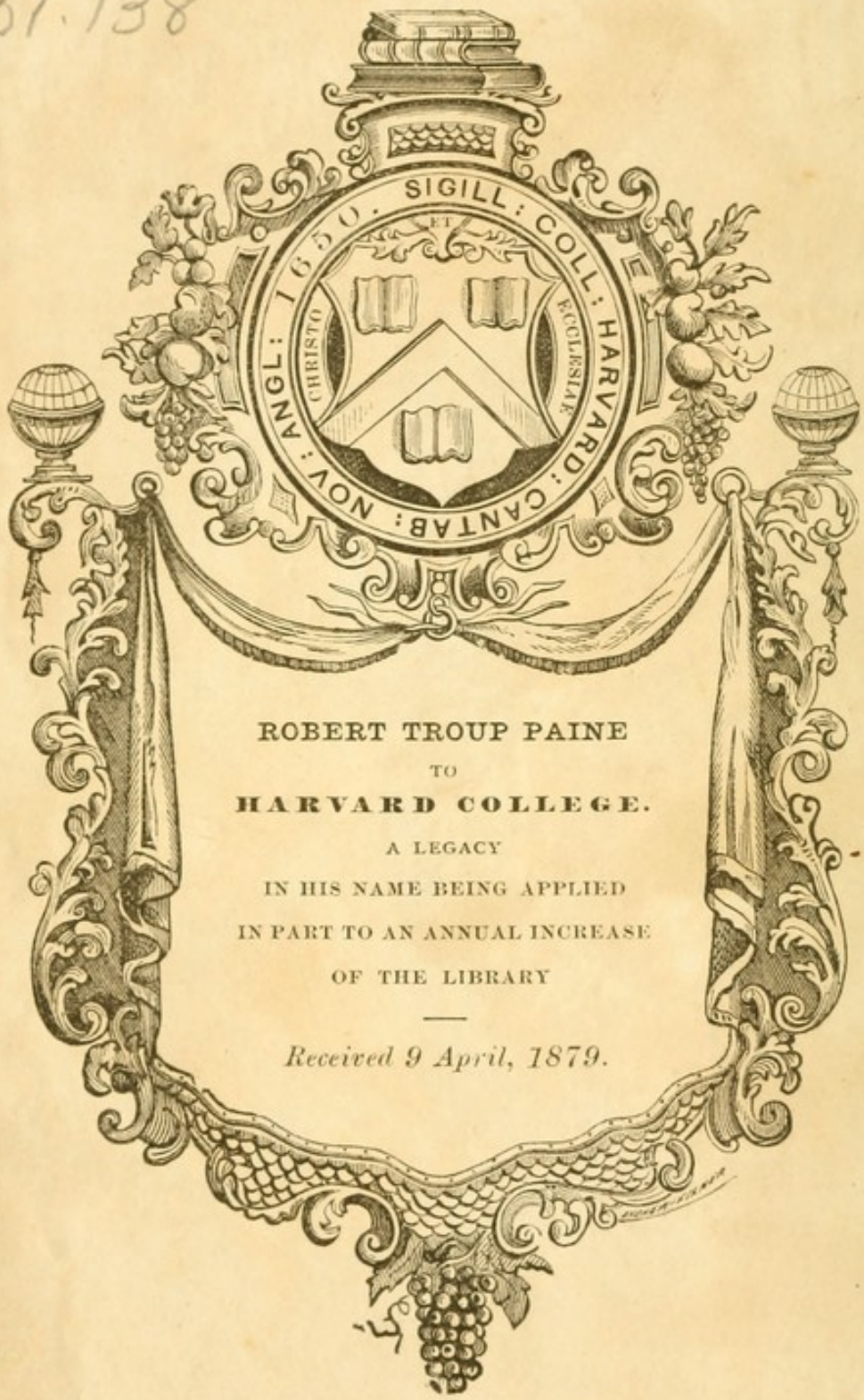

ROBERT TROUP PAINE

TO

HARVARD COLLEGE.

A LEGACY

IN HIS NAME BEING APPLIED

IN PART TO AN ANNUAL INCREASE

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Received 9 April, 1879.

Robert Treat Paine to Harvard College

REMARKS

ON THE

Means of obviating the fatal Effects

OF THE

BITE of a MAD DOG,

Or other rabid Animal;

WITH

OBSERVATIONS

ON THE

Method of Cure when Hydrophobia occurs;

AND THE

Opinion relative to Worming of Dogs refuted.

ILLUSTRATED BY EXAMPLES.

Robert

By R. HAMILTON, M. D.
Of the Royal College of Physicians in London, and Member of the Medical, Physical, and other Literary Societies in Edinburgh and London.

MORSU VIRUS HABENT, ET FATUM DENTE MINANTUR.
LUCAN. PHARSAL.

ALIORUM FACTIS, NOBIS QUOD EX USU SIT ADMONEMUR.
CRATO.

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MDCCLXXXV.

TO

WILLIAM HAMILTON, Esq. M. D.

PHYSICIAN to the SURREY DISPENSARY, LONDON,

THE FOLLOWING PAGES ARE GRATEFULLY INSCRIBED,

As an Expreſſion of unfeigned Eſteem,

AND OF

The Senſe retained of his Friendſhip,

By his obedient, and obliged

Humble Servant,

The AUTHOR.

PREFACE.

IN conſequence of an accident from the bite of a mad dog having lately happened, whereby a young gentleman of a reſpectable family in the county of Suffolk loſt his life,* a few obſervations on the means of preventing Hydrophobia were then inſerted in the Ipſwich Journal for the peruſal of the neighbourhood, to enable them, in ſome meaſure, to oppoſe the fatal effects of the bite of a rabid animal, ſhould the like happen among them in future.

THOUGH

* Son of Admiral Rowley.

THOUGH drawn up in haſte, and publiſhed incorrectly, yet they were read, and, in general, met with approbation; but, as the limits of a newſpaper confined them to a very narrow compaſs, and forbade a more minute diſcuſſion, the author, who was ſoon diſcovered, was ſolicited by ſeveral gentlemen to enter more fully into the ſubject, and lay them before the public in form of a pamphlet.

WITH this he complied, yet not without heſitation, when he conſidered how many eminent men had trod the ſame path before him, whom he knew, he muſt be contented, *paſſibus inæqualibus*, to follow

follow at an humble diſtance, inſtead of expecting to ſurpaſs.

THOUGH the partiality of friends flattered him his remarks would be acceptable, yet the taſk was not undertaken from a preſumption of his being able to convey much information, or throw more light on the ſubject than what authors had already done, but ſolely with a deſire to be uſeful, as far as he was able, to that part of the community eſpecially with which he was now more immediately connected, among whom the recent misfortune had ſpread conſiderable alarm.

BEYOND the limits of a pamphlet, at firſt, and a ſhort one too,

it

it was not his intention to lengthen theſe pages; but, in purſuing his plan, it was found impoſſible to furniſh even a well digeſted outline, much leſs diſcuſs the ſubject with any degree of perſpicuity, within ſo narrow a compaſs; hence it became incumbent on him to extend them.

He has ventured throughout to deliver his ſentiments freely, though with deference, and as freely canvaſſed thoſe of men much his ſuperiors in abilities, and conſequence in the ſcale of ſcience. For this, he hopes, however, the public will acquit him, by allowing him a right to offer his opinion, provided it be done with becoming modeſty.

Here,

Here, indeed, *they*, not *he*, muſt judge; and he truſts, he ſhall not be found, in the following pages, to have tranſgreſſed in this reſpect.

He has collected obſervations from the works of authors both antient and modern, and endeavoured, as far as he was able, to diſtinguiſh between what could be ſupported on the grounds of rational induction, and what had only (as appeared to him) ſuperſtition and credulity to lean on.

This eſſay is not offered to the public as perfect. Far from it. The author is too conſcious of its imperfection. Yet he hopes it will be found to contain, at leaſt, an

outline of what is known on the ſubject. Hints, perhaps, may be gathered from it, as materials for men of greater abilities to work with, who may hereafter turn their attention to its farther inveſtigation. With this view he ſubjects himſelf to the public tribunal, not doubting to meet with clemency; but that it will, at leaſt, correct with lenity, where the candour of criticiſm cannot beſtow approbation.

He would here alſo beg leave to offer his thanks to thoſe gentlemen who favoured him with communications, and for the public uſe ſeveral of them ſo readily allowed him to make of their remarks. Among others, he holds himſelf parti-

particularly obliged to the ingenious and indefatigable Mr. John Hunter, who not only honoured him with frequent correſpondence, but, with a liberality of mind, allowed him a public uſe of the information conveyed, with the ſanction of his name to corroborate it, a name which every cultivator of medical ſcience muſt long hold in eſteem. To Sir Thomas Gooch, Bart. he likewiſe returns thanks for the honour he conferred by his letters, and the ſatisfaction his anſwers afforded to ſome enquiries made by the author on the ſubject.

REMARKS

On the Means of obviating the fatal Effects of the BITE *of a* MAD DOG, *or other rabid Animal, &c.*

MANY authors, of reſpectable abilities, have attempted to inveſtigate the nature of the diſeaſe occaſioned by the poiſon from the bite of a mad animal. Much has been wrote, and various remedies propoſed, almoſt from the earlieſt annals of the ſtudy of diſeaſes; yet it ſtill remains,

in a great meaſure, the reproach of the medical profeſſion.

PROPHYLACTIC means, however, are in our power; for though we have hitherto failed in our attempts to cure the Hydrophobia, as it is generally called, though perhaps with ſome impropriety, or that ſpaſmodic affection of the organs of deglutition, which, for the moſt part, take place, yet, by timely care and perſeverance, we may, I am perſuaded, with tolerable certainty, obviate it.

THE firſt queſtion that naturally occurs here, is, What are the ſigns by which we can diſcover the firſt ſtage of madneſs in the canine tribe? This ſeems a neceſſary inquiry, ſince many are ſo ignorant on this ſubject as to ruſh precipitately on their own ruin, either by attempting to fondle, or ſhew marks of raſh kindneſs to dogs almoſt in the laſt ſtage of their illneſs.

THE

THE dog is an animal that, in a particular manner, attaches himſelf to man. He forſakes his own tribe, and adheres, with a ſtrict fidelity to his maſter. This gives an opportunity for our obſervations. Thoſe much accuſtomed to this animal, can tell when he is diſordered, from obſerving his manner now and before this, and comparing them, with as much eaſe as they can when any of their family are indiſpoſed. In the early ſtage, however, it is not ſo eaſy to diſtinguiſh it with certainty from other diſeaſes, as it has ſeveral ſymptoms in common with them. We find this the ſame, indeed, in ſeveral of thoſe incident to the human body. In the firſt day, the fever that precedes the irruption of the meaſles or ſmall-pox, it is a difficult matter to ſay with preciſion, what it is, except from the preſumptive proof of one or other of theſe diſeaſes being frequent in the place. A little time longer, however, puts this beyond a doubt; we then obſerve ſome ſymptoms peculiar to the reſpective

diſeaſe

diſeaſe with which the individual is affected. The ſame may be ſaid of madneſs in dogs.

We ſhall mention, nevertheleſs, the following, as thoſe which both obſervation and the authority of the beſt authors allow to be founded in fact. :—1. A diſinclination for his food: he does not, it is true, refuſe it, but he takes it with an evident indifference and liſtleſſneſs. 2. He is melancholy. It is as eaſy to mark this ſymptom in the dog, as in the human ſpecies. In health he is frolickſome and playful; but now he hangs his tail, and, at the approach of his maſter, or any other members of the family, ſhews none of that joy with which he was wont to welcome them at their return home. 3. His eyes appear mixed, and leſs clear than formerly. This may be called the firſt ſtage; yet there is ſcarce any thing pathognomonic here.

The ſecond is more diſtinctly marked: for in a day or two more he refuſes both

meat

meat and drink; ſhuns other dogs, and is equally ſhunned by them. Lo! here, the wiſdom of the Creator, who has endowed theſe animals, commonly called irrational, with an inſtinctive knowledge for their own preſervation. Obſervation, I think, does not prove they ſhun one another in other diſeaſes, to which, in common with other animals, they are liable.

Now comes the laſt ſtage: he quits the houſe; runs forward, he knows not where, or without any particular deſign; ſnaps, in his fury, or, perhaps, through the pain he ſuffers, at every animal that comes in his way; and, in the ſpace of two days after, or perhaps leſs, dies convulſed.

Such is the common progreſs of his ſufferings: and ſuch ſymptoms, we think, will be found invariable. Many others, indeed, might be added, as related by thoſe who have treated more amply on the ſub-

ject,

ject, but theſe may be ſufficient to diſtinguiſh the diſeaſe.

From this view of the ſtages of the malady it will appear, that a very little attention might prevent any accident from his bite: for, in the early ſtage of his illneſs, when he only lowers and ſeems heavy, he ſhews almoſt no marks of a change in his temper; he neither ſnaps, nor bites at any perſon near him; and hence, in dubious caſes, where prudence raiſes ſuſpicions, he might be eaſily tied up, till time ſhould determine the event. Nor would this be found long; for, perhaps, leſs than ten days may bring the whole ſcene to a concluſion, or ſufficiently convince us that our fears were groundleſs.

But ſuppoſe, now, that this has been neglected; or that the rabid animal has unexpectedly come in the way, and unhappily exerciſed his fury, too ſucceſsfully, on one of the human ſpecies: what then is to

be

be done?—As I am not writing for the information of the faculty, but for the utility and ſafety of my neighbours, and common readers in general, who may think it worth their pains to peruſe this ſhort eſſay, it may be neceſſary to inform them, that by the ſucceſsful, though elaborate reſearches of anatomiſts, a ſet of veſſels have been diſcovered in the bodies of animals, as well human, as others, of the higheſt importance in their œconomy, called *Lacteals*; ſometimes, nay, indeed, more commonly, *Lymphatics*, from the colour of their contents; and poſſeſſing ſome peculiarities not neceſſary here to be mentioned.

THESE are diſperſed plentifully over every part, as well external as internal. Their uſes are to ſeparate the nutritious parts of our aliment from the feculencies with which it is united, when taken into the ſtomach, and convey it to the blood, where it is again farther elaborated into fleſh, bone, cartilage, tendon, ligament, &c. by the different or-

gans

gans adapted by nature for making theſe new combinations. They drink up, in like manner, the ſupurfluous lymph left in cavities, and other parts, where it had been depoſited by another order of veſſels, named likewiſe from their offices, *Exhalents*, and brought hither by them for ſeveral uſeful purpoſes of nature; among others, for defending the more ſolid parts from too much friction on one another.

As we cannot wound the ſmalleſt part of the ſkin without opening ſome of theſe, whatever comes in their way, ſo minute as to circulate in them, is drunk up, or, in the language of anatomiſts, abſorbed, and carried, by the aſſiſtance of innumerable valves with which they are furniſhed, onwards with the reſt of their contents to the general receptacle, or duct, where they all unite, forming a large canal, which ends under the clavicle on the left ſide, where it is inſerted into a large vein (the Subcla-

vian

vian) that empties itſelf into the heart, mixing its contents with the whole maſs.

It is by the intervention of theſe we can ingraft diſeaſes, ſuch as the ſmall-pox; it is by theſe the venereal poiſon, that juſt tax on illicit pleaſures, is received, contaminating the body, and enfeebling the conſtitution; and by the intervention of theſe, the fatal poiſon in the ſaliva of rabid animals is conveyed to the organs of life.

From this ſhort ſketch of the offices of theſe veſſels, ſo curiouſly and wonderfully adapted for their purpoſes by the Author of our being, it will readily appear, that if we can intercept their contents in their paſſage to the heart, the effects, whatever they may be, whether for nouriſhment, or for communicating poiſons, and the ſeeds of diſeaſes, muſt be prevented. Here, then, we have found a clue to guide our way: here, then, reaſon bids us commence our work.

It is no eaſy taſk to determine, *á priore*, how ſoon this poiſon may get beyond our reach. This depends on a variety of circumſtances. Among others, on the ſtate of the habit at the time, to receive it; but chiefly, perhaps, on the nature of the poiſon itſelf.

We find from experience, which is here an unerring guide, that different poiſons require different lengths of time to exert their force; but theſe periods, allowing ſome variation for different habits of body, are found pretty regular with reſpect to the ſame poiſon. Thus, the ſmall-pox, for the moſt part, appear from the eighth to the tenth day after inoculation; the poiſon abſorbed from unclean embraces has likewiſe its period, allowing, as above, for the ſtate of the body at the time it is applied; and the ſame may be ſaid of the poiſon from a rabid animal (I mean the dog) which, generally ſpeaking, appear about the fifth or

ſixth

ſixth week: ſome, however, which I would call anamolous, or irregular caſes, have gone to as many months, before they diſcovered themſelves by their effects; but we recollect no well authenticated caſes where years have intervened.

To theſe poiſons, too, under different circumſtances, we may allow different degrees of virulence; which, united to the ſtate of the body, and the peculiar idioſyncracy, or conſtitution, may aſſiſt in forming the variations we obſerve relative to the propagation of their reſpective diſeaſes. There is a period of the ſmall-pox which is found more infectious than another, as is well known to thoſe accuſtomed to ingraft the diſeaſe: matter taken from a puſtule at this time more certainly communicates its effects. There is a time, perhaps, likewiſe, when the ſaliva of an infected dog is tainted with a higher degree of virulency, and this would appear to be, from the hiſtories of caſes, the third, or laſt ſtage. It

is

is then the viſcid ſlaver is ſecreted in largeſt quantities; throwing the infected organs into more inordinate and preternatural actions.

To prove that the virus is abſorbed in the manner we have endeavoured to deſcribe above, we need only, ſome days after inoculating the variolous matter, cut out the part, and no ſmall-pox ſhall appear; no fever ſhall be excited in the ſyſtem: it is nothing now but a local complaint, unconnected with the habit at large. Experiments have been inſtituted for this end, and the event has correſponded with the doctrine of abſorption. It is difficult, however, to ſay, exactly, at what time after inoculation this can effectually be done, becauſe abſorption takes place ſooner or later from the varieties, and peculiarities of temparament, &c. already hinted at.

We frequently find the patient, ſome time before, or about the eighth day, complain of a pain in the courſe of the lymphatics,

phatics, and in the axilla, of the the inoculated arm; or, if it be in the leg, in the courſe of the thigh, and in the groin, where we know lymphatics, and lymphatic glands lie. The ſame may be obſerved of the venereal diſeaſe; and the ſame remark has been noted in the abſorption of the poiſon from rabid animals.

THOUGH this conſtantly precedes the febrile ſymptoms in the one, or the peculiar ſymptoms that conſtitute the other relative diſeaſes, yet, were we to make our experiment now, it would not be deciſive; it would not prevent the progreſs of the malady: for, enough of the poiſon having got beyond the reach of the knife, to propagate the reſpective diſeaſe, our taking away what might remain in the part where it was firſt inſerted, would not anſwer the end in view. Our experiment here would fail, and it would prove nothing. But when this is done at an early time, when, from the inflamed appearance of the little ſcar, we

might

might with certainty conclude the diſeaſe would be communicated, we may reſt aſuſred our experiment ſhall be deciſive.

WHETHER the poiſon of the mad dog multiplies itſelf by a ſort of fermentative, or aſſimilating proceſs, as ſome of the lateſt and beſt writers aſſert of the variolous matter, and that abſorption does not take place, to infect the ſyſtem, till after this new combination is effected, is too obſcure a queſtion to enter into here; nor would the readers for whom this ſhort tract is chiefly drawn up, profit from the diſcuſſion.

IF this be allowed, however, we may be enabled to prevent the diſeaſe at a later period than we ſhall venture to recommend by the means we are about to mention. But, ſhould accident prevent us from putting thoſe means in practice, which we ſhall by and by call effectual, it will give a chance, and ſome, though ſlender, grounds for hope.

THE

THE girl that was brought to the Edinburgh Royal Infirmary, in 1765, had her arm ſeared with a hot iron over the ſcar where ſhe received the bite, as ſoon as ſhe was examined by the faculty who attended. It proved then ineffectual. It was at too late a period. Some ſymptoms of the Hydrophobia had already appeared for the two preceding days. This was between the fifth and ſixth week from the accident, the moſt general period at which hydrophobic ſymptoms begin.

AS this caſe has never appeared in public, as far as I know, I ſhall lay it before my readers, having been obligingly ſupplied with it by an ingenious gentleman* who attended

* Mr. R. RHODE, Surgeon to the Firſt, or King's regiment of Dragoon Guards, to whoſe friendſhip I am indebted for this caſe, aſſures me, he attended punctually from the time ſhe came in till ſhe died. He remarks, that ſhe gave pertinent anſwers till within a few hours of her death, when delirium ran high, to all ſuch queſtions as ſhe was aſked.—Vid. Appendix.

attended lectures at the time, and extracted it from the hospital books as noted down by the late learned Dr. Drummond, then one of the Clerks, and who was afterwards chosen Professor. Having mentioned his name, the medical reader will give full credit to the fidelity and accuracy of the relation.

The same means, then, ought to be used in cases of poison from rabid animals, as we have shewn would be effectual in preventing the small-pox. Let the part bit be destroyed: let all be cut away. And from the most rational grounds, and our knowledge of the *modus operandi* of the absorbing system, we may be well satisfied of the improbability of the Hydrophobia afterwards appearing.

To accomplish this, various means may be put in practice, as the surgeon may think fit, or the part where the bite is inflicted may seem to require. But, in what ever

way

way it is done, I have little hesitation in asserting, it is the only sure means, yet known, to obviate death.

SOME authors have recommended sucking the wounded part with the mouth, and affirm, no ill can follow from the poison to the person who sucks, as it must be ejected with the saliva with which the internal parts of the mouth are constantly bedewed, and which, as a farther security, may be washed out afterwards with water.*

* Dr. Berkenhaut is of this opinion: and the same has been entertained by the chief of the Latin physicians, speaking of the poison of serpents, &c. I mean Celsus.—Vid. l. 5. c. 27. "Homo," says he, "adhibendus est, qui vulnus exsugat." And he adds, that experience confirms the practice. Then gives his opinion: "Nam venenum serpentis, ut quædam etiam "venatoria venena, quibus Galli præcipue utuntur, "non gustu, sed in vulnere nocent." But, at the same time, he cautions them to beware lest any ulcer be in the mouth. "Illud interea ante debebit attendere, ne quod in gingivis, palatove, aliave parte oris "ulcus habeat." It might almost be affirmed from this, that he understood the laws of absorption, were we

Examples are adduced to prove this ſucceeded in the bite of other poiſonous animals, ſuch as the viper.

Dr. Berkenhaut ſeems poſſitive the virus may be ſucked without danger. Speaking on the ſubject, and of the bite happening in a part of the body where the perſon cannot reach it with his own mouth, he ſays, "Poſſibly he may prevail on ſome friend to "do him this kind office; eſpecially when "I aſſure him, poſitively aſſure him, that it "may be done without the leaſt danger.— "My ſon," adds he, "then about eight "years old, in returning from ſchool, was "bit by a dog in the thigh. My eldeſt "daughter being informed of the accident, "without the leaſt heſitation immediately "ſucked

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we not certain that it is a much later diſcovery. Some may diſpute this; and attribute it to the antients, when they call to mind Galen's expreſſions, viz. "Si "ſitiens balneum ineat, illi ſitis ſedabitur." Yet I ſtill think the moderns deſerve the honour of having pointed out the proper uſes of the lymphatic ſyſtem: and here Doctors Munro and Hunter ſeem to ſtand firſt.

" ſucked the wound. She had heard me " ſay it might be done with ſafety.—The " dog," the Doctor adds, " was certainly " not mad; but I relate the ſtory in juſtice " to her affectionate intrepidity, which, in " a young girl, was ſomewhat extraordi- " nary." I perfectly agree with him in this; and give due praiſe to the lady for her affection to her brother.

But, nevertheleſs, ſome doubts may remain on this ſubject. Some of the venom may ſtick about the tongue, or fauces, or about the gums, &c. and be afterwards ſwallowed; nor is it yet clear how far the poiſon may be innocent in the ſtomach; or it may be abſorbed from theſe parts. And ſhould any ulcer be in the mouth at the time, the certainty is therefore greater. Since the poſſibility of this cannot be denied, I am of opinion, that no unneceſſary riſque ſhould be run, but all doubt prevented, as our purpoſe can be even more certainly anſwered in another way.

Be-

Besides, the analogy of the viper may not, in this caſe, be altogether in point. The *modus operandi* of the poiſon of a rabid animal, and the manner the poiſon of the viper, and ſome other ſubſtances arreſt the organs of life, do not ſeem to be the ſame. We are certain the one acts in conſequence of abſorption, as already explained: we are not ſo certain that either the poiſon of the viper, the rattle ſnake, or ſome other noxious animals, who kill by their ſting, or their bite, act in this way. Abſorption does not appear to be performed ſo quickly, as to produce the effects of the poiſon conveyed to the ſyſtem. The bite of the rattle ſnake, we are told, proves fatal, in ſome inſtances, in a minute—that of a viper in a very few hours.

Some pigeons which Dr. Areſkine expoſed to a female viper were dead in ſo ſhort a time after the bite as half an hour; others in about two hours. It would appear from this,

this, that theſe poiſons ſeize on the living principle at once, and deprive it of its powers of action.

In this way opium acts, though we allow it alſo acts by abſorption. According to the experiments of Profeſſor Munro, it affects thoſe nerves to which it is primarily applied, and brings the reſt of the nervous ſyſtem to ſympathize, independent of its abſorption, and mixture with the blood.*

In this way, likewiſe, the diſtilled water of the Laureo-Ceraſus acts. Dr. Nicolls found it kill a dog in leſs than half a minute; much ſooner than any abſorption could convey it to the ſyſtem at large. Dr. Madden, likewiſe, found it prove fatal in a very few hours; and this was the caſe whether it was thrown into the ſtomach, or up the rectum in form of clyſter.† As its

* Eſſ. & Obſ. Crit. & Liter. Vol. III. p. 338.

† Wilmer's Obſervations on poiſonous Vegetables.

its effects appear ſo ſpeedily either after being ſwallowed, or injected *per anum*, its powers muſt be exerted on the nervous ſyſtem immediately, without the intervention of a ſet of veſſels to carry it to the general maſs of fluids.

WITH reſpect to what may follow from incautiouſly taking the poiſon of a rabid animal into the mouth, I may mention a caſe which was lately related to me on very good authority. A young woman had her apron tore and ſlavered by a mad dog leaping on her and attempting to bite. Fortunately ſhe received no other injury whatever from him, by the timely aſſiſtance offered, and the looſe part of her cloathing he caught hold of. But imprudently, and without proper reflection, ſhe began to mend the rent in her apron before the part was either ſufficiently waſhed, or well dried; and as imprudently, to ſave ſome trouble, we ſhall ſuppoſe, or through habit, inſtead of cutting off the thread with ſciſſars,

when

when finiſhed, ſhe bit it off with her teeth. Lo, what followed! In a few weeks ſhe was ſeized with Hydrophobia, and died in the uſual manner of it!

SIMILAR caſes have been obſerved by authors. The following, from Cælius Aurelianus, is almoſt a copy, as it would ſeem, of what we have now related.—"A certain ſempſtreſs having undertaken to mend a cloak tore by the teeth of ſome mad animal, wetted the ſeams with her tongue, and laid the edges of the rent even with her mouth, as ſhe ſewed, in order that the needle might paſs with more eaſe. In the ſpace of three days afterwards ſhe fell into canine madneſs, and died."*

THE

* "Sartrix quædam, quum chlamydem ſciſſam rabidis morſibus ſarciendam ſumeret, atque ore ſtamina componeret, & lingua pannorum ſuturas lamberet aſſuendo, quo tranſitum acus faceret faciliorum, tertia die in rabiem veniſſe memoratur."—Vid. Cœl. Aurel. de morb. acut. l. 3. c. 9. p. 219.

THE following, which Hildanus affords, appears ſtill a nearer copy.—" A mad dog" he ſays, " tore its miſtreſs's gown with " its teeth, but wounded no perſon. The " woman, ignorant that the dog was mad, " mended her garment, and bit off the " threads with her teeth. Three months " after ſhe died of Hydrophobia." *

WE are told by Palmerius of a peaſant, who having the canine madneſs, and knowing he ſoon muſt die, deſired leave of thoſe about him, who had confined him with chains, to kiſs his children. He kiſſed them, and died ſoon after. All the children, we are aſſured, died in the ſpace of ſeven days after of the ſame diſeaſe. †

WE have alſo another ſimilar example given us by Schenckius. This author tells us

* Hildan. Obſ. Chirurg. Cent. 1. No. 86. p. 62.

† Vid. De Morb. Contagios. p. 266.

us of a Mr. Patric, who kiſſed his mad dog before he ſent it to be ſtifled, and periſhed afterwards from Hydrophobia. All this is analogous to what we know of other ſeeds of diſeaſes communicated to the habit by the abſorbent ſyſtem. The epithelion on the lips, inſide of the mouth, fauces, and tongue, is extremely thin; the poiſon can be moſt readily, and even ſpeedily taken up by the lymphatics of theſe parts.

