF

OBSTINATE DYSENTERIES.

By THOMAS HOULSTON, M.D.

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

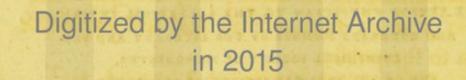
A NEW EDITION;

With Additions, Amendments, and an APPENDIX,

" SPARSA COEGI."

E D I N B U R G H: Printed for C. ELLIOT, EDINBURGH, And C. ELLIOT, T. KAY, & Co. N° 332, at Dr Cullen's Head, Strand, LONDON.

MECCLXXXVII.



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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 reprinted together. In compliance with the fentiments of those who have judged favourably of them, and hoping, with them, that some utility to fociety might possibly thence result, they are now offered in a more commodious and less expensive form to the public.

AND as a proper introduction, ferving to connect in fome fort the whole together, I have prefixed a paper, which I drew up at the inftance of a friend, who requefted I would arrange, and transmit to him, my thoughts on the fubject of Poifons, of which I had already treated in fome cafual and detached publications. And, if part of what is contained in these fhall appear to be repeated therein, as it is done with brevity, it may probably ftand excused, and answer in part the purpose of a recapitulation;—though, in the cir-

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circumstances in which it was written, every one must perceive it was unavoidable.

To thefe, though not immediately connected with the fubject, I added a paper not before publifhed, but which I had fent to the Edinburgh Royal Medical Society, on the good Effects produced by Mercurials in cafes of obftinate Dyfenteries: to which are fubjoined, Some further Obfervations on the Ufe of the Dry Vomit, and on the fuccefs attending the Method of treating Intermittents recommended by Dr Lind. To thefe are now added two recent inftances of fuccefs attending the mode of treatment therein recommended.

THE Appendix confifts of fome other papers of a latter date than *thofe* contained in the former edition, which have a relation to *them*; and the infertion of which, it is hoped, will not prove difpleafing to the Reader.

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OBSERVATIONS

ON

POISONS.

ended than it is at this day a

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

I.

A S the fubject is avowedly of the higheft importance, and one on which every perfon, 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 clafs of fubftances which, given in fmall quantity, interrupt and de. ftroy the vital functions; and, whilft we cannot but lament that their action is fo fudden, fo B violent,

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violent, and fo certain, as frequently to render every effort to fave life fruitlefs, it may be useful to point out those means which reason and experience show 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 the different kinds of poifons, as well as of counter-poifons, was much further extended than it is at this day; and, happily, in this country, the art of poiloning has been lefs fludied and perfected than in fome of the more fouthern ones, where men are prompted and accultomed to take fo bafe and cowardly a method to fatisfy their jealoufy or revenge. It is related, and credited, that in Italy, methods are known and practifed, of poifoning perfons, by giving them a drug which will not prove fatal till many months afterwards, or (which is more probable) producing the fame effect by repeated imperceptible doles gradually undermining and destroying the health. May these, and the various kinds of poifons they are faid to prepare and employ, ever remain a fecret amongst us! It is a fecret of too dangerous a nature for a man to with to be in poffession of .----- The fame may perhaps be faid respecting the Woorara poifon, with

with which the Indians fmear the points of their arrows, which has been mentioned by Dr Bancroft in his Hiftory of Guiana. The fmalleft particle of this, introduced into the fystem by a wound, proves instantly fatal; and yet an animal fo killed may be fafely eaten, it being no longer a poison when introduced into the stomach.

THE poilons known amongst ourfelves act, either mechanically or chemically, on the primæ viæ, or on the nervous fystem. Thus pounded glass has been given, and occasioned certain death, by bringing on inflammation of the ftomach and inteffines : thus fponge has been given to produce stoppage of the passage; and ftrong cauftic alkali, fwallowed haftily by miftake, has been followed by death. The former act mechanically only on the parts to which they attain; the action of the cauftic alkali, though chemical, is alfo only topical; and did it not, even in its paffage before it reaches the ftomach, produce irreparable and fatal mifchief, its power might be leffened by the mucus it met with, by oily or mucilaginous medicines, by fixed air, or by means of an acid exhibited.

THE poifons, however, the effects of which we B 2 are

are commonly called upon to obviate, may be confidered under the different heads of the mineral, vegetable, and animal poifons; upon each of which, it may be of use to make some few general observations .----- Of the minerals, the faline preparations of mercury, lead, copper, and antimony, i. e. the folutions of thefe metals in different acids, are, in very fmall dofes, uleful and powerful medicines; but, given in no great quantity, are active and virulent poifons. 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 fo immediate and beneficial an effect as a folution of any alkali; which, uniting with the acid, decomposes the falt, 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 furprifing, that fo obvious a remedy against the action of these metallic falts should not have been noticed by Tissor, 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. VI. Part 3.), I have endeavoured

ed to fupply this deficiency, and given a remarkable inftance of the good effect of falt of tartar in the cafe of a woman at Liverpool poifoned with corrofive fublimate *. This is one of the most powerful of the metallic falts, and is alfo difficultly foluble in water : and as in this cafe it was fwallowed in a folid form, it only acted, as it diffolved, gradually and repeatedly; the violent fymptoms produced by its folution yielded, almost instanceously, to the alkali +.

MEDICAL men are often called in to cafes of poifon, where the particular kind fwallowed cannot be known. There, it is always prudent to give, inftead of water alone, water in which an alkali is diffolved. If the ill effects arife from a metallic falt in the ftomach, fuch as fublimate, fugar of lead, extract of lead, or tartar emetic, all future action of it will immediately be guarded againft. And fhould it be arfenic, the moft dangerous and infoluble of the metallic poifons, the addition of the alkali would ferve to render the arfenic more eafy foluble in water. In this cafe, however, the ftomach fhould be wafhed B $_3$ with

* See, in the following pages, Nº II.

† An extraordinary inftance of the fame kind, I have related in the London Medical Journal, Vol. VI. p. 271. See Appendix, Nº VII.

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with very large quantities, as arfenic requires about fifteen times its weight of water to diffolve 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 fee, then, that with respect to mineral poifons, there is a rational ground of hope, that, by a proper management, they may be decompoled, their effects counteracted, and the danger refulting from their exhibition be guarded against and prevented .---- But the poifons taken from the vegetable kingdom cannot be faid to admit of fuch a remedy: we know no certain means of counteracting their effects; and all medical help is almost folely confined to attempting, as speedily as possible, to evacuate them. Nor can this be done even by the most powerful emetics; as the white vitriol, verdigris, or emetic tartar, unlefs they be administered at an early period, before the poifon has rendered the ftomach infenfible to any ftimulus, or has brought on fuch a degree of fpafm as to create an impoffibility of vomiting. For one or the other of these is the certain confequence of their continued action on the flomach; they then cannot be evacuated; and their continuance there is inevitably fatal. Of

Of the fuddenness and certainty of the action of poifonous vegetables, we have had two remarkable recent instances (in 1781): The one in the cafe of Sir Theodofius Boughton, poiloned by the distilled water of the lauro-cerasus, (frequently, but improperly, employed in cookery, in fmall quantity, under the name of Laurel Water *); which event gave rife to a ufeful work on the poifonous vegetables of this country by Mr Wilmer : The other, in that of a youth poifoned accidentally at Liverpool, by eating the roots of the oenanthe or hemlock.dropwort; the circumfances attending which I published : they are inferted in the London Medical Journal for July, and (together with a plate of the plant) in the London Magazine for August 1781 +. Similar are the effects of the cicuta aquatica or waterhemlock; which, like the two former, almost certainly and speedily produces death. Mr Wilmer enumerates further the following indigenous plants of a poifonous quality, though their action is neither fo fpeedy, nor fo unavoidably fatal, as that of the foregoing ones.

B 4

THE

* The prefent Grand Duke of Tufcany, after being convinced of the dangerous confequences to be apprehended, has forbid the ufe of it in his dominions.

† See Nº III.

Hyofcamus Niger, Belladonna, Napellus Coeruleus, Cynocrambe, Stramonium, Cicuta Major, Agaricus Mufcarius, Fungus Piperatus,

THE

Henbane; Deadly Nightfhade *; Blue Monk's-hood; Dog's Mercury; Thorn Apple; Common Hemlock; Bug Agaric; and Pepper Agaric.

The effects they produce, according to that gentleman, are, vertigo, faintnefs, delirium, madnefs, flupor, and paralytic or apoplectic fymptoms. To obviate thefe, he advifes the immediate exhibition of active emetics, cathartics, and glyfters, and the copious ufe of fome acidulous

* Children, and ignorant people, are often induced by their appearance to eat of the berries of this fhrub. In Dodfley's Annual Regifter for 1780, we read of two women, who, gleaning in a field near Cambridge, were found nearly dead from this caufe, and were fuccefsfully affifted by Mr Hoffman of that city. Other inflances are there alfo brought of perfons dying, or being almost dead, from having eat of thefe berries or the plant itself. The method Mr Hoffman recommended, and which he has before-time found to fucceed, is this—To give a vomit as foon as poffible; and, in the courfe 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 fleep, which he thinks would be fatal.

lous vegetable liquor, as weak fparkling perry or cyder; and for the paralyfis which may afterwards remain, the ufual means of finapifms, blifters, and electricity. Tiffot recommends, as what is chiefly to be depended upon in fuch cafes, to give a large quantity of vinegar, befides the evacuants before mentioned; and fays, that by means of thefe, together with large dilution, 37 foldiers, who had eat the hemlock drop-wort roots by miftake for carrots, were all faved except one, who died before he could be affifted. This celebrated author confiders the noxious effects of thefe vegetable poifons as depending on their narcotic quality, and fimilar to thofe of opium.

