Observations on the nature, causes, and cure of those disorders which have been commonly called nervous, hypochondriac or hysteric : to which are prefixed some remarks on the sympathy of the nerves / by Robert Whyte.

Contributors

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OBSERVATIONS

ON THE

S WIT ;:

NATURE, CAUSES, and CURE

Of those DISORDERS which have been COMMONLY called

NERVOUS, HYPOCHONDRIAC, or HYSTERIC:

To which are prefixed fome Remarks on the SYMPATHY of the NERVES.

BY

ROBERT WHYTE, M. D. F. R. S. Phyfician to his Majefty, Prefident of the Royal College of Phyficians, and Professor of Medicine in the Univerfity of Edinburgh.

Συμπαθία πάντα. Hippocrat. de aliment. § 4.

The SECOND EDITION, Corrected.

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M DCC LXV.



HE diforders which are the fubject of the following Observations, have been treated of by authors, under the names of Flatulent, Spafmodic, Hypochondriac, or Hysteric. Of late, they have also got the name of NERVOUS; which appellation having been commonly given to many fymptoms feemingly different, and very obfcure in their nature, has often made it to be faid, that Phyficians have beftowed the character of nervous, on all those diforders whofe nature and caufes they were ignorant of. To wipe off this reproach, and, at the fame time, to throw fome light on nervous, hypochondriac and hysteric complaints, is the defign of the following Obfervations; which are alfo intended to fhew, how far the principles laid down in my Effay on the vital and

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and other involuntary Motions of Animals, may be of use in explaining the nature of feveral difeases, and confequently, in leading to the most proper method of cure*.

SINCE, in almost every disease, the nerves fuffer more or lefs, and there are very few diforders which may not, in a large sense, be called nervous, it might be thought that a treatife on nervous diseases should comprehend almost all the complaints to which the human body is liable. The defign, however, of the following Obfervations is far different. In them, it is only propofed to treat of those diforders, which in a peculiar fenfe deferve the name of nervous, in fo far as they are, in a great measure, owing to an uncommon delicacy or unnatural fenfibility of the nerves, and are therefore obferved chiefly to affect perfons of fuch a conftitution.

Ås

* See an Essay on the vital, &c. motions, edit. 1st, p. 390.

As many of thefe complaints depend upon that fympathy which obtains between the various parts of the body, it feemed neceffary to begin with fome obfervations on the *fympathy* of the *nerves*; a fubject of the greateft importance in pathology!

In reafoning on the nature and caufes of nervous diforders, I have endeavoured to avoid uncertain hypothes; and therefore have had no recourfe to any imaginary flight, repercussion, dispersion, confusion or jarring contest of the animal fpirits; for whofe existence we have only probability, and of whofe peculiar nature and properties, we are altogether ignorant. But altho' the minute ftructure of the nerves, the nature of their fluid, and those conditions on which depend their powers of feeling, and communicating motion to the body, ly much beyond our reach; yet we know certainly, that the nerves are endued with feeling, and that as there

zie truth, and advancing one flep far-

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is a general fympathy which prevails through the whole fyftem; fo there is a particular and very remarkable confent between various parts of the body. From this fentient and fympathetic power of the nerves, I have endeavoured to deduce the various fymptoms of the nervous kind: and have thought it better to ftop fhort here, than to amufe myfelf or others, with fubtile fpeculations concerning matters that are involved in the greateft obfcurity.

IF it fhould be faid, that to account for difeafes from the fenfibility or fympathy of the nerves, while we know not wherein thefe powers confift, is no better than referring them to a *facultas incognita*, or to the hypothetical *motions* and *countermotions* of the animal fpirits; I fhall only anfwer, that altho' we cannot explain why grief or joy fhould, by means of the nerves, excite a greater motion than ufual, in the veffels of the lachrymal glands, yet it is leading us to the truth, and advancing one ftep farther

ther in our knowledge, to fhew that the increased fecretion of tears, occafioned by those passions of the mind, proceeds from this cause, and not from any compression of the lachrymal glands or their ducts, by the neighbouring muscles, as has been commonly imagined: And, to afcend from finall things to great, altho' Sir Isaac Newton did not pretend to explain the caufe of gravity, yet he made no fmall improvement in phyfical Aftronomy, when, from this principle alone, he accounted for the various motions of the planets, and banished. the imaginary vortices of Descartes, which had been contrived, but unfuccessfully, to explain the phanomena of the folar fystem.