But Areteus, and Boerhaave following him, go farther, and affirm, that it may even be communicated by the breath of the mad animal. Aurelian is of the ſame opinion, and quotes us an example of it. Here, however, ſome room for doubt may remain. The perſon muſt be almoſt in contact with the animal, as it would ſeem to me, before he can be in much danger this way. Yet I hope none of my readers, for the ſake of their own ſafety, in placing themſelves ſo near its reach, will ever make the experiment to aſcertain the fact.

It is affirmed, alſo, that an inſtrument which has been uſed for killing a mad dog, if left unwiped, will retain for many years enough of the virus to communicate the diſeaſe. There ſeems much reaſon in this obſervation. We have here, alſo, the analogy of the ſmall-pox to ſupport it. We know that an infected lancet has given the diſeaſe long after it had been touched with the variolous matter.

But we are not allowed to reſt barely on analogy. An example of this is alſo afforded us. Schenckius relates the caſe of a young man who unfortunately cut his finger in wiping a ruſty ſword which had been, ſome years before, employed to kill a mad dog, and died hydrophobic.

In the bites from ſerpents, where the antients have recommended ſucking the wound, we find that experience teaches thoſe where ſuch bites are frequent, not to

truſt

truſt the poiſon in their mouths without firſt moiſtening them, as a ſafeguard, with oil.

Mr. Goodyear, in his account of a Mr. Burdet, an Engliſh merchant, at Aleppo, who was bit by a ſerpent, and who died five hours after, tells us, "that "the people of the country ſay, that if, "as ſoon as one is bit by a ſerpent, they "ſhall ſuck immediately the wound, they "may be ſaved. But they muſt rub firſt "their gums and teeth with oil, that none "of the poiſon may touch any place where "the ſkin is broke, and ſpit out immedi-"ately what they ſuck; every time waſhing "the mouth, and taking more oil."*

Are not theſe examples, then, beſides what has been advanced, ſufficient, from the nature of the thing itſelf, to leave doubts on our minds relative to the inno-

cence

* Vid. Philoſ. Tranſactions Abridg. by Lowthorp. Vol. II. p. 814.

cence and impunity of taking the poiſon into the mouth by ſucking the wound? and may not a cupping-glaſs or a narrow-mouthed phial, where the cupping-glaſs cannot be had, anſwer as a ſubſtitute?* Here no ſuſpicion of danger can remain. Dr. Berkenhaut himſelf very properly adviſes ſomething ſimilar: "If no ſurgeon "be preſent," he ſays, "take a pretty large "piece of paper; twiſt it gently, ſo that "it may eaſily be thruſt into a narrow-"mouthed jug; light the paper well, and "having put it into the veſſel, fix it tight "over the wound, and let it remain in "that poſition till it may be eaſily taken "off. Repeat this operation three or four "times." †

I SHALL

* We are told of a man in London who was bit by a rattle ſnake brought from Virginia, and that by ſucking the wound he recovered. The Indians, it is ſaid, cure it the ſame way. We have ſhewn, however, how cautious the people in the Eaſt are; their uſing oil is a preſumptive proof that the omiſſion was attended with danger.

† P. 77.

I SHALL, without hesitation, then, recommend, and would enforce it, were I able, a piece to be cut out round the part wounded, making the incision at the same time pretty deep, to prevent any accident from leaving any of the animal's saliva behind. I can see little cruelty here, when we compare short temporary pain to the dire scene that we have reason to expect.

THE antients recommend a similar treatment, which Boerhaave, and other authors, in a great measure, copying from them, adopt. Prestwick, no doubt, following them, advises as we have already done. "The wound should immediately," says he, "be enlarged, or entirely cut out; then "apply a cupping-glass, with scarifica-"tions; after which cauterize the wound, "washing it daily with salt water and vi-"negar, or salt dissolved, and keep it open "with escharotics." *

DR.

* Prestwick on Poisons, &c.

Dr. Mead readily aſſents to this method; telling us, "The cure of this poiſon "is either immediately upon the wound "made, or ſome days after, before the fear "of water is diſcovered"—then quotes the antients in ſupport of his opinion—"As in "other venomous bites, ſo in this, Galen "very wiſely adviſes" proceeds he, "to "enlarge the wound, by making a round "inciſion about it, to cauterize it with a "hot iron, and apply drawing medicines, "ſo as to keep it a running *ulcer* at leaſt "forty days. Scarifying and cupping may "anſwer where this ſeverity is not al-"lowed."*

Dr. Cullen, whoſe judgement is not, as will be readily allowed, inferior to the moſt celebrated authors who have treated on the ſubject, coincides with me in this opinion. "I am, in the firſt place," ſays he, "firmly perſuaded, that the moſt "certain

* Mead on Poiſons, &c.

" certain means of preventing the conſe-
" quences of the bite, is to cut out, or
" otherwiſe deſtroy, the part in which the
" bite has been made. In this," he goes
on, " every body agrees; but with this
" difference, that ſome are of opinion that
" it can only be effectual when it is done
" very ſoon after the wound has been made,
" and they therefore neglect it when this
" opportunity is miſſed. There have been,
" however, no experiments made proper to
" determine this matter; and there are
" many conſiderations which lead me to
" think, that the poiſon is not immediately
" communicated to the ſyſtem; and, there-
" fore, that this meaſure of deſtroying the
" part may be practiſed, with advantage,
" even many days* after the bite has been
" given." †

SEVERAL

* In p. 14 of this Eſſay a ſimilar opinion was hazarded.

† Vid. firſt lines Vol. IV. p. 109.

SEVERAL authors mention the actual cautery, *i. e.* burning the part with a red hot iron. This muſt likewiſe, I ſhould think, be effectual, if enough be deſtroyed. Yet exciſion would appear preferable, if we conſider the time that muſt paſs in the operation of the iron, and, conſequently, the augmentation to the ſum of pain, which muſt be in proportion.

THE part being thus deſtroyed, in either of theſe ways it may be judged proper, and the patient ſubmits to, the wound muſt be kept from healing, either by iſſues, bliſtering ointment, or other eſcharotics, for ſeveral months; at leaſt ſix; but ſtill the more certain if longer.

I HAVE ſeen three caſes where this method was followed. Theſe perſons were all bit by the ſame dog (he was certainly mad) in about ten minutes from each other; and in leſs than a quarter of an hour the opera-

tion

tion was performed in the hospital where I then attended. No Hydrophobia ever appeared.

THREE other cases, as shall be related hereafter, were treated in a similar manner by gentlemen of the faculty in this county.* The dogs that bit the persons were also most evividently mad, as appeared from their effects.† I do not go so far as to declare that they absolutely owed their lives and preservation to the judicious treatment that was pursued, because it is impossible to assert whether the poison would have ever become active in them; but, allowing the certainty of this, they surely deserve credit, and the patients acknowledgments, as, in these cases, where so much is at stake, we should act as if we were sure of the poison taking effect.

DR. FOTHERGILL tells us of two persons, the master and the maid servant, who

* SUFFOLK.

† Vid. Appendix No. 2 and 3.

were bit by a mad cat. In the maid, the wound would not heal up, though endeavours were uſed for that purpoſe, till after a conſiderable time. The little ſcratch which the maſter received, ſoon healed. He became affected with Hydrophobia, and died: the ſervant eſcaped. Hence, in his caſe, abſorption took place, and the poiſon was conveyed to the general maſs; in the other, the running of the ſore prevented this.

It is probable that dry cupping, and afterwards ſcarifying the part, might ſucceed in the prevention of abſorption; but it is beſt to be on the ſafe ſide, and extirpate at once, where the part will admit of it.

The ſame may be ſaid of a cauſtic; though I think it more certain than cupping, provided it be long enough applied, and an eſchar, ſufficiently large and deep, formed; the part, in like manner as in extirpation, to be kept from healing.

Some-

SOMETIMES it happens that the part wounded is unfavourable for extirpation; nay, for being even long kept open. This will be found the caſe when either the lips, or parts about the face are bit. In any of theſe, long running ſores prove very troubleſome; and are ſuch as few people will ſubmit to. Extirpation of part of either the upper or under lip, has likewiſe many other inconveniencies: a ſcar muſt remain altogether unſeemly, rendering the countenance extremely diſagreeable.

THIS, unluckily, happened to be the part where the bite was inflicted in a late caſe, alluded to in the beginning of this eſſay. Cauſtics, however, were applied, and other proper means uſed, ſoon after it was received, by a gentleman learned and eminent in the medical world, then called to the patient's aſſiſtance. That they did not ſucceed, might in part ariſe from the cauſtic not being applied to every part of the wound;

wound; but with as much, nay more, probability, from ſome of the dog's ſaliva getting into the mouth, and adhering about the gums or inſide of the lip, from whence it was afterwards abſorbed; for "the lip "was torn a good deal. The teeth" (of the dog) "had gone through and through, and had tore out a piece."*

In ſuch caſes the phyſician has a moſt difficult part to act. If he pays too great an attention to appearances, he may fall into the oppoſite extreme, and loſe his patient from lenity and regard to his looks. If he boldly adviſes extirpation, and his patient ſurvives, he may not eſcape blameleſs, but incur his diſpleaſure as long as he lives for disfiguring him, as he will call it.

The moſt unfavourable places are thoſe about the face; and of theſe, the cheeks, noſe, and lips, are moſt ſo. The fore part of

* Mr. Hunter's letter to the author.

of the neck, alſo, is not without inconveniencies. Yet it is better to act on ſuch occaſions, than to run the hazard of ſuffering the patient's life to fall a ſacrifice without attempting ſo rational a prophylactic. Should the worſt take place, we have diſcharged our duty, without leaving our patient to chance for an eſcape.

WHERE the wound has been made in the cheek, and has penetrated through, by which ſome of the poiſonous ſaliva muſt touch the inſide, and thus eſcape the knife, the cauſtic, or other ſuch means as is uſed, we ſhould direct the patient, provided we ſee him ſoon after, to waſh and ſcour the inſide of the mouth with detergents; ſalt and water, a weak ſolution of the vegetable alkili, and ſuch like. And this ſhould be often repeated, uſing a piece of ſponge to abſorb all the moiſture, and carefully waſhing it every time it is uſed, while the knife or the cauſtic is externally employed to deſtroy the adjacent lymphatics.

CUP-

CUPPING may likewiſe be uſed here, but I can conceive little advantage that is to be obtained by ſcarifications; yet, ſhould the ſurgeon, or medical man called in, think them material, I have no objection to the practice

IF we confide in theſe means which reaſon approves, ſhould they not ſucceed, we know the obſtacles, and can pronounce them beyond the power of human ſkill: for if an active particle gets a little forward into the mouth of a lymphatic, what human ſkill can tell the part where it lies? and where is the ſpecific that will overtake, and arreſt it in its flight?

AMONG other directions which Dr. Fothergill gives, is that of enlarging the wound by gunpowder; this is to be moiſtened and a little put on the part, and then ſet on fire. This he conſiders as a good way of diſcharging the poiſon ſuddenly:

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we ſuppoſe this is brought to paſs by the ſhock given to the part, while at the ſame time it forms ſuch a kind of wound as is not readily diſpoſed to heal. In ſuch circumſtances as we have already mentioned, where the wound cannot be enlarged with ſafety, he recommends a bliſter, and this to be kept open as long as conveniently may be done.

Let no faith whatever be put in thoſe medicines called ſpecifics, and certain preventatives. It will be truſting moſt certainly to a broken reed. Experience has ſhewn them not only fallible, but really trifling; and as we now know the compoſition, it is no difficult matter to prove that ſuch ingredients as compoſe them are, ſingly or united, altogether inadequate ſucceſsfully to oppoſe the evil.

We ſhall paſs over that of Aeſchrion, compoſed of burned crabs, as mentioned by Galen and Oribaſius; the famous opi-

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dtes of Scribonius Largus; the boaſted powder of Palmerius; that of Turpeth mineral, ſo much extolled by Dr. James; the tin and mithridate, on which Myern and Grew beſtow ſo much praiſe; alſo the root of the dog-briar, or roſe,* ſaid to be diſcovered in holy viſions; the liver of the mad dog, broiled and eaten; the pimpinella, (Burnet) of Henry II. King of France, which he is ſaid to have diſcovered on his death bed to his phyſician Fernelius; with ſeveral others; and only take notice of two or three now in common uſe, and high eſtimation with the public; and ſome of them extolled, even at this day, by phyſi- of abilities and learning.

One that ſeems to claim our ſpecial attention is the Ormſkirk medicine. Since its reputation has ſtood ſo high for many years,

* Spongia Cynnorhodia: P. Boccone wrote a treatiſe on its virtues. The Scicilians call it Sanatodos; All Heal.—It is called by us Dog-roſe, becauſe celebrated in the cure of *rabies canina*. The part uſed is an excreſcence growing about its root.

years, and ſtill is looked on as infallible by many, eſpecially in the northern diſtricts of England.

Dr. Fothergill is amongſt thoſe who began to doubt its virtues. The melancholy caſe of Mr. Belamy, which he attended, and for which it had been bought of the perſon authoriſed to ſell it, and uſed ſtrictly according to the directions, gave grounds for doubts, which its fallibility ſince has ſerved to confirm.

Let us now enquire what this celebrated noſtrum is. According to the analyſis it underwent ſome years ago, we ſhall find, it is not compoſed of a ſingle active ingredient.

In the year 1777, Dr. Heyſham, then a candidate for a degree, who wrote his inaugural diſſertation on *rabies canina*, inſtituted five experiments, in order to find out its component parts. Theſe were made with

the addition of water, the nitrous and vitrolic acids. They were repeated by Dr. Black, Profeſſor of Chymeſtry, with the ſame reſult; and, conſequently, there can remain little room for ſuſpicion of their accuracy. From theſe it appeared, that the baſis of the medicine was chalk; and, relying on its powers, a theory was hazarded, relative to the nature of the poiſon of the rabid animal, which it is not our buſineſs here to examine.

In a word, from the analyſis of this eminent Profeſſor, and his ingenious pupil, the whole compoſition appears to be as follows, viz. Half an ounce of powdered chalk; ten grains of allum; three drams of Armenian bole; one dram of the powder of elecampane root; and ſix drops of oil of aniſe. Such is the medicine on which the public have placed ſuch high hopes, and implicit confidence!

I NEED

I NEED not tell my medical readers, if any of them ſhould think theſe pages worth a peruſal, that chalk is a mere abſorbent; that allum is an aſtringent; that Armenian bole, likewiſe poſſeſſes a degree, though a ſmall one, of aſtringency; and that the root of elecampane is conſidered as ſuch an inactive, inſignificant ſubſtance, that our reformed pharmacopoeias have long ago rejected it from the number of the articles of the *materia medica*; and as to the addition of a few drops of oil of aniſe, they can be of no other uſe than to warm the medicine a little, and give it a more grateful flavor.

NEXT, in order of celebrity, comes the Tonquin medicine, a noſtrum not leſs noted ſome time ago, and even now exhibited, than this one. What, then, ſhall we ſay, of it?—very little more than of the former. We owe it to the well-meant, though miſtaken endeavours, of Sir George Cobb, who, near forty years ago, brought it from Tonquin, whence it derives its name, as of

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ineſtimable value, and as conſtantly infallible among the Chineſe; but experience, in many inſtances, ſhews the contrary with us, and proves its inefficacy.

LET us now examine its compoſition; and we ſhall find it to be only twenty-four grains of native, and as many of factitious cinnabar; with ſixteen grains of muſk, powdered, and mixed together. Few comments farther, we apprehend, are neceſſary on the ſubject. The bare mention of the articles ſeems enough. We may, however, take notice of what ſeveral eminent chymiſts have done before us, that native and factitious cinnabar are one and the ſame thing; and we may alſo add, with ſome of theſe, that all the cinnabars are inert, and poſſeſs no active powers whatever.

NATIVE cinnabar is the ore of mercury, being a compound of ſulphur with this metallic ſubſtance. And is there a perſon of the leaſt chymical knowledge, or experience

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in its exhibition, and obſervation of its effects, that does not know this, and that ſulphur has the pecular property of rendering mercury inert?

THE other ingredient, viz. muſk, is an antiſpaſmodic. So far it may ſeem uſeful in a diſeaſe, ſuch as Hydrophobia, where ſo violent ſpaſms take place in the throat; but it has not ſufficient power to oppoſe and remove the malady. Yet, we muſt own, that it appears a better medicine than the Ormſkirk, ſince it has at leaſt a ſmall part of one active ingredient in it.

WITH reſpect to Dr. Mead's famous powder, I ſhall only mention that it was a compoſition of aſh-coloured ground liverwort *(lichen cinereus terreſtris)* and black pepper; the former, the ingredient which he depended on, and to which the virtues of the powder were attributed. Materia medica writers tell us, this lichen is a warm diuretic; but, from the taſte, little or no

warmth

warmth can be diſcovered in it; and it is a general rule, which, we believe, will be found to hold good in the vegetable kingdom, that where little or no ſenſible qualities are diſcoverable, little or no virtues for the removal of diſeaſes ſhall be found to exiſt.*

In the Tranſactions of the Royal Society, No. 237, we find a Mr. Dampier communicating to the members, ſome remarkable effects that had been attributed to a vegetable ſubſtance, which was called Jew's-ear,† in the diſeaſe we are now conſidering. In the year 1721, a powder, compoſed and named as above, was inſerted into the London Phamacopoeia, at the deſire of an eminent phyſician, who put great confidence in its virtues.‡

In

* Inſipidæ & inodoræ vim medicam vix exercent. Lin.

† Tremella Auricula of Linnæus.

‡ Dr. Mead, on Sir Hans Sloane's authority, changed the Tremella for the Lichen Cinereus Terreſtris, ſuppoſing that Mr. Dampier muſt have been miſtaken, and uſed the former for the latter.—Vid. Berkenhaut.

In 1745 a new edition of a treatiſe relative to the mechanical account of poiſons was laid before the public. Here the ſame medicine and method of cure is recommended, viz. V. Section, and the cold bath, which was to be uſed every morning faſting for one month, in addition to the powder; and on the pompous authority of its ſucceſs in thirty years practice: but an addition of nearly forty years more proves, beyond a doubt, its inſignificancy. It is only to be obſerved farther, that this did not eſcape the penetration of Boerhaave, who ranks this among thoſe inſignificant trifles that muſt deceive whoever place their truſt in them.* To collect, and relate the caſes wherein this has failed, is needleſs: they are many; and the public have at length conſigned it to merited neglect.

If we examine the accounts of hydrophobic caſes, we ſhall likewiſe find ſeveral, where

* Lewis's New Diſpenſ.

where the Ormſkirk has been attended with no better ſucceſs: enough, in my opinion, to induce us to hold it in a very different light, from what many continue to view it in. Had we only that of Mr. Bellamy, it ſhould leſſen our faith, as one poſitive proof of its failure, is worth an hundred negative proofs of its ſucceſs, ſince it becomes impoſſible to tell, whether the perſon bit, and who takes it, would have been affected with the diſeaſe, conſequently, whether it had any ſhare as a prophylactic. But we have three others by Dr. Vaughan; and I am ſorry to add, that a recent inſtance of its failure in this county* makes another.

In this laſt caſe, both it and the Tonquin, as alſo mercury, were adminiſtered, with ſtrict attention, from a few hours after the accident till ſymptoms of Hydrophobia made their appearance, which was not till ſix weeks after.

"All

* Suffolk.

"ALL the means recommended were "uſed in Maſter R-----'s caſe. I ſaw him "a few hours only after the bite.—He "took the Ormſkirk medicine by the di-"rection of Mr. Barry, who ſells it, there-"fore we muſt ſuppoſe it was properly "given. He alſo took the Tonquin me-"dicine, viz. muſk, cinnabar, &c. as alſo "rubbed in mercurial ointment till his "mouth was ſore."—My reſpectable and learned correſpondent adds, "My whole "dependence was on the *cauſtic*, but did "not object to the others being given."*

THIS caſe proves more, indeed, than we intended. It proves that mercury is likewiſe uſeleſs as a preventative, ſince it had here ſo fair a trial, and yet Hydrophobia took place.

BUT my opponents will ſay, perhaps, it proves more than we wiſhed; ſince it

 ſhews

* Mr. John Hunter.

ſhews that the uſe of the cauſtic, one of thoſe very means we have ventured to recommend, was, in like manner, ineffectual. This, however, I refuſe to admit; becauſe, the part was unfavourable: for it was the lip—and this alſo, cut quite through, where ſome of the dog's ſaliva muſt have fallen on the gums, or been ſcattered to ſome diſtance over the inſide of the mouth, or cheeks, or both. "The lip was tore a good deal. "The teeth had gone through and through, "and had tore out a piece."*

THOUGH the part had all been deſtroyed, ſince ſome of the particles of the infected ſaliva muſt have been thrown beyond the part bitten, and, of courſe, beyond the reach of either knife, or cauſtic, &c. it was not in the power of man to ſay where to find it.

THIS being ſo, as is a rational induction, it proves no more than what has been already

* Mr. Hunter's letter to the author.

already admitted, and even pointed out, that there are ſome parts of the body, more than others, unfavourable either for exciſion, cauſtic, or cautery; and that theſe are about the face; and chiefly the lips and cheeks. Hence the objection muſt fall to the ground, and can militate nothing againſt our general doctrine, with reſpect to other parts of the body not liable to ſuch inconveniences. The legs, the arms, the thighs, the trunk of the body, and even the fore part of the neck, or the face, will admit of exciſion, &c. as will alſo the noſe, though the danger in this laſt is ſomewhat greater. The cheeks and lips, then, are the chief places where exciſion may be doubful; and the reaſons we have given above.

Yet theſe are by no means ſuch as ſhould diſcourage us. Let us apply the preventative means in our power, I mean the rational means already pointed out; and let us be careful to touch every ſurface where the dog's teeth have gone, if we uſe the

the cauſtic, and let ſeveral ſloughs be thrown off. Let us waſh out the mouth with ſalt and water, or a ſolution of the vegetable alkali, and then with oil, as already recommended, and we have reaſon to hope for the beſt.

Next comes the cold bath. From almoſt the earlieſt ages of medicine, this has been practiſed as a cure; and in later times as a preventative of Hydrophobia. The limits we have preſcribed to ourſelves will not allow of a minute diſcuſſion of this point; but ſince, at this day, it is celebrated, by many learned phyſicians, as a certain prophylactic; and ſince caſes are adduced in ſupport of its efficacy, I find myſelf under the neceſſity of touching a little on the ſubject. All I can do, it is true, is to give my own opinion; this is incumbent on me; and, in a word, is, that after an impartial conſideration of all circumſtances, for and againſt the practice, I am free to confeſs a diſbelief of its virtues.

In the firſt place, I can find no rational grounds to reſt on. The effects of ſea-bathing, which reaſon bids me expect, are by no means adequate to the deſtroying, or rendering the poiſon inert. I ſee but two ways in which it can act, viz. Firſt, as a purgative; and yet it muſt be here a very gentle one. In the manner of ſuddenly throwing the patient into the ſea, &c. a ſmall quantity of the water may be ſwallowed—but diſſections of drowned people ſhew, that very little deſcends into the ſtomach in this act. Death here takes place from ſuffocation. But we ſhall allow a little to get beyond the cardia, enter the ſtomach, and then the alimentary canal, from the obſervation above, the caſe is nothing altered. Secondly, it acts as a general coroborant of the ſyſtem.

But all this is little to the purpoſe. Though we purge, we cannot purge away the poiſon, which is far removed from our

reach

reach here; and though we ſtrengthen the fibres of the body, we cannot ſtop the proceſs of abſorption. Nay, the powers of the lymphatic ſyſtem would ſeem thence to be encreaſed, and the poiſon the more readily, and effectually, carried to the general maſs.

I AM happy to find eminent men adopt my ſide of the queſtion. Dr. Fothergill, Dr. Flack, and Dr. Berkenhaut, all concur with me in it.—The laſt, in a judicious review he has taken of this, and ſeveral of our noted prophylactics and ſpecifics, is particularly pointed on this part of his ſubject.*

IN the Philoſophical Tranſactions, No. 445, a caſe is related by Mr. Nourſe, of a lad bit in the thumb by a mad dog. He was ten times dipped in the ſea, and took alſo, we are told, the famous ſpecific of

* Vid. Eſſ. on the Bite of a Mad Dog. p. 56 & ſeq.

of that day, the pulvis antyliſſus, for no leſs than forty days.—Was he cured thereby? No; for it is added, he died hydrophobic nineteen months after: in the interim, however, he was cut for the ſtone, and perfectly recovered from the operation.*

Celsus, I know, recommends it ſtrongly; not, however, as a prophylactic, but as a remedy for the removal of the Hydrophobia itſelf. He obſerved the patient's inability to ſwallow liquids, and ſaw, at the ſame time, his great deſire for them: in order, then, that his thirſt might be quenched, he directs the ſufferer to be thrown headlong, and unexpectedly, into a fiſh-pond, and there ducked ſeveral times, that "his thirſt, "and

* In the Philoſophical Tranſactions, No. 191, Sir Tho. Myern, deſcribing different compoſitions, which he calls Cures for the Bite of a Mad Dog, mentions ſea-bathing. "Let the party," ſays he, "be nine "times plunged in the ſea, while he is faſting, as ſoon "as may be after the bite."—I need ſcarcely take notice of the ſuperſtitious regard paid to the number *nine*.

" and dread of water, might be cured at " one and the ſame time."*

It is needleſs to make any comments on this treatment. The reader will eaſily perceive it was founded on a miſtake. Though ſome of the water might get into the ſtomach, yet the inability of ſwallowing could not be removed, nor the *aquæ horror* become leſs thereby. From this, however, the practice ſeems to have ſlid down to poſterity, and the original intention, miſtaken as

* —" Miſerrimum (Hydrophobia) genus morbi: " in quo ſimul æger & ſiti, & aquæ metu cruciatur. " Quo oppreſſis in anguſto ſpes eſt. Sed *unicum tamen* " *remedium eſt*, nec opinantem in piſcinam non ante ei " proviſam projicere, &, ſi natandi ſcientiam non ha- " bet, modo merſum bibere pati, modo attollere; ſi " habet, interdum deprimere, ut invitus quoque aqua " ſatietur. Sic enim, & ſitis, et aquæ metus tollitur." —After this half-drowning, to guard againſt the debilitating effects of ſuch rough treatment, the patient is directed to be thrown into warm oil, immediately on coming out of the fiſh-pond.—" A piſcina protinus in " oleum calidum demittendus eſt."—Celſ. de Medicin. l. 5. c. 27.

as it was, exchanged for one on no ſurer a foundation, viz. that of a prophylactic.

We find, that in the days of Van Helmont, who lived ſo late as the ſixteenth century, it was only uſed in the Hydrophobia. This author relates, that he ſaw a patient ducked in this manner in the Netherlands, near Ghent, at a place on the ſea coaſt, called *Sluce*. Weights were tied, we are told, to his feet, ſo that he could be kept under water, or hauled up by the rope faſtened under his arms, at any time they pleaſed.

He was thrice ducked. The firſt time they let him down, he was ſuffered to remain under water *ad ſpatium miſerere*, which is about a minute and half; a ſufficient time, I think, to ſuffocate him, though not irrecoverably. At the ſecond and third times, he was allowed only to remain *ad ſpatium ſalutationis Angelicæ, i. e.*

about ten ſeconds.* This man was a cooper from Ghent. It is added, he was cured by this treatment.

THE caſe of a girl is related in the Hiſtory of the Academy of Sciences at Paris, ſaid there to be cured in the ſame manner; and a gentleman now living, of reſpectable medical abilities, thinks he ſaw a perſon prevented from Hydrophobia by the ſame means. Two were bit—one uſed the ſea-bathing a conſiderable time, and eſcaped; the other did not bathe, and died. But there is the greateſt reaſon to conclude, from reflecting on the matter, that had the ſea-bath never been uſed in this caſe, the perſon would have eſcaped, becauſe he was not really infected; and, had the other bathed with all the diligence recommended, he

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* Vid. Berkenhaut on the Bite of a mad dog. Pſalm 51 begins with the word *Miſerere*: Dr. B. counted his ſtop watch while a friend read over this prayer—he found the time one minute and thirty-five ſeconds; and the Salutatio Angelica only ten ſeconds.

he would have died, becauſe he was really infected.

MORGAGNI mentions two caſes where the patients died, though the cold bath had been uſed. In the one, the patient died the night following; and in the other caſe, a little after being taken out. On the whole, to uſe the words of Dr. Berkenhaut, "the "inſtances in which it has failed, as a pro-"phylactic remedy, are innumerable."

SEVERAL, even of the antients, put but little faith in it, no doubt, from the little ſucceſs they ſaw attending the practice. Cæl. Aurelianus reprobates it, as injurious; Salius and others, from their experience, declared againſt its utility; and, from what Morgagni ſaw, we may eaſily conclude what muſt be the degree of his faith.

DR. MEAD expreſſly tells us, that he knew many die raving mad, who had undergone this treatment. Deſault, who has

wrote

wrote on this diſeaſe, tells us, he has ſeen ſeveral proofs of its inefficacy in one year. Four men were bit by a mad wolf; two of them were dipped, yet died within the ſpace of one year. Choiſel, who has alſo wrote on the ſubject, gives his teſtimony againſt it, ſaying, "not one of thoſe who depended "ſolely on this remedy ſurvived the bite "more than thirty-three days."—It is needleſs to quote examples; we find but too many on record of its failure.