OPIUM is fometimes taken in too large a dofe by miftake, fometimes by defign; and occafions ftupor, convultions, apoplectic fymptoms, and death, unlefs quickly and powerfully counteracted. Dr Mead has faid much in favour of acids, in this intention, given with alkaline falts in repeated dofes; but we ought probably to place a much greater dependence on promoting a fpeedy evacuation by the methods before propofed. It is alfo believed to be highly neceffary to prevent the perfon from fleeping, by ufing every method to roufe the action both of the body

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dy and mind, to stimulate the nose by volatile alkali, and the fkin by blifters. Bleeding has been thought also of use, as leffening the determination of blood to the head, which there is fome ground to fear every stimulating method may poffibly contribute to augment. Dilution has been recommended in this cafe; but is much more indicated, and indeed feems almost folely to be relied on, when perfons are dying from the effects of a poifon not less certain, and which, as it is fought after with avidity, and fwallowed with profusion, oftener calls for our attention. I mean the different kinds of ardent spirits, gin, rum, brandy, &c. which, befides bringing thoufands gradually and filently to the grave, in very many inftances prove fatal in a few hours when drank in large quantity. The frequency of these accidents in the great fea-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 perfons thus unfortunately circumstanced. This paper *, which was dispersed in Liverpool, was reprinted and preferved in Dr Duncan's Medical Commentaries for 1780, Part III. I therein proposed, 1st, To evacuate the poifon by the means before enumerated; or, 2dly, To dilute it, and thereby weaken its action.

* See Nº IV.

I

I have advifed alfo the warm bath, bleeding, blifters, warmth, friction, and motion; but have laid the greateft ftrefs upon largely diluting that poifon, which in fuch circumftances we in vain attempt to evacuate. This I propofed doing by paffing a pipe, fomething like a catheter, beyond the glottis, and pouring down, through that, very large quantities of water only (which probably may be beft cold), or of water mixed with vinegar, or with any acid. In the Reports of the London Humane Society for 1780, I have communicated the cafe of a foldier * whom I refcued from death by purfuing this mode of treatment.

THE laft 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 morbific 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.

* " — Bailey, one of the Chefhire militia, in very " imminent danger from drinking brandy in a large quan. " tity, by bleeding, diluents thrown down into the flo-" mach by means of a pipe paffed beyond the glottis, and " proper attention, after remaining many hours in a very " uncertain flate, was with difficulty recovered."

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ted *. Thefe are fubjected to certain laws, and may be counteracted by certain means, appropriated for the cure of the particular difeafes which they produce. It may not be amifs to obferve, however, that the fame means, mercury, is found to counteract, in fome fort, both the variolous and venereal virus. But leaving thefe as the object of more general medical inquiry, I fhall proceed to fuch as more particularly relate to our fubject.

To remedy the bite of the viper $\frac{1}{7}$, of the fcorpion, and other venomous infects, olive oil alone applied to the part *is related* to be fufficient; though for further fecurity, it has been recommended to fuck the wound, and to take vinegar plentifully. But we are much more commonly, and ferioufly, alarmed by the bite of a mad dog, or other mad animal: the frequent, though I believe we may affert by no means conftant, effects of which are, heavinefs, melancholy, hydrophobia (violent delirium), and a dreadful death. Various medicines, fome of little utility, and

* Some observations on the action of the variolous matter will be found in the Appendix, Nº VIII.

† The experiments made by the Abbé Fontana feem to afcertain, that the poilon emitted by the bite of a fingle viper is not fufficient to kill a man.

and which ought not to be relied on, have gained reputation as preventives of these effects. These medicines are mostly fuch as take off irri. tation and fpasm, as bathing, musk, and opium; or fuch as promote perfpiration and the other fecretions. Dr Mead speaks more highly than one would suppose it deferved of his medicine, of afh-coloured ground liverwort and pepper, joined with cold bathing. The public confidence has been much placed on a remedy kept a fecret prepared at Ormfkirk in Lancashire by Mr Hill; but with what foundation that confidence has been placed therein, appears from its having failed of fuccess in feveral instances, but particularly 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 Ormfkirk medicine, communicated by a medical friend, and obtained from an authority which it feems with good reafon may be depended upon, increafe our expectations of fuccefs from its ufe.

Take elecampane, flowers of fulphur, liquorice powder, oyster-schells burnt, of each as much

* Some obfervations on the Hydrophobia, and on the efficacy of this medicine, are proposed to be added to the Appendix.

much as will lie on a fhilling; alum, turmeric, bole armeniac, all in powder, of each as much as will lie on a fixpence, mixed.

FROM this, which is ftrongly believed to be the original receipt, fome fmall deviations are made, e.g. a larger proportion of bole is now added *. Cobb's Powder, or the Eaft India Specific, being a mixture of cinabar and musk, promifes much fairer. Mercurials, especially if ufed till they bring on an increafed fecretion from the falivary glands (which feem a principal feat of the difease, 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 fcarcely to prevent it; yet we may place fome degree of dependence on mercury, if there be only time to produce falivation, and if its exhibition be purfued with regularity and perfeverance. To judge properly on this fubject, we fhould attend to what has been faid upon it by the late Dr James, who first propofed

* It is observable, that Dr Heisham (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 anifeeds.

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posed the mercurial treatment in his Effay on Canine Madnefs, and by many other writers, particularly amongst the French, who have purfued this idea with advantage; Sauvages efpecially. A fmall work published by authority at Paris, of which I have given an abstract in Dr Duncan's Medical Commentaries, Vol. VIII*. lays down as the most fuccessful, a mode of treating perfons bit by mad animals, of which falivation appears to be the bafis, if not the only effential part; though they endeavour to prevent the mercury falivating by purging every four or five days, and lay the great ftrefs on the external application of the mercurial ointment round about the part which is bitten, and to the edges of the wound, which fhould be enlarged and brought to fuppurate.

OF fifteen perfons bit nearly at the fame time by a mad wolf in December 1775, in the diffrict of Macon, eleven were treated in this manner by Monfieur Blais, a phyfician 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 fymptom), after pursuing the treatment regularly ten days:

* See No V.

days: a fecond died much in the fame 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 fix weeks under the care of his friends, not with any fymptom of madnefs, but from a caries of the fkull neglected. (A fourth alfo died with the hydrophobia fix weeks after having paffed through the treatment; but as, fublequent to it, he had exposed himfelf to fresh danger from a like cause, it is not clear that he should be included in this number.) The remaining feven recovered : in most of them falivation took place, and in all the inunctions were continued a month or more. From these, and other like instances, there feems reafon to conclude, that, not on the quantity of mercury administered, but on its bringing on falivation in time, depends the only rational ground of fecurity from canine madnefs. But in preference to any medicine, one fhould advise, when it can be done, the immediate removal of the part bit ; deftroying either by the knife, cauftic, or the actual cautery, all the flefh in which may be lodged fo formidable and fatal a virus; the effects of which are gradual, and in this refpect fimilar to those of the matter used in inoculation.

4

IT may not be improper to add here fome confiderations fuggested 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 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 deftructive than the vapour emitted by burning charcoal; of the effects of which Dr Guthrie, phyfician at Petersburg, has given a very curious account in the Philosophical Transactions for 1779, Vol. LXIX. He observes, that accidents from this caufe are fo frequent in Ruffia, and are there fo familiar to the people, that medical affistance is never called in to remedy them. The Ruffians heat their apartments by means of floves, in which they burn wood; and, to fave fuel, when the wood is burnt quite clear and bright, they close up the vent or chimney of the flove 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 fpread itfelf through the chamber, and is productive of the С

the following effects. All the perfons in the room are affected with a drowfinefs, and a reluctance or inability to move; and, if unaccustomed to it, with a nausea and an inclination to vomit. Any one disposed to sleep falls into fo found a fleep, as renders it difficult to awaken him, nor is fenfible of any pain or inconvenience. A little before death, however, he groans fo as fometimes to call to his relief those who are near. The steps taken to affist him, and which frequently fucceed, if removed or difcovered within an hour from the commencement of this infenfible state (beyond which time they think all probability of fucceeding at an end, though in this they are perhaps miltaken), are thefe. He is carried out and laid upon the fnow almost naked : his ftomach and temples are then well rubbed with fnow; and they pour cold water, or milk, down his throat. These frictions are continued till the body is reftored from a livid to its natural colour, and life returns. A violent headache, 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 fame gentleman informs us of, that effects, perfectly fimilar, are produced (which are remedied in the fame manner), by "an incrustation " formed on the infides of the glafs-windows-« du-

" during fevere froft, composed of condensed " breath, perspiration, &c .- the phlogiston of · candles, and of the ftove; which, when con-· verted into water by a thaw, lets loofe a prin-" ciple producing all those terrible effects on the " human body, which the principle emitted " from charcoal is fo well known to do in this " country (Ruffia), where people every day fuf-" fer from it." They cannot be perfuaded, however, that these effects are occasioned by a caufe apparently fo 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, fucceed in recovering perfons in these circumstances. Dr Guthrie thinks the cold applied may probably contribute thereto, "by fome how or other freeing the body " from the load of phlogiston with which the fy-" ftem feems to be replete;" as the perfon becomes confiderably colder, when recovering, than when first brought out of the room.

A mode of treatment differing, however, in this refpect, the application of warmth, has been found fuccessful, in reftoring to life perfons nearly dead from a caufe apparently fimilar,—the vapour emitted from burning lime-ftone; of the C_2 fatal

fatal effects of which we have had repeated inftances. Some years ago a very fatal accident happened from this caufe in Liverpool, where the vapour from a lime-kiln penetrated through the wall of a houfe adjoining, and occafioned the death of feveral perfons. In the Reports of the London Humane Society for 1778, I have related the circumftances of two women, who, having lain down to fleep 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 fo; but by care, and diligent perfeverance for feveral hours in employing the means recommended by that excellent inflitution, fhe was with difficulty recovered *.

GREAT

* June 26. 1785. In the morning, a man was found lying on one of the brick-kilns near St John's church, Liverpool, in fuch a flate of flupor and infenfibility, that he appeared to be almost dead. He was fent up to the Infirmary, where the proper means for recovering him were employed. He was let blood, and gradually came to himfelf. The account he gave was, that, having been left to watch the fire, feeling himfelf cold, he had lain down on the brick-kiln and fallen afleep: that he awoke, and attempted to get up, but felt himfelf not able to do it ; he therefore funk down again, and remained infensible of every thing that happened, till he found himfelf in the Infirmary; and had it not been for the affistance there afforded him, he concludes he fhould have died.——It is a curious

GREAT numbers of people have been deftroyed, almoft inftantaneoufly, by fudden expofure to mephitic vapours, the gas emitted by fermenting liquors (in the large veffels of breweries), air long confined and ftagnating, in wells, vaults, privies, &c. From fome parts of the earth there arife vapours highly noxious and injurious to animal life; as for inftance from the Grotto del Cane in Italy*, in which an animal expofed to C_3 them

rious object of inquiry, whether there is any thing noxious in the vapour from a brick-kiln fimilar to that from a limekiln, which gradually produces flupor and death in the perfons long exposed to it. It is certain that the fuffocating fmell from both is not much unlike.

* It has been doubted, whether this vapour is really deleterious in its nature, or only, by its denfity, unfit for refpiration, and therefore occasions the death of animals immersed in it. In this idea, in the winter of 1768, Richard Paul Jodrell, Efq; (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 fooner plunged into this vapour in the grotto (which arifes apparently about a foot in height) than it manifested evident figns of its being greatly incommoded. It endeavoured to get to the walls; and being prevented, raifed its head up as much as it was able, opened its jaws wide, feeming to galp for breath, and after nine minutes became motionlefs; but being then thrown out into the open air, foon recovered. Dogs, who generally are fubjected to this experiment, are nearly dead in lefs than

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them a very fhort time is inevitably deftroyed, but, if withdrawn before it be quite dead, and laid in the open air, it will gradually recover; though in confequence of fuch experiment, efpecially if repeated, its life is faid to be much fhortened, 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 prefence, and guarding against them. They extinguish flame; and it is therefore highly imprudent for any one to venture down into a place long fhut up, without first trying, by letting down a candle, whether the air be fuch as will admit of its continuing to burn, and, of confequence, may fafely be refpired.

WHEN life is fuspended, and apparently deftroyed,

than half that time; but this reptile was made choice of, as it is known to be, if I may ufe 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 furnissed 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.

ftroyed, from expolure to mephitic vapours, the immediate removal of the body, and placing it in the open air, is of the most urgent neceffity, and will alone, fometimes, be fufficient to bring about a recovery. But it will frequently, in fuch cafes, be proper to have recourfe to frictions, inflation of the lungs, and the other means recommended by the Humane Society;—an inflitution which does great honour, and has rendered important fervice to the caufe of humanity; which owes its introduction amongst us to the laudable zeal and exertions of Dr Cogan and Dr Hawes; and its fupport, to that fpirit of benevolence and compaffion which forms fo bright and striking a feature in the national character.

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II.

II.

Observations on Mineral Poisons.

TT did not, for fome time, occur to me, that I in treating of the antidotes, or remedies, for mineral poifons, alkaline falts are omitted to be recommended, both in Tiffot's Advice to the People, and Buchan's Domeftic Medicine ; books very generally read and effeemed. As the effects of these poisons are often so fudden as not to admit of calling in medical affiftance, it feems the more neceffary to add this remedy to those recommended for common use to the people; and as the following hiftory of facts will tend to demonstrate the importance, and to establish the reafonableness of this practice (although it happened fome years ago), I have thought it might be productive of good to fociety that it fhould be more extensively known.

IN 1774, one Jones, a cow-keeper of Liverpool, was convicted at the Lancaster assists of poifon-

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poifoning his fifter-in-law, in revenge for her having opposed him in the fale of fome property, of right belonging to the children of her fifter, 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 houfe, with fome ale, which he himfelf had warmed. He put fugar in it, and had repeatedly poured it backwards and forwards from one cup into another. The fifterin-law went thence into the neighbourhood of Ormskirk (thirteen miles distant), where, in a few days, fhe died The coroner could not attend as foon as was defired, and the body was in a very putrid flate when it was opened. In the ftomach were found fome fmall particles of what was judged to be corrofive fublimate; but of this circumstance I was not informed till after the other woman was better.

Mrs Afheroft came to me, May 5. a week after her drinking this ale. Immediately after fhe took it, fhe fet out to go to Prefcot (feven miles), part of the way in a carriage, the reft on foot. She had not gone far before there came on a violent pain in her ftomach, with continued vomiting and intolerable thirft, fo that fhe ftopped to drink water almost at each ditch. Her tongue,

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tongue, from her own account too, was confiderably fwelled. After much vomiting fhe was fomewhat relieved; but, to the time fhe applied to me, fhe had continued to vomit up every thing fhe took, and complained of a heat and pain in her ftomach; at fome times much more violent than at others. As the feemed not in much pain then, and had vomited fo frequently, I only advifed her, whenever fhe was fick, to wash her stomach plentifully with camomile 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 fame cup), and on the 7th in the evening fhe was extremely ill; her ftomach fwelled, and was violently painful, and fhe could fcarcely fpeak to be heard. On confidering the ftory fhe had told me, of the man's having put fugar in the ale, and bestowed fo much pains in mixing it thoroughly, it occurred to me, that the poifon added might probably be corrofive fublimate, which does not eafily diffolve, and that fome of it having been fwallowed undiffolved, might remain in that ftate enveloped in the mucus, and attached to the coats of the ftomach; which, as it gradually diffolved, irritated, and caufed heat, pain, and vomiting. In this idea, I gave her a few spoonfuls of a folution of falt of tartar, with

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MINERAL POISONS.

a view to decompose the sublimate; and she had no fooner swallowed it than she was easier. A little while after fhe took a vomit, and I caufed fome blood to be taken away to guard against inflammation of the ftomach : fhe 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 folution of falt of tartar. I now first heard of there being something found in the ftomach of the other woman, fuppofed to be fublimate; and on queftioning my patient, learned that fhe had always been most relieved when, after several efforts, she had vomited up a small quantity of something which, as the herfelf expressed it, tafted like milk which had flood in a brafs-pan. From thefe concurring circumstances, I had now no longer doubt of the poilon being, as I had supposed it, sublimate; and, from the return of the fymptoms, concluded that there was still fome of it retained, whofe folution and action was only very gradual. After repeating the vomit, I advised her to continue conftantly the folution of falt of tartar. This, however, fhe had neglected ; and on the 11th fhe had a fresh attack, which yielded readily to a repetition of the fame means. As her objection to the falt of tartar was its difagreeable taste,

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taste, I ordered her some pills, containing each three grains of it, which (convinced of the neceffity) 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 cafes of poilon, it is prudent immediately to give a folution of an alkali, followed by a vomit. If the poifon be corrofive fublimate, an alkali, either fixed or volatile, will decompose it, and precipitate the metal in a form nearly inoffenfive *. It will have a fimilar effect on the fugar of lead, the extract of lead, emetic tartar, or any metallic falt. If the poifon be arfenic, Newmann observes, that alkalies will very plentifully diffolve it. And if so, as it is difficultly foluble in water, the vomit will then fucceed the better to difcharge it. Whether or no fulphur, exhibited in any form, might leffen the danger of arsenic, is not clear, though these two, when united, are not poifonous. If the poifon be of the vegetable class, an alkali can be of no differvice, nor interfere with the other means of remedying by evacuation ; nor yet by the fubfequent use of acids, so strongly infisted on by Tiffot, as counteracting the effects of narcotics; fince acids given together with alkaline falts, are pro.

* See Appendix, Nº VII.

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pronounced to be attended with great fuccels in this cafe by Dr Mead and others.

To fupply the omiffion, then, in those popular writers, might not the following directions be given on this fubject? "When fymptoms of " poifon appear, mix a tea-fpoonful of any of " the following articles :- Salt of tartar, falt of " wormwood, pearl-ash, pot-ash, spirit of harts-" horn, or of fal volatile, with half a pint of wa-"ter; and of this let one half be given to the " patient immediately, and the other in a fhort " time afterwards. It will fometimes give great " relief, and the vomiting will ceafe. 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 fuf-" ficient, one still stronger. After each vomi-" ting, a dole of this folution of falt of tartar " fhould be given, and it may repeated every " two or three hours, especially if the pain of " the ftomach returns. It fhould be continued " too in fmall doles for fome time after the " fymptoms difappear. If none of these falts are " at hand, a little wood afhes mixed with boil-" ing water will answer the same end, suffering 55 them to ftand till they fettle, and pouring the " water 3

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water clear off, or filtering through linen.
By tafting it, the degree of faltnefs will determine if the folution be ftrong enough; if it
be not difagreeably fo, it may be given."

AT Liverpool, August 27. 1783, a young child of Captain Bibby's, playing in a neighbour's houfe, got to fome Jacob's-water fweetened, placed there to poifon flies, and drank fo much as occasioned its dying the day after convulled. As this poifon is often ufed, and as fimilar accidents in confequence thereof are by no means rare, the following cautions may be uleful. 1. If this poifonous mixture (which ought not to be indifcriminately fold) 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 difgust and deter any one else from a defire to tafte it. 2. As foon as it is known that a perfon has unfortunately taken any of it, immediate affistance should be procured; a vomit should be given directly, and falt of tartar, or pot-afhes diffolved in water, should be drank very freely. The

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The poifon fold under the name of Jacob's-water is fometimes arfenic diffolved in water; but that properly fo called is only a weak folution of corrofive fublimate; and in that cafe there is the ftrongest reason to believe, that by taking a little of the above alkaline falt after it (and the fooner after it the better), if violent fymptoms are not already come on, no danger whatever would enfue: and even if fuch fymptoms have appeared, this is one of the most effectual means of relieving and removing them. And if the poifon fwallowed be a folution of arfenic, this would be one of the most likely means of guarding against its effects; whilft at the fame time it will not interfere with any of the usual methods of obviating the danger.

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EFFECTS OF THE

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III.