I SHALL reſt, then, with the mention only of one more; I mean the gentleman whoſe caſe is related to us by Dr. Munckley in the Medical Tranſactions.—The afternoon of the ſame day on which he was bit, he ſet off for the ſea ſide; this was the 11th of July, 1760.—He ſtayed there ten days, during which he bathed conſtantly; yet, in the ſpace of about ſix weeks after, he became hydrophobic, and died. The words of an eminent gentleman, deſervedly high in the public eſteem, may be quoted on this occa-

occaſion.—" I knew," ſays he, " where " there were twenty-one people bit by one " dog. Nothing was done for any of them, " and only one was taken ill. If they had " all taken medicines, then it would have " been ſaid, that they only loſt one out of " twenty-one."—Now, had all theſe people bathed in the ſea, it would have had the character of a preventative in no leſs than twenty caſes out of twenty-one; ſufficient, ſurely, as it would ſeem, to make us rely on its virtues.

SEVERAL authors have inſiſted largely on the uſe of mercury. Among theſe are to be reckoned Dr. James, the Baron Van Sweiten, and Sauvages; and later ſtill, Dr. de Laſſone, Firſt Phyſician to the King of France.* Dr. Cullen, likewiſe, is inclined to think well of it, and ſays, its utility ſeems to be more ſupported by experience, than

* Vid. Methode eprouvée pour le Traitment de la Rage.

than moſt other medicines.* But, I apprehend, we have no right to determine any thing with certainty in favour of the practice. On the contrary, it has failed in ſo many inſtances on record, where it was not only tried, but its uſe puſhed to a conſiderable length, that we have great reaſon to ſuſpect its virtues; and, perhaps, might be juſtified in conſigning it to the ſame oblivion with other noted ſpecifics.

We are told by Dr. de Laſſone, that it was tried in eleven out of fifteen perſons who were bit, and tore by a mad wolf on the 8th and 9th of December, 1775, within twenty-four hours of each other. Three of theſe, it ſeems, truſting to powdered oyſter-ſhells, (a remedy, it is to be obſerved, ſomewhat ſimilar to our Ormſkirk) died in a few days raving mad. Alſo a fourth, a young woman, who did not apply for relief till two days before her death, and after Hydrophobia had commenced.

Dr

† Vid. Firſt Lines of the Pract. of Phyſic. Vol. IV.

Dr. Blaise, a Phyſician of Cluny, had the care of the remaining eleven. They began a mercurial courſe. One man, after uſing it for ten days, became hydrophobic, and died forty-eight hours after; and, it is added, he died placidly, and in his ſenſes. A ſecond uſed it near a month, then became affected, was furious, and died in two days comatoſe. A third, a boy, who uſed it, as alſo ſome antiſpaſmodic medicines, for eighteen days, was then removed home by his friends, who ſuppoſed him ſafe, but who, three weeks afterwards, died. A fourth was diſcharged, likewiſe, apparently well, after uſing the mercury a conſiderable time; but, lo! ſix weeks after, he, alſo, became hydrophobic, and died. Here, then, are eight out of the fifteen, loſt; four of whom were treated with mercury: the remaining ſeven have their cure attributed to it; but, is it not as reaſonable to ſuppoſe, they never were infected?

If we draw a comparison, it will be found, that a much larger proportion than seven out of fifteen, bit by animals really mad, escape the infection. "Twenty-one "were bit," says Mr. Hunter, "by a mad "dog; nothing was done for any of them, "yet only one fell ill." This is, surely, a convincing proof of what we now advance. It is added, in Mons. Blaise's account, that all those who recovered had used the mercury above a month.

In the case of Abraham Palmer, who was bit in 1783, as lately laid before the public,* we find mercury had a tolerable fair trial; but it was with equal bad success. I shall give my readers an abstract of it in the appendix.

Dr. Houlston† has given us an extract of a letter from a friend of his on the conti-

* Vid. Med. Commen. Vol. I.

† Vid. Lond. Med. Journ. Vol. V. No. 4.

continent, wherein, among other information, an account is given of nine perſons, in the ſame priſon, bit by the ſame dog; yet only one of them became hydrophobic. And, it is added, that he was neither the firſt nor the laſt bit, nor yet the moſt wounded. He fell ſick, it ſeems, more than four months after the bite, was under Dr. Houlſton's correſpondent's care, and died, it is obſerved, convulſed, but without delirium.

THE caſe we have ſeveral times had occaſion to allude to, as giving riſe to theſe remarks, and ſtill ſo freſh in our memory, was treated, among other things, with mercury.—" He alſo rubbed in mercurial oint-" ment till his mouth was ſore,"* but with no better ſucceſs than thoſe we have pointed out.

WHILE Dr. de Laſſone and Dr. Blaiſe extol ſo much the uſe of mercury, behold

* Mr. Hunter's letter to the author.

the auxiliary they call in to their aid! nothing leſs than the very means I have been endeavouring to eſtabliſh as the moſt certain and rational prophylactic. His words (Dr. de Laſſone) are, " It is moſt certain, that " the remedies we have employed, have been " very ſucceſsful;" (is it becauſe ſeven out of fifteen eſcaped?) " but they would have " been much more ſo, 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 " indiſpenſably neceſſary, viz. deep ſcarifications, cutting away the lacerated parts, " and thoſe adjoining to the wounds; the " cautery; applying cupping-glaſſes; and " eſtabliſhing copious ſuppuration, for a " long time, in the part bit."—Then he gives his reaſons, which are as follows:— " Becauſe, it ſometimes happens, that the " ſaliva is lodged in the cellular membrane, " where it remains, as it were, fixed, and " inert, till, brought into action by ſome " cauſe, it enters into the circulation, af-

" fects

"fects the nerves, and produces the train "of ſymptoms of this moſt terrible of "diſeaſes."*

On the whole, we have ſeveral proofs poſitive of its failure, though it was diligently and properly applied; and, as already remarked, one of theſe alone, is of more weight in forming an opinion, than an hundred proofs preſumptive, ſince we had no certainty whether or not there was any infection communicated, that would have ever become active.

It

* Among ſome remarks by Mr. Odoardi in the Memoirs of the Paris Royal Soc. of Med. Vol. II. we are told of nine perſons, bit by a mad wolf, all of whom were treated by mercurial friction, and eſcaped, except one, who was put under the care of another ſurgeon, and was not treated with it. He died hydrophobic on the forty-ſixth day after.—Vid. Med. Com. Vol. VIII. for 1782 and 1783.—Are theſe the ſame we took notice of, as mentioned in the Lond. Med. Journ. for 1784?—It is not ſaid in this laſt, that any treatment had been purſued,

It is needleſs to enquire who was the firſt propoſer of this remedy. We may only take notice, that it appears to be of no very modern date. Among others, we find Palmerius directing it to be applied to the wounds inflicted by a rabid animal. But it was in the form, and for the purpoſe only of an eſcharotic, viz. ſublimate, and red precipitate; that the wound might be enlarged, and the diſcharge thereby encreaſed.

Desault afterwards aroſe, and advanced a theory, or rather an opinion (for he did not endeavour to prove it) that canine madneſs was owing to minute vermicles. And as mercury was well known to be a powerful anthelmintic, he proceeded, on this ſuppoſition, to adminiſter it.* And, like other gentlemen, who wiſh to celebrate, and eſtabliſh their favourite ſpecific, he proceeds to relate caſes of its ſucceſs, as he calls them. He

* Vid. Deſault Sur la Rage. 1734, in 12mo.

He alſo applied it in form of unction to the wounds. To this he joined the uſe of Palmerius's powder, which, for the curioſity of ſuch of our readers as do not know it, we have added in the appendix.

THOUGH Van Sweiten is inclined to ſpeak favourably of mercury, yet he is ingenuous enough to confeſs alſo its failure, and hints at a caſe in the Medical Eſſays, which we hold as a very convincing proof of it. For we are told there, of a youth bit by a mad dog, who was then troubled with a gonorrhœa, and who took at the ſame time his doſe of *mercurius dulcis*, and every following morning his purge; yet the frequent uſe of this medicine did not prevent him from periſhing; for, a month after the wound was inflicted, he died hydrophobic.* Here, as we generally find is the caſe, the wound ſoon healed up.

DR.

* Vid. Med. Eſſ. Edinb. Vol V. part 2. p. 590.

Dr. Dickson likewiſe tried it, without effect. In the beginning of January, 1767, John Brown, thirteen years of age, was immediately carried, after the bite of a mad dog, to the London hoſpital. The parts affected were the right cheek, and ſhoulder. Theſe were ſcarified, and allowed to bleed freely; then mercurial ointment was rubbed on them, twice a day, for ten days, without, however, producing ſoreneſs of the gums. Having no other complaints, the Doctor adds, he was diſmiſſed the hoſpital at the end of three weeks, and continued well for three months; when he ſuddenly felt a pain in the bitten part, and, in a few days after, died hydrophobic.

It is argued, by ſeveral who think well of it, that though it has failed when the body was ſaturated therewith, and this kept up even for a long time, yet it is not ſufficient to condemn its uſe; for, if a ſalivation ſhould be raiſed, and continued for a ſuf-

ficient

ficient time, they are of opinion, there is great reaſon to hope for ſucceſs. Dr. Cheyne is among thoſe who wiſh to inculcate this notion.—" The cure cannot be " certain," ſays he, " unleſs it be brought " to riſe to a quick ſalivation."—His reaſoning is as follows:—" For, as the effect " of this poiſon is quick, ſo muſt that be " of its antidotes."*—I ſhall offer nothing againſt this opinion, but the want of ſupport from experience.

OTHERS who favor this remedy, applied in this way, argue, with reſpect to its utility, on the grounds of analogy, from the encreaſed flow of ſaliva occaſioned by it, and the ſame encreaſed diſcharge from the ſalival glands, always obſervable in perſons under Hydrophobia. It is ſuppoſed, that nature makes efforts to throw off the poiſon by theſe outlets; and that if it be aſſiſted by mercury, which is well known to exert

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* Vid. Deſeaſes of Body and Mind. p. 103.

a peculiar power over theſe, there ſeems to be ample reaſon, it is thought, to hope for ſucceſs; yet, experience, as we have endeavoured to point out, by no means confirms the practice.

ANOTHER reaſon for giving mercury, is built on the analogy of its ſpecific powers over the venereal diſeaſe, where the poiſon, like that of the rabid animal, is drunk up, and carried into the habit by the lymphatics. But it ſurely does not follow, that becauſe it may be a ſpecific over one ſort of poiſon, it is ſo over others entering the body by the ſame channels. The ſmall-pox is an appoſite example. Mercury was never found to kill the variolous poiſon, nor prevent the appearance of the diſeaſe, when once the habit was tainted. This, then, is a weak argument, and totally unfit to give ſupport to the cauſe for which it is produced. Beſides, we found that ſaturating the body failed; but ſaturating the body with mercury cures the venereal diſeaſe, equally well,

nay

nay better, than when ſalivation is raiſed; therefore, if it was a ſpecific for killing the poiſon of a rabid animal, it ſhould prove effectual in this way, as well as in the other. The arguments drawn from this ſource, I think, are not tenable.

Dr. Berkenhaut, mentioning Deſault and the Jeſuit Choiſel, relative to their ſuppoſed ſucceſs with mercury, and telling us, that as he finds where it was thought to be ſucceſsful, it was always applied in form of ungent, that in ſeveral caſes it was, at the ſame time, internally adminiſtered, concludes, that the cures attributed to it, muſt have depended ſolely on the fat, with which the mercury was united.—" For, evidence" he ſays, " is wanting to prove, that the " internal, without the external application " of the ointment, will prevent the Hy- " drophobia—May we not, therefore, ha- " zard a conjecture," he goes on, " that " the lard, or fat, of which the mercurial " ointment is made, is the real preſerva-

" tive ?"—Here the Doctor ſeems to allow, that cures have been made by it, which appears to me to want ſufficient evidence.—" Is not this conjecture powerfully ſup-" ported," he continues, " by the analogy " between the canine poiſon, and that of " the viper, which is effectually deſtroyed " by the viper's fat, or oil of any kind ap-" plied to the part."—He acknowledges, however, that this is mentioned merely as a conjecture, to be determined by future experiments.

In the firſt place, we ventured it as our opinion, in another part of theſe obſervations, that there is little, if any, analogy between the poiſon of a viper, and thoſe poiſons that become deſtructive from entering the habit by the lymphatics, on account of the ſuddenneſs of death attending the bite of the viper, which ſeems to take place, not by abſorption, but by a peculiar power it exerts over the principle of life.—Secondly, that the oil does not prevent Hydrophobia,

appears

appears from its failure in a late caſe, already alluded to, not to mention others on record, where the ointment had alſo a trial—for, "he rubbed in mercurial ointment till his "mouth was ſore"*—yet his diſeaſe, as the unhappy event proved, was neither protracted, nor cured by it.

THE ingenious Dr. Houlſton, it is true, reaſons very ſpeciouſly for it: "Is the in-"ference juſt," he ſays, "that becauſe the "action of mercurials applied, for three, "or four days at moſt, will not cure the "diſeaſe in its laſt haſty ſtage, the ſame "remedy would have been of no avail in "the interval between the bite and the at-"tack?—During that period, a gradual and "ſufficient action of the mercury might "have been excited; whereas, when the "Hydrophobia has appeared, there is ſcarce-"ly ever time for any ſuch effect."† The caſes

* Mr. Hunter's letter to the author.

† Vid. Med. Comm. Vol. VIII. p. 306.

caſes we have already mentioned would ſeem to ſet this entirely aſide; yet I ſhall ſtill be deſirous to ſee farther experiments, either to condemn or confirm its uſe; though, upon the whole, from theſe now related, without troubling the reader either with quotations of more, or farther reaſoning on the ſubject, it would appear, that mercury is as feeble an aid to truſt to, as others taken notice of.*

I AM

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* Among others, we muſt not omit ſome mention, of Mr. Douglas, a ſurgeon, who was a great advocate for mercury, and who wrote ſome obſervations on the ſubject.—Dr. James preſents us with a paper of his at large.—Mr. D in a poſtſcript, takes notice of a diſſertation he had then in the preſs, wherein he conſiders, it ſeems, both antient and modern antidotes.—" From " whence," we are told, " it will evidently appear, " by fair analogical reaſonings, and various experi- " ments, that, that antidote (mercury) which moſt " effectually expels the malignant and deadly poiſon " conveyed by *the ſting of a h-rl-t's tail*, muſt alſo " be the beſt antidote againſt the ſting of the ſcorpion, " the bite of the viper, rattle ſnake, and all the ſer- " pents in the Eaſt or Weſt Indies."—We have refuſed already to admit reaſonings drawn from ſuch analogy.—Vid. Dr. James on Canine Madneſs. p. 130.

I AM inclined, alſo, to believe, much miſchief has been done by the injudicious exhibition of this mineral ſubſtance, in every diſeaſe in which it has been uſed. How many ruined conſtitutions do we almoſt daily behold, from the injudicious uſe of it for the cure of complaints proceeding from unclean embraces! Few know its powers over the human body, compared to the numbers who raſhly undertake to preſcribe it. For, this not only depends on the knowledge of the ſubſtance, in all the combinations in which it is uſed, but on an intimate acquaintance with the ſtructure, and uſes of the various parts of the machine (and a complicated one it truly is) together with their pathology, whoſe irregular motions they pretend to rectify.

IT requires nicety to diſtinguiſh, how far we ſhould proceed in its exhibition, even in thoſe complaints, where its uſe is plainly indicated, and where the cure may chiefly depend

depend on it. All theſe things we call medicines, are extraneous ſubſtances, *i. e.* foreign to the body; not being uſeful in ſupplying nouriſhment, or other deficiencies from the waſte it undergoes; or, in other words, they are poiſons of various degrees of ſtrength, according to their various natures; ſome of them highly deleterious, and ſpeedily and powerfully active, and lethiferous. According, then, to their powers, and the particular habit they enter, they exert their force, always exciting inordinary commotions. They cannot, therefore, be exhibited with abſolute innocence and impunity. In order, however, to prevent a greater evil, a ſmaller muſt be ſuſtained. Here is their utility; and here it ſhould ſtop. To overcome this evil, *i. e.* the diſeaſe, without injuring the conſtitution, and leaving other complaints as the conſequence of their exhibition, lies the difficulty. Here, then, we ſee the neceſſity of much ſtudy, and no leſs experience, before we take on us the important office of regulating health.

BUT,

BUT, to return; with respect to the use of mercury, in the disease which is the subject of these pages, an instance might be adduced, which is given me on good authority, where much mischief has been occasioned by throwing it into the habit, and carrying it to too great a length, under the idea of a prophylactic. The person alluded to was bit by a dog; this medicine was exhibited; the consequence, as I am informed, is, such a state of debility, as will take a long time, and much circumspection in the physician, to remove.

THE limits we wish to prescribe to ourselves, will not allow us to enter farther on the subject of specifics, else much might be said to prove, that all hitherto known have but little claim to infallibility in removing, or preventing Hydrophobia.

SOME, we must observe, from a peculiarity of constitution, never are affected with

Hydro-

Hydrophobia, though really bit by a rabid animal.* Or the body may happen to be in ſuch a ſtate at the time of the bite, that it becomes able to reſiſt the powers of the poiſon. We know, that for the reception of ſeveral of thoſe poiſons that produce diſeaſe, eſpecially the claſs of fevers from infection, when the body is prediſpoſed for their reception, they become more readily infectious, and the more readily exert their force. If the body be in a more tonic ſtate, and not thus prediſpoſed by any debilitating cauſes, rendering it more than commonly irritable, the poiſon ſeldomer takes effect. And hence it comes to paſs, that the ſame poiſons of the ſame ſtrength, acting chiefly upon the nervous ſyſtem, ſhall produce, or not produce their peculiar effects, according to the ſtate of the body at the time of their reception.

WHEN

* Dr. Vaughan relates, that between twenty and thirty were bit by a mad dog, and only the one whoſe caſe he lays before the public was affected.

When one of theſe poiſons is received, we ſhall ſuppoſe it that of a rabid animal, and it either meets with this peculiarity of conſtitution, or with a body not prediſpoſed eaſily to receive it, by which means the perſon eſcapes the infection; ſhould ſome of theſe ſpecifics be adminiſtered, it will be affirmed, the eſcape was to be attributed to the noſtrum. And I have little ſcruple in declaring my belief, that many a ſpecific owes its reputation ſolely to this circumſtance, not to any virtues it poſſeſſes in deſtroying the poiſon.

We find the ſame peculiarity of conſtitution, of which we have been treating, reſiſt the variolous virus. Many have been repeatedly inoculated for the ſmall-pox, without effect — Others have purpoſely frequented the company of perſons in the diſeaſe, with a deſire to catch it, but in vain. To enquire into what this peculiarity conſiſts, is foreign to our preſent pur-

poſe: it is enough for us to know the fact; and is ſuch as ſeveral of my readers, no doubt, have themſelves obſerved.

THE ſaliva of a rabid animal appears to me to be among the weaker poiſons, and, for the moſt part, to require a length of time to ſhew its effects, greater than any other with which we are acquainted. From this cauſe it is, then, that ſo few of thoſe that are bit, become infected. This is a wiſe precaution of the Creator, for our good, ſince its effects, when the poiſon does take place, are ſo dreadful, and ſo much removed beyond the power of medicine, as far as we have yet been able to diſcover.

A MAN bit by a mad cat did not become hydrophobic till the following May, which was between the eighth and ninth month after the accident.* But this, we own, very rarely happens. We have a ſecond example, where

* Vand. Wieſel Obſ. Rar. Cent. 1. No. 100. p. 400.

where the perſon was bit in December, and did not become hydrophobic, till the beginning of the following May: this was about five months after the accident. And even a third caſe is taken notice of by Van Swieten, where the effects did not take place, till after five months and eleven days.

Some are alſo bit through various thick ſubſtances, as folds of cloth; ſtockings; gloves; perhaps even boots. Here the teeth of the animal muſt have been ſo clean wiped, that no ſaliva adheres to them, and, conſequently, no infection can be communicated. This is another caſe in which, if ſpecifics ſhould have been adminiſtered, they would have obtained a degree of credit, which they by no means deſerved.

When perſons, however, are bit in this manner, to know that the danger is leſs, may relieve their minds from much anxiety, and from the miſery always created by apprehenſion. Yet, though much be in favour

of

of non-infection in these circumstances, I would not wish, by what I have said, to give a fatal security. It will still be safe to act as if we thought the poison would appear, and either extirpate, or have recourse to some of those means already recommended.

THOUGH I have thus been using endeavours to disuade from a reliance on nostrums, yet it is not wantonly done. Few men, I am confident, can take pleasure in deceiving; and few would wish to take away that support of hope the miserable lean on, did they not foresee that this security drew after it fatal consequences. Men of undoubted professional knowledge, candour, and humanity, have of late stood forth to destroy this ill-placed confidence. But it is from a thorough conviction of the inefficacy of such means, joined to an ardent zeal for the sake of truth; and when I follow their footsteps, and endeavour farther to enforce their doctrine, it is solely with the same view.

A QUES-

A QUESTION of no ſmall magnitude, in my opinion, comes next to be diſcuſſed, *i. e.* at what diſtance of time from the bite may all dread and apprehenſion of danger be laid aſide? This may be difficult to determine with certainty. We have already taken notice of the difference of conſtitutions, and the varied degree of virulency of the poiſon in propagating the diſeaſe, and determining the time. But I am inclined to believe, that the period of its appearance is not ſo diſtant from that of the bite, nor ſo indi-termined, as ſome have ſuppoſed.

IT appears to me extremely doubtful, whether it ever ſhews itſelf after lying latent for ſeveral years, as ſome caſes of which we read would perſuade us. I am not without ſuſpicions relative to their authenticity. I do not at preſent recollect any on which I can confide, where it ſhewed itſelf at a later period than on the nineteenth month, and this only in

one

one caſe;* and, till I find more reaſon to change my opinion, I hold, that all fear and apprehenſion may ceaſe after one year, or fifteen months at fartheſt; perhaps I might mention a much earlier period.

THE man bit by a mad cat, as related in the Oſerv. Rarior. Cent. 1. No. 100. p. 400, became hydrophobic on the following May, *i. e.* between the eighth and ninth month after.

ANOTHER caſe is given, of a perſon bit in December, and who, in May following, became hydrophobic, *i. e.* about five months afterwards.

VAN SWIETEN relates another, where the effects appeared at the end of five months and eleven days.

MR.

* I am not without ſuſpicions of the authenticity even of this caſe. Mr. Hunter writes me—" The " greateſt diſtance we have yet aſſertained is eleven " months:" and adds, " I cannot ſuppoſe, that the " time is ſo vague as is advanced."—Letter to the author.

MR. CHARLES BELAMY was bit on the 14th of February; about the middle of April he felt a pain in the part, resembling the rheumatism, which he had experienced for two or three years before. On the 7th of June following, he took some pills for it.—On the 13th he felt a contraction of the scrotum, a symptom often found on the approach of Hydrophobia—on the 17th he died.—This was five months after the accident.

ABRAHAM PALMER was bit on the 9th of June, 1783.—On the 17th of July he came to the hospital, with symptoms of the disease.—He died on the third day after.

JOHN BROWN was bit in the beginning of January.—On the 30th of April following, *i. e.* three months after, he came to the London hospital.—He died the same day.

THE

THE gardener's ſervant, who was bit the ſame evening with John Brown, continued well till the 28th of April; or, in other words, was affected two days ſooner.—He died the 1ſt of May.

THE old man of ſixty-nine, bit alſo on the ſame evening, by the ſame dog, became affected about twenty-ſix days after: but it was twelve days from this till he died; or, about five weeks from the time of the bite.

MASTER R. was bit on the 5th of December, 1784.—He continued without any ſymptoms of diſeaſe till the 11th of January following.—On the 13th he died.

THE poor French woman, who was bit by the ſame dog a few minutes before, remained well till Friday the 16th of March, and died hydrophobic on the Tueſday following, at Two o'clock in the morning,* *i. e.*

* Mr. Hunter's ſubſequent letter to the author.

i. e. three months and eleven days after the bite.

THE girl Chrifty, who was brought to the Edinburgh Royal Infirmary in 1765, continued well till within a day or two before fhe came there, which was five weeks from the bite.—She died on the fecond day after.

THE boy whofe cafe is related by Dr. Mead in the Philofophical Tranfactions, was bit on the 20th of April.—On the 22d of May he became affected.—He died on the 24th, *i. e.* two days after.

A SECOND patient under Dr. Mead's care, aged forty-five, was bit ten weeks before he faw him, which was on the 11th of November.—He died the fame day; but, we muft obferve, he became affected on the 8th, *i. e.* three days before.

In a third patient's caſe, with which the Doctor favours us, the ſymptoms began to diſcover themſelves on the third month after the accident.—He continued three days under Hydrophobia before he died.

Dr. Munckley's patient [vid. Med. Tranſ.] was bit on the 11th of July, 1760. —On the 19th of Auguſt he felt a difficulty of ſwallowing—on the 21ſt he died.

James Patton was bit on the 18th of November, 1774.*—On the 9th of February following he became affected, *i. e.* very near three months after; and on the 12th, *i. e.* three days from this, he died.

In one of the caſes related by Dr. Vaughan, the ſymptoms began to appear about a month after the bite.†

In

* Med. Comm.

† Both the ſea-bath and the Ormſkirk medicine were uſed here.

In a ſecond caſe, by the ſame author, the ſymptoms did not ſhew themſelves till nine months from the bite.

A third was attacked with Hydrophobia in the ſpace of a month after.

Of three caſes related by Hildanus, two of the patients became affected at the end of three months; the third, at ſeven.

Dr. Lister's patient fell ill five weeks after the bite.

Dr. Hammond's became hydrophobic in ſix.

William Bland, near Daventry, who was Dr. Adams's patient, became affected four months after.

The only patient of the nine, who were bit in priſon by the ſame mad wolf, and who

who became affected, died hydrophobic on the fourth month after the accident.*

THE patient alluded to, as related in the fifth volume of the Edinburgh Eſſays, ſaid to be affected, when bit, by a venereal complaint, died hydrophobic in the ſpace of a month after.

DR. BERKENHAUT'S patient was bit by one of his father's hounds, ſix or ſeven weeks before he ſaw him, which was at ten in the morning.—He died hydrophobic at twelve the ſame evening.

MR. NOURSE gives us a caſe in the Philoſophical Tranſactions, of rabies, where the patient was not affected till nineteen months after: he then died hydrophobic.—This is the boy, of whom it is ſaid, that between the bite and his death, he was cut for the ſtone, and recovered.—This caſe runs to a later period than what we mentioned; but thoſe

* Vid. Lond. Med. Journ. Vol. V.

thoſe from four weeks to three months, are, by much, the moſt frequent.

WILLIAM KNIPE, a farmer, near Kirby Stephen, remained in health after he was bit, as the account before me ſays, till about the eleventh month.—This is likewiſe a later period than, for the moſt part, we find, takes place.*

CÆLIUS

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* In the Whitehall Evening Poſt for Feb. 12, 1785, we have the following relation :—" About eleven " months ago, William Knipe, a farmer, near Kirby " Stephen, was alarmed in bed by a noiſe in his byre; " when he lighted a candle, and went in, and found a " cow of his in fierce conteſt with a fox.—He at- " tempted to ſeize the fox, and received a very ſevere " bite in his hand.—After three weeks, the cow, ſome " ſwine, and ſeveral other animals which had been bit " by it, became mad, which alarmed him much; and " he went to Ormſkirk, and took the medicine.—Till " Monday ſe'nnight he felt no inconvenience from the " bite; when, in Kirby Stephen market, he com- " plained of a pain, from the wounded hand up to his " ſhoulder, and went home.—On that evening the " Hydrophobia took place, which held him, at in- " tervals; and on the Thurſday following he died " raving mad."—Here, then, is another caſe of the failure of the celebrated Ormſkirk medicine.

CÆLIUS AURELIANUS places the period of attack at forty days. Galen is much of the ſame opinion; as are likewiſe Paulus and Actuarius.

CHOISEL's patients died hydrophobic in thirty-three days.—Speaking on the ſubject of bathing, and reprobating the practice, he ſays, "Not one of thoſe who depended "ſolely on this remedy, ſurvived the bite "more than thirty-three days."

ON the whole, from theſe now mentioned, without troubling the reader with any more, I am authorized, I think, to ſay, that if a period, ſuch as I have already ventured to name, elapſes, and no ſymptoms appear, apprehenſions of danger may, with reaſon, be laid aſide.

BOOKS have told, and tradition has kept it alive, that the poiſon may remain latent for years, and may appear at any time after.

This

This notion multiplies fears, and magnifies the idea of danger to ſuch a degree, as to imbitter the whole period of life: this, ſurely, is a great evil.

As an example, the reader may take that of a perſon in this place.* The ſtory is told me by a gentleman whoſe authority I cannot diſpute, from his opportunities of knowing.