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

THE eldeft fon of the Reverend Mr Kirkpatrick, a diffenting minister, about nine years old, rambling with feveral 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 earth-nuts, and of which he eat a much greater quantity than the reft. 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 increased gradually, and he was foon affected with stupor and convulsions. His mother, apprifed of his fituation, fpeedily came to him, and immediately, as fhe faid, conceived the idea of his having eaten fomething, the effects of which were fimilar to the poifon administered to Sir Theodofius Boughton, till which time no fuch thing

HEMLOCK DROPWORT.

thing had been apprehended. Some water out of the canal was given him to drink, and he vomited a confiderable quantity of the root he had fwallowed: he, however, grew worfe, raved, became heavy, and convulfed, and was carried into a houfe adjoining. Mr Shertcliffe, a furgeon in the neighbourhood, was fent for; who, with a view to evacuate what he had taken, gave him a folution of emetic tartar, and a purgative glyfter.

HE had fwallowed at leaft twenty grains of the tartar emetic when I was fent for to him about eight in the evening. I found him quite in the epileptic ftate, with the pupil of the eye vaftly dilated, total infenfibility, and all the appearance of a perfon in the laft degree of intoxication. Convinced, that unlefs the contents of the ftomach could be expelled, no hope of his recovery remained, I gave, in folution, a fcruple of white vitriol, most part of which was got down.

THE convultions for fome time paft had been ftrong and frequent; they feemed to begin with an effort, as it were, to vomit (though after he got into the houfe he never vomited in the leaft). The head was drawn to the right fide, and thrown D back,

EFFECTS OF THE

back, general spafms fucceeded, the eyes started prodigiously out from the fockets, 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 fo as to render the pulle imperceptible, and often to give reafon to fuppofe it was irrecoverably ftopped. In this manner, however, the fcene was clofed at laft, rather placidly, about ten o'clock at night, after he had fuffered thus above four hours. The refpiration, though flow, continued tolerably eafy almost to the last. The glyster operated a little before he died, and a very offenfive ftool followed.

Notwithstanding the boy had thrown up a confiderable quantity of the root, yet I had no doubt, but that fuch a part of what he had eaten remained in the flomach, as would render every effort to fave him ineffectual. The event unfortunately anfwered my expectation, and diffection confirmed the truth of the conjecture. Mr Shertcliffe found in the flomach above an handful of the root; and noticed, very fenfibly, the fmell peculiar to it the moment he cut into the cellular

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HEMLOCK DROPWORT.

lar membrane, though 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 Hiftoria Plantarum, under the article Sium (water-parlnip), commends the first species for its aperient, emollient, and detergent qualities; but adds, " that he never had dared to administer it, from the refemblance which it bears to the fecond fpecies, the cicuta aquatica, of which those who have eaten, unlefs relieved by vomiting, died dreadfully and fingularly convulfed." The latter (the water hemlock), which is extremely poifonous, is frequently confounded alfo with the hemlock dropwort, the plant now fpoken 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 *.

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FOUR

* In June 1746, Dr Watfon communicated to the Royal Society an account of feveral French prifoners poifoned at Pembroke by the hemlock dropwort; but "he found perfons were not fufficiently apprifed of the danger from that plant,

EFFECTS OF THE

Four of the other boys in company had partaken, though more fparingly, of the noxious repaft; but on the first alarm, vomits having been exhibited, they all efcaped. One, however, was with difficulty made to vomit, though he took largely both emetic tartar and ipecacuanha; and he was affected with giddinefs, drowfinefs, and twitchings fo much, that for fome hours his recovery remained doubtful. He told me he had eat one root and an half; and more than two hours had elapfed before he was fenfibly affected by it.

This unfortunate accident, as well as the one which was lately the fubject of a judicial difcuffion, proves how fatally certain is the effect of the poifons of this clafs. These vegetable poifons 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

plant, notwithftanding this account had been published in the Philosophical Transactions and the public papers; and therefore, in the 50th Volume (1758), he gives another inftance in the case of — Mildane a cabinet-maker of Havant in Hampshire, who took about five spoonfuls of the juice of this root instead of the water-parsnip, and was soon after feized with vomiting and convulsions, in which he immediately died."

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action is folely on the nervous fystem. Like to opium, or fpirits, they bring on fuch a degree of infenfibility, or as fome fuppofe of spain, as wholly to deftroy or counteract the power of the ftomach to expel them, whilft their continuance there must inevitably prove fatal. Whereas many mineral poifons may be decomposed by any alkali; and even the danger from drinking fpirits, may be greatly leffened, 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 fwallowing is loft. (See two papers * which I drew up on this fubject, and which are inferted in the Edinburgh Medical Commentaries, Vol. VI. page 325. and in those by Dr Duncan, Part III. 1780.

To render a poifonous vegetable in the ftomach, which cannot be evacuated, inactive, is what we are yet unequal to :--to dilute it would probably be at leaft a vain attempt, if it did not (by the liquid acting as a menftruum) elicit, and render more active, the poifonous quality ;--and, unfortunately, to evacuate it after it has remained long enough to produce, in a certain degree, its effects on the ftomach, feems next to impoffible. We fhould, however, when there is the D 3 leaft * See No II. and IV.

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least ground to fuspect any thing of this kind, immediately endeavour, by an active emetic, to evacuate the stomach whils there yet remains a possibility of doing it. On the early exhibition of a vomit in such cases depends its operation; and on that only, perhaps, the security of the patient.

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Vallowing is falt. (See two papers * which I

On the Mode of affifting Perfons dying from drinking Spirits.

IV.

ANY perfons are destroyed fuddenly by drinking large quantities of fpirits. Their first effects are stimulant; they quicken the circulation, and occasion much blood to be thrown upon the head. They afterwards prove fedative; they bring on ftupor; lofs of reafon, total; of motion and fenfation, almost total. Their effects may be partly owing to their entering, in fome degree, into the circulation ; but depend chiefly, when violent, on their action on the nerves of the ftomach. In confequence the brain is affected, and the nervous influence fulpended, if not deftroyed. All the parts of the body therefore partake of this infenfibility. As the fkin in fome cafes may be burnt even without feeling, fo the ftomach and inteffines may be ftimulated confiderably without any effect. The motion of the heart and lungs is much enfeebled and in-D 4 terrupted,

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terrupted, but continues irregularly till death enfues.

To refcue the perfon from fo dangerous a state is extremely difficult. To counteract these effects by medicine is lefs likely, both as the power of fwallowing is loft, and as, probably, little or no abforption then takes place. But we ought to endeavour, 1ft, to evacuate the poifon; or elfe, 2dly, to dilute it, and thereby weaken its action. With a view to the first, brifk vomits may be given; but, from the want of irritability of the ftomach, thefe often will not act, unless given early, when they are of great fervice in cafe of intoxication. A dock porter, who died in the Liverpool Infirmary February 28, 1780, got down, over night, nearly 12 grains of emetic tartar diffolved ; yet it produced little or no effect, though he lived till the next day. Purges are alfo proper, but liable, though in a less degree, to the fame objections. Sharp glyfters may be administered, and will produce fome evacuation, but their operation does not extend far enough. Large glyfters of water only, or of water in which purging falts are diffolved, thrown up with fome force by a fyringe, might be of more fervice.

OIL

FROM SPIRITUOUS LIQUORS. 49

OIL has been advised to be given, to help to evacuate the fpirit, or to weaken its action .---But when the inactivity of the ftomach is become fo great, and the danger fo prefling, there feems more reafon to expect fuccefs from largely diluting that poifon, which we in vain attempt to evacuate. When intoxication has been produced by drinking strong liquors, large quantities of water, or weak liquids drank, are found to leffen it very confiderably. And though the power of fwallowing be loft, yet by means of a pipe (as a flexible catheter) paffed beyond the glottis, or even down into the ftomach, water might be poured in, in fuch a quantity as was judged fufficient to dilute and carry off the liquor in the ftomach. To the water might be added, with advantage probably, vinegar, or any kind of acid; or purgatives might be diffolved in it, to facilitate the poifon's paffing off by the inteftines. A pipe of this kind, too, would afford the best method of introducing fubstances into the stomach to promote vomiting.

PUTTING the body into a warm bath, or the legs and feet in warm water, will be of use, by leffening the quantity of blood accumulated in the head and in the larger vessels; and some of the water may perhaps be absorbed. With a view

FATAL INTOXICATION.

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view to relieve the oppreffion, bleeding, and opening the temporal artery, are advifable. If the pulfe is found to become freer and fuller on lofing fome blood, more may be taken away. Blifters may also be applied with advantage.

THE coldness of the extremities, and the evident difficulty with which the circulation is kept up, point out the propriety of affisting it by warmth and friction applied to the skin (as in recovering drowned persons). Motion, to prevent sleep, may probably be ferviceable in such cases. Great care should be taken to loosen the neckband, garters, and every kind of bandage, and that the body should lie in a natural, easy, posture; on the fide is perhaps better than on the belly, though that has been recommended, that the stomach might the easier discharge its contents. The breathing should not be obstructed, nor the neck lie low or in a bent position.

Observations on Canine Madness.

v.

HEN men of undoubted professional knowledge, candour, and humanity, stand forth to destroy the public confidence, in a matter of fuch moment as a preventive for madnefs, this can only be fuppofed to arife from a thorough conviction of the inefficacy of the means proposed, and an ardent zeal for the cause of truth. Well aware that they are hereby depriving numbers of that great cordial, hope, and reducing them to a state of horror and apprehenfion, little fhort of that which they with to guard against, nothing but a defire of obviating the fatal confequences of an ill-grounded confidence and of exciting the endeavours of men of science, to discover more certain remedies than are yet known, could induce them to take fuch a step.

Dr Fothergill, in the cafe of Mr Bellamy, and Dr

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Dr Vaughan of Leicester, in three cases which he has published, have fully proved, that all the methods recommended for that end are infufficient for the cure of the hydrophobia, when once commenced. The patients all died in the course of one or two days from the appearance of this fymptom, notwithstanding the most attentive and judicious treatment. From these cases, they conclude, that no dependance is, in reality, to be placed on the Ormskirk medicine, before fo much confided in; and they have each declared their opinion, how doubtful and uncertain, not to fay useles, are all the other methods hitherto proposed, to prevent the ill confequences fometimes refulting from the bite of mad animals. The attémpt, then, to recommend and enforce a plan of treatment, agreeable to reafon, and fupported by experiment, must meet with approbation, and may be productive of effential fervice to fociety, a doidy and to most sittle montront.