The gentleman, it ſeems, was bit by a dog that he apprehended to be mad. Fear ſeized him for the conſequences. It hung on his mind, and clouded every enjoyment. And though he lived upwards of twelve years after, without experiencing any injury from the bite, yet he was not able to throw his fears aſide. It was his conſtant requeſt to his family and friends, all this time, that if he went mad, he might not be ſmothered between two beds, but be bled to death in his own garden.—We have little reaſon to doubt, but many others have laboured under

* Ipswich.

der the ſame fears, equally groundleſs, from a ſimilar cauſe.

It is my wiſh, then, to point out the fallacy, as it appears to me, of this doctrine, and render confidence to any of my fellow-creatures thus unfortunately circumſtanced, in the hopes of their ſecurity, after a determined time, which, from the caſes collated, I have marked as already mentioned.

The diſeaſe itſelf, which is the conſequence of the bite, comes next to be conſidered. This we ſhall not promiſe to do at any great length; as it has already been well deſcribed by ſeveral ingenious and learned authors, and as little is left to add to the deſcriptions they have given us.

We ſhall paſs over all the diſputes relative to the antiquity of the diſeaſe.—It is of little moment, whether it appeared in the days of Aſclepiades, as Le Clerc alledges; or was known in the time of Homer, as

Cælius

Cælius Aurelianus labours, by quotations from the Iliad, to prove.

It ſeems ſuperfluous, likewiſe, to run over all the variety of ſymptoms that we find mentioned in different caſes, when this dreadful malady manifeſts itſelf. They are various in various ſubjects; perhaps diverſified chiefly by the difference of conſtitution, the age, and the habit at the time. This, we likewiſe find, is the caſe in other diſeaſes. The pathognomonic, and peculiar ſymptoms, whereby it is diſtinguiſhed from others, are but few.

The Hydrophobia, or *aquæ pavor* (dread of liquids) has been held, by ſome, as its characteriſtic mark: by others, it has been refuſed, and examples quoted to ſupport this opinion. This, on the authority of ſeveral authors, I likewiſe, till of late, doubted; and thought with them, for that reaſon, the name, Hydrophobia, improper. Names, however, do not change things;

and ſince we find a difficulty of ſwallowing, with a horror at the approach of liquids to the lips, or when they touch the *gula*, a conſtant attendant, we cannot be wrong in giving this as one of the chief diſtinguiſhing ſymptoms of the complaint.

We ſee a dread of water, it is true, attend ſome other diſeaſes :—the patients refuſe, peremptorily refuſe, to take liquids. But, I believe, from a compariſon of theſe with thoſe from the bite of a rabid animal, a material difference ſhall be diſcovered. I have converſed with many who have attended the complaints: I have ſeen one which I ſhall ever remember, though, at that time, I had no medical reading, nor for ſeveral years after, being then a boy, which has left ſuch an impreſſion on my mind as can never be obliterated.—The horrors, the tremors, the convulſions of the breaſt, throat, eyes, and the whole upper parts of the body, at the approach of the cup—the haſty manner its contents are thrown into

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the mouth, when the patient has reſolution enough to attempt to ſwallow, with the ſcene that immediately follows; are ſuch, as, I am perſuaded, have, in no other diſeaſe, ſaid to have an *aquæ pavor*, any exiſtence:—and I am confirmed herein by the teſtimony of many with whom I have converſed, and whoſe experience in it gives them a right to decide.

I. The firſt ſymptom is generally a pain in the part where the bite has been received, ſtretching in the courſe of the lymphatics towards the heart, or where they unite with the ſanguiferous ſyſtem. We might quote many examples to prove this; but, we apprehend, it will be thought ſuperfluous.

Then come laſſitude; inactivity, and torpidneſs; ſenſation of a weight; diſturbed ſleep (ſometimes none at all till death cloſes the ſcene); terrifying dreams; convulſions; ſtarting of the tendons; perpetual

petual reſtleſſneſs; ſighing; dejectedneſs;* with a deſire of ſolitude.—External organs of ſenſation extremely ſenſible; the ſmalleſt motion of the air producing moſt painful ſenſations; the light offenſive to the ſight; great thirſt; tongue dry; eyes quick and penetrating, with ſomething not eaſily expreſſed in the countenance, yet is what cannot be miſtaken, and which differs from the appearance of the countenance in all other complaints.† Cannot bear a recumbent poſture; cannot bear to look at any tranſparent body, ſuch as a looking glaſs;‡ cannot bear a perſon in ſcarlet clothes—or in white

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* "Whatever he wanted to obtain, whether to "have ſome diſagreeable object removed, or ſome re- "queſt granted, it was implored in the moſt piteous "manner."—Dr. Vaughan.

† "The ſingular appearance of his eyes, was very "ſtriking; and is, I believe, peculiar to people la- "bouring under the Hydrophobia.—The iris ſome- "times changes to an orange colour."—Dr. Vaughan.

‡ "He could look at his own urine in a dark co- "loured chamber-pot, but could not when put into "a glaſs."—Dr. Vaughan.

white clothes.—Pulſe unſteady, and rather hard; changing frequently; ſometimes every minute.—Aſpect likewiſe various, which is eaſily obſerved, by different changes, even while one converſes with the patient.*—Urine ſmall quantity.

II. SECOND.—The pain in the bitten part now vaniſhes; muſcles of the *gula* now convulſed, as ſoon as water or other liquids touch them, producing the utmoſt uneaſineſs in ſwallowing; a great ſenſe of ſuffocation; pain about the *cartilago enſiformis*; ſenſe of a boiling heat in the ſtomach; ſtrong palpitations of the heart; unuſual titilation of the urethra; urine forcibly expelled by ſpaſms; with *ſcroti, et penis contractio ſpaſtica,* to a degree of great pain; after making water, *ſeminis emiſſio.*† Great dilatation of the pupil; blind-

* Dr. Fothergill.

† Both Mead and Liſter, as well as later authors, take notice of the *venetri frequens erectio cum ſeminis involuntarii*

blindneſs, ſometimes temporary only; ſometimes for two or three days; ſometimes continual: and this of either one or of both eyes. Copious flow of viſcid ſaliva.—Reachings to vomit—not always vomiting—yet often regurgitations of the ſtomach.—The ſpaſms of the cremaſter muſcle at length ceaſe; at length the eyes loſe their fierce, threatening appearance, and become more fixed.

As the diſeaſe advances, the pain from ſwallowing encreaſes; and liquids are totally

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voluntarii jactu—as alſo Cælius Aurelianus. Van Swieten likewiſe relates more than one inſtance of it: among others, he mentions the caſe of a porter, as given by Hermandes in his Theſaurus, who breathed out his ſoul, as it is there expreſſed, for the laſt three days of his life, in this way; and, in Bonetus's Sepulchra Anatomica, the caſe of an old man of ſeventy is mentioned, who, from the priapiſm that attended the diſeaſe, was urged to converſe with his wife. It is obſerved, however, that ſome of thoſe ſaid to be ſo affected, had large blifters on them at the time; and it may, in part, perhaps, be attributed to the irritation given by them—yet, only in part, as we ſo frequently find it where none have been applied.

tally refuſed.—Hands and feet become cold: pulſe intermits, and is irregular.—The paroxiſms of the convulſions return at ſhorter intervals—are more violent.—Now a conſtant talking—yet, when queſtions are aſked, rational anſwers are received from the affected. —Pulſe now becomes more frequent.—At length conſtant delirium—horror—and extreme anxiety.—Sometimes, in the fits, a deſire to bite; but, for the moſt part, none. —*Riſus ſardonicus*.—Spaſmodic affections ſtill encreaſe, and become ſo ſtrong as to toſs the patient out of bed, if not forcibly held in it.—Death.—This takes place variouſly—not unfrequently as if ſtrangled with a cord; ſometimes placidly, and without the leaſt ſtruggle; and, ſometimes, even with a ſmile on the countenance.*

FROM

* —" He fell back in the bed, and died with a " countenance as much oppoſed to that of the minute " before as it is poſſible to conceive; the ſcene being " cloſed with ſeveral of the moſt beautiful ſmiles."—Mr. Babington, on Palmer's caſe.

☞ Vid. caſes in the appendix for a proof of the ſymptoms.

FROM the firſt appearance of Hydrophobia, till death finiſhes the patient's miſeries, at a medium, it is about three days.* In one of the foregoing caſes, we found it continue twelve days; but this is a rare occurrence.

MR. BELLAMY became affected with the firſt ſymptoms on the 13th.—He died on the 17th—*i. e.* on the fourth day.

ABRAHAM PALMER felt ſome ſymptoms on the 17th.—He died on the third day after.

JOHN BROWN fell ill on the 30th.—He was brought to the London hoſpital on Monday, May 4th.—He died the ſame night at eleven o'clock.

THE

* Dr. Boerhaave places the final period of the Hydrophobia on the fourth day; Dr. Mead, on the ſecond. Perhaps, on an average, we ſhall be nearer the truth by ſaying, that the third day from the firſt ſymptoms of the diſeaſe, is that which cloſes the melancholy cataſtrophe.

THE gardener's ſervant continued well till the 28th of April.—He died on the 1ſt of May, at noon.

THE old man (Bean) of ſixty-nine, continued twelve days, as already taken notice of.

MASTER R. became affected on the 11th.—He died on the 13th.

THE poor French woman grew ill on Friday the 16th.—She died on Tueſday following, at two in the morning.

CHRISTY came to the Edinburgh infirmary ill.—She died on the ſecond day after.

DR. MEAD's firſt patient became affected on the 22d of May.—He died on the 24th, —*i. e.* two days after.

His ſecond patient became affected on the 8th.—He died on the 11th,—*i. e.* three days after.

His third patient continued three days from the time he was affected.

Dr. Munckley's patient grew ill on the 19th.—On the 21ſt he died,—*i. e.* on the third day after.

James Patton became affected on the 9th of February, and died on the 12th,—*i. e.* three days after.

William Knipe felt himſelf ill on Monday, when at Market.—He died on Thurſday following.

Dr. Vaughan's firſt patient began to complain on Sunday evening.—He died on Wedneſday morning.

His

His ſecond patient became firſt affected on Tueſday June 6th, in the afternoon.—He died about ten o'clock on Thurſday evening.

His third patient began to complain on the 28th of Auguſt, about noon.—He died four days after.

The period which the diſeaſe takes to finiſh its career, ſeems to be nearly the ſame in the human, and in the inferior animals.

It would appear, however, that the virus takes leſs time to become active in the canine tribe than in the human race.

We find the hydrophobic ſymptoms made their appearance in a dog, bit at the ſame time with John Brown, the gardener's ſervant, and the old man Bean, about the ſeventh day after.

In ſeveral other caſes we might quote, where animals were bit, the ſymptoms came on in the ſpace of three weeks.

From the ſymptoms of Hydrophobia now enumerated, it is evident, beyond a poſſibility of doubt, that the diſeaſe belongs to the ſpaſmodic claſs. That the affection begins firſt in the part bit; then proceeds to the throat, and other parts of the body, moſt of which are, perhaps, affected by ſympathy, and conſent. We find the ſtomach, the fauces, external and internal, and the *ſcorbiculus cordis*, affected in a ſpecial manner with a preternatural ſenſibility. The diaphragm is convulſed; the abdominal muſcles are forcibly contracted; hence proceeds the involuntary expulſion of the urine ſometimes obſervable. The priapiſm likewiſe, and affection of the cremaſter, occur where no bliſters have been applied to the body; though, on other occaſions, this ſymptom has been attributed to them.

Boer-

BOERHAAVE muſt undoubtedly be wrong, when he calls the diſeaſe *Summè Inflammatorius:* for, ſurely, neither the ſymptoms, nor the diſſections of ſuch as have died in conſequence of the bite of a rabid animal, in the leaſt, authorize us to draw this concluſion. On the contrary, if we conſider the ſymptoms as related by all who have had opportunities of ſeeing genuine hydrophobia, it muſt appear evident, that the diſeaſe is as truly ſpaſmodic, as any to which the human body is liable.

IF this be allowed, an indication of cure immediately preſents itſelf. The firſt thing, without doubt, we are to attempt, is, to allay the inordinate affection of theſe parts. If there be any cure, it muſt proceed in this line. Here, however, all practitioners have found inſuperable difficulties. The time for acting is ſhort; the diſeaſe runs its courſe moſt rapidly; while the ſymptoms every moment encreaſe in violence. The

avenues,

avenues, through which we might expect to combat it, are, almoſt at once, ſhut up. The patient can neither ſwallow food, nor medicine. Yet, let us endeavour to act, and to act alſo with vigour, while the leaſt poſſibility remains. It would be cruel—it would be inhuman, to forſake the patient under theſe melancholy circumſtances.

In moſt of the caſes I have peruſed, where I conſider the diſeaſe really had been preſent, and where the warm bath had been tried, I find it a remedy that gives the greateſt, and moſt ſpeedy relief. All expreſs the comfort they receive from it; and, notwithſtanding the reluctance with which they enter, and the horror produced from the very touch of the water, which ſeems to ariſe from a morbid ſenſibility of the nervous ſyſtem in general, and of the nerves of the cuticle in particular, the benefit and eaſe they experience, give them courage a ſecond time to ſurmount the dread they feel, and go into it in hopes of ſimilar relief.

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We find, that after coming out of it they ſwallow with more eaſe; and now is the time to adminiſter both food and medicine. One of our chief endeavours ſhould be to protract the diſeaſe, and gain as much time as poſſible for farther action. And this ſeems to be beſt done by keeping up the patient's ſtrength. Hence the propriety of ſome eaſy digeſted aliment; and if this cannot be adminiſtered by the mouth, nutritive clyſters muſt be had recourſe to as a ſubſtitute.

Antispasmodics, of the ſtrongeſt nature, ſhould be applied externally to the throat, and given in as large quantities internally as poſſible. If we give opiates with the hopes of inducing ſleep, we ſhould remember, that as the diſeaſe is violent, the doſe ſhould be in proportion. We are not to trifle away a moment of our time. It it is now moſt precious. Six or eight times the common quantity may be adminiſtered

at once; and repeated after ſome interval, if we find the intention not yet anſwered.

Those who are acquainted with the doſes of this medicine that have been exhibited in ſome other violent ſpaſmodic affections, as the locked jaw (triſmus) tetanus, and a few others of this claſs, with ſafety and the happieſt effects, will not cenſure this opinion.

As we wiſh our medicine to produce its effects in the ſhorteſt ſpace of time poſſible, we muſt make choice of the fitteſt form for this purpoſe. Hence pills are exceptionable, becauſe they do not diſſolve, or diffuſe themſelves ſpeedily enough; and liquid forms, if it be at all practicable to employ them, are to be preferred. But the irritability of the fauces, highly beyond what we experience in any other diſeaſe, and which hardly admits even of the touch of a fluid of any kind, oppoſes here, moſt powerfully, our endeavours. I ſay the irritability of the

the fauces; for, if the ſubſtance could but get into the œſophagus, experience points out, that deglutition, or the puſhing, by the force and contraction of the muſcles of theſe parts, the ſubſtance into the ſtomach, is performed with little or no inconvenience.*

* "It was curious to obſerve, what pains he took "to ſwallow the medicine, and what perſeverance he "ſhewed in getting it into the œſophagus. He fixed "his eyes ſtedfaſtly upon it [Muſk ſcr. j Extr. Theb. "gr. ij in a bolus] for ſome time, and having applied "it to his mouth, he crammed it as far back into the "fauces as he could reach, which ſeemed to be the "ſuperior part of the gullet; after which, deglutition "was performed with little or no difficulty.—This "lack of difficulty in ſwallowing, when the ſubſtance "was conveyed into the œſophagus, I deſired ſome "of the faculty who were preſent, to remark; as it "contradicted an opinion univerſally received, reſpect-"ing the diſorder."—Dr. Vaughan. Caſe I. p. 7.

—"He could chew bread; but ſeemed very atten-"tive in keeping it from touching the back part of the "fauces; and, whenever he attempted to ſwallow it, "the ſame ſymptoms were brought on that enſued "from his ſeeing water (but in a leſs degree) until he "had got the ſubſtance into the œſophagus, when it "was

FROM the caſes on record it appears, that the region of the ſtomach is much affected. We find a boiling heat, as it is expreſſed, at the pit of the ſtomach, in thoſe Dr. Vaughan

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" was tranſmitted to the ſtomach without difficulty." —Dr. Vaughan. Caſe II. p. 24.

—" It is generally believed," ſays this author, in his remarks on the diſeaſe, ſubjoined to the caſe, " that " a conſiderable difficulty in ſwallowing is joined to " the dread of water; and that the œſophagus, with " the muſcles ſubſervient to deglutition, are eſpecially " concerned in this diſeaſe. The attentive obſerver " will find the matter miſrepreſented: the principal " foundation of the evil ſeems to reſt upon a *morbid* " *ſenſibility* both of the *external* and *internal fauces*. For, " the ſight of a liquid, or the application of any ſub- " ſtance to the internal fauces, but more eſpecially of " a fluid, inſtantly excites the moſt painful feelings. " Nay, the ſame ſymptoms are produced by touching " the *external fauces* with a fluid, or by the contact of " cold air with theſe parts; and nearly in as great a " degree. But a ſolid, or a fluid ſubſtance being con- " veyed into the œſophagus, the tranſit into the ſto- " mach is accompliſhed with little or no impediment: " ſo that, in fact, the difficulty is ſurmounted before " the patient is engaged in the action of ſwallowing." —Dr. Vaughan. p. 46.

Vaughan attended; a ſymptom that produced great uneaſineſs, and proves this viſcus to have been affected. From this, and the large quantities of viſcid ſaliva ſecreted in the laſt period of the diſeaſe, a quantity of which muſt neceſſarily paſs down the œſophagus, notwithſtanding the efforts made to eject it by the mouth, the ſtomach muſt be rendered more irritable. This cannot fail to prove another great obſtacle to the internal uſe of medicine. The vomiting ſo frequently obſerved, muſt, I apprehend, proceed, in a certain degree, from this vitiated ſecretion, in addition to the irritability mentioned.

If we attend to the laws of derivation, and retain a belief, that the encreaſe of certain diſcharges, will produce the diminution of others, we may find a ſecond indication; which is to endeavour to open the perſpirable pores, and excite ſweat. This, if brought about, which will likewiſe have its difficulties, may diſſipate, perhaps, ſome

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of the poiſon, and leſſen the inordinate action of the ſalivary glands. It is alſo well known to be powerfully antiſpaſmodic.

The ſkin would appear to be the natural emunctory of many of the violent poiſons producing diſeaſes. We find it ſo of the ſmall-pox; the meaſles; the poiſon that produces the white miliary eruption; the poiſon that excites the ſcarlet efflorescence in the diſeaſe named the *Scarlatina Anginoſa*, and a few others. If we may be allowed to reaſon from analogy in this caſe, it would appear, that theſe analogies are not unnatural.

Medicines, properly choſen, ſhould cooperate with the warm bath; and a proper attention ſhould, at the ſame time, be paid to the other natural diſcharges, I mean urine and ſtools. For the one, perhaps, clyſters will be ſufficient; for the other, if occaſion requires, we muſt have recourſe to thoſe articles of the *materia medica* adapted

to

to the purpoſe, and known to every practitioner.

How far bleeding is indicated I dare not venture to ſay. Dr. Fothergill, and other eminent practitioners, uſed it with freedom. It is alſo powerfully antiſpaſmodic; but it is, at the ſame time, powerfully debilitating. Here, then, ſeems to be as much againſt it, as for it; and the pro and con ſo equally poized, that we are at ſome loſs which ſide to eſpouſe.

To leſſen inflammation is out of the queſtion. We have ſeen, from the ſymptoms, there is almoſt none: diſſections confirm it ſtill farther: nor does a hard pulſe at all times indicate V. S. Irritation (and it is here of the moſt forcible kind) will give a ſtrong degree of vibration to an artery. A proof that the pulſe is affected by irritaton is, its frequent and almoſt momentary change from ſoft to hard; feeble to ſtrong. From the violent degree

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of excitement in the brain, patients bear bleeding, however, to a greater quantity, without fainting, than in moſt other diſeaſes. Doctor Fothergill directs them to be bled ſtanding, as they will faint the readier, an indication, with him, to deſiſt.— I dare determine nothing in ſo critical and nice a point. I muſt leave it to thoſe of greater diſcernment, whether it is to be done at all, or how far it ought to be proſecuted.

Blistering certainly is more eaſily determined. Its uſe is indicated in almoſt all ſpaſmodic diſeaſes. It ſeldom, if ever, produces debility; and it often removes irregularity in the diſtribution of the fluids, &c. But it acts, perhaps, too ſlow in this caſe. We cannot have its effects in leſs than ſeveral hours: nor fully, perhaps, in leſs than from twelve to twenty-four; and, in this time, the diſeaſe may have arrived at its utmoſt extreme. I ſhould not, however, heſitate to apply them over the whole

ſcalp,

ſcalp, and to the nape of the neck. I am doubtful whether we ſhould bliſter the throat, as it might prevent our uſe of ſtronger antiſpaſmodics. Here, too, it will require ſegacity to determine. The comparative power of theſe muſt be carefully weighed, that we may not trifle, and the practice commence accordingly.

To adminiſter mercury now, I am fully perſuaded, will prove uſeleſs. Let us remember the ſhort period that is allowed for life, from the commencement of the hydrophobic ſymptoms. We cannot raiſe a ſalivation, and obtain its effects, in ſo ſhort a time as two, three, or four days. Beſides, in all the caſes in which it has been tried, either as a preventative, or for a cure of Hydrophobia, we have already endeavoured to make it appear, that it has failed of ſucceſs. If we are to be guided by reaſon, by the pathology of the diſeaſe, our chief, and ſole hope ſeems evidently placed in antiſpaſmodics. Muſk, caſtor, camphor, opiates,

ates, zinc, preparations of copper, and ſuch like, ought, then, to be adminiſtered. The moſt powerful ſhould be applied firſt, to obviate, if poſſible, that violence, which otherwiſe muſt ſpeedily be expected.

I HAVE no new remedy to propoſe. No boaſted ſpecific to amuſe the reader with. In place thereof, I have endeavoured, and I think, on good grounds, to ſhake his belief in all ſuch panaceas; the *inanis jactantia multorum ſpecificorum*, as Boerhaave juſtly ſtiles them; and to awaken the patient to a ſenſe of his duty for the preſervation of his life, while there is an opportunity for it. If his credulity is removed, he has it in his power to apply what reaſon points out for his ſafety, and experience, in many well authenticated caſes, confirms to be effectual.

HE deſerves, we think, ſome credit, who points out a defect, though he may not be able to ſupply it. To be ſenſible of

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our ignorance, to be convinced we have hitherto acted wrong, is one ſtep towards acting right, and towards knowledge, ſince we then, and not before, turn our thoughts to another direction in ſearch of it. He that can remove an error in ſo eſſential a point as this we have been conſidering, though he may not be able to ſupply a remedy, may thus be the indirect agent of its accompliſhment, in as far as it opens a field for inveſtigators of greater capacity, who may be more fortunate in their reſearches.

NOTHING is ſo fatal in medicine as a blind ſecurity. Nor ſhould we pronounce any ſpecies of diſeaſe abſolutely incurable. All we have a right to ſay is, that we cannot accompliſh it. For, though the preſent, and antecedent ages have failed in finding a remedy, we act raſhly in concluding the ſame of ſucceeding generations. The mind is progreſſive, and the knowledge of one link in the great chain of cauſes and effects, ſerves as a key to the next; this,

 again,

again, to another; and ſo on. A diſeaſe may arrive to ſuch a point, that from viewing the ravages it has already made in various parts of the machine, and the comparative ſtrength of the whole, we may juſtly, and with little heſitation, conclude it incurable in that particular individual; but, at a certain time of the diſeaſe, our concluſions ought to have been very different.

I AM unwilling to call any diſeaſe, to which the human body is liable, not even Hydrophobia itſelf, abſolutely beyond the reach of medicine. This notion would encreaſe indolence, idleneſs, and put a fatal ſtop to an induſtrious ſearch after knowledge.

I MAY, however, venture to give it as my own opinion, that no real caſe of Hydrophobia, well authenticated, has to this day ever been cured. I read of many cures, but I doubt the authenticity of them—*i. e.*

I doubt,

I doubt, whether the diſeaſe ariſing from the bite of a rabid animal really exiſted in thoſe perſons, on whom the cures are ſaid to be performed.

We all know the power of the imagination over the functions of the body. We all know the effects of fear. If a bite from an animal, ſuſpected to be mad, is received, it inſtantly awakens apprehenſion for the conſequences. This diſturbs the mind, and induces a train of ſymptoms, in many reſpects reſembling what would have really taken place, was the true diſeaſe preſent.

One of the moſt noted cures we have on record appears to me to be that related by Doctor Nugent of Bath, on which he built an ingenious treatiſe, at one time conſiderably read.—His patient's name was Elizabeth Briant. And even here, I think, from a careful peruſal of the caſe, it may be diſcovered, that imagination, and an apprehenſion of danger, formed the chief of the

the ſymptoms which the Doctor attributed to real Hydrophobia.

FROM the time her apothecary adviſed her to uſe prophylactics, and go into the cold bath, which was a fortnight after the accident, we find her under conſiderable agitation of mind. We cannot doubt of her apprehenſions being raiſed by his ſuggeſtions. Theſe encreaſed, till Hydrophobia, it is ſaid, actually appeared. She trembled at the very ſight of a dog; nor could ſhe touch one without the greateſt emotion. The Doctor tells us ſhe was well, and could again ſwallow, and continued well for ſome time, till a perſon came and told her, that, though ſhe thought herſelf cured, ſhe might be ſure to die, and deſired her not to feed herſelf with vain hopes of an eſcape. At this, as might be expected, ſhe was greatly moved; and, inſtantly, all her ſymptoms returned as violent as before; nor was it without much care, and the exhibition of the ſame antiſpaſmodics, that they were

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removed.—She muſt, by this alarm, have been thrown into violent hyſterics, and, no doubt, had both a dread of liquids, and difficulty of ſwallowing, ſymptoms which this *proti*-form diſeaſe may, and has, occaſionally, put on.

The Doctor ſeems, however, to have followed a judicious enough plan of cure. —He ſaw her diſeaſe was to be ranked among the ſpaſmodic claſs; he therefore adminiſtered the moſt powerful antiſpaſmodics internally, and applied them externally.—He purſued his plan; kept her mind as much at eaſe as poſſible, and ſucceeded in reſtoring her to health. She was ſeized, indeed, on the thirty-ſecond day after the bite, which is much about the common time when ſymptoms of Hydrophobia firſt ſhew themſelves; but, it was not till after being alarmed at a dog's going mad, that was bit by the ſame animal which bit her.

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In a caſe, called Canine Madneſs, treated ſucceſsfully by M. Wrightſon [vid. Med. Tranſ.] the diſeaſe made its appearance much earlier than we generally find. The boy (Thomas Agar) was bit on the Sunday; on Tueſday the dog was hanged, it is added, with all the ſymptoms of madneſs on him. —Next day, *i. e.* Wedneſday, ſymptoms of Hydrophobia, we are told, appeared in the boy.—On Friday, when Mr. Wrightſon firſt ſaw him, he was tied down to the bed with cords.—The ſymptoms related ſeem more like phrenzy, than Hydrophobia; and, from their commencing ſo early, it inclines me to think, they proceeded entirely from fear. We have few caſes of true Hydrophobia on record, where the ſymptoms ſhewed themſelves at an earlier period than five weeks.—Mr. Wrightſon informs us, he purſued Dr. Nugent's Method of cure, viz. the exhibition of antiſpaſmodics, as muſk, opium, V. S. and the like.

In

In another caſe, related by Mr. Falkener [vid. Med. Tranſ.] where the diſeaſe was alſo ſaid to be preſent, Hannah Moore, which was the woman's name that was bit, felt no inconvenience, till two horſes, bit by the ſame dog, fell ill and died.—All the dogs bit by this mad animal were then hanged.—Theſe things could not fail to alarm her greatly. We are not told at what diſtance this was from the bite; but a train of ſymptoms are given, reſembling Hydrophobia, and a method of treatment, which proved ſucceſsful, added.

A gentleman of veracity informs me of a perſon bit by a dog, and who, from terror and apprehenſion leſt he ſhould become affected with Hydrophobia, though he had no certainty of the dog's madneſs, really grew ill, and believed himſelf already under the diſeaſe. A Phyſician of character was ſent for; this was even ſome weeks after the accident. When he arrived, he found

found the patient affected with ſymptoms, which a ſuperficial obſerver would immediately have called hydrophobic. He treated the caſe as a nervous affection, uſing, at the ſame time, arguments to confirm the certainty and ſafety of the method purſued; whereby the perſon ſoon recovered.

THERE was even a ſeeming *aquæ pavor*; with ſome other ſymptoms, which, at firſt, made the Phyſician doubt, whether it might not be real Hydrophobia.