MAY it not very eafily happen, that a remedy, the gradual exhibition of which may prevent the attack, would prove wholly infufficient for the cure of the hydrophobia? Or is the inference juft, that becaufe the action of mercurials, applied for three or four days at most, will not cure the difease in its last hasty stage, the same remedy would

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would have been of no avail in the interval between the bite and the attack, which was (in thefe cafes) of one, three, and nine months? During that period, a gradual and fufficient action of the mercury might have been excited; whereas, when the hydrophobia has appeared, there is fcarcely ever time for any fuch effect. There is fome reafon to conclude, too, that under certain difeafes, the fystem is less capable of being acted upon by mercury; which, though applied in large quantities, feems then not to produce its ufual effects.

I mean not to dwell upon the reasonableness of a practice, in which the action of the remedy is principally determined to the part where the virus chiefly exerts its baneful powers, viz. the Salivary Glands; nor yet upon the authority of the late Dr James and the celebrated Sauvages, who have largely infifted on the beneficial effects of mercury, to prevent the dangerous confequences of the bite of mad animals. Not to fwell this paper to an improper bulk, I purpose only to give a brief account of a pamphlet, published at Paris by order of government, intitled, "Methode éprouvée pour le traitement de la Rage"; wherein we are informed of the fuccefs of a mode of treatment, of which mercurial in unction is the bafis

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bafis and most effential part, laid down by Monfieur de Lasson, first physician to the King of France, and tried in eleven out of fisteen perfons dreadfully bit and torn by a mad wolf on the 8th and 9th of December 1775, within twentyfour hours of each other. Three of these unhappy people, trusting to powdered oyster shells, and similar remedies of no use, were not subjected to this treatment, and died in a few days raving mad; as did also a young woman, who did not apply for relief till two days before she died, and after the symptoms of hydrophobia had commenced.

THE remaining eleven were, by the States of Macon, near which place the accident happened, put under the care of a phyfician of Cluny, Monfieur Blaife; and the account he gives of the fuccefs attending the method of treatment purfued, of which a fummary is fubjoined, is as follows :----One man, who for ten days exactly followed the plan laid down, whofe wounds, though very large, fuppurated well, and were in a good flate, and in whom the mercury feemed to begin to act, became melancholy, was feized with a horror and dread of liquids, and died within forty-eight hours afterwards, though placidly in his fenfes, and without being convulfed.

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-A fecond, whofe mouth and gums had been flightly affected by the mercury, which he used near a month, grew delirious and furious; and after experiencing the fymptoms of hydrophobia for two days, died comatous. This man, however, it was found, had privately drank very large quantities of wine for three days together preceding his delirium; and it is fuppofed this contributed greatly to his death .- A third, a boy, who continued the use of the mercurial frictions and antifpafmodic medicines for eighteen days, and was doing well, being removed home by his friends, died there three weeks after, as is believed, only from the wound in his head not being taken due care of, and not from madnefs, as he drank freely an hour before his death .---- The remaining eight recovered, although one of them during the course became fad and melancholy; and another, a woman, delivered of a child during the time, manifested an averfion to liquids. Salivation took place in most of them; upon which, gradually excited, (though they endeavour to guard against it by repeated purging), depends, most probably, in fuch cafes, the only rational hope of fecurity from canine madnefs.

Dr Blaise adds, that "the treatment was continued,

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" tinued, in all, above a month in the eight who " got well *, fix of whom had been grievoully bit " in parts not covered with the cloaths; and that " most of them experienced, nearly at the fame " time, fymptoms of nervous affection, which " might be attributed to the virus too much at-" tenuated and weakened by the remedies, to " produce a manifest accession of hydrophobia." He concludes with thefe judicious remarks, "It " is most certain, that the remedies we have em-" ployed have been very fuccefsful: but they " would have been much more fo, had they " been used early; and particularly if, almost "immediately after the bite, those external " means had been made use of, which appear " to me indifpenfably neceffary, viz. deep fca-"rifications, cutting away the lacerated parts " and those adjoining to the wounds, the caute-"ry, applying cupping-glaffes, and eftablishing 66 a

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* In the hiftory of the Royal Society of Medicine at Paris, vol. ii. we are informed by Monfieur Blaife, that, of thefe eight, one died with hydrophobia fix weeks after he was difcharged apparently well; but it appears that, four days before this attacked him, he had paffed his arm down the throat of an ox believed to be mad, though the man is not faid to have been bit by it. Monfieur Blaife alfo mentions his having fince fuecefsfully treated two other children in this method; whereas a third, bit by the fame dog, and not fo treated, died mad.

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** a copious fuppuration, for a long time, in the ** part bit; becaufe it fometimes happens, that ** the faliva is lodged in the cellular membrane, ** where it remains, as it were, fixed and inert, ** till, brought into action by fome caufe, it en-** ters into the circulation, affects the nerves, and ** produces the train of fymptoms of this moft. ** terrible of difeafes.**

It now remains only to give the mode of treatment proposed; which I wish to do as concifely as I can confistently.

AFTER opening the body by laxative glyfters, bleed once or twice, especially if there be any fymptom of madnefs, or any wildnefs in the looks: use morning and evening, for an hour, a warm foot-bath, or, if it can be had, a warm bath : wash the wound repeatedly and long in warm water, in which common falt, or rather fal ammoniac, is plentifully diffolved ; making at the fame time deep fcarifications, cutting away lacerated parts, or, which is preferable, (when it is an animal which is bit), applying the actual cautery. This done, rub a dram of mercurial ointment lightly round about the wound, which may be dreffed twice a-day with bafilicon or digeftive, washing it each time with the falt and water. The E

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The mercurial ointment, however, is only to be applied once in twenty-four hours, and in the above dofe. The body must be daily kept open by glyfters, to which add one fpoonful of honey, and two of vinegar; every four or five days a gentle purge is given, to prevent falivation. To excite vomiting once or twice will be of fervice, especially at the first, if there be frequent nausea or inclination to vomit. Once, or, if no inconvenience follows its ufe, twice a-day, morning and evening, give a spoonful of wine, with twenty or twenty-five drops of eau-de-luce, to promote a gentle fweat. Let the patient take every day four grains of camphor, two grains of mufk, and fix grains of nitre, made into a bolus with honey. In cafe of great reftlefsnefs and want of fleep, give, in a moderate dose, an opiate; but do not repeat it feveral fucceffive days. The patient ought freely to use diluting drinks, mixed with honey and vinegar; but fhould the Hydrophobia already have come on, thefe and the foregoing medicines may be administered in glysters. The food should confist chiefly of vegetables; but milk is to be avoided. This mode of treatment must be continued till the wound is healed firmly; a month at leaft, and longer, when the wounds have been confiderable, or any fymptoms have manifested themselves. Should the

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the wounds put on a bad appearance, give the bark in ftrong decoction; as alfo where great weaknefs and languor remain. Ufeful animals, when bit, may be treated nearly in the fame manner, only a triple quantity of the mercurial ointment fhould be employed. They fhould be kept up from mixing with others; and on the appearance of any fymptoms of madnefs, they fhould be immediately deftroyed, as ought alfo dogs and animals of lefs ufe, without hefitation. Thus far Dr de Laffone.

SEVERAL ftrong proofs of the fuccefs attending the use of mercurial frictions are inferted in the fecond volume of the Memoirs of the Paris Royal Society of Medicine; of which the inftances given by Mr Odoardi deferve particularly to be noticed. Of nine perfons bit by a mad wolf, one (treated by another furgeon, but not with mercurial frictions) died of the hydrophobia the twenty-fourth day after. The eight others who ufed this remedy under that gentleman's care all did well. He mentions feveral inftances which have fallen under his care or notice, in which mercurial frictions on the wounded part have preferved the patient from all danger, fometimes without producing falivation. Notwithstanding this fuccels, however, he efteems it the fureft E 2 method

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method to excite a flight degree of falivation; and perhaps this will be found to answer best, when attempted foon after the accident, and brought about not too hastily.

VI.

On the Effects of Mercurials in the Cure of obstinate Dysenteries.

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T would feem, at first fight, that no medicine was lefs adapted to the cure of Dysentery than Mercury; and yet the following cafes, which, having occurred in the Public Infirmary at Liverpool, were seen and known by numbers, will, I flatter myself, evince, that the application of it, in certain circumstances, is founded in reason, and justified by success.

1. WILLIAM BROWN, a feaman, who had remained above two years on the coaft of Africa, was admitted an out-patient of the Infirmary May 23, 1776, for a Dyfentery which he had laboured under for two years paft, and for which he had taken a variety of medicines without obtaining any benefit. He was a flout made man, about forty-eight years of age, but had a very fallow complexion, and a prominent belly, the E 3 region

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region of the liver being enlarged, and, on preffure, painful. Thefe, together with the flux, he himfelf imputed to his having been poifoned by the negroes, though he had no idea when or how. On inquiry I found, he had had an intermittent fever of long duration in the hot climates, and from that period his health had declined. His prefent complaint began on the coaft with coffivenefs, attended with lofs of appetite, vomiting, violent pain of the belly, fhivering, and fever. When, after five days, a ftool was procured, he feemed fomewhat relieved at first. A loofeness however fucceeded, with griping pain, tenefmus, flimy and bloody ftools. From this time his appetite continued tolerably good.

THE most probable, and usual; means of putting a stop to the dysentery were ordered, and perfevered in near eight months; but finding that, during all that time, the disease was little relieved, and that only sometimes for a short space, recurring again with its usual violence very soon, I began to consider, that it might very probably take its rise from a diseased liver, and a consequent irregular secretion of bile. If that were the case, it was not likely that the flux should be got the better of, unless the affection of

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of the liver on which it depended was first removed. With this view, having admitted him an in-patient, January 16, 1777, I directed the mercurial inunctions to be gradually applied; and as no increase of the dysenteric symptoms followed their use, they were continued (a fortnight) till the mouth was affected, and a moderate falivation came on. When this took place, his stools became less frequent, more regular, natural, and free from blood. By the time it had ceafed, he thought himfelf freed from all his complaints, and, at his own requeft, was difcharged, February 27. though I told him then, I was apprehenfive that his diforder would return, and a repetition of the course be requifite.

A fortnight after, (March 13.), he applied again for admiffion: his appetite was impaired, his gripings violent, his ftools very frequent and bloody; his belly, about the region of the liver, was fwelled, hard, and painful. After premifing a few gentle evacuants, the inunctions were repeated. For fome days he was no better; and being rather feverifh, the mercury was omitted for a week, and then refumed. April 4. ptyalifm was produced: he was then very eafy in his belly, his loofenefs was almost ftopped; and

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he faid himfelf he was much better than ever he had been fince the beginning of his illnefs. The mercurials, after a little respite, were continued fome time longer; and on May 8. he was difcharged perfectly well, and so remained.

2. September 23, 1779. William Martin, an Irish mariner, twenty-eight years old, meagre, of a fallow, bilious complexion, was admitted an in-patient of the Infirmary, for a Dyfyntery of fix years standing. He had spent much of his life in the warm climates: feven years ago he had lain nine months upon the coaft of Guinea, and a little before that, had remained there two years at one time, during which refidence he had had the flux. It began again in December 1773, at Bofton; and had continued from that time, almost without intermission, in spite of every attempt to cure it. For that end, he had been in an hospital in Charlestown, South Carolina; and on his return to England, was fix months in Guy's, and after that three months in St Bartholomew's Hofpital, London; from thence he went into that at Cork, and afterwards into those of Gibraltar and Minorca, where he was discharged from the navy as unfit for the fervice. In these he took decoctions of logwood, decoctum album, rhubarb, and a great number of other

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other medicines; but found no benefit from any, except lapis calaminaris boiled in milk, and from the dry vomit *; both of which checked the purging, though but for a fhort time, not more than twenty-four hours. He was forced to live almost wholly on milk. His stools were attended with much griping pain; they were bloody, but not always so. He was also troubled with the piles.

As fuch various means had been used under the direction of fo many able practitioners, I thought it unneceffary to attempt to fucceed in his cure by the usual remedies; and determined to try what mercurials would do. It is true he had no fensible enlargement of the belly; but I was induced to have recourse to the inunctions, from recollecting the great benefit I had experienced from them in the preceding case, from the long duration of the disease, and the inefficacy of every remedy which had been administered.

* The dry vomit (recommended by Dr Maryatt) is composed of tart. emet. and vitriol. roman. aa. p. æq. Five grains is given as a dose upon an empty stomach, and without any liquid to affist the vomiting It generally operates easily, and evacuates much bile, without re axing the stomach. After its operation, a spoonful of brandy is given; and if that comes up, a second, to remove the inclination to vomit.

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ed. His complexion was very bilious, and had been fo much fo, long before I faw him, that he was fuppofed to have the jaundice; fome had concluded that he was poifoned on the coaft; others, that he was in a confumption, as his flefh and ftrength declined much, though he had no cough, nor any pain in the breaft.

I ordered him then to rub in half a dram of ftrong mercurial ointment, equal parts, every other evening; which he continued to do till October 9 when ptyalifm was produced, which lafted ten or twelve days very copious. During this time he took only the decoctum album and Caftile foap. In three days after the fpitting began, his flux ftopped, his ftools were natural, not more than one or two in twenty four hours, and without any griping. He had, however, a very acute headach; which gradually went off; and by the end of the month he could eat broths, and other things, which before this time ufed to render the complaint violent, without any inconvenience.

STILL the purging returned at times foon after, though not with the former violence; and he took the dry vomit, rhubarb, and lapis calaminaris, to little purpofe. At his own requeft, therefore, he began again with the inunctions, No-

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November 25. which excited falivation in lefs than a fortnight, and feemed to have carried off the complaint; but as the ftomach and inteftines were greatly debilitated, I gave him, at different times, the fal martis, bark, and fome aftringents. Towards the end of January 1780, he had a rheumatic attack, which he afcribed to cold from changing his room, but which yielded foon to the decoclum guaici. The middle of February he was attacked with a flight tertian ague, to which he had been fubject before, but which went off in a few days. In the beginning of March he was free from both, and fignified a defire of going to fea.

THE account he then gave of himfelf was this. Of ftools, he had two or three in twenty-four hours, eafy and natural; fometimes more coffive than he wifhed on account of his hemerrhoids. Perhaps, once in a fortnight, he had a purging which continued about twenty four hours. His appetite was poor; but what he eat (in which he was not very cautious) fat eafier upon his ftomach, and agreed better with him, than it had ufed to do; and his health and ftrength were much better than at any time fince his diforder began. I confented to his going a fhort voyage; and his intention is, if the loofenefs return, and further

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further affiftance be neceffary (which it probably may), to apply again, and try the effect of another falivation *.

3. Gafpard Peter Finch, a German, twentytwo years of age, having been a voyage to Jamaica, after staying there about half a-year, came in a veffel to Liverpool, where he applied for admiffion into the Infirmary, October 14, 1779, for a Dyfentery, which began during the paffage, and had continued about three months. He was much emaciated, had a fallow, bilious, complection, but no apparent enlargement or increafed fenfibility of the vifcera. I gave him the usual evacuant and aftringent medicines, which he continued to take for three months, with but very little advantage, and that not permanent. Finding this to be the cafe, I propofed to him to try a mercurial course; to which he was perfuaded by the laft-mentioned patient. He began to rub in half a dram of the ftrongest ointment every night; and continued fo to do for a month, when it was discontinued on account of his having a tertian ague, of which he had had an attack before, fince his admiffion into

* I never faw more of this man ; but have reason to believe he got well, having been seen long afterwards apparently in good health.

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to the Hofpital. It yielded, as did the former, to an emetic before the cold fit, and an opiate in the beginning of the hot one. I fuffered it, indeed, to go on for a few days, as thinking it might poffibly be of fome fervice. No falivation had taken place; but his ftools were regular, without pain or blood, and not more than two in twenty-four hours. He left the Infirmary at the end of February; and I met him a fortnight after, when he informed me he was perfectly well, and going to Barbadoes in a veffel from this port.

THESE are the only cafes of which, as they appeared new and important, I had noted the particulars; but I am affured by Mr Richard Audley, a very intelligent furgeon in London, who attended our Hofpital five years with great diligence, that fome others of the fame nature, treated by me during that time in this method, have fucceeded equally well. Though the accuracy of his obfervation is much to be depended upon, yet, not being able at this diffance of time to recollect the circumftances, I omit taking further notice of them.

INDEED I have found in many inflances, where, after a refidence in the hot climates, the liver

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liver has been obstructed and enlarged, that very great benefit has been obtained by the gradual and prudent use of mercurials, and that fometimes from much fmaller quantities than one might expect. A cafe of this kind occurred fome time fince. A gentleman, who had fpent fome years in the West Indies, returned to England on account of his having long laboured under a bad state of health, which was not at all improved during the voyage home. He applied to me foon after his arrival; and as it appeared clearly that the liver was affected, I put him upon the mercurial inunctions. After he had used them a few times, he had occasion to go a journey of three or four days, and was defired to omit the mercury; which he did about a week before he fat out. By the time he came to the end of his journey, however, he found himfelf much better, and was very foon furprifingly recovered.

WE frequently meet here with perfons returned from the coaft of Africa, with pale, fallow, bilious complections, prominent bellies, lofs of appetite and ftrength, fwelled legs, and general ill health. They grow gradually worfe, and die, at length, emaciated and dropfical. They fufpect, and others conclude, without foundation, that

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that they have had a flow poifon given them privately by the negroes. But thefe evils, which are wrongfully attributed to the natives, are only caufed by the climate. Inquire of these poor objects, you will generally find they have had a fever (an intermittent) or the flux in the Torrid Zone: examine them, and you will frequently perceive that the vifcera are enlarged and indurated. This is the true caule of their bad flate of health; and the remedy for it, in the opinion of the ingenious Dr Lind, Dr Clark of Newcaftle, and others, is to be looked for in mercu-. rials. I have repeatedly feen great good effects in fuch cafes from a falivation; and where that has relieved but in part, a fecond, or even a third, being excited, has fucceeded well.

THE practice now recommended, I apprehend, has been fufficiently experienced to justify a trial of it. Success in a number of cases can alone establish its propriety.

IN the foregoing Paper, I have made curfory mention of two remedies I have often found of great

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great use; and to the beneficial effects of which I wish to bear more ample testimony. And I conceive it would be rendering fervice, both to the faculty and to the community, if those of the profession, who have had frequent occasions of observing the good effects of any particular medicine, or mode of treatment, would embrace fuch opportunities as may offer, to communicate and recommend it to the public; especially when fuch remedy or practice is not generally adopted, which I believe is the case with those of which I am now speaking.

THE dry vomit, as I obferved above, is a composition of equal parts of tart. emet. and vitr. roman. A quantity of it is mixed at once; and the dose of this mixture commonly given, is five grains, on an empty stomach, in about half a meat-spoonful of water. The patient is directed to drink nothing after it. In a short time after swallowing it, sickness is produced, and a quantity of bile is generally thrown up. To take off the fickness, a spoonful of brandy, or of any spirit, may then be given; and if that should come up, a second.

This was a favourite medicine of the late Dr Maryatt; whose practice, to judge from the ac-3 count

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count he himfelf gave of it, appears more empirical than rational. I own, I entertained very great doubts of the propriety of giving, in common, two grains and an half of emetic tartar and the fame quantity of blue vitriol as a vomit; having feen feveral inftances of violent vomiting produced by a much smaller quantity of tartar emetic alone, particularly in the prefent Earl of Arran; to whom, when at Naples, I gave a fingle grain (prepared at Apothecaries hall, London), which operated to a degree extremely alarming and diffreffing. I did not choose therefore to make a trial of the dry vomit, till I was affured by a gentleman of great ingenuity and veracity, who had given it to feveral, and even taken it himself, that its operation was far from fevere. Since then I have given it in a great variety of cafes; and it has acted fo mildly, that I fcarcely recollect an inftance where it was complained of as too violent; but I have met with feveral wherein five grains were not fufficient to produce any effect, and where I have found it neceffary to increale the dole to feven or eight grains of the mixture. The reafon why the compound acts more mildly than one of the in. gredients would do alone,-whether fome decomposition takes place on their being combined together,-is not eafy to afcertain. But it is fufficient

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ficient for medical purpofes to know, that it is not only a fafe, but even a mild, vomit.