THE ſtory got abroad, that he had cured a caſe of *rabies canina*, and for ſome time it was the current converſation of the neighbourhood. This induced my revered friend, who relates me the caſe, to enquire of the Doctor, with whom he was on terms of intimacy, concerning the truth of the tranſaction. —The Doctor, however, freely confeſſed to him, that he believed all the ſymptoms might be explained on the principle of fear alone, without having recourſe to Hydrophobia,

phobia, which, it was his real opinion, never exiſted.—We know that convulſions, and many other evils, have been induced by fear, and, for years, exerciſed ſuch force over the patient as to produce much miſery.

It has been generally thought, that thoſe affected with this unhappy malady always die mad. This is a miſtake. No madneſs attends it. The patients can converſe as rationally as ever, during the time they are ill. This may be proved from almoſt every caſe of the diſeaſe. All authors who have ſeen it, confirm this, and generally note it down in their relation of the ſymptoms.

In the laſt day, or ſo, of illneſs, delirium, and ravings, for the moſt part, come on, with great violence—continue ſome time, when they yield, and there is a lucid interval, when the patient diſcovers his rationality, anſwering with propriety ſuch queſtions as are put to him, and ſhewing no deſire whatever to do miſchief. Theſe paroxiſms of

delirium cannot be called madneſs; they bear no relation to what we generally underſtand by this term.

FROM this miſtaken notion proceeded that cruel practice of ſmothering the unhappy patient between two beds, or ſtopping his breath between two pillows.—I hope, for the ſake of humanity, it will never again be practiſed.—We have pointed out, that the period of the diſeaſe, at moſt, is but ſhort—and though we may deſpair of curing it—we may, and ought, to adminiſter every degree of comfort to the afflicted which can be done.—Should this notion prevail, all will forſake him; and it will then be conſidered as expedient to cut ſhort his life.—This has, indeed, too often happened.—Van Swieten tells us, "Even "this ſeverity has been practiſed by direct "permiſſion from the ſuperior magiſtrate." —But he very juſtly adds,—"'Tis, however, "cruel to kill a man becauſe we cannot "cure him."—The ſame barbarity is alſo repro-

reprobated by Tulpius,*—and ought, in the ſtrongeſt language to be reprobated by every man who has attended to the nature of the diſeaſe.

I AM not ſure how far even their ſaliva is dangerous; I ſhould, however, be afraid of a bite from a perſon under the diſeaſe, though I can give no direct proof that it can be communicated by the human race. I read of ſome diſſections, where the operator ſcratched his finger while he inſpected the body, and where much more inflammation and pain followed, than is generally found from trifling wounds with an inſtrument not infected or beſmeared with ſaliva, or other fluids from the corpſe of an hydrophobic. But this does not reach far enough for a proof

* "Opus non fuit, nec huic, nec aliis ægris (quos "equedem vidi ſatis frequentes) mortem maturare, ſive "per ſtragula, ſive per culcitram (uti loquitur vulgus) "ore impoſitam. Pereunt quippe per ſe ſatis celeriter: "ut pote raro ſuperſtites, cum aquæ formidine, in diem "vel tertium vel quartum."—Vid. Obſ. Med. l. 1. cap. 20. p. 42.

a proof that the diſeaſe may be communicated in this way.

WITH reſpect to the canine tribe, we find, from the authority of authors, that inſtruments uſed in killing mad dogs, and left unwiped, can, after a long time, like a lancet infected with variolous matter, communicate the malady; as alſo threads wetted with it. We have adduced examples of all theſe in a former part of theſe pages. Yet it has been known, that perſons have, without injury, put their fingers into an hydrophobic's mouth, and, unhurt, drawn out, from time to time, the viſcid, ropy ſaliva from thence, that gives ſo much uneaſineſs. This was the caſe with the keeper of Dr. Munckley's patient.* Here he not only eſcaped free from danger, but had not the leaſt apprehenſion from his biting.—Yet all this was done in the very laſt ſtage of the diſeaſe.

WHILE

* Vid. Appendix.

While I ſay this, however, I do not mean to give a decided opinion on the ſubject; neither do I wiſh to diſſuade perſons from a proper regard to their ſafety, who attend ſuch patients.—As to the noiſe, reſembling the barking of a dog, which is ſo often talked of—it is nothing more than the patient's endeavours to get rid of the viſcid ſaliva, which is now preternaturally ſecreted, and which excites the ſame uneaſy ſenſations as water itſelf.—The voice is indeed changed from its natural tone by the diſeaſe; the other is a mere hawking up of ſomething irritating, and troubleſome in the throat.—A heated imagination may, on ſome occaſions, call it barking; but, accurate obſervation, and rational induction, will always draw a very different concluſion.

We proceed next to a part of our ſubject, that, of late, has been the occaſion of ſome public animadverſions between the author of theſe pages, and an ingenious anonymous writer,

writer; I mean the WORMING OF DOGS.— Though this be a matter of leſs moment, yet, having a near connection with canine madneſs, in as far as it has been, almoſt time out of mind, practiſed, it behoves us to enter a little more minutely into its conſideration.

I DOUBT not but it muſt have been a common practice much earlier than the days of Pliny the Second, though it is from his writings the commencement is generally dated. In a great part of his Natural Hiſtory, he only collects together things he had either read of, or ſeen; and, among theſe, it is but natural to conclude, he had ſeen the practice of dog-worming, and that it was common in his days, and, perhaps, kept up, by cuſtom, from a much earlier date.

HE has been, however, but ſhort on the ſubject: but here, as in many other parts of his work, he has been deciſive in his opi-

opinion, though erroneous.—" Eſt vermi-
" culus in lingua canum, qui vocatur a
" Grecis Lytra, quo exempto infantibus
" catulis, nec rabidi fiant, nec faſtidium
" ſentiunt."*

HERE is the whole paſſage, to which not only our forefathers, but ourſelves, have paid, even almoſt to the end of the eighteenth century, and in the face of phyſiology, and improved philoſophy, implicit obedience, and given to it a ſtupid belief.

SOME few, however, muſt be exempted from this charge of ſimple credulity, who have ventured to aſſert its inſignificancy.—Among theſe, Dr. James is firſt to be reckoned. The Doctor was a profeſſed Dog Doctor, and was conſulted on the ſubject from all parts of England, by ſportſmen, and others who bred this animal. He ſpoke, no doubt, from experience: he muſt have

* Vid. Plin. Nat. Hiſt. lib. 29. c. 5.

have ſeen many run mad who had been wormed, and bite likewiſe; yet he has omitted to give us any examples; and hence, what he has ſaid has generally been looked on as a matter of opinion, and little regard paid to it.—Dr. Berkenhaut, lately, in ſome obſervations on the ſubject, has alſo treated it with the contempt it deſerves. —And, on weighing the ſubject, in like manner, I could not avoid ſeeing its abſurdity, and being fully of their opinion.

I SHALL quote what Dr. James ſays on the ſubject. About to reprobate ſeveral prophylactics, the Doctor ſays,—" The firſt " I ſhall endeavour to ſet a mark of infamy " upon, is that operation which is called " *worming a dog*; and the rather, becauſe " the notion many people have, that no " dog can go mad after it; and of others, " who firmly believe, that a dog thus " treated cannot bite, though he ſhould be " afterwards mad, may have very untoward " conſequences, by lulling thoſe of this

" opi-

" opinion into a fatal ſecurity, whilſt they
" are converſant with the domeſtic animals
" that have ſuffered this ridiculous cruelty.

" I HAVE frequently ſeen dogs wormed,
" as they call it, and find it thus: there is
" in almoſt every town, or village, in Eng-
" land, ſome cobler, or farrier, or huntſ-
" man, that boaſts a dexterity in taking a
" worm from under the tongue of a puppy.
" Their fee is uſually from a ſhilling, for
" dogs of the more genteel ſort, to a
" penny, or a mug of ale, for curs.—They
" elevate the tongue, and with an awl, or
" a pen-knife, or ſome pointed inſtrument,
" make a puncture under it, and draw out
" a very ſlender filament, which I take to
" be a *nerve*; and this contracting when
" recently taken away, the idiots fancy it
" ſtirs, and believe it a worm, to which it
" bears no manner of reſemblance.

" BE that as it may, I am *certain* from
" *experience*, that dogs thus treated, run

" mad equally with thoſe who have never
" ſuffered this abſurd operation. There is
" no worm in the part, I firmly believe,
" and, conſequently, none can be taken out.
" All that this can do is, to prevent puppies
" from biting or knawing every thing they
" meet with; and for no other reaſon, than
" becauſe it makes their mouths ſore, and
" gives them pain when they take any hard
" thing in their mouths; and this breaks
" them of the habit."*

HERE, however, it is to be obſerved, the Doctor is miſtaken when he calls it a nerve. More accurate obſervation would have taught him, that it wanted even ſimilitude to a nerve. Nerves are ſoft and pulpy ſubſtances, and do not contract on being cut. On the contrary, they elongate themſelves a little. This, without going farther, ought to have pointed out the improbability of this organ's being a nerve. To deny its being a worm, is altogether ſuperfluous; I believe, the moſt ſtre-

* Vid. Dr. James on Canine Madneſs.

ſtrenuous advocates for *worming* have given up this idea.

Dr. Brodie differs from others in his opinion of it. He thinks it is a gland. On this ſuppoſition he has imagined, that there may be truth in the common notion, that wormed dogs do not run mad; or, if they ſhould go mad, as obſervation proves has been the caſe, as much as if they had not been deprived of it, they are thereby rendered incapable, it is thought, of communicating the diſeaſe.

Those who ſupport the idea of its being a gland, argue, that it is neceſſary for the ſeparation of the poiſon at the mouth; and hence this gland is given to the animal. Therefore, if it be extracted, the poiſon cannot be communicated, becauſe the organ neceſſary to make the ſeparation does now no longer exiſt.

This,

This, no doubt, would have been ſound reaſoning, had the foundation been firm. But this happens not to be the caſe; the thing itſelf is not true. It is no gland. This part of the argument ſhould have firſt been well examined; and then there would have been more certainty of the ſecurity of the building; which, unluckily, for want of this precaution, tumbles at once in a ruinous heap.

In the firſt place, it is not like any other gland in the body. No duct has yet been diſcovered going out from it, by which, like all other glands the excreted liquor is to be carried away. The parotids, the ſublinguals, and all other conglomerate glands, have a canal running from them to the place where the contents are to make their exit, or be depoſited, for the purpoſes of nature.

The

THE conglobate, or lymphatic glands, as they are more generally called, have their respective lymphatic vessels, or ducts, to carry the contents to the great receptacle, or thoracic duct, which pours its contents again into the blood. It becomes, indeed, the very essence of a gland to have a duct; but no such thing has been discovered here. This alone might convince us, it was no more a gland, than a worm.

MORGAGNI, who has taken some pains to investigate its nature, and whose opinion in what respects anatomical researches, the public place just confidence in, on most occasions, tells us, it is composed of ligament and tendon; and gives it the term of tendinous-ligament.* Had he found reason to suppose it a gland, he would have told us on what grounds he had founded his opinion.

BUT

* De Caus. & Sedib. Morbor. l. 1. ess. 8. art. 35.

But the naked eye can moſt diſtinctly and evidently trace theſe two ſubſtances, ſeparately, of which this eminent anatomiſt tells us it is compoſed, in a longitudinal direction, and parallel to each other. The one appears clear, and ſemi-tranſparent; the other, dark in its colour. The tendon ends with the body or bulky part; the ligament grows ſmaller, and leaving the tendon behind, runs out alone, in length near an inch, in one now in my poſſeſſion, and ſmall, like a fine thread, or rather hair, to connect itſelf with the ſubſtance of the tongue towards its root. What may be the real uſe of this little organ in dogs, I muſt leave to more able and accurate phyſiologiſts to determine; but, that it is for a different purpoſe than what many attribute to it, appears to me not only probable, but a rational concluſion.

Some, who have given up the idea of its extraction on the grounds of preventing dogs

dogs from going mad, have yet maintained, that ſuch dogs, though they might go mad, never attempted either to bite, or to run away, but died ſullen, or ſleepy mad, as they expreſs it. This is the opinion of the gentleman who wrote ſome remarks on the ſubject, addreſſed to me.* He thinks wormed dogs cannot bite when mad:— "Experience having ſhewn," he ſays, "time out of mind, that by taking "out the tendon that grows under the "tongue, not one ſingle inſtance has ever "happened of any perſon being bit by a "dog ſo wormed. And it has been ob-"ſerved," he goes on, "that out of ſeveral "packs of hounds, and many other dogs, "that have been mad, thoſe wormed have "fallen off their meat, refuſed water, and "always died ſullen, or ſleepy mad, not "one of them ever offering to bite any "thing; when other dogs, part of the ſame "pack of hounds, which were neglected "to be wormed, though bit at the ſame time

* Vid. Ipſwich Journal for Feb. 1785.

"time by the ſame mad dog, have acted as "uſual, biting every thing that came in "their way."—The account here given ſeems to have been taken from ſome huntſman, incapable of diſtinguiſhing phænomena, or one diſeaſe from another: for he does not give it as his own, though he builds reaſoning on it; as appears from his ſaying, "It has been obſerved," &c.*

I WAS aware, that his eaſineſs of belief, and confidence in the accuracy of others, led him to produce theſe as proofs in favour of worming, though reaſon ſtarted up in oppoſition to them. Truth, however, not the love of victory alone (for which, independent of truth, no man ſhould ever contend in philoſophic inveſtigations) led me to enquire farther into the ſubject; when I was fortunate enough to procure examples ſufficient to eſtabliſh my firſt opinion, and to leave no pretence hereafter for the practice of dog-worming.

It

* Vid. appendix for the diſpute at large.

It ſhould, however, be remembered, that madneſs is not the only diſtemper to which dogs are liable. Many have, no doubt, been called mad, that were affected with other diſeaſes.—Dr. James, whoſe authority in theſe caſes has, indeed, much weight, ſays there are two ſorts of madneſs; one which he calls *raving madneſs*; and is attended with delirium: the other, *dumb madneſs*, accompanied with a ſort of *coma*. Theſe are the terms, he ſays, uſed by the huntſmen. In the laſt, the dog lies ſtupid, and, as it were, ſenſeleſs, "taking no manner of notice of any body, or any thing, "till he dies, never attempting to bite."* According to the gentleman quoted above, theſe would have all been wormed dogs. But had they been ſo, Dr. James would not have omitted to mention it. For then it would have been a ſufficient, and cogent reaſon for his recommending worming;

* Vid. Dr. James on Canine Madneſs.

whereas, he takes pains, as we have already ſeen, to reprobate its abſurdity.—It would appear, that this laſt is a ſort of fever incident to the animal, and materially different from the other, which is termed *rabies*.

THERE is an evident diſproportion between the cauſe, and the effect which is ſaid to be produced, in attributing to the extraction of the little ſubſtance already taken notice of, to the prevention either of madneſs, or of the animal's incapability of biting when rabid. This cannot fail at once to ſtrike an unprejudiced mind. I wiſhed ardently to put the matter to the iſſue of poſitive proof by experiment, the firſt opportunity, as it appeared to me to carry with it a glaring inconſiſtency.

MR. RIPSHAW, keeper of Ipſwich gaol, however, afforded me ample ſatisfaction on this head, ſooner than I expected.—He had read in the Ipſwich Journal what had been ſaid on the ſubject, both for and

againſt

againſt it.—He has himſelf wormed many hundreds of dogs; and is a conſiderable Dog Doctor.—He has often alſo diſſected this animal: therefore, his teſtimony in a caſe of this kind, as his veracity cannot be diſputed, muſt appear deciſive.

He relates, and is ready to atteſt, when called on, that, among others, he wormed a dog for one Cutting, a butcher in this town (Ipſwich). That the dog not only went mad, but bit a cow, a gander, and a ſpaniel of his own, on which he ſet great value. The cow and the gander went, ſoon after, mad; and, to prevent the ſame event in his own dog, he ſhot him; and adds, that the loſs gave him great uneaſineſs.

At another time, two other dogs he had wormed alſo went mad, and both ran away —(the dog we have already mentioned likewiſe ran away)—but he cannot aſſert whether they bit other animals.—He wormed alſo another, when it was a puppy of about

four

four months old. It remained well till about three years after, *i. e.* till about half a year ago; when it went mad, ran away from its maſter, and bit a great number of other dogs, ſeveral of whom went mad ſoon after. All this can be atteſted by different people in this place, ſo that the facts are eſtabliſhed on the ſureſt foundation of accurate obſervation, and faithful relation.

THUS far of worming.—Though, for the moſt part, the diſeaſe is communicated by the bite of an infected animal, yet it may not always proceed from this ſource. Peculiar circumſtances may generate it, independent of a bite. Long continued heat; and, authors ſay, alſo long continued cold, may prediſpoſe, in a certain meaſure, to its production: if to this be added putrid fleſh meat, want of water, and of proper exerciſe; theſe will be other powerful concomitant cauſes. It is likewiſe to be conſidered, that the dog is a ſpecies of animal that nature has not endowed with perſpirable pores; hence no

per-

perſpirable matter can paſs off from the body, as in other animals, the whole paſſing off by the lungs alone. This may, in like manner, contribute its ſhare towards rendering the fluids more acrid, and become an additional occaſional cauſe, while the whole uniting, may produce a *fever ſui generis*, and beget a *poiſon* dreadful in its conſequences to every ſpecies of animals that receive it into their ſyſtem.

THE maſtiffs which we keep to watch our houſes, and which are, perhaps, the moſt uſeful ſpecies of this domeſtic animal, are, for the moſt part, confined to the treatment mentioned here. Their food conſiſts chiefly of putrid horſe-fleſh, and offals of the animals killed for our own ſuſtenance. It is by this means we give them that fierceneſs and boldneſs for which they are valued. This is often kept ſo long after we purchaſe it for them, that it becomes almoſt a maſs of corruption itſelf before it be finiſhed. We may judge what changes it is then capable

of

of making on the fluids. We, for the moſt part, chain them up. Hence it is impoſſible they can get ſufficient exerciſe, without which no animal can be healthy. Servants are but too often negligent in what is required of them as their duty, and ſhould the taſk of giving them water be entirely left to their care, there is but too much reaſon to ſuppoſe they will be but very indifferently ſupplied. As they are chained up all day, they cannot relieve themſelves. It would be well, if better attention were paid to theſe circumſtances.

Boerhaave is wrong when he tells us, dogs in the firſt ſtage of madneſs refuſe all meat and drink. The caſes we quote prove the contrary. And this ought to be the more attended to, as it is a common, though very erroneous notion, almoſt univerſally received by all ranks. But, as it is fraught with danger, I think it incumbent on me to warn the public of the fatal ſecurity that may proceed from it.

Many

Many caſes might be quoted to prove the fallacy of this opinion. Dogs ſo infected as to produce the diſeaſe, as experience on too many occaſions has pointed out, will fawn on their maſter or others, fly up and lick their hands in good nature, will take food when offered, without any perceptible change, and appear nearly as in health, only their temper is ſomewhat more eaſily ruffled. This, however, conſtitutes an early ſtage of the diſeaſe. And now, in caſes of any ſuſpicion, they ſhould conſtantly be tied up.

It is a bad method to kill a ſuſpected dog: for then it is not eaſy to aſcertain the fact; and ſhould it ſo happen, that perſons are bit by him, it leaves them ever after under the dread of apprehenſion.

In the Academy of Sciences we are furniſhed with an experiment to prove whether a dog was really mad, who may thus prematurely be killed. How far it is a teſt

I dare

I dare not ſay. We are directed there to rub a piece of boiled meat on the teeth and gums of the animal killed on ſuſpicion; and then offer it to another dog. If he was affected with madneſs, we are aſſured, the dog to which this piece is offered, will fly from it with fear and horror, barking and howling: if not mad, he will devour it inſtantly.*

If this teſt be found good, it cannot fail to prove very uſeful; eſpecially as many a dog is hunted down, and falls a martyr to the blind zeal of the injudicious populace, and the hue and cry raiſed by ignorance and precipitate outrage.

A FAR

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* Sir Thomas Myern directs, that the feathers may be plucked from the breaſt of an old cock, and applied bare to the bite. This is to be done on every wound given. If the dog was mad, we are told, the cock will ſwell and die, and the perſon bit, do well; but, if the cock dies not, the dog was not mad.—A moſt accurate and effectual method, truly, of diſtinguiſhing *rabies* in this animal!—But it accords with the ſuperſtition and ignorance of the times.

A FAR different treatment ſhould, on ſuſpicion of madneſs, be followed. If the animal be killed, the truth can never be aſcertained; and ſhould perſons be bit by him, their apprehenſions muſt continue; whereby they muſt feel all the horrors of their ſuppoſed dangerous ſituation, and all the anxiety that doubt can create.

BUT, ſhould he be inſtantly tied up, till time had aſcertained his real ſtate, either their fears would be removed, or the danger they ſtood in demonſtrated, whereby they might have it in their power to uſe ſuch precautions as may be judged moſt proper and expedient in theſe circumſtances.

IT has already been taken notice of, how ſeldom perſons become affected with hydrophobia, even though bit by animals really rabid. We may ſay, that, on an average, perhaps, not one out of twelve to ſixteen, ever ſuffer any injury.—Mr. Hunter knew

where no leſs than twenty-one were bit by a mad dog, and only one of them took the diſeaſe. Dr. Vaughan tells us, that only one, whoſe caſe he relates, took it, though between twenty and thirty were bit by the ſame dog. Many other obſervations tend to confirm it. This, ſurely, is the kind interpoſition of the Diety in our favour, that a diſeaſe ſo deſtructive, and, as yet, beyond human ſagacity to remove, ſhould ſo ſeldom occur, in proportion to the numbers that receive injury from infected animals.

And here ariſes another queſtion, worthy, perhaps, of being aſcertained, *i. e.* whether as Dr. James will have it, dogs fly from perſons actually infected? If ſo, it would appear to be a ſtrong proof of the ſalutary inſtinct of the canine tribe. They ſhun one another when infected; the acuteneſs of their olfactory organs, it would ſeem, gives them notice of ſome baneful change in the fluids, by the diſagreeable effluvia

which

which now taints the air, and is offenſive to them.

MAY not the ſame be reaſonably ſuppoſed of their ſagacity, and acuteneſs of ſmell, with reſpect to the human race? There appears nothing unnatural in the ſuppoſition; nor is the analogy, by any means, diſtant.

SEVERAL authors who have wrote on this diſeaſe, have talked much about the new and full moon; and the effects of their medicines when given at theſe times, in preference to any other; and alſo, that theſe were the moſt likely times for Hydrophobia to ſhew itſelf.—No regard is to be paid to this.

WHEN Mr. George Dampier recommended his Jew's-ear [vid. Philoſ. Tranſ. No. 237] on which Dr. Mead afterwards, placed ſo high a value, under the name of *Pulvis Antyliſſus*, he tells us, that after a

dog

dog hath bitten man or beaſt, the effects do not begin to appear till after the new, and full moon. This, in part, however, is true; but true in a different ſenſe, from that in which it was then generally underſtood. We have both new and full moon in the ſpace of a month; and we know, the diſeaſe ſeldom makes its appearance ſooner.—Hence, in this ſenſe, it may be true; and now the obſervation becomes a farther proof of what has been already pointed out, that few caſes of the diſeaſe appear at an earlier period after the bite:—but, in the other ſenſe, it is advanced on ſuperficial obſervation; is fabulous; and without foundation in truth.

Another period, beſides the new and full moon, has been held, by ſome, as more than commonly ominous; this is the aniverſary of the unhappy accident. Perſons who have been bit, have had their apprehenſions kept alive, and encreaſed about this time.—They thought, that if the diſ-

eaſe

eaſe was to appear, it would begin its attacks on this day, in preference to any other.—This is a vulgar error; yet it has cauſed much uneaſineſs, not only to thoſe who come more immediately under this denomination, but to perſons of no mean underſtandings.

We have touched already on the effects of imagination, and the power it has in producing diſeaſe. A proof of its powers, as well as of this error, may be given from a popular publication, now almoſt in every one's hands.—Mrs. Belamy tells us, ſhe ſuffered much from this:—"I had" ſays ſhe, "diſcharged my lodgings in town, "(London) together with my footman and "maid-ſervant; I had ſent my Black to "Mr. Woodward, and kept only my old "Grace, a blackbird, and a favourite *dog*.

"The latter had for ſome days appeared "to be ill, and refuſed all food; when, "upon calling him, in order to induce

"him

" him to eat, the little animal flew to me,
" with ſeeming fondneſs, and fixed his
" teeth in my upper lip. Mr. Woodward,
" who happened to be preſent, inſtantly ex-
" claimed,—" I hope you do not bleed !"—
" This, with my obſerving affectionate ap-
" prehenſions in the looks of every perſon
" in the room, made me conclude the dog
" to be mad, and that I ſhould partake
" of this malady.—I was conſequently ſei-
" zed with inexpreſſible horrors ;—and, if
" I did not fear death itſelf, yet I could not
" help being ſhocked when I imagined him
" (Death) to be approaching with unuſual
" terrors.

" It is well known," ſhe goes on, " that
" dangers appear much more alarming in
" apprehenſion than in reality. My feel-
" ings, on this preſent occaſion, confirmed
" this truth ; for Mr. Bromfield, who had
" been ſent for as ſoon as the accident hap-
" pened, declared, that I felt infinitely more
" than if the ſaliva infection had operated

" in

" in its full force. Such a deep impreſſion
" did this event make on my mind, that,
" for ſeveral years after, I was in *agonies*,
" upon the *aniverſary* of the day on which
" it happened." *

It will be to me infinite ſatisfaction, if I can become the means of removing, from the minds of any of my fellow-creatures, the dread occaſioned by a belief in theſe erroneous and hurtful notions.

I wish, for the ſafety of individuals, we bred fewer of theſe animals than is now in faſhion. We ſeem to be multiplying the breed without end—and this alſo without any good whatever in view. We throw away on our dogs what might be of great ſervice to the poor—in this, I cannot help thinking, we are criminal. A tax on dogs, I am ſincerely of opinion, would prove of public utility, as well in regard to the pre-

vention

* Apology, Vol. IV. p. 137.

vention of Hydrophobia, as in a political view.—With politics, however, I have no buſineſs.—But, ſurely, the accidents happening from theſe animals becoming rabid, muſt bear ſome proportion to their numbers.

I SHALL now, to ſave my readers ſome trouble in turning over the works of authors, collect the principal parts of the practice followed in a few caſes of the malady. I ſhall begin with Dr. Fothergill's patient—Mr. Charles Belamy of Holborn.

AFTER giving us the ſymptoms, with an account how the accident of the bite took place, the Doctor ſays, " To gain a " little time for reflection, on a caſe ſo ſud- " den and ſo dangerous, and that nothing " which ſeemed reaſonable to be done, " might in the mean time be omitted, I " ordered ſix ounces of blood to be taken " from the arm; that a ſcruple of native " cinnabar, and half a ſcruple of muſk, " made into a bolus, might be given every

" four

" four hours; and that as much nourish-
" ment, fruit, or any thing he chose, might
" be got down, as possible."—Dr. Watson was called in to the Doctor's assistance—they met at five the same evening.—He had taken only two of the boluses, a few bits of bread moistened with wine, some strawberries, a few bits of pudding, but had not attempted to drink any liquor. They begged him to drink some liquid for their satisfaction:—he consented.—" He threw
" it hastily into his mouth, and swallowed
" it with difficulty, and extreme pertur-
" bation. The moment the liquor touched
" the *gula*, all the muscles concerned in
" deglutition appeared to be convulsed."—No evacuation by stool to-day.—" Upon
" maturely considering this very hazardous
" state of things, we agreed on the follow-
" ing process:"—" That he should then be
" carried to the warm bath, and remain in
" it, so long, and to such a degree of heat,
" as was most agreeable to himself. Next
" a glister of a pint of milk and water to be

" adminiſtered : This to be repeated as of-
" ten as it could be conveniently done. In
" the laſt of theſe clyſters a dram of Dover's
" powder was to be given."

" THAT two drams of ſtrong mercurial
" ointment ſhould be rubbed by himſelf on
" his legs and thighs, as ſoon as he returned
" from the bath, and that he ſhould endea-
" vour to get down all the ſuſtenance he
" could." Next day, the report received, was, " the laxative clyſter had produced a
" proper effect. The warm bath relieved
" him greatly whilſt he was in it, ſo that
" for a time, as he expreſſed it, his ſufferings
" were ſuſpended." Slept none all night—great diſtreſs—copious flow of ſaliva—pulſe hard and quick.—They agreed, " that
" he ſhould be blooded ſtanding, according
" as his ſtrength would bear ; that he ſhould
" be conveyed to the warm bath, and re-
" main as long as he could, agreeable to
" himſelf ; that as ſoon as he returned from
" it, the clyſter, with a dram of Dover's

powder

" powder, ſhould be adminiſtered; and that " half an ounce of mercurial ointment " ſhould be rubbed on his legs and thighs as " ſoon after as might be done conveniently; " and alſo on coming out of the bath, three " grains of Theb. Extr. to be given; and " two every hour after." This viſit was in the morning.—At five this evening alſo they again viſited: he received them with the utmoſt tranſports of joy; and " de- " ſcribed in very ſtrong terms the pleaſure, " and the benefit he received from the warm " bath, and the hopes he now conceived of " a ſpeedy recovery. He had not ſlept a " moment from the time he was ſeized with " the dread of liquors. He repeatedly ex- " preſſed the ſatisfaction he received from " the bath, and wiſhed to go into it again. " They conſented." This was the third time; but he now felt himſelf conſiderably more agitated at the ſight of the water—his reſolution almoſt forſook him—putting in, on much intreaty, one foot—then haſtily withdrawing it, &c.—at length he

he went in, and remained in it half an hour. He died two hours after.