THE nature of the difeafe, or the flate of the flomach, may often render it more eligible to give a dry vomit. It is the flimulus to the whole fyftem from the action of vomiting, which, in many cafes, we would wifh to excite. In this refpect, and in evacuating bile, the dry vomit anfwers the fame purpofe as fea-ficknefs. Drinking largely of warm water after taking a vomit, as is commonly practifed, befides leffening thefe effects, tends to leave the flomach in a relaxed flate; and thus may frequently do as much harm as it was expected to do good.

A practice of which I have great reafon to fpeak well, and which I fhould wifh alfo to recommend to the notice of others who may not have experienced it, is that of the ingenious Dr Lind in the cure of intermittents—the giving a vomit an hour before the cold fit, and a fufficient dofe of tinct. thebaic. half an hour after the hot fit commences. In many intermittents of long continuance, both tertians and quartans, I have known this method fucceed to put a ftop to them the very first time it was made use of. But though this will often not be the case, and it will

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will be neceffary to repeat the tinct. thebaic, on each acceffion of the hot fit, and to increase the dofe of it; yet the great relief it occasions, and the gradual diminution in the strength of the fits, are strong inducements to perfevere in the use of the remedy, till they are completely removed. That this will be the confequence of fuch perfeverance; even where no other medicine is exhibited, experience will evince. I very rarely indeed have had occasion to recur to the bark for the cure of agues; though I fometimes give it after the complaint is removed, with a view to ftrengthen the habit. Indeed, we receive into our Infirmary numbers of the poor Irifh, returning home from the fens after harvest, labouring a long time under agues, having begged their way, half starved, and greatly debilitated. In fuch, a cure is not to be looked for till they are a little recruited, by enjoying, for fome time, the neceffaries and conveniences of life, to which they have long been strangers. It is easy to obferve the gradual good effects produced in them by better living only. To perfons in this fituation, I fometimes give, with advantage, a glass of spirits a little before the paroxysm. I remember, many years ago, seeing a German soon cure himself of an obstinate ague, by drinking every morning a glafs of brandy, in which a fmall F 2 quan-

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quantity of myrrh, aloes, and faffron, was infufed; and it proved equally fuccefsful in fome cafes of long ftanding, where I recommended a trial of it after the bark had failed. To the fpirit, however, I conclude, the fuccefs is chiefly to be attributed. I have also given twenty drops of tinct. thebaic. before the cold fit, and the fame quantity during the hot one, in fome cafes, with evident advantage.

THERE is one circumftance more I should with to mention, now I am upon this fubjed. It is a cafe of accidental recovery in one of those poor Irifhmen, whom I had taken into the Infirmary, labouring under an ague of long continuance, anafarca, extreme debility, and emaciation. His complexion was very fallow, and his belly prominent; the effect, as appeared on examination, of enlarged and indurated vifcera; a frequent confequence of agues amongst those who live in low, marfhy fituations, to which they give the name of the Ague-cake; and which, together with the fubfequent ill health, is often wrongfully attributed to the use of the bark. I tried the above, and other means, for fome time, without any permanent good effect. The ague indeed would ftop for a while, and the patient feemed to acquire a little ftrength; but he foon

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foon relapfed. At length it happened that mercurial inunctions, directed for another patient, were, by mistake, given to him. He had used them only a few times, when, to my great furprife, I found him in a falivation. I was the lefs diffatisfied at the miltake, as I thought it probable he might thence receive effential benefit : and the event justified my opinion, for the man foon got quite well. An inftance this, which might be adduced as a further proof of the good effects of mercurials in cafes of obstructed viscera; tho' fuch was the degree of weaknefs of this patient, that however defirable a mercurial treatment might have appeared, few practitioners would have ventured to advise it for a man fo extreme. ly reduced : and though the event was favourable, it would fcarcely be a fufficient justification for adopting fo hazardous a practice in fimilar circumstances.

Two cafes, which have fallen under my care in the Liverpool Infirmary fince the first publication of this paper, tend, in my opinion, very F 3 for-

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forcibly to confirm the propriety of the mode of treatment therein recommended: the latter of which particularly refers to the inftance of accidental recovery by falivation just recited.

I. DANIEL LEONARD was admitted an inpatient August 25, 1785. He was a seaman, thirty-three years old; and had been attacked by the flux, followed by the ague, in the West Indies, fix months before; and from that time had remained subject to frequent irregular attacks of both complaints.

THOUGH examination did not furnish any certain proofs of enlarged or difeafed viscera, yet his general appearance confirming me in the idea, I strongly sufpected that to be the original cause of his ill health. In confequence, I proposed to him to undergo a mercurial course. The inunctions were ordered for him; and during the use of them, he seemed daily to grow better and stronger, infomuch that, before his mouth was affected, he was, at his own defire, discharged, freed from all his complaints, in less than a month.

II. IN the latter cafe, the enlargement of the liver was very evident indeed. George Jackfon,

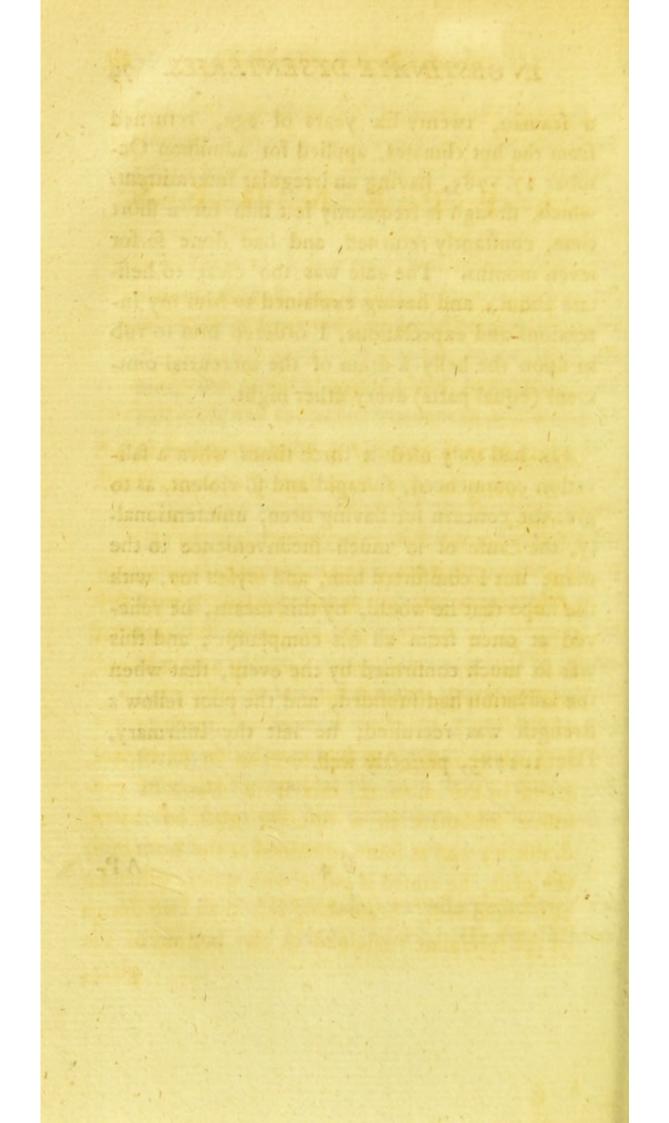
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a feaman, twenty-fix years of age, returned from the hot climates, applied for admiflion October 27.1785, having an irregular intermittent, which, though it frequently left him for a fhort time, conftantly returned, and had done fo for feven months. The cafe was too clear to hefitate about; and having explained to him my intentions and expectations, I ordered him to rub in upon the belly a dram of the mercurial ointment (equal parts) every other night.

HE had only ufed it three times when a falivation commenced, fo rapid and fo violent, as to give me concern for having been, unintentionally, the caufe of fo much inconvenience to the man: but I comforted him, and myfelf too, with the hope that he would, by this means, be relieved at once from all his complaints; and this was fo much confirmed by the event, that when the falivation had fubfided, and the poor fellow's ftrength was recruited, he left the Infirmary, Dec. 1. 1785, perfectly well.

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AP-



APPENDIX,

VII.

A remarkable Instance of a Patient's Recovery, after taking a very large Dose of Corrosive Sublimate.

A CASE fell fome time ago under my notice, which affords, in my opinion, a very ftriking proof of the advantages to be expected from alkaline medicines, fpeedily administered, and steadily perfevered in.

April 9.1785. A fhip-furgeon in Liverpool, at one in the morning, mixed fix drams of corrofive fublimate in a tumbler glafs of water, drank it; and as fome remained at the bottom of the glafs, he rinfed it twice with water, which he alfo fwallowed. Something lefs than two drams of the fublimate remained at the bottom of the glafs;

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glass; but he certainly took about half an ounce.

HE repented almost immediately of what he had done; drank plentifully of warm water; and three quarters of an hour afterwards, took three tea-cupfuls of oil. He foon vomited; and proper affistance was expeditiously procured.

A folution of falt of tartar was very judicioufly exhibited, and continued during the day, when it was thought eligible to remove him to the Infirmary.

His fufferings were great, and aggravated by his anxious defire of life: his difcharges upwards and downwards very frequent, and mixed with a good deal of blood.

IN confultation at the Infirmary, the plan fixed upon and purfued was, a continuance of the folution of an alkali occafionally by the mouth, and the fame thrown up forcibly in 'a large clyfter; and, in like manner, the tinctura thebaica: neither of which, however, were long retained *. For

* Befides thefe, the warm bath was used three times; fomentations were applied to the ftomach; and, before his admission into the Infirmary, a fingle dose of ipecac. (Eij.) had been given.