Dr. Vaughan's patient, a boy of eight years of age. The accident happened in 1778.

THE Doctor tells us, he began with the warm bath—" the ſight of which occaſi-
" oned ſome commotion, and produced
" marks of diſguſt and fear. Theſe were
" overcome by perſuaſion, and he was pla-
" ced in it. The moment he touched the
" water, his painful ſobbing and diſguſt to
" it were encreaſed. Theſe ſubſided in a
" few ſeconds, and he then told me he felt
" eaſier; but it was obſervable, that theſe
" ſymptoms were renewed as oft as a freſh
" ſurface was touched by the water. He
" was kept in the bath near three-quarters
" of an hour, during which time he fre-
" quently ſaid, that he felt leſs annoyance
" from his diſorder."

On coming out of the water, a plaiſter was applied to his throat, of which Sachar. Saturn. was the baſis. The Doctor now tried what could be done by the metalline antiſpaſmodics, and he preſcribed the following:

R. Flor. Zinc. gr. j.
Cupr. Ammon. Semigran.
Moſch. opt. gr. x.
Syr. Simpl. Q.S. ut fiant pilulæ duæ molles; Sumantur hor. tert. vel quart. quoque.

A liniment, conſiſting of three drams of the ſtrong mercurial ointment, with the ſame quantity of oil of amber, was to be rubbed on the ſhoulders and back; and a clyſter, made of five ounces of freſh broth, with thirty drops of laudanum, was to be injected ſoon after going to bed. To theſe the Doctor added a medical atmoſphere, made by burning G. Ammon. in his room.

" BETWEEN nine and ten o'clock this evening, he took ſome bits of bread ſoaked in milk, but with difficulty."

AT eleven o'clock the pills were repeated. At twelve the ſymptoms encreaſed greatly. He was again put into the warm bath; and after coming out, a broth clyſter, with a dram of Tinct. Theb. was ordered to be injected; and the mercurial liniment to be repeated. He continued now near two hours in the warm bath, " feeling himſelf much " more comfortable the whole time." Both the clyſters he had got come away, bringing with them ſome hardened feces.

EACH doſe of his pills were now ordered to contain two grains of Cupr. Ammon. the ſame quantity of Theb. Extr. three grains of Fl. Zinc. with ten grains of Aſſ. Fœtid. which was ſubſtituted for the muſk; whilſt a ſolution of that Fœtid Gum, with a dram of Tinct. Theb. was adminiſtered as a clyſ-

ter.

ter. The above pills, though repeated every four hours, afforded not the ſmalleſt relief; " nor did they ſhew the leaſt action upon " the frame."

At eight o'clock in the morning he expreſſed a ſtrong deſire of going into the warm bath again. " This was complied with, a " temperate one of *milk* and *water* being " ſpeedily prepared. He went into it, but " with perturbation—though temperate, yet " he complained greatly of its heat: in a " quarter of an hour he was weary, and de- " ſired to be taken out of it. A purgative " clyſter was afterwards given to remove " ſome little fullneſs that was in the " bowels."

" Seeing of how little avail every thing " had hitherto proved, and being clearly " convinced of his inevitable fate," ſays the Doctor, " I was at length determined to put " in force the remedy which Helmont " ſpeaks of in terms ſo favourable; but let

me

"me add, not with much expectation that "this would prove more ſucceſsful than "thoſe powerful ones, which hitherto in "every caſe had been ſo fruitleſsly em-"ployed."

A large tub of cold water, well ſaturated with common ſalt, was made ready, into which this patient was ſuddenly plunged over head and ears, and there held until he ceaſed to ſtruggle. He was then taken out, and the ſame operation again repeated, until he became ſo quiet, that it was apprehended a total extinction of life would actually have taken place.

He was then wrapt in a blanket, and put to bed, where he remained more quiet than he had been any part of the preceding night, and ſo continued for near two hours. He now repeated his medicine; all his bad ſymptoms returned with added force. At eight o'clock he took ſome pills of camphire

and

and nitre, with two grains of opium. He died a little before two.

A ſecond patient treated by Dr. Vaughan. —He was twenty-five years of age, and the accident happened in 1775.

THE warm bath was uſed as in the other; alſo the purgative clyſter: this procured a ſtool.—A ſecond was to be thrown up, conſiſting of four ounces of oil, with half an ounce of Extr. Theb.—Four grains of Ung. Cærul. Fort. were to be rubbed on the fauces, and the part to be covered afterwards with the cataplaſm. e Cymino; to which was added half an ounce of Extr. Theb.

AN embrocation was applied to the region of the ſtomach, with continued friction, conſiſting of Sp. Sal. Ammon. half an ounce—Ol. Olivar. ten drams; ſix drams of oil of amber; and ten drams of laudanum.

STRONG mercurial ointment, to the amount of two ounces, to be rubbed on the back and ſhoulders; and, as a farther means to induce a ſpeedy ſalivation, he was to receive the ſmoke of cinnabar into the mouth, by throwing a dram of that ſubſtance now and then upon a hot iron—thus of external means. The internal were as follows:—R. Moſch. opt. gr. xv.—Mercur. Emet. flav. gr. iij.—Extr. Theb. gr. iv.—Syr. Simp. q. ſ. f. Bol. Mollis.

WHILE in the warm bath, he felt himſelf eaſier alſo—under the application of the ointment—but the plan did not ſucceed—he died.

A third patient treated by Dr. Vaughan.

AFTER the Doctor relates the ſymptoms, which are not to be repeated here, he tells us, " In this ſituation he (the patient) was

" or-

" ordered to go to bed; having firſt ſwal-
" lowed a ſcruple of muſk, with two grains
" of Extr. Theb. made into a ſoft bolus."—
He was fourteen years of age—his name,
Thomas Nourſe.

After reflecting on the nature of the diſeaſe (it is to be obſerved, this was the firſt of his three patients) he gave a compoſition of fifteen grains of muſk; one of Turbeth mineral; and five grains of Extr. Theb. made into a ſoft bolus; and this to be repeated every three hours:—an ounce of ſtrong mercurial ointment was likewiſe directed to be rubbed on the cervical vertebræ, and ſhoulders; and the following embrocation ordered to be applied to the throat, renewing it as often as the part grew dry:—R. Tinct. Theb. unc. du.—Acet. Saturn. ſemiunc. M. —He could not bear this to touch him without being thrown into convulſions; therefore, the following was ſubſtituted, which he bore very well:—R. Extr. Theb.

ſemi-

ſemiunc.—Camphor. ſp. vin. in pulv. redact. drachm. treſ.—Confect. Damocrat. drachm. ſex—M. f. Empl. faucibus externis applicandum.—The warm bath was kept in readineſs, but he could not bear the touch of water.—Before he came under the Doctor's care, he had taken the celebrated Ormſkirk medicine, and had bathed in the ſea: this proceſs was entered on the day after he was bit.—He was bled on the Tueſday morning, and took another doſe of the Ormſkirk, which was the day the Doctor firſt ſaw him.—At two o'clock he repeated the muſk medicines mentioned above, with leſs heſitation than he had done before; and, "was more comfortable to himſelf, "and, with tolerable eaſe, got down ſome "mouthfuls of bread and butter."—His medicines were again repeated at five; and he took them with as little difficulty as the laſt—"Matters, therefore," ſays the Doctor, "wearing a leſs terrible aſpect, I could "not help flattering myſelf with hopes, that "this dreadful diſorder would at length be

"con-

" conquered by the combined powers of " muſk, opium, and mercury.—My expec- " tation was of ſhort continuance." For in two hours after, it ſeems, every ſymptom recurred with greater violence.

At eight o'clock in the evening his medicines were again repeated :—he took them now with reluctance.—An hour after, every thing wore a worſe appearance.—He took five grains of opium without muſk—and Turbeth mineral ; but with great difficulty. —Another ounce of mercurial ointment was rubbed on his ſhoulders ; and half an ounce of Tinct. Theb. mixed with ſix ounces of mutton broth, was given by way of clyſter.—The diſeaſe ſtill encreaſed—at eleven o'clock, every thing was worſe.—In the next paragraph the Doctor gives us a melancholy picture :—" He had alſo all his " complaints aggravated by the improper " conduct of his attendants ; who, prompted " by their fears, had almoſt perſuaded them- " ſelves, that the opinion univerſally re-

" ceived

" ceived by the common people, of *ſmo-*
" *thering* ſuch unfortunate objects was not
" only juſtifiable but expedient. For I
" found them confining the poor creature
" under the bed-clothes, by the united force
" of half a dozen ſtrong aſſiſtants; whoſe
" countenances beſpoke the terrible appre-
" henſions they were under." The Doc-
tor's humanity immediately ſet him at li-
berty.—" Being ſenſible of the ill treatment
" he had received, he became ſuſpicious of
" his attendants, and leſs attentive to my
" inſtructions."—Dr. Vaughan ſeverely re-
primanded them for the treatment they
uſed, and, at the ſame time, ſoothed the
patient, uſing mild perſuaſion, by which
means he had his inſtructions again obeyed.
—" I had ſcarce" ſays the Doctor, " left
" the room, before a loud ſcream beſpoke
" ſome unexpected change. Upon turning
" my head to diſcover what this meant, the
" boy was at my ſhoulders, having ſud-
" denly quitted his bed with an intention
" to follow me. To this he immediately

" re-

" returned at my requeſt, without having " ſhewn the leaſt inclination to bite, or be- " traying any thing farther than an ill opi- " nion of thoſe by whom he had been ſo " improperly treated."—A larger doſe of opium was given to him—it proved inffectual.—His ſtrength failed him from this till about two in the morning—when he died.

Mr. Bathie's patient, James Patton, about fourteen years of age.—The accident happened in November, 1774.

I SHALL relate how it took place, as the truth of an aſſertion I have made in theſe pages will thence appear.

PATTON was a ſhepherd boy; and " in " the field, in company with two of his fel- " low-ſervants, who obſerved a ſmall ſheep- " dog make up to the unfortunate lad, uſing " the *ordinary demonſtrations* of *tameneſs* and " *affection* peculiar to that ſpecies of animal

" in

" in a ſtate of health. Far from exhibiting
" any appearance of madneſs, he deceived
" the boy by *fawning upon him*, and, *with-*
" *out reluctance, eat bread*, which he threw
" down to him. One of the men deſired
" the lad to tie a cord about the dog's neck,
" to ſecure him from running away, whilſt
" the other, ſuſpicious of hazard, by ob-
" ſerving his *eye* very much *inflamed* and *dull*,
" called out to the boy to let him alone;
" but he was not attentive to this caution,
" and attempted to faſten the cord round
" the neck of the dog, in which act the
" dog turned and bit the back of his right
" hand, between the ſmall and ring fin-
" gers." He ran off, we are told, and, four or five days after, was killed as a mad dog in a different pariſh, by people who had not heard of this accident.

I THOUGHT it neceſſary to give this part of the hiſtory of the accident, becauſe it is generally believed, that if a dog either fawns, or eats, he cannot be mad:—but

this

this is a moſt dangerous tenent; and, I doubt not, is the means of lulling to a fatal ſecurity, till the time for prevention of the evil conſequences has elapſed.*

* An accident happened to two perſons in this neighbourhood, one on the 7th, the other on the 9th of April laſt: one a boy of about fifteen, the other about forty.—It was not without conſiderable difficulty I could perſuade ſome gentlemen who then converſed with me on the ſubject, that the dog was mad, becauſe he "*eat his food, &c.*" I knew, from the experience of authors, the fallaciouſneſs of this opinion, and thought it my duty to oppoſe it.—The dog had been bit ſome weeks before by a mad dog—he was tied up on ſuſpicion—and had only been a few days liberated when he bit the above people. I requeſted he might be again tied up, if he returned (for he went off immediately, and, they added, without his dinner, which he had never done before). He returned the ſame night. He was again tied up—this was on Friday.—By Sunday evening he became ſo furious, that he was declared mad by all who ſaw him, and they became ſo alarmed leſt he might get looſe, that they knocked him on the head.—When he was firſt tied up, he bore the chain very well; but it was very different now.—So great was his fury, that he wounded his mouth conſiderably in biting at the chain which held him, and deeply impreſſed the marks of his teeth in it, toſſing and raging about at the ſame time. It was twenty-

THE lad had been three days under Hydrophobia before Mr. Bathie ſaw him.—His pulſe at this time was from one hundred and twenty-five to one hundred and thirty.—A pound of blood was immediately taken away—nothing remarkable in its appearance.—The diſeaſe had now got to a great height, and no hopes of a cure. To ſatisfy the patient's friends, however, Mr. B. gave him a grain of T. Emet.—he had a propenſity to vomit—Mr. B. thought this might aſſiſt it a little. A clyſter had been or-

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twenty-four hours after the lad was bit, before I ſaw him; and about two from the time the man received his bite. I had the wounds treated as I have directed in this diſſertation by an ingenious ſurgeon at Woodbridge (Mr. Page) leaving directions to keep the wounds open as long as it might be thought neceſſary; by which means, I hope, they will experience no other inconvenience than what may ariſe from the keeping a ſore open.—But, ſhould it turn out otherwiſe, I ſhall think it incumbent on me to lay the whole before the public.—Two ſwine were likewiſe bit at the time with theſe perſons—theſe were alſo ordered to be tied up, to ſee what the reſult might turn out.—It is now ſeven weeks ſince, and all is yet well.

ordered, but it was not given.—He died about eight in the evening.—The following is worth mentioning:—" When an uncle " of his was offering him a bit of bread, a " little before he grew quiet, *i. e.* a little " before he expired, he made a ſnatch, and " bit his thumb; but the man luckily " had the prudence and reſolution to cut " out the part that was bit, and ſo remains " free from any apprehenſion of hazard."

Treatment of Mr. Babington's patient, Abraham Palmer.—The accident happened on the 9th of June, 1783.

NEITHER exciſion nor cauſtic was had recourſe to.—" As there was no particular rea- " ſon for ſuppoſing that the dog was mad, " and as exciſion, or the application of the " cauſtic, would have been painful, if not " dangerous, and perhaps with difficulty " ſubmitted to, it was judged ſufficient to " direct, that the hand ſhould be well fo- " mented with milk and water, to get it ſoft

and

"and clean, and that about a dram of ſtrong "*mercurial ointment* ſhould be rubbed in "every day for four or five days, dreſſing "the wounds afterwards ſuperficially, with "a little lint and cerate." It is worthy of remark here, that "there was no *particular* "*reaſon* for ſuppoſing that the dog was "mad."—Hence the prudent ſuſpicion that ſhould be entertained on receiving a bite from any dog—and the neceſſity of ſpeedy *action* accordingly:—to truſt to chance, is ſporting with life. Nothing more was heard of the boy (he was about fourteen years of age) till Thurſday the 17th of July, when he returned to Mr. Babington. He had felt ſome ſymptoms the day before —the caſe was evident.—"The period was "now paſt when any advantage could be "expected from local applications, yet hu-"manity required that ſomething ſhould "be attempted."—He was ordered the Tonquin medicine, or ſomething like it, viz. every two hours he was to take a bolus, conſiſting of muſk and factitious cin-

nabar,

nabar, each fifteen grains—and one grain of opium. At eight o'clock this evening (Thurſday) he had no unuſual ſecretion of ſaliva—but he could not bear water. At nine the muſk was encreaſed to a ſcruple.—The cinnabar and opium were given in the ſame doſes as before. A clyſter was directed—it had no effect. He ſuffered his hands and feet to be put into warm water—yet with great reluctance.—" At one o'clock " (Friday) his countenance and manner " were ſtrongly marked with *horror* and " *anxiety*.—His ſight was diſordered—he " thought there were numbers of flies " about him, and this made him uneaſy.— " Why don't you kill theſe flies ?—he would " cry, with a great degree of impatience— " and then he would ſtrike at them with his " hand, and would ſhrink in the bed, as if " he were afraid of their getting to his face." —As the remedies uſed had been of no ſervice, it was propoſed to bleed him. This was done, to the amount of twenty ounces and upwards, in a full ſtream, and with-

out

out producing the leaſt diſpoſition to faint, or encreaſe ſickneſs—though the pulſe became thereby low, fluttering, and unequal. —After V. S. the opiate was encreaſed; and it was propoſed alſo to bathe his head with vinegar, and towards evening, if he was not better, to put him into the warm bath.—But every ſymptom ſoon became to ſuch a height as left no room to do any thing—he became highly delirious—he got a clyſter with half an ounce of laudanum, but it came away almoſt immediately.—Convulſions ſtrong—he died a little after—with "a ſmile on his countenance."

Treatment of Dr. Liſter's patient.

JAMES CORTON of York, was bit on the right hand. Between five and ſix weeks after, the hydrophobic ſymptoms appeared. Dr. Liſter firſt ſaw him on Monday, about one o'clock, March 12th, 1682-3.—The morning before, he took ſome diaſcordium —ſome cordial water was ordered by his

apo-

apothecary, but he could not ſwallow it. The Doctor cauſed a vein to be opened in the arm that was bit, and directed " the wound " *to be ſcarified*, and *drawn with veſecatories*, " and the ſame plaiſter to be applied to the " neck and legs, and inſide of the arms."—The antidotes of the day were next had recourſe to.—" I ordered the uſual, and famed " antidotes to be given him, as of *theriaca*, " cinis cancrorum, ruta, agaricus, &c. in " boluſes.—Of theſe boluſes he took a dram " every hour, for at leaſt a dozen of times."

TUESDAY " he had a violent fever upon " him."—He refuſed drink in every ſhape offered, whether through a quill, or otherwiſe—he ſoon after fell into a convulſive fit —after it was over, " he took an *elleboriſm* " in a bolus, very willingly; it wrought " about three or four times very plentifully, " and he declared himſelf wonderfully re- " lieved by it."—Four hours after, the Doctor returned; he found the Miniſter with his patient, who prayed very earneſtly

—talked

—talked with the Miniſter *very ſenſibly*—and deſired the ſacrament.—He ſoon after died.

Treatment of Dr. Howman's patient.

THIS was a perſon at Norwich.—About ſix weeks after the bite, the ſymptoms made their appearance.—The Doctor was called on Wedneſday, October 1ſt, 1684.—"This morning he had taken (I know not "by whoſe advice," ſays the Doctor) a doſe "of the common ſpirit of ſcurvy-graſs, "which gave him ſeven or eight ſtools, and "made him very faint.—I preſcribed," ſays the Doctor, "the beſt temperate anti-"ſpaſmodic and antiparalytic remedies I "knew, to be mixed with the ſpecifics "of common uſe in an Hydrophobia."—Next day, the left arm was bled—the quantity taken, about ſeven ounces; the other arm, being the one bit, was paralytic:—the remedies to be continued as before preſcribed.—The Doctor left him now.—No

Hydro-

Hydrophobia had yet appeared, but in his absence, " the great *symptom* appeared, and " another was consulted, who gave him " many remedies." The Doctor tells us, he returned from the country on Friday.— " *His reason was all along very good*, and, as " some observed, better than in his health." —At ten this night all his symptoms worse. —He died between twelve and one next morning.

Treatment of Mr. Turner's patient.

THIS was a child of about three years of age. He was bit on the cheek, and immediately carried to Mr. Turner.—" The " wound we treated with digestives for " some time, *sutures* were forborn, though " otherwise necessary," (the wound was large) " that the *sanation* thereof being de- " ferred, the contracted venom might have " the freer *egress* thereat.—In about three " weeks time we had *incarned*, and brought " over a very firm, and seemly *cicatrix*;

"and in about two days after, the child "was ſeized with a fever, &c."—Here the Hydrophobia came on in leſs than a month.—This is the earlieſt caſe of its appearance in the human ſpecies of which I remember to have read.—Next day the little patient was in a moſt deplorable way. —Among other ſymptoms, the eyes were diſtorted, and *there appeared* "an irregular "expanſion of the optic nerve, attended "with an *extraordinary fierceneſs*, in the "whole viſage.". He could not bear the reflection of a looking-glaſs.—"In the "evening, notwithſtanding ſuch *alexiphar-* "*mics* as had been exhibited, he ſunk under "the oppreſſion of theſe cruel ſymptoms." —We are not told what theſe alexipharmics were, but we may conclude they were ſome of the common ſpecifics of the times.

Treat-

Treatment of John Brown, thirteen years of age, Dr. Dickſon's patient.—The accident happened in January, 1767, in Whitechapel-road, London.

"He was immediately carried to the "London hoſpital, where the parts affected, "which were the right cheek and ſhoul-"der, were very well ſcarified, and ſuffered "to bleed freely. *Mercurial ointment* was "rubbed on theſe parts immediately after-"wards; and this was done twice a day, "for ten days, without producing any ſpit-"ting, or even ſoreneſs of the gums."—He left the hoſpital at the end of three weeks, free from all complaints, after taking three doſes of purging ſalts.—On the 30th of April, he felt ſymptoms of the diſeaſe, and was again carried back to the hoſpital.—The Doctor ordered the warm bath; but it was with great difficulty he could be prevailed on to go into it.—After ſtaying in it a little, "he found his throat become quite

"eaſy."

"easy."—But he could not, without the utmost difficulty, swallow some spermaceti mixture, with a little Tinct. Theb. that was ordered him.—He plunged his head twice under the water by the Doctor's entreaty.—After this, he got down about an ounce of the spermaceti mixture, containing twenty drops of Tinct. Theb.—Twenty drops of Tinct Theb. were now directed to be given every hour, in the same mixture, if he could swallow a liquid—or one grain of Extr. Theb.—if neither could be got down, to have a clyster every two hours of a little broth and one dram of Tinct Theb. with fomentations frequently applied to the neck and throat, and an emolient poultice, if possible.—He was laid in bed, and sweated half an hour very copiously—He lay quite easy under it—but he enjoyed only a short interval—every symptom grew worse.—No medicines could be given, except a pill of two grains of Extr. Theb.—this was about three o'clock.—He complained soon after this of hunger, and eat an apple greedily,

with

with a piece of bread and butter.—He took two grains more of Extr. Theb. at ſix he vomited frequently—all his complaints encreaſed—a dram and a half of Tinct. Theb. was thrown up in a clyſter.—He died at eleven this evening, continuing very ſenſible till within a quarter of an hour of his end.

Treatment of Dr. Mead's firſt patient.

He was a lad about nine years of age; bit on the right cheek. A Surgeon cured the wound, which was very large, in fourteen days, by applying, we are told, Theriac. Androm. in Sp. Vin. and afterwards dreſſing it with Linim. Arcæi, and Balſ. Terebinth.

"No other care was taken, only a Bol. "of Theriac. Androm. was given him every "night while under cure; and, quickly "after he was bit, he was perſuaded to *eat* "*the whole liver of the dog.*"—Such was the ſpecific of that time.—"Bliſtering plai-"ſters were applied to the back, and on

"each

" each ſide of the neck; and a diuretic Bol. " of Camphor. Sal. Succin. and Conſerv. " Lujul. was given every ſix hours."—Next day, which was the ſecond of his diſeaſe, " he eat ſome bread and butter " heartily," but vomited it immediately up again.—He was dipped in a tub of warm water—and was quiet in it for a little while but ſoon fell into a convulſive fit.—Every ſymptom now encreaſed—he was toſſed with violence from one place to another—and ſoon after expired.

Treatment of Dr. Mead's ſecond patient.

He was a man of forty-five. He was bit in one of his fore fingers, near the nail, ten weeks before.

When the ſymptoms appeared, the firſt thing thoſe about him did, was to give him a vomit of Rad. Ipecacuan.—On the ſecond day after, he had eight ounces of blood taken from his arm; and took a Bol. of

Theriac.

Theriac. Androm. with Lap. Contraierv. —It was not till the third day of his illneſs the Doctor ſaw him. He found him then tied in bed, and in the laſt ſtage of the diſeaſe.—" I obſerved he had a palſy in his " right arm."—His ſight was alſo affected —for " he had endeavoured to read, but " could not, complaining of a miſt before " his eyes."—The Doctor ordered him to be bled to the quantity of twenty ounces.— Nothing more was done—this ſeemed to reduce his ſtrength greatly—and ſoon after he expired.

Dr. Mead relates a third caſe of Hydrophobia, which was ſent him by a Surgeon in Stamford, in Lincolnſhire; but does not tell us what had been done, except that the wound was healed up by Theriac. Androm. the common application of theſe times: yet it had been long under cure, for it was three months from the accident till Hydrophobia appeared, and then there was left " a ſmall black ſcab behind."

The

The Surgeon, he tells us, opened the body, and ſlightly wounded his fore finger with his knife, " and was ſurprized to find that " it feſtered, and gave him much more pain " than a greater cut at other times had " done.—This," ſays the Doctor, " I the " rather take notice of, becauſe ſomething " of the ſame nature happened to the Sur- " geon who diſſected my patient. His hand, " the following night, was taken with an " eryſepelas, attended with great heat, ten- " ſion, and pain; this was owing to a little " wound made in one of his fingers a day " or two before, from which, in turning " over the parts, he had rubbed off the " plaiſter."

Treatment of the Frenchwoman, bit by the ſame dog that bit Maſter R. and only a few minutes before—by Mr. John Hunter.—The accident happened on the 6th of December, 1784.

MR. HUNTER in a letter writes me,— " The poor Frenchwoman the dog bit a

" few

" few minutes before Maſter R. died laſt
" Tueſday ſe'nnight, at two o'clock in the
" morning. She was taken ill the Tueſday
" before with a pain in the wound, which
" rather encreaſed. She called on me on
" the Thurſday, but I was not at home.
" She called on the Friday, and I ſaw
" her. The cicatrix was very painful,
" and ſhe ſeemed not to be perfectly well.
" At twelve o'clock that evening, ſhe was
" taken with a kind of fit. The apothecary
" was ſent for, who gave her two grains of
" opium. I ſaw her on Saturday morning,
" when ſhe had all the ſymptoms of the
" diſeaſe, although not violent. I ordered
" opium to be given, as much as they could
" get her to take. The ſymptoms became
" more and more till ſhe died.

" From the time ſhe took the firſt doſe
" on Saturday about eleven o'clock, till ſhe
" died, which was about ſixty hours, ſhe
" took only forty-four grains of opium;

 " and

" and two hundred drops of laudanum in
" clyſters.

" THE ſores had cauſtic applied ſeveral
" times, but *not till ſeveral days after the*
" *accident*."

Dated London, April 2d, 1785.

APPEN-

Fig. 1

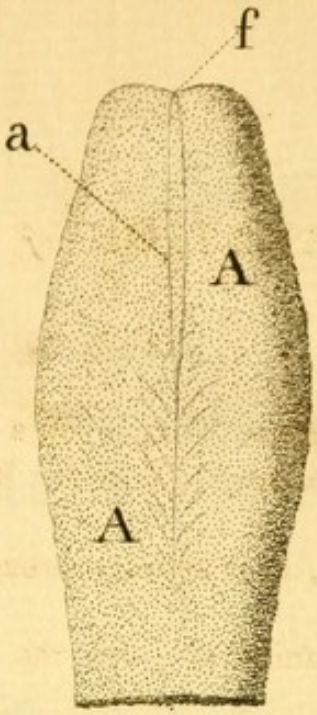
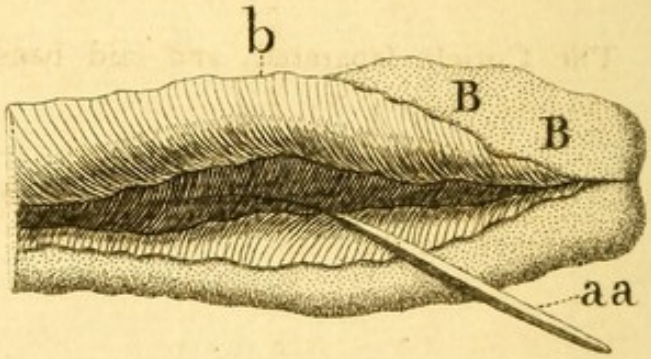


Fig. 2



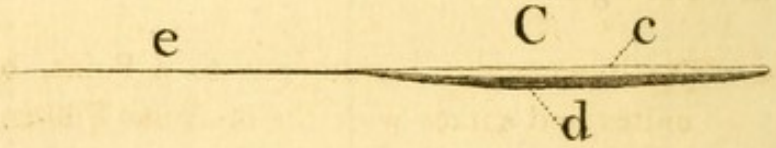


Fig. 3

Flendell Sculp.

EXPLANATION *of the* PLATE.

FIG. 1.

A. A. Part of the Tongue of a Dog; the under Side turned upwards, to ſhew the *Worm* in ſitu.

a. The Worm, as it appears through the Cuticle.

f. Its Communication with the marginal Line of the Tongue.

FIG. 2

B. B. The Tongue diſſected.

b. The Cuticle ſeparated, and laid back, to ſhew the Muſcle wherein the Worm lies.

a. a. The Worm raiſed from its Situation, with its Attachment to the Muſcle.