ALKALINE MEDICINES.

For the latter, the opium in fubstance was fubflituted; and for the alkaline falt (the next day), the calcined magnefia *: for he manifested a repugnance to the folution of falt of tartar (as he has fince told me) folely on account of its naufeous tafte; and it alfo feemed to caufe fome irritation of the ftomach, which was foon followed by vomiting. Difagreeable fenfations, no doubt, but of little confequence, and fcarcely meriting attention, where the object is of fuch magnitude as fnatching a victim from the jaws of death. Nor is it at all probable, but that the fame, and even greater, degrees of pain and irritation, must have arisen from the mere action of the sublimate on the ftomach, in proportion as it diffolved; which action would be prevented and counteracted by the alkaline folution, was it retained only for a moment.

ON a farther folution of the fublimate, a fresh exhibition of the alkali becomes necessary: and there does not seem to be any well grounded objection to its use under so fore and tender a state of the stomach; since, contrary to all reasonable

* He took near five ounces of falt of tartar in about 30 hours: it was then changed for the magnefia; and afterwards his vomitings were lefs frequent, but recurred occafionally for five days. It is obfervable, that not the leaft degree of ptyalifm ever took place.

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expectations, in lefs than a week he got perfectly well, and notwithstanding the hemorrhagy, did not feel any degree of uneafines in the stomach or bowels.

HE left the Hospital soon afterwards, thoroughly sensible of the benefit he had received, and expressing himself penitent for the evil he had attempted.

VIII.

VIII.

On the Duration of the infectious Power of Variolous Matter.

T HAD always concluded, that the matter of L the fmall-pox preferved for a long time the power of communicating the difeafe; and I thought I could pretty confidently afcribe as the cause of a young gentleman's being infected, his fleeping in a room in which another had paffed through the difease fome years before, particular caution having always been employed till then to guard him against the attack of it. In order to ascertain how far these opinions might be confidered as well founded, I have fince made fome trials with matter which I had preferved by me many years. I took it from two children of the late Prince Andrew Poniatowski, brother to the king of Poland, in whole inoculation I was employed in 1768, at Teplin, a country feat near Vienna. It was taken, fome upon raw filk, and fome upon a cotton thread, and had remained in

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my poffeffion, in a bottle flightly corked, about thirteen years, when I employed it in 1781. A part of the filk was carefully applied to an incifion made in the arm of a boy two years old. It produced a degree of inflammation, from whence infection might most naturally have been expected to enfue; but it did not: and on these appearances gradually going off, I inoculated him again a month afterwards with fresh matter, and he had the discafe regularly.

THE year following, I introduced a finall portion both of the thread and filk, moiftened with the variolous matter in 1768, into incifions made in each arm of a girl four years of age. Every neceffary caution was obferved ; but no effect followed, though the operation was repeated in the fame manner a fecond time ; and as the parents objected to my again inoculating the child, which I meant to have done with frefh matter, fhe did not take the difeafe till about a year afterwards, when fhe was attacked with it naturally, and got through it eafily.

As particular attention was paid to thefe two cafes, and as the matter proved unequal to communicate the fmall pox, although the fubjects were very capable of receiving the infection, I de-

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defifted from any farther trial; and though the event turned out contrary to my expectation, yet it may perhaps be judged worth while to record the refult of experiments, made with a view to afcertain whether or not variolous matter, after fuch a number of years, is ftill poffeffed of fufficient activity to reproduce the difeafe. For fome years poffibly it may *; but these facts feem to demonstrate, that its power of communicating infection does not continue for fo long a period as fourteen or fifteen years.

* I observe, that the author of a late work, ftyled Ruffia, fpeaking of the Kamtschadales, relates (Vol. iii. p. 159.), " that they formerly inoculated their children for the small-" pox by foratching the face with a fish-bone dipped in va-" riolous matter. As this diftemper made no appearance " for a number of years, they neglected this falutary prac-" tice, when, in 1758. it was unluckily brought there by " a foldier who had been long cured of it. This foourge of " the human race then raged in fo dreadful and fatal a " manner, that it fwept away two thirds of the nation."

IX.

ix.

Some Remarks on the Hydrophobia; and on the Efficacy of the Ormskirk Medicine for the Bite of a Mad Dog.

IN confequence of the Observations on Canine Madnels*, published in the former edition, having been favoured with some remarks on the subject from Dr William Batt, an English physician, the public professor of Chemistry at Genoa, a man of a most ingenious and studious turn, very attentive to whatever may contribute to the extension of medical knowledge, and the accuracy of whose observations may be very greatly relied on, I mean to subjoin here what he fays upon the subject; premising,

I. THAT though I do not think (from every thing I have been able to learn refpecting it) that (Hill's or) the Ormskirk medicine is posseffed of powers adequate to counteract the effects

* NO V.

to

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to be dreaded from the bite of a mad animal; yet in a matter of fo very ferious and important a nature, our opinion of the inefficacy of a remedy, fo much extolled and depended upon, fhould never prevent our making ufe of it: for fuppofing it totally ufelefs, yet it may properly be employed without neglecting any of the more powerful means of relief; and fhould the event ftill prove unhappy, the minds of all concerned would be better fatisfied from the reflection that nothing likely to be of fervice had been omitted.

II. THAT with respect to the spontaneous hydrophobia, I faw an instance in which that difease took place, and proved fatal, where not the most remote sufficient of its being caused by the bite of any animal could be entertained; nor could it be accounted for by any means, unless it could be supposed to have originated from a pretty long exposure to intense cold. But whatever was the cause, death was the consequence in two or three days after the first appearance of this symptom.

---- I miffed a fingular opportunity of making a rare obfervation on hereditary difeafes, and on the communication of the canine mad-G nefs.

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nefs. A dog covered a bitch a few hours before he became quite mad. The bitch was then, and had been, kept feparate from other dogs, and proved with pup; but the mafter of her had neither patience nor courage to wait the event, and, unknown to me, killed her.

It is clear that the Ormfkirk powders are not infallible; yet as they do not hinder the ufe of other remedies, nor have been found in any fenfe noxious, I fhould be forry to fee them abandoned. I think they were of great ufe here to Dr R——; who, fome months after the bite, had, with fome pain and inflammation of the wounded part, convulfive fpafms to an alarming degree, and a fenfible beginning of averfion to water, yet perfectly recovered. He was bled copioufly, and bathed much; but took no medicine in which I fhould place any the leaft confidence, except the Ormfkirk powder.

MACHARINI the finger, confulted me towards the end of last fummer; and amongst many other complaints, affured me (and the people about her confirmed her story), that she had twice suffered a spontaneous hydrophobia, accompanied with extreme thirst. Each attack lasted 24 hours; the one happened in June 1784,

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1784, the other in June 1785, and, as near as fhe can recollect, on the fame day of the month. She is very nervous, fubject to ftrong paffions, and not free from obstructions in the viscera of the lower belly.

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ON THE EFFECTS

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X.

Curfory Remarks on the Effects of some Poisons, and on the Hydrophobia; extracted from a Letter from the same Professor.

THANK you for your Observations on Poisons, and am well pleafed with your fuccefs in cafes of Dyfentery depending on old liver.cafes; in treating which, I certainly will follow your example the first opportunity. The action of poifons, if well understood, might throw much light on practical physic; but the various effects produced by them in various perfons, mix with our knowledge much confusion. One at Paris fwallowed an ounce, or more, of aquafortis ; the confequences were, a fuspension of stools and urine many days without pain; then a train of painful fymptoms; which, however, declining fenfibly for near fix weeks, gave hope of recovery, when the friend from whom I have the account loft fight of him. Another here fwallowed lefs, I believe, than a drachm of aquafortis;

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fortis; and though foap and milk were pretty quickly administered, died in about forty hours. A perfon here chewed and fwallowed five cantharides, and went about his usual bufiness. Two or three hours afterwards, feeling a heat in his ftomach, he applied to me to know if any mifchief would enfue. I had him bled; and filling his ftomach with oil, made him vomit; which he did pretty copioufly, bringing up confiderable quantities of membranes, which appeared to be the best part of the lining of the œlophagus and stomach. Half of his tongue was stripped. 1 ordered him to drink milk copioufly, though I confess now without much hope : and a strangury coming on, I rubbed the pubes and perinæum with camphor, and covered all with warm fomentations. The strangury went completely off in lefs than two hours; and next morning he had an erection, which was not troublefome, nor continued above half an hour. He felt a forenefs in the ftomach for two or three days, but no farther inconvenience. How different this from the ufual histories of those who have taken cantharides even in a much lefs dofe !

We have lately feen here one who, in the hydrophobia canina, had an interval of 16 or more hours, in which he drank, eafily and without agitation, large

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large quantities of various liquors. Of nine perfons in the fame prifon, bit by the fame dog, one only was attacked with the hydrophobia; and he neither the first nor the last that was bit, nor the most wounded. He fell fick more than four months after the bite, was under my care, and died hydrophobous and convulfed, but without delirium. Not long ago a gentleman died here, who had refifted incredible quantities of arfenic. It feems he had taken, in eight or ten times, about one third of an ounce, without its producing the defired effect, or even bringing on fuch fymptoms as to raife fulpicion of poilon. At laft a whole ounce was put into a faucepan of broth, of which he drank a good cupful. I think he did not fwallow then, at once, fo little as half a drachm of arfenic, yet he furvived four or five days. I don't, however, infer, from the irregularity and incertitude of the action of poifons, that we ought not, or cannot, counteract them. Perhaps even every poifon may have its fpecific antidote, as fimple as the poifon itfelf; but till we know these, we must content ourfelves with making the best use we can of the means we are poffeffed of, though generally imperfect. These you have well displayed in your account, &c. where you have very juftly obferved, that frequently life depends on a very quick

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quick evacuation of the poifonous fubftance; one of the first effects of which is to render the stomach paralytic. If people did but think of it, it would feldom be necessary to lose time in fending to an apothecary for an active vomit : a pinch of souff, or a little powdered tobacco, would do the business.

FINIS.

read Augh 5: 1795-