FIG. 3.

C. The Worm taken out.

c. The tendinous Part.

d. The ligamentous.

e. The ligamentous running out to a Point, but which unites and mixes with the muſcular Fibres, ſo as to be loſt among them.

APPENDIX.

The caſe of —— Chriſty, admitted into the Royal Infirmary of Edinburgh, as taken down by the late Dr. Drummond, then Hoſpital Clerk—and which, as far as I know, has never yet been publiſhed.—Extracted from a MS of Mr. Rodolph Rhodes, Surgeon to the Firſt regiment of Dragoon Guards, who alſo attended.

—— CHRISTY, aged eleven, was ſix weeks ago bit on the right arm by a mad dog: nothing was done to the wound at the time. She has ſince taken a medicine that contained liverwort for one of its ingredients: has been ſweated for a conſiderable time together, and taken ſome mercurials.

ABOUT

About three days ago ſome unfavourable ſymptoms appeared. On Sunday at one o'clock, P. M. ſhe was taken into the hoſpital, and had the cicatrices of her arm cauterized, and took gr. v. of Vol. Alkali in a bolus.

At three ſhe ſwallowed a ſecond bolus of the ſame, but not without much perſuaſion. Starts ſometimes, and ſeems much frightened; ſighs frequently, and heavily; talks in general ſenſibly, but ſometimes raves; pulſe quick, and very irregular; is much frightened if any cold touches her; ſtarts, and is more convulſed in a recumbent poſture, than when ſhe ſits up.

At four an attempt to go to ſtool. Is afraid we ſhall ſhoot her; wiſhes to go to ſleep; pupils of her eyes very much dilated; can bear the ſight of a looking-glaſs, but not even the mention of water. Another bolus exhibited; ſhe took it with more

reluct-

reluctance. At five, vomited. A fourth bolus given; and though her intention is evidently to take it, yet her arms ſeem, contrary to her inclination, to be convulſed, and thrown away from the mouth, when near it. Has difficulty in putting ſugar to her mouth, of which ſhe is fond. At eight, took another bolus of the Vol. Alk. and had a clyſter adminiſtered, containing muſk ſcrup. j. and L. L. gutt. xv.—did not retain it. Another bolus given at ten o'clock, conſiſting of muſk gr. x. and L. L. gutt. xv. but ſhe rejected it immediately. Seeing it was impoſſible to attempt another bolus, and from the bad ſucceſs of the former clyſter, L. L. gutt. xl. in aq. font. unc. du. was injected, but with much difficulty.

At half paſt eleven o'clock all her former ſymptoms encreaſed. Cannot now bear the ſight of a looking-glaſs. Fits more frequent; convulſions ſtronger; always raving. Saliva from the mouth in great quantity, and appears bloody. Complains greatly of

of her throat; has frequent reaching to vomit.

THREE o'clock, A. M. Has been raving conſtantly ſince our laſt viſit. Conſtant vomitting; flow of ſaliva more copious. At this time a bolus of muſk, gr. x. and L. L. gutt. xv. given, which ſhe now took with much leſs reluctance than the former; but it did not ſeem to get beyond the larynx; it was vomited up the next moment.

FOUR o'clock. Took another bolus, and ſeemed as if ſhe could retain it: ſymptoms as before.—Half after five: ſtill raves continually; but ſometimes makes ſenſible anſwers. Not ſo much convulſed of late; nor ſeems ſo much frightened. Made ſome water. Has juſt taken a bolus with little entreaty; and without the convulſed motion of her head as before.

HALF paſt ſix. Is now in a perfect ſweat over her whole body. Pulſe rather calmer,

calmer, but ſtill too indiſtinct to be reckoned.—Seven o'clock. More delirious; weaker; convulſive ſtartings leſs frequent; pulſe irregular, and weaker. Bolus rejected, which ſhe ſwallowed with as little entreaty as the laſt. Some moiſture ſtill on her ſkin, but chiefly on the upper part of her body, and of a clammy nature.—Half after eight o'clock. Still weaker. Eyes very much contorted; pupils exceſſively dilated.

NINE o'clock.—Sinks apace. Is now without motion.—Dead. A little after death the pupils contracted to nearly their natural ſize.

DISSECTION.

I. THE whole ſurface of the body of a dun colour. Nails livid; alſo ſome parts of the arms.

II. HEAD. D. mater of the natural appearance. Nothing extraordinary in the ven-

ventricles. Choroid plexus rather pale. Veins on the ſurface, as uſual, diſtended with blood.

III. Fauces. Membrane lining the inſide of the mouth of the natural colour. Tongue alſo natural. Epiglottis, larynx, and ſpaces between the cartilages of the Trachea, ſo very little altered as to render it doubtful whether any thing redder than common. Pharynx natural. Submaxillary glands of the natural appearance. Parotids being cut through appeared redder, but doubtful whether the redneſs did not proceed from extravaſation of blood from the cut veſſels.

IV. Thorax. Œſophagus natural. Lungs much inflamed; and, towards the back part, of a livid appearance. Pericardium, and ſurface of the heart natural. A conſiderable ſoft whitiſh polypus in the right auricle, adhering looſely. Right ventricle no blood. Smaller polypus than that

in

in the right auricle found in the left auricle, and adhering rather more firmly. Little red blood in the heart.

V. ABDOMEN. Stomach natural. Some mucus in it. Two lumbrici. That part of the inteſtines towards the end of the ilium contracted, and the coats thickened in ſome places. Pancreas redder than uſual. All other parts ſound.

A caſe of Hydrophobia communicated to me by Mr. Tuſon, Surgeon, at Boxford.—The accident happened Dec. 6th, 1784.—The ſubject of the caſe, Maſter R. already alluded to in theſe pages.

I WAS informed he was on a viſit in Jermyn-ſtreet, the 6th of December, 1784, where a ſtray dog came into the room. The lady of the houſe taking notice of its being very thin and poor, ordered a plate of meat to be ſet before it, which the dog eat. The young gentleman took particular notice of

it, and ſtooping down to examine it, the animal turned from its meat, and bit him on the right ſide of the lower lip. He was immediately ſent in a coach, which was then ready at the door, to Mr. Hunter's in Leiceſter-fields, being at the diſtance of about a quarter of a mile, who very wiſely and cautiouſly treated it as ſuppoſing the dog mad, by applying a cauſtic to the part, in ſuch manner as to endeavour to deſtroy all the adjacent abſorbing veſſels from taking up any of the venom. Immediately on which Dr. Turton was conſulted. The Ormſkirk medicine was given, and mercurial ointment rubbed into the legs twice a day; the muſk medicine was likewiſe given.

I FOUND by Dr. Turton's account, they were alarmed at the feel of the ſkin, and ſome other dangerous ſymptoms, when in town, before the muſk medicine was given. They continued the Tonquin medicine and ointment till he came into the country, which was on the 24th of December, where

he

he arrived in perfect health. I ſaw him on the 25th, with his lip healed, which was kept open till nearly the time he came down. I received directions from Dr. Turton and Mr. Hunter as follows: That "the general health muſt be more parti-"cularly attended to, the ſtate of the bow-"els, the pulſe, &c. muſt be watched."—Before he began the muſk medicines, the pulſe was low and feeble, the feel of the ſkin cold and clammy, though he made no complaints.—The feel of the ſkin and pulſe are now (25th) much better; and he appears to have no complaints.—Bowels in their natural ſtate. Mr. Hunter thinks the wound in the lip may be permitted to heal, and that any little ſoftening application, ſuch as ſuet, oil, freſh butter, &c. and preſerving it from the air, is all that may be neceſſary.—"We wiſh, however, not to "omit any thing that may be neceſſary to "prevent miſchief, and could wiſh the "muſk medicine and mercurial ointment "to be continued, under the direction of

"thoſe

" thoſe who attend. Half a dram of the
" ſtrong mercurial ointment may be rubbed
" in twice a day, but the gums and mouth
" muſt be watched, as we do not wiſh to
" bring on a ſalivation, though we could
" wiſh to fill the conſtitution pretty full of
" mercury. Under this idea it muſt be
" continued or diſcontinued, from time to
" time, for three weeks to come.

" We ſhould adviſe, alſo, the uſe of the
" following preſcription, according to the
" circumſtances of the pulſe and feel of the
" ſkin, and *general ſtate of health*, which we
" beg to repeat, as we conſider it as the
" moſt material."

Two ſcruples of the ſtrong mercurial ointment were rubbed in for two or three days; but as the weather has been ſo ſevere, half a dram only hath been uſed twice a day, and that diſcontinued for two or three days, The muſk medicine, as ordered, was

R. Moſch.

"R. Mosch. gr. vj.—Cinnab. fact. &
"nat. aa gr. viij.—Ft. Bol. 8vo. quaq; hor.
"sumendus."—For some days he hath only taken it twice a day.—"The dose of musk
"and cinnabar may be varied according to
"circumstanees, but should be continued,
"at times, for three weeks to come."

I WAS, on enquiry, informed the dog was secured, and died before the young gentleman left town; therefore, I observed a strict attention to the method adopted of giving the musk medicine, and rubbing in half a dram of the strong mercurial ointment twice a day: I was desired to visit him every other day. He continued perfectly well as to his pulse, feel of the skin, state of the bowels, and in great spirits, till about four days after, when I perceived a cold clammy feel on the hands, with a tolerable good pulse, but without complaint. I was induced to believe that this feel might arise from a pain from a contusion on his great

toe,

toe, which was occaſioned by a table being overturned and falling upon it.. Upon my next viſit, I found that diſagreeable ſymptom quite gone off; his hands very warm, dry, and comfortable, and his toe much eaſier, which ſeemed to confirm my ſuſpicion.

As I wiſhed to prevent any bad conſequences as much as poſſible, and adhere to Dr. Turton's ideas, about ſix or ſeven days after his coming into the country, I encreaſed the doſes of muſk to eight grains, and the cinnabar to ten each, and the ointment to two ſcruples twice a day. In this manner he proceeded till January 12th, without any ſymptom of illneſs or complaint whatever. I was as particular and minute as poſſible in my examinations, and could not find any tendency in his conſtitution but what perfectly coincided with health.—I was ſent for early on Wedneſday morning 12th January, and, upon my arrival, was informed, that the young gentle-

man

man had complained about four o'clock in the afternoon of the day before, with head-ach and ſickneſs, that he had a very reſtleſs night, and at this time could not ſwallow well. I was alarmed at the account, and ſorry, as I viſited him every other day, that he happened to be ſeized on my vacant day. Upon my entering the room, I immediately perceived he laboured under a confirmed Hydrophobia. I called for ſomething for him to drink: as ſoon as it was offered him, he was immediately convulſed, particularly about the throat, and drank it with much agitation: this confirmed me in my opinion. He complained exceedingly of a pain in his head, and great thirſt; his pulſe was very quick, full, and hard; and he lay toſſing about in the bed. I aſked him if he felt any uneaſineſs in his lip. He told me he felt pricking pains about the part the evening before, and at that time he felt a ſoreneſs on touching it. I deſired that every aſſiſtance that could might be procured. Two meſſengers were

dis-

diſpatched for two Phyſicians. In the interim, I gave him three doſes of the above muſk medicines every hour, and propoſed bleeding him; but as farther aſſiſtance had been ſent for, I deferred it till they came: they agreed in my opinion. I took about ten ounces of blood from the arm; they wiſhed to ſee him take ſome liquid; he took it in his hand, put it haſtily to his mouth, and upon deglutition, all the muſcles concerned in that action ſeemed very much convulſed. His tongue appeared clean, not dry. They ordered him—R. Cinnab. nat. & fact. aa gr. viij—Moſch. gr. decem.—Opii. gr. j.—Conſerv. Cynoſbat. gr. ij. Syr. q. ſ. ft. pil. ij.—Statim. ſumend. & tert. quaq; hor. repetend. ſine Opio. Theſe he took regularly; likewiſe an injection with a pint of gruel, and two ounces of oil, thrown up for a clyſter. A cloth wetted with oil was applied to his throat: his feet bathed with flannels dipped in hot water for a conſiderable time together, and four ſcruples of the ſtrong mercurial ointment

were

were

was rubbed in twice a day, as they wiſhed to promote a ptyaliſm. He paſſed moſt of the day in a chair, and now and then walked about the room. His eyes appeared very wild and red. He had a ſmall ſtool from the uſe of the injection. He made very little urine; his blood appeared a little inflamed, and ſomewhat ſizy. In the courſe of the day he frequently took bread moiſtened in tea or gruel. He went to bed in the evening early, and got two or three hours ſleep (I ſuppoſe from the effect of the grain of opium) after which he appeared very reſtleſs, and convulſed; towards the morning he was exceedingly ſo, and not able to lie ſtill a moment, conſtantly calling for ſomething to drink, and complaining of great thirſt. He then ſwallowed with great anxiety and perturbation, and appeared in the utmoſt diſtreſs. [On the morning of the 13th (Thurſday) he roſe about ten o'clock in the ſtate above mentioned; about twelve his phyſicians ſaw him again: his pulſe was then about one hundred and thirty. They then ordered

 him

him—R. Moſch. gr. xij.—Mercur. Emet. flav. gr. ij.—Opii. gr. j.—Mucilag. G. Arab. q. ſ. ut ft. Pil. No. ij. tert.—quaq; hor. repetend. cum, vel ſine opio. prout res poſtulare videatur,—and continued the uſe of the ointment.—They had not left him an hour, before he was taken with frequent vomitings, retchings, and conſtantly ſpitting a viſcid phlegm. This came on before he took the Turbith pills. He took one doſe with opium as ſoon as it came, which was about two o'clock. He was very ſenſible and pertinent in his anſwers and converſation till now, when a delirium came on, with ſuch fears and horrors as are ſcarcely deſcribable—rubbing his throat, and walking up and down the room in great agony, but without any violence to any one in it. He continued in this diſtreſſed ſtate till about ſix in the evening, when he was ſtanding up, and leaning on the houſekeeper; and Nature, from his inceſſant talking and raving, being exhauſted, he dropped down in a kind of fit. He was then laid on a bed quite ſenſe-

leſs,

leſs and ſpeechleſs, groaning, foaming at the mouth, now and then vomiting a dark brown choler, and appeared as if ſtrangled. He expired about half paſt eleven at night. His lip, after death, did not appear altered.

It ſhould have been mentioned, that on the 11th he complained greatly of a pain in his right ear—and this was the firſt ſymptom obſerved.—A flannel dipped in warm water was applied, to which was added a little brandy: by this method the pain abated in the afternoon of Wedneſday the 12th.

The following letter I received from Mr. Hunter in the beginning of March; ſome paragraphs of which have already been quoted.

Sir,

I received the favour of yours. I am always extremely happy when I can give any uſeful information; but all the information

mation I can give you relative to the Hydrophobia is rather negative good than positive. All the means recommended were used in Master R.'s case. I saw him only a few hours after the bite. The lip was torn a good deal. The teeth had gone through and through, and had torn out a piece. I immediately applied the caustic to every surface that I conceived had been made by the dog's teeth; and when those sloughs came away, I went over the same field a second time; but, from the termination of the whole, I am inclinable to believe that I did not touch every part where the teeth had been. He took the Ormskirk medicine by the direction of Mr. Barry who sells it, therefore we must suppose it was properly given. He also took the Tonquin medicine, viz. musk, cinnabar, &c. as also rubbed in mercurial ointment till his mouth was sore. My whole dependance was on the caustic, but, did not object to the others being given. I wish I could say more on the subject in general. We

seem

ſeem to be as much at a loſs how to treat it as they were a thouſand years ago. I have not yet heard of the particulars of Maſter R.'s attack and ſymptoms. I want very much to learn them. To aſcertain a mode of cure will be very difficult. For a few caſes not having the ſymptoms, under any courſe, prove but little. I know where there were twenty-one people bit by one dog; nothing was done for any of them, and only one was taken ill. If they had all taken medicines, then it would have been ſaid, that they only loſt one out of twenty-one.

I am, dear Sir,

Your moſt obedient ſervant,

JOHN HUNTER.

The

The following was ſent me by Mr. Newſon, an ingenious Surgeon in Woodbridge.

To Dr. HAMILTON.

DEAR SIR,

As the following caſe of the bite of a mad dog was ſucceſsfully treated, doubtleſs it will be acceptable to you, as a ſupport to that ſyſtem of advice you moſt judiciouſly recommend, and which, in my opinion, is is the only known prophylactic method at preſent that any perſon can place any rational confidence in, as a ſecurity from the moſt direful effects of a diſeaſe by much the worſt to which human nature is ſubject.

EIGHT years ago laſt Auguſt, during the time I was aſſiſtant to a Surgeon, in Norfolk, of great eminence and real ſkill, the alarming caſe of the bite of a mad dog came under my inſpection. It took place in con-

ſequence

ſequence of a favourite dog being rabidly infected, and from loſing his hilarity, and accuſtomed fondneſs for his maſter, and being obſerved to ſkulk beneath a table, the ſervant maid was requeſted to take him out and feed him, and in endeavouring to withdraw him, received a conſiderable bite from him in the fleſhy part of her arm. The laceration extended in circumference not leſs than four inches; as near as I can recollect, the whole part was removed within two hours of the melancholy accident, by exciſion, and at leaſt half an inch deeper and wider than the dog's teeth had penetrated or extended. The wound was afterwards dreſſed with eſcharotics, viz. red præcipitate of mercury ſprinkled on lint, and a large cataplaſm of oil, milk, and bread, applied over the whole part. It was dreſſed again the ſame evening, and repeated many days, which brought off ſeveral ſmall eſchars, and a great diſcharge was excited, and kept paſſing off a conſiderable time. The wound

was

was kept open for ſix or ſeven weeks, and cicatrized without any difficulty. She likewiſe took Turbith mineral, night and morning; and, in the intermediate time, ſome of the moſt eſteemed antiſpaſmodic medicines were adminiſtered, ſuch as muſk, caſtor, valerian, aſſa fœtida, and opiates; after which the bark, in ſubſtance; and finiſhed with the cold bath.

The dog that gave her the bite was evidently mad, as two other dogs were bit by him ſoon after. They were ſecured, and within eight or nine days diſcovered the ſtrongeſt ſigns of genuine madneſs.—I think the event of this caſe manifeſtly declares, and proves, the juſtice of the proceeding and treatment this girl underwent, viz. from not receiving any hurt; from the dog being indiſputably mad; and the perſon bitten had not the chance of eſcaping free from infection from the dog's teeth having been wiped, by previouſly paſſ-

ing

ing through any clothing, ſo as to take off the ſubtle and active matter.

I am, dear Sir, with reſpect,

Your obliged and

Obedient humble ſervant,

JOHN NEWSON.

The following appeared in the Ipſwich Journal of February 19.

To Dr. H.

SIR, Feb. 17, 1785.

YOUR very learned and intelligent diſſertation in the laſt Ipſwich Journal, upon the treatment and effects of the bite of a MAD DOG has given me not only great pleaſure, but much information, and has encouraged me to trouble the printer and you with the mode of treatment two men underwent, a few years ſince, that were bitten by a mad dog, and were under my directions.—

The part bitten was immediately ſcarified, and a ſtrong cauſtic, of at leaſt the ſize of the wound, was applied, which produced a very deep eſchar; upon the removal of which, the wound was dreſſed with red præcipitate, or Egyptian ointment, conſtantly, to keep up as large a diſcharge as poſſible, and prevent the wounds healing, which they were not allowed to do for many weeks. The patients each took five or ſix doſes of the Ormſkirk powder, and as many of the Tonquin; but, having a ſuſpicious opinion of thoſe *once* celebrated remedies, I ordered a ſufficient quantity of mercurial ointment to be rubbed into the bitten leg, ſo as to ſaturate the body without occaſioning a ſpitting. The patients were ordered a light, though not very low, diet, and their ſpirits kept up as much as poſſible, by every art in my power, both by forbidding their friends talking on the ſubject, and by my promiſes of (what indeed I doubted) the infallibility of the means put in practice.—That the dog was mad

ad-

admitted of no dispute, as the animals bitten by him, on the same day my patients were, died mad; yet my friends had the good fortune to escape, without one alarming symptom, notwithstanding both their legs bled from the bite, and one had his pretty much torn.—This is a true and exact narrative of the cases and treatment, and it would be an additional favour to me and the public, if Dr. H. would be kind enough to make his free comments upon both, that future unhappy fellow-creatures, under similar misfortunes, may reap the benefit of his learning and philanthropy. G.

P. S. I AM apprehensive, that although different *poisons* shew their *effects* at different periods, yet the *cause* is sooner communicated to the animal juices than Dr. H. has hinted; and that, notwithstanding you cut out the *local pustule*, occasioned by the inoculating scarification, on the fifth, sixth, or seventh day, still you will not eradicate the small-pox from the system.

Ex-

Extract of a letter from Mr. Goodwin, dated Earl-Soham, Feb. 28, 1785.

——'Tis a fair thing to ſay, that ninety-nine out of a hundred reputed mad dogs, are not really ſo; but are loſt by their maſters, and hunted by the vulgar into a frenzy; or are delirious from fevers, to which they are very ſubject; and, I think, are capable of inoculating that fever on their own ſpecies, when they are not upon the human.

You are perfectly right reſpecting *worming* dogs, notwithſtanding the plauſible addreſs on that matter lately. It is impoſſible removing the tendon from the tongue can prevent the dog's running away when mad. But vulgar opinions, though having no foundation in truth, are impoſſible to be removed: witneſs the prejudices in Lancaſhire in favour of the Ormſkirk powder. I once lived there, was intimate with

Hill,

Hill, and believe, many a man might have been found, who would have received the bite of a mad dog for hire, from the belief of the infallibility of that medicine; which now is ſo much exploded. The truth is, ſo very few of the reputed mad dogs are really ſo, that any medicine, with quackery, may be rendered popular; but, I much fear, no remedy is yet found for the bite of a mad dog, on the *naked* body, but almoſt immediate exciſion: I ſay naked, as I believe many ſubjects have owed their eſcape more from their clothes, than their Doctor. The ſaliva of the dog, being naturally thick, is apt to be ſtrained by the ſtocking, &c.

The time of poiſons ſhewing their effects, depends on various cauſes:—the nature of the poiſon itſelf; the time of the year; the patient's habit—all have an influence. Yet, I think, exciſion muſt *ſoon* be performed, or the venom will have travelled beyond the knife. The viper's poiſon is almoſt inſtan-

taneous

taneous in its effects.—A lad I looked after was bitten on his finger, and in a *few minutes* fell into violent vomitting and purging.—Another, bitten in both legs, *directly* ſwelled all over, with ſo great a difficulty of breathing, I thought of nothing but ſuffocation. Theſe are mentioned to ſhew the ſpicula and nature of the venom, and to beg the favour of your turning your attention that way. As the minds of many people may be inflamed by the recent miſfortune in this neighbourhood, and many made wretched that may happen to be bitten, I hope, and make no doubt, but your publication will tend to alleviate their anxiety, by ſhewing the great odds againſt their being bitten by a *real mad* dog; and then, the probable chance of eſcape, by the ſaliva or venom being left upon their clothes.

I am reſpectfully, dear Sir,

Your obliged humble ſervant,

WM. GOODWIN.

SYMP-

SYMPTOMS.

In the following, the reader will find collected the moſt material of the Symptoms that appeared in the caſes alluded to.

Dr. Mead's three patients.—Vid. Philoſ. Tranſact. No. 323.

Symptoms *in the firſt.*

The patient was a lad about nine years of age. From the 20th of April, when bit, till the 22d of May, continued well. On this day, ſeemed dull, and ſick; would eat no dinner; in the evening complained of his ſtomach and head; in the night very bad; ſtarted often, and ſcreamed out—refuſed drink—complained greatly when he made urine, ſaying it hurt him.—Next morning (23d) vomited—in the afternoon, ſweated; trembling; toſſing himſelf up

and

and down; talking continually; looking very wild; pulſe low; ſometimes quicker, ſometimes ſlower; urine appeared of a natural colour; could not ſwallow.—Next day (24th) much worſe; could not bear the ſight of any thing white; became convulſed; eyes grew more ſtaring; pupils prodigiouſly enlarged; convulſions ſo violent, that it was with difficulty he was kept in bed; at length became tired and ſpent; fell into cold ſweats; and died in this way at four in the afternoon.

Second Patient.

SYMPTOMS.

THE patient a very luſty vigorous man of forty-five. On the 8th of November in the morning, *i. e.* ten weeks from the bite, complained of great ſickneſs at ſtomach; vomiting green and yellow choler.—Next morning (9th) began to complain of a difficulty in ſwallowing; took drink with much difficulty.—On the 11th the Doctor

firſt

first saw him, it seems:—was then tied in bed, raving mad; biting and spitting at the by-standers; crying out murder; making an odd noise, as if he coughed up something from the throat.—This, the Doctor adds, is, as he supposes, what some authors call barking.—Was untied, but soon became so unruly that it was with difficulty he was tied again.—Palsy of his right arm—this symptom appeared on the 10th, *i. e.* the day before; complained then also of a mist before his eyes—seemed afraid of every body.—Was to-day blooded; then was quiet for a few minutes; but soon his outrageous fit returned, and he laid himself down, quite spent, and died.

Third Patient.

SYMPTOMS.

THIS patient was a young man of eighteen, the Doctor tells us; and adds, that, three days before his death, he was seized with a fever, for which he was blooded,

vomited, and bliſtered: he bit to pieces the glaſs in which drink was given him.—During the whole violence of the diſtemper, the penis was obſerved to be conſtantly erected, and as hard as a bone.

THESE are all the ſymptoms the Doctor relates in this caſe; but, in his account of the diſſection, he adds the following anecdote, viz. that the Surgeon who was employed to open the body, ſlightly wounded his fore finger, and was ſurprized to find it gave him much more pain than a greater cut at other times had done.—" This," he ſays, " I the rather take notice of, be-
" cauſe ſomething of the ſame nature hap-
" pened to the Surgeon who diſſected my
" patient. His hand, the following night,
" was taken with an eryſepelas attended
" with great heat, tenſion, and pain. This
" was owing to a little wound made in one
" of his fingers a day or two before, from
" which, in turning over the parts, he had
" rubbed off the plaiſter; and it went not

" off

"without the application of cooling and "discutient medicines."

Case by Mr. De La Pryme.—Vid. Philos. Transact. No. 277.

SYMPTOMS.

THE patient aged fourteen.—Is not said to have been bit, but only to have frequently put his finger into the throat of a whelp, when they found it could not swallow, to see what ailed it. The mother of this, and some other whelps, was bit by a mad dog; became mad, as did all the whelps, in about three weeks after, except this one.—After some time longer, this also shewed signs of the disease, and, in a day or two more, died.—The first symptoms in this boy were—Pain in the head—somewhat feverish; and continued better and worse for some time. Had a cough; eat hearty, yet could not drink.—The sensation of the cold air gave him great uneasiness—"he "ran from it," as it is expressed, "as if

"it

"it had been to ſave his life"; and ſaid, "that the wind would needs ſtop his "breath."—In a day or two more, became worſe; vomited a matter like black blood, "which ſtunk like ſallad oil, but much "ſtronger; after which he would be pretty "well, and walk about, but moſt com-"monly ran as faſt as he could, firſt out of "one corner, then into another—then up "ſtairs, then down again; as if it was for "his life."—On the third day of his con-finement, grew perfectly mad—would ſtart, leap, and twiſt his arms together.—His fits were now ſo ſtrong, that four men could hardly hold him.—Wanted to bite—ſtrug-gled ſome time longer—and became ſpeech-leſs—and, it is added, "then died, juſt as "the Phyſician came."

Symptoms in Dr. Munckley's patient.—Vid. Med. Tanſact. Vol. II. p. 46.

THE patient thirty-ſix years of age. Bit by one of his hounds, in his own ſtables,

on

on the 11th of July, 1760.—On the 19th of Auguſt, felt a difficulty in ſwallowing, reſembling what proceeds from a common ſore throat.—His friends had obſerved him melancholy for ſome time.—Next day the Doctor found him in bed.—" He " was lying on his left ſide, and reſting " his head, a little lifted up from the pil- " low, upon one hand.—He had in his " countenance the appearance of a fixed " melancholy, and did not care to lift up " his eyes," on being deſired to anſwer queſtions.—No conſiderable degree of heat. —Pulſe low—not much quicker than in health.—Veſſels of the eyes appeared turgid. —Tongue parched and dry, not white.— On the word drink being mentioned, ſtarted almoſt upright in bed, and put on the look of fierceneſs and anger—repeating with great eagarneſs and quickneſs, the word *drink!*— ſaying it was impoſſible to drink—" and " begged for God's ſake I would not men- " tion it."—A very ſhort time before, *i. e.* leſs than an hour, he had no ſymptom of this

ſort.—

ſort.—Here we may ſee how quickly the *aquæ pavor* comes on.—Slept none this night, yet lay quiet.—Towards morning, however, began to ſhew ſigns of great uneaſineſs and diſtreſs.—Theſe gradually encreaſed, till about ten o'clock, when they had arrived to ſo great a height, that none of his friends could bear to remain with him.

Ten o'clock.—Sitting up in his bed, with an attendant on each ſide.—In great agitation of body; toſſing his arms from ſide to ſide; and moving himſelf about with great vehemence.—His eyes were redder than the day before.—He bared now one of his arms, and ſtriking it with all his force, cried out to the Phyſician, with great eagerneſs, to order him to be let blood.—"In "his looks were the appearance of horror "and deſpair, beyond what," ſays the Doctor, "I had ever ſeen before, either in madneſs, or any other kind of delirium."—Spat much; ſometimes to the top of the bed; at other times about the room; ſometimes

times into the handkerchiefs which the attendants had for that purpose.—The phlegm which he spat was of a yellow cast; so tenacious, that it was with difficulty got up: hence, when he opened his mouth, it could be seen adhering to the roof; but no foam about the mouth.—The sound which he made in endeavouring to raise the phlegm, was of a very singular kind—it was different from common hawking.—This sound varied also at different times, being at some times much sharper than at others,—" and being frequently re-" peated," it is added, " and quick and " sudden, as every other motion of his body " was, a warm imagination might consider " it as barking or yelping like a dog." —Was perfectly in his senses at this time —knew every body—did not attempt to snap or bite at any one, nor any thing within his reach.—On the collar of his shirt being unbuttoned, the fore part of his neck appeared remarkably protuberant, and as

if

if the uppermoſt cartilages of the wind-pipe had been ſwollen, and thruſt forward.

ONE of the attendants, who was a man that had been much employed in the care of mad people, held his left hand in one of his own, and with the other gently ſtroked the out-ſide of his throat; which ſeemed to give him a momentary relief. This perſon was deſired to be upon his guard; for it was not impoſſible, but that he might receive a bite; and that he ought to put on gloves, or cover his hands in ſome way or other, if he continued to be thus employed. But he refuſed to do any thing of this kind; and ſaid, that he had ſeen enough of him in the courſe of the night, to be very certain that there was nothing to be feared from him. When the phlegm was ſo tough, and tenacious, that the patient could not himſelf ſpit it out of his mouth, this per-ſon put his fingers into his mouth, and with the corner of an handkerchief drew it out for him.—When water was brought

near,

near, and poured from one baſon to another, it gave him the greateſt diſtreſs and horror; he ſeemed as if convulſed all over—ſhrinked from the ſight—then called out aloud to the perſon that poured the water in this way, adding the word *villain*, and exclaiming againſt the cruelty of this treatment.—Died about two that afternoon.

Three Caſes by Dr. Dickſon.

Firſt Caſe.

SYMPTOMS.

JOHN BROWN, aged thirteen, bit, with a great many more, in Whitechapel-Road.

APRIL 30th, felt a pain in the right cheek, the part bitten, all of a ſudden.—Slept none this night; yet eat his victuals.—Next morning (Friday) eat his breakfaſt; in the evening could neither eat nor drink.—Pains and cramp in his throat and cheek returned with great violence and frequency.

—Breathing became very difficult.—By Monday, May 4th, all his complaints encreaſed.—He had a wild, frighted, frightening ſtare—was very reſtleſs, ſhifting from place to place—hung his chin on his breaſt—great diſcharge of viſcid ſaliva, which he ſpat out with force to a conſiderable diſtance—could not bear the leaſt air to blow on his throat and cheek—a conſiderable mucous diſcharge from his noſtrills—breathing quick and laborious; pulſe ſoft, and not frequent.—Felt like a lump in his throat, but without ſoreneſs.—Was quite ſenſible.—Refuſed water; yet attempted it; and had a difficulty in bringing the glaſs to his mouth: it was done in the manner of one labouring under Chorea Sancti Viti.—Still complains of the cold air giving him great pain.—After the warm bath, a reſpite and a copious ſweat; but the ſpaſms and pain in the cheek returned.—Now, great reſtleſſneſs.—In ſome time after, was ſeized with conſiderable vomiting—the matter thrown up, frothy and colourleſs.—Vomiting continued

tinued frequent.—All his complaints encreaſed. He continued very ſenſible till near a quarter of an hour before his death, which happened at eleven o'clock at night. —Dr. Dickſon takes notice, that ſo great was the reſtleſſneſs, that it was not in the power of thoſe who attended him to keep the bed-clothes on him: he was at laſt ſtrapped down.—It did not appear that light any wiſe affected him, though the cold air did.—Complained greatly of thirſt, but could not drink.—His ſpitting of frothy matter encreaſed ſo much, that, in ſpite of all the care poſſible, his bed was exceedingly wetted by it.—The mucous diſcharge from his noſe continued.—He never attempted to bite any perſon; but, half an hour before he died, being preſſed by the apothecary to take a pill, he looked furious, and ſeemed as if he aimed at ſtriking him.—He did not bark like a dog; though the nurſe and the patients of the ward ſaid that he made a noiſe like a young puppy.—His pulſe could not be felt for five or ſix hours

before

before his death.—The ſpaſms of his throat became much more frequent, and the muſcles of the throat greatly affected, attended with a very quick laborious breathing.

Second Caſe.

SYMPTOMS.

A GARDENER's ſervant, bit by the ſame dog.—On April 28th, at a public-houſe, after having drank ſhare of ſeveral pots of beer, he found, all at once, he could not ſwallow.—He had filled his mouth with beer, but not being able to get down a ſingle drop, he ſpurted it out with great force, and cried out that he was a dead man.—He thenceforth kept continually ſpitting a frothy matter, of which he deſired thoſe about him to beware.—Was exceedingly reſtleſs —Had no ſleep; but remained perfectly ſenſible till his death, on Friday noon, May 1ſt.

Third

Third Case.

SYMPTOMS.

—— BEAN, aged ſixty-nine, at the end of three weeks and five days, was ſeized with a pain in the part bit, which extended to his throat.—His breathing became very ſhort.—Next morning he drank ſome tea, with difficulty.—Was delirious from this time till Thurſday ſe'nnight following, when he died.—He ſpat much frothy matter the whole time; and neither ate nor drank any thing ſince the tea already mentioned, till ten minutes before his death, when he drank a cupful of cold tea.—He had no ſleep during all his illneſs, and was blind the laſt four days.

Caſe by Mr. Bathie of Fifeſhire, communicated to Dr. Hope.—Vid. Med. Com. Vol. III. p. 290.

SYMPTOMS.

JAMES PATTON, aged fourteen, was bit on the back of his right hand on the 8th of November, 1774.—Continued well till February 9th, 1775, or about eleven weeks.—On this day, was attacked with univerſal laſſitude; loathing of food; ſlight head-ach: yet went to-day to his employment.—Next day (10th) went likewiſe to his buſineſs of driving the plough.—Very inactive and heavy to-day: his maſter rebuked him for lazineſs, not knowing he ailed any thing.—He complained now of a pain between the elbow of the hand bit and his ſhoulder; a diſorder of his throat, and head-ach; could not now ſwallow liquids, from ſomething in his throat which interrupted its paſſage: went this evening from his maſter's to the houſe of his parents,

rents, which is about a mile; was fatigued by it, and faintiſh; was ſeized ſoon after with a ſhivering; and complained greatly of the pain of his arm and throat.—It may be worth while to remark, that his mother examined his arm, and obſerved, that between the ſhoulder top, and down towards the elbow, the ſkin was of a yellow hue, having the appearance and feel of that of a dead perſon.—Got very little reſt this night; conſtantly ſhifting from ſide to ſide, being in every poſture remarkably uneaſy; and often attempting to drink, without effect.

SATURDAY (11th) continued much the ſame; rather worſe than better.—He tried to ſip out of a tea-ſpoon; as ſoon as the liquid touched his fauces, it ſeemed at the peril of his life, ſo ſtrongly was he threatened with ſuffocation.—Had this evening a paroxiſm, reſembling an intermittent: firſt univerſal coldneſs and ſhivering, ſucceeded by a hot fit, and this by a ſweating fit.—

Pain

Pain of the arm and throat now diffuſed all over his body.

About the middle of the night, was ſeized with delirium.—Struck his mother, who waited by, imagining ſhe was ſome other perſon intending him miſchief; but when ſhe reaſoned with him calmly, he became ſenſible of his miſtake, and was ſorry for his behaviour.—After this attack, he took little notice of any perſon, unleſs when he was ſpoke to; had now a timid look; was eaſily alarmed with noiſe, or the preſentation of luminous objects; had a ſubſultus tendinum, and raved much; but when aſked queſtions relative to his health, he immediately appeared awake and collected, and gave diſtinct and ſenſible anſwers, returning ſoon into his reverie as before, when permitted to be undiſturbed.—Even to the concluſion of the ſcene, when he was carried to the ſummit of frenzy, as was the caſe before he expired, he had the power of ſummoning himſelf, and ration-

ally

ally anſwering queſtions all along, with a diſtinct voice, ſuch as maniacs expreſs themſelves in, but more or leſs impetuouſly, according to the degree of fury with which he was agitated when ſpoke to.—At the appearance of a lighted fire or candle, he ſhrunk back in terror, calling out to remove them from his ſight; and when the bedclothes were adjuſted on him, he always complained of being much hurt.

SUNDAY (12th) rolled his eyes without intermiſſion; ſtartings of the muſcles of the face; voided ſome urine of a greeniſh hue, turning whitiſh when cold; frequent deſire to diſcharge urine; quantity ſmall, and quality as above; conſiderable heat, and moiſture on his ſkin; a very white, thin fur on his tongue; thirſty; pulſe full, and beat about one hundred and twenty-five, or one hundred and thirty in a minute; head-ach; oppreſſion, or heat at his ſtomach; inclination to vomit, but was afraid to do ſo for the obſtruction in his throat.—" With

" all theſe ſymptoms," ſays Mr. Bathie, " the boy ſpoke to me ſenſibly (on the 12th) " and in his ordinary tone of voice, as if " his throat had been quite well.—Two " bluiſh marks remained where he had been " bit, but the part was healed."

WATER was now offered: as ſoon as it touched the fauces, he was thrown into convulſions—let go the diſh—ſtarted to his feet—graſping his throat with both hands—his face greatly fluſhed—and he continued in a ſtate of ſuffocation for a minute, when the ſpaſm began to yield, and wore off gradually; this was accompanied by a quick involuntary action of the muſcles of his face, and with a convulſive motion of the whole cheſt, ſimilar to ſobbing, but in quicker paroxiſms, and with a peculiar noiſe from the throat.—Thirſt extreme.—Encreaſed in fury and madneſs now, fancying, in his frenzy, that his friends and attendants were all conſpiring againſt his life.—At laſt, could ſcarcely be held in bed by

three

three or four men.—He, to the laſt, knew his friends when they ſpoke to him—raving and toſſing about when he had anſwered them.—About eight o'clock in the evening, he turned ſuddenly quiet and motionleſs.—He lay in this condition for little more than half an hour, and then expired without a ſtruggle.

From Dr. Berkenhaut's Eſſay on the Bite of a Mad Dog.—Vid. p. 80.

SOME years ago, I was ſent for to attend a young gentleman, in the laſt ſtage of this horrible diſeaſe, who was bit by one of his father's hounds about ſix or ſeven weeks before.—A day or two before I ſaw him, he complained of a pain in the arm which had been bitten, gradually extending towards his ſhoulder. He had taken many doſes of the expreſſed juice of rib-wort, which, in that county, was univerſally deemed a ſpecific, and had bathed every day in the river. I ſaw him about ten in the

the morning. He complained of nothing but a pain in his arm, and ſome little difficulty in ſwallowing. I ordered a warm bath to be prepared, in which he ſat half an hour with great compoſure. I rubbed a conſiderable quantity of mercurial ointment into each arm, and gave him a grain of crude opium every hour, till nine or ten o'clock at night, without the leaſt effect. About eleven, he became extremely reſtleſs, and died at twelve, retaining his ſenſes to the laſt moment, without any ſymptoms of madneſs, or propenſity to bite his attendants.

SIR THOMAS MYERNE tells us, dogs are ſubject to the following diſeaſes:—1. The *Hot Madneſs*; this, he ſays, is incurable; they fly from every thing, and can hold out but four days.—2. The *Running Madneſs*. This is likewiſe incurable: they fly only on dogs, and that by fits; and may ſometimes, we are told, hold out nine months. —3. *La Rage Mue*; which is a diſeaſe that

lies

lies in the blood.—4. The *Falling Madneſs*; this ſeizes on the head, and is a ſort of epilepſy.—5. The *Blaſting*, or *Withering*; this lies in the bowels, which ſhrink up exceedingly.—6. The *Sleepy Diſeaſe*; this, he ſays, comes from little worms in the mouth of the ſtomach.—7. The *Rheumatic Diſeaſe*; this ſwells the head very much, and makes the eye yellow.—" In theſe five latter diſ-" eaſes the dogs will not eat; but they live " eight or nine days, without hurting any " body, and then die of hunger."—[Vid. Philoſ. Tranſact.]—The reader is left to form his own remarks on this.

The following appeared in the Ipſwich Journal of Feb. 19, 1785, in conſequence of ſome Thoughts on Hydrophobia publiſhed therein ſome weeks before.

THE public has been much obliged by an advertiſement in the Ipſwich Journal of the 5th of this inſtant February, adviſing proper care to be taken with dogs likely to

be

be mad; but that part relating to what is commonly called *worming* of dogs to prevent their madneſs, is a miſtake, it being done to prevent their biting any thing when mad: experience having ſhewn, time out of mind, that by taking out the tendon which grows under the tongue, not one ſingle inſtance has ever happened of any perſon being bit by a dog ſo wormed. And it has been obſerved, that out of ſeveral packs of hounds, and many other dogs that have been mad, thoſe wormed have fallen off their meat, refuſed water, and always died ſullen, or ſleepy mad, not one of them ever offering to bite any thing; when other dogs, part of the ſame pack of hounds, which were neglected to be wormed, though bit at the ſame time by the ſame mad dog, have acted as uſual, biting every thing that came in their way.—Whether this tendon under the dog's tongue be, during his madneſs, full of extreme pain, or violent heat, and the cauſe of his ſnapping at and biting every thing he meets, is hard to determine; but

but as experience has all along ſhewn, that taking away this tendon (which is drawn out without the leaſt difficulty has always prevented biting, &c. why ſhould this preventive precaution ever be neglected?

In reply to the foregoing, the following was inſerted in the ſame Journal, March 5.

A CARD.

Dr. H. preſents his compliments to the author of the ſtricture, inſerted in the Ipſwich Journal of February 19, relative to the worming of dogs; thanks him for his approbation of the obſervations on Hydrophobia; fears there may be ſome miſinformation in what is advanced of packs of hounds being ſo much changed from the common courſe, when ſeized with madneſs, by the extraction of the little tendinous ligament under the tongue.

MANKIND have been too apt to follow the traditions of their forefathers, without consulting their own reason and judgement; or have drawn too hasty conclusions from experiments, through neglect of carefully weighing every circumstance.

IT must in the first place be admitted, that an effect can never be greater than its cause. This is a maxim Dr. H. thinks indisputable. The extirpation here contended for, seems very inadequate to the change said to be thereby produced. A philosopher will ever be cautious, if his aim be truth, the encrease of knowledge, and the removal of popular prejudice, or popular error, of assenting to assertions which have not for their basis well instituted experiment, where results have been marked with accuracy, and related with fidelity.

IT appears from the expressions "it has "been observed, that out of several packs of "hounds

"hounds, &c." that the author has not made the experiment himſelf; therefore, may he not, through a confidence on the veracity and diſcernment of others in diſtinguiſhing phænomena, have ſuffered himſelf to be impoſed on? If he ſpeaks from authority which he can truſt, his readers ſhould have been referred to it.

THERE appears no reaſon to argue from facts, till once they are well eſtabliſhed, otherwiſe he might be told, that both tendons and ligaments, or tendinous-ligaments, as the accurate Morgagni inclines to call this, are endowed with leſs degrees of ſenſibility, than ſofter parts poſſeſſed of more numerous nerves, and larger blood veſſels. This is now pretty well eſtabliſhed among phyſiologiſts.—This, however, is not meant to deny an encreaſe of ſenſibility to them in a ſtate of diſeaſe; or that they are incapable of inflammation; but it is refuſing to admit them more ſenſible, in proportion to other

parts differently furniſhed with organs, that are the medium of ſenſibility.

THE pain in the organs of deglutition, occaſioned by the ſpaſms brought on from the virus; the changed ſtate of the ſalival ſecretion, and degree of irritation thereby given, are ſufficient to account for the dog's change of temper, &c. without having recourſe to a ſuppoſed pain, and extraordinary heat, in ſo diminutive a part as the ſmall tendinous ligament referred to.

THE falling off from their meat, the melancholy and ſleepy appearance of dogs infected with madneſs, are always the firſt ſymptoms. Hydrophobia, or the refuſal of water, &c. follows. The power of ſnapping, or biting, depends on the motion of the under jaw; if the muſcles, appropriated for this office are thrown into violent and fixed ſpaſms, called in the human body Triſmus, (locked jaw) the animal cannot bite; the power of opening or ſhutting the mouth

no

no longer remains: in the laſt hours of a dog's illneſs this has been obſerved. Sometimes, likewiſe, the tongue lolls out before death, no power of biting remaining.

Dogs, which poſſeſs different conſtitutions, in ſome meaſure analogous to the human race, have alſo a variety in their ſymptoms, and muſt therefore be differently affected by the ſame cauſe. The different tempers of dogs prove to a demonſtration the different make of their fibres, and form of their various organs, and will ſufficiently, it is apprehended, account for all the variety obſervable in the manner of death from madneſs.

All theſe things conſidered, it cannot be allowed, without more certain experiment than the ſubject has yet undergone, that the taking out this diminutive part has influence enough on the animal to alter his diſpoſition, or lull ſenſibility.

Besides, as nature never does any thing in vain, ſhe muſt have formed this little organ for ſome uſeful purpoſe to the animal. Why then deprive him of it till there be more ample aſſurance of its having ſuch power over the mind of the animal?

The limits of a newſpaper forbid any farther diſcuſſion. Should theſe remarks not ſatisfy the gentleman for whom they are thrown out, Dr. H. will chearfully embrace a private correſpondence, in order to enter farther into an inveſtigation of the ſubject; though he confeſſes it ſcarcely would ſeem to deſerve it; but muſt decline any thing farther in a public paper, as being an improper vehicle for ſuch diſcuſſions.

The following, however, appeared in the Ipſwich Journal for March 19—it is ſuppoſed, from the ſame anonymous writer.

For the GOOD of the PUBLIC.

It has been the received opinion, from experience, that the alarming miſchief which frequently happens from the bite of a mad dog, may be effectually prevented by worming of all dogs, by taking out the long tendon, or fibrous muſcle, which grows under the tongue, and which is thought to be much ſwelled, particularly inflamed, and the ſole cauſe of the biting during the madneſs; thoſe dogs that have been wormed having always died ſleepy mad, never offering to run away from home, to ſnap at, or bite any thing. Many things may be fully credited, though not eaſily to be accounted for. It will always be prudent to tie up ſuch dogs as have been wormed,

wormed, upon the firſt ſymptoms of madneſs, though moſt people have not even thought that a neceſſary precaution. The injury done to the dog is very little indeed, if any, and not worth mentioning, in compariſon with the fatal conſequences attending the bite of a mad dog. Some people think it their duty to the public, never to keep a dog that has not been wormed.

From the ſame Journal of April 16, in reply.

To the PUBLIC.

In the Ipſwich Journal for March 5th, ſome arguments were adduced with a view to prove the inutility of worming dogs, to prevent their biting when affected with rabies; and doubts were there entertained relative to the authenticity of ſome ſeeming facts laid before the public, in order to eſtabliſh the belief of the ſalutary effects of this vulgar practice.

Pre-

PREJUDICES inculcated in early youth are ſtrong, and yield with difficulty to reaſon, eſpecially if imbibed from perſons for whom we have an eſteem and veneration. Hence traditions handed down from father to ſon are tenaciouſly held, though they want even the ſemblance of truth to ſupport them.

WE love and venerate our parents; we greedily imbibe their opinions, and conſider them as incontrovertible, without the leaſt doubt but they ſtand ſupported on the firmeſt foundation of facts. Yet, if we do not firſt doubt, and next inveſtigate, it becomes impoſſible ever to advance in improvement, or arrive at a certainty of truth.

HAD not Sir Iſaac Newton doubted that the ſyſtems of former aſtronomers were erroneous, and incapable rationally of explaining various phænomena relative to the heavenly bodies, we never ſhould have been

pre-

preſented with that ſyſtem of beauty and ſimplicity, by which his diſcoveries have enlightened mankind.—Had not Harvey been a ſceptic, we ſhould have yet remained in darkneſs with reſpect to the circulation of the blood in animals, and the conſequent improvements founded thereon.—And had not later philoſophers doubted the truth of Des Cartes' ſyſtem, and thence expoſed it, we might at preſent ſtill continue in the abſurd belief, that the ſoul could be confined to a ſmall protuberance within the cranium, ſituated behind the part from whence proceed the optic nerves, called, by anatomiſts, Pineal Gland, not larger than a common pea.

When we queſtion the truth of opinions, it is by applying them to the teſt of judgment and reaſon; and laſtly, to confirm this deciſion, where the caſe requires it, and the ſubject will admit, we have recourſe to experiment. This is our *ne plus ultra*—it fixes the fate of the inveſtigation. From hence-

henceforth oppoſition muſt ceaſe, and truth becomes triumphant; for to this determination all muſt yield. This is the ſame, whether the thing to be inveſtigated, on which the conteſt may turn, be a matter of *great*, or a matter of *ſmall* moment, as happens in the preſent.

To come, then, to the point. Dr. James, and others, doubted the utility of the practice mentioned at the beginning of this article; but they produced no experiments to oppoſe the error, and confirm the juſtneſs of their doubts. The writer of this article doubted likewiſe, from the apparent abſurdity of the thing, and the diſproportion between the cauſe and the effect ſaid to be produced. He had, however, no experiment then, on which he could abſolutely reſt; his proofs, therefore, were built on reaſoning—were preſumptive only—not poſitive. But, not altogether ſatisfied with this, he wiſhed to trace it farther, and arrive, if poſſible, at certainty. He has at

 length

length fortunately ſucceeded to his wiſh, as the following relation will amply teſtify; where experience convinces, that wormed dogs are not incapable of biting when mad; nor do they always die ſullen.

A PERSON of veracity in Ipſwich, who practiſes worming of dogs, declares, that many of thoſe he wormed have gone mad. But he relates, and is ready, when called on, to atteſt, that, among others, he wormed a dog for one Cutting, a butcher, of this town (Ipſwich). That the dog not only went mad, but bit a cow, a gander, and a ſpaniel of his own, on which he ſet great value. The cow and the gander, ſoon after, likewiſe went mad; and to prevent the ſame event in his own dog, he ſhot him; and adds, that the loſs gave him great uneaſineſs. At another time, two dogs he had wormed alſo went mad, and both ran away, as did the former; but he cannot aſſert whether they bit other animals. The ſame perſon alſo wormed another dog,

when

when a puppy of four months old; he remained well till about three years after, *i. e.* till about three months ago, when he went mad, ran away from his maſter, and bit a great number of other dogs, ſeveral of which went mad ſoon after. All this can be atteſted by different people here; and, ſhould any of the readers of this doubt its authenticity, every ſatisfaction relative to the affair, that can be required, may be had by applying to the printers of this paper.

HERE, then, are facts, where no error in obſervation can be admitted. This relation was given by the perſon who wormed them, before ſeveral reſpectable witneſſes, not long ago, who were then converſing on the ſubject; one of whom, ſome time after, mentioned it to the writer; on which he ſent for the perſon, and had it farther confirmed from his own mouth.

THE readers of this Journal, it is hoped, will excuſe the author of this article for em-

employing ſo much of their time on an affair of ſo little importance. But it has been productive of the removal of an error; and ſo far it has ſome utility. Nor will humanity, he thinks, bluſh at being the inſtrument of preventing an unneceſſary practice, giving a degree of pain, without any good purpoſe, to a ſpecies of animals, whoſe fidelity, and attachment to man, claim, in a ſtrong degree, his mutual affection and ſympathy. Hitherto, however, they had the apology of a ſuppoſed good to plead. But henceforth there can remain none.—Beſides, we are not ſenſible of the injury we do the animal by thus mutilating him, and deſtroying parts which nature formed not in vain. It is not enough that we may be yet ignorant of its uſe; for, ſome purpoſe it muſt unqueſtionably ſerve, otherwiſe the Creator would never have endowed them with an uſeleſs organ. H.

July 30, 1785.

MR. RIPSHAW now informs me, that he has learned the fate of two other dogs he wormed; which, as farther proofs to eſtabliſh the inutility and abſurdity of the practice, we ſhall lay before our readers.

ONE of theſe was the property of a Mr. Clubbe, a baker, in this town: he wormed this dog when he was a puppy. About ſix months from the date of this, *i. e.* about three years after he was wormed, he became affected, and bit ſeveral dogs; next day he left his maſter and ran away. Two of the dogs he bit, about three weeks after, went mad: one of theſe belonged to a Mr. Mayhew, a farmer, at Whitton, a village about two miles from Ipſwich; the other to a gentleman at Bramford, about four miles diſtant.—Theſe are facts, and can be well atteſted.

I WOULD

I WOULD obſerve here, that dogs do not *always* refuſe water in madneſs.—The Rev. Mr. Mills, near Boxford, in Suffolk, aſſured me lately, that his own obſervations enabled him to confirm this remark; and related an inſtance, where one of his dogs that went mad, lapped water only a few hours before it died. He added, it lapped with eaſe; nor did it ſhew a deſire to bite, unleſs a ſtick was held to it, when it immediately ſnapped at it. It fawned on him, likewiſe as uſual. He took notice, however, of a particular fierceneſs and wildneſs in its eyes, and that it bounded rather than ran.

MR. TUSON, Surgeon, at Boxford, who was then in company, related a caſe, ſimilar in almoſt every reſpect, which fell within his own knowledge.—Hence the danger in pronouncing a dog *not mad*, becauſe he either laps water, or fawns on his maſter.

To conclude these remarks, I shall present my readers with the opinion of the late Dr. Gregory, Professor of Medicine in the University of Edinburgh, relative to the production of Hydrophobia.—Speaking of *stimuli*, which, he thinks, are the chief cause of the evacuation of the *vesica urinaria*, he says,—" You may take it for a general rule, " that those creatures that feed upon animal " food have their bladder more muscular, " and considerably stronger, and less capa- " cious, than those that live on vegetables; " such as horses, cows, swine, &c. whose " bladder of urine is perfectly membranous, " and very large. This is wisely adapted " to the nature of their food; for, in these " first, *all their juices are more acrid*, so, in " a particular manner, their urine becomes " exalted, which, as its remora might be " of very ill consequence, must necessarily " be quickly expelled. This is chiefly ef- " fected by its stimulating this viscus more " strongly to contract, and so discharge its

" contents.

" contents.—And if theſe creatures, whoſe
" fluids have already a tendency to putri-
" faction, are expoſed to heat or hunger,
" the liquids muſt, for a conſiderable time,
" undergo the actions of the containing
" veſſels, and frequently perform the courſe
" of the circulation without any new ſup-
" plies of food; by which the fluids become
" more and more acrid, the creature is apt
" to fall into *feveriſh* and *putrid diſeaſes*;
" and, in fact, we find, that *theſe cauſes are*
" *ſufficient* to produce that fatal and melan-
" choly diſtemper, the *Rabies Canina, Vul-*
" *pina*, &c. in theſe animals: whereas
" thoſe that feed on vegetable food ſeldom
" or never contract thoſe diſeaſes, but by
" infection."—Vid. Eſſay on Comparative
Anatomy.

In page 69 we promiſed to lay before our readers the noted powder of Palmerius, " Whoſe power he believes ſufficient to be " truſted with operating a cure, even though " the patient ſhould neglect all due treat-

" ment

" ment of his wound, or obſervation of " regimen in diet; and to be able, not " only to work a prophylactic, or prevent- " ative cure, but likewiſe a radical cure of " the Hydrophobia already preſent."—The preſcription is as follows:

" TAKE of the leaves of rue, vervain, " ſage of virtue, plaintain, (and polypody " leaves) common wormwood, mint, mug- " wort, baum, betony, St. John's-wort, " and of the leſſer centaury, each equal " parts by weight."

WHEN theſe were to be uſed, they were to be reduced ſeparately into a fine powder a dram of which was to be adminiſtered daily to the bitten patient, mixed with twice as much ſugar, in a draught of wine, or cyder, or broth; or made into an electuary with honey, to be ſwallowed on a faſting ſtomach, three hours before taking food.

FINIS.

ERRATA.

p. 3. l. 9, for them, read *it*. p. 8. l. 3. for sup*ur*fluous, read *superfluous*. p. 40. l. 9. for Henry II. read *Forester of Henry II*. p. 101. l. 6. after urine, add *in*. p. 131. note l. 5. for ut pote, read *utpote*. p. 181. l. 5. from bottom, for were, read *was*. p. 193. l. 10. for evening read *night*. *ibid*. l. 5. from bottom, after became more and more, add *violent*. p. 212. l. 3. after means, add *commonly*. p. 214. l. 10. dele *is*. p. 216. l. 13. for days, read *weeks*.