In the practical part, I have confined myfelf chiefly to what experience had fuggefted; and have only advifed fuch remedies as I have ufed with fuccefs myfelf, or had recommended to me by those whom I could trust.

As many of the fubjects I have treated of, are not a little obscure, it cannot

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viii PREFACE.

be expected that they fhould admit of as clear an explication as matters that are lefs intricate; and this, it is hoped, will make the learned in the profession overlook with candor, the defects which may be found in the following Obfervations. However, if with all their imperfections, they fhall be of any ufe in conveying to the younger and lefs experienced Phyficians, a clearer notion of the nature of those diforders, which have been commonly called nervous, hypochondriac, or hyfteric, or in any cafe direct them more happily in the cure; I fhall have my aim, and be fufficiently rewarded in the fatisfaction of thinking that my labour has not been, altogether, useless to the Public, the good of which ought to be the principal view of every writer.

Hoc opus, hoc studium, parvi properemus et ampli, Si patriæ volumus, si nobis vivere chari.

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CHAP. I.

m to be quite diffind from

Of the SYMPATMY .

Of the STRUCTURE, USE, and SYM-PATHY of the NERVES.

BEFORE we enter upon the fubject of the following observations; it may be proper to make a few remarks concerning the structure, use, and sympathy of the Nerves.

1. THE nerves are those finall cords, which rising from the brain and spinal marrow, are distributed to every part of the body. They appear to be no more than continuations of the medullary substance of the parts from whence they proceed, and owe their strength and firmness to the membranes and cellular texture which furround them.

2. THE larger nerves (1.) are evidently composed of many finaller ones, A which

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which run parallel to each other, and feem to be quite diffinct from their origin to their termination, without any *fuch* communications between their branches, as are obferved every where in the fystem of arteries and veins.

3. THE finalleft nervous filaments that can be traced by diffection, are ftill composed of leffer threads, fo that we can have no idea of the exility of a fingle nervous fibril.

4. ALTHO' it feems probable that the nerves (3.), which are continuations of the medullary fubftance of the brain and fpinal marrow, derive from thence a fluid ; yet the extreme fmallnefs of the nervous tubes, and the fubtility of that fluid which they contain, make us altogether ignorant of its peculiar nature and properties. Nor do we know, certainly, whether this fluid ferves only for the nourifhment and fupport of the nerves, or whether it be not the medium by which all their actions are performed. 5. THE

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5. THE nerves communicate fenfe and a power of motion to the body.

SINCE opium, without entering the blood, or being carried to the feveral parts of the body, leffens or deftroys their powers of feeling and motion, merely by acting on the extremities of the nerves to which it is applied *, it follows, that the nerves muft be the inftruments of fenfation, and neceffary for performing motion. Many other experiments and arguments might be mentioned to the fame purpofe; but as this agency of the nerves is a point generally acknowledged, it would be unneceffary to enter here into a more particular proof of it.

6. Altho' every part of the body furnished with nerves, has either more or less of feeling†; yet there are only A 2 fome

* See Edinburgh Phyfical Effays, vol. ii. p. 304. 309; 310, &c.

+ There are fome exceptions to this, fuch as the *bones* and *cartilages*, which, tho' not deflitute of nerves, are yet, in a natural flate, infenfible.

fome of those parts, whose structure renders them capable of motion, viz. the muscles, and such organs as are in part muscular; and the blood vessels, which, from the effects of blisters and other *flimuli*, appear evidently to be posselfed of irritability, or a power of alternate contraction.

7. THERE are only two kinds of motion observed in the bodies of living animals, viz. voluntary, and involuntary from flimuli. In order to the performance of the first, the nervous power is not only neceffary, but also a free communication, by means of the nerves, between the brain and the parts to be moved. The fecond continues for fome time, tho' in a much weaker degree, even in those muscles, whose connexion with the brain is wholly cut off; whence it has been concluded, that this kind of motion is independent of the nerves, and owing to fome power or property in the mulcular fibres themfelves, or in the Masses, which, the' not delibure of nervery are yet, in a

matural flate infunfible.

of the NERVES.

the glutinous matter connecting the elements of which they are composed*. That this conclusion, however, is not well founded, I have formerly fhewn by feveral arguments and experiments †; and shall, therefore, at prefent only obferve, that, fince a folution of opium, by affecting the extremities of the nerves to which it is applied, and without being received into the blood, or carried to the brain or muscles, destroys, not only the power of voluntary motion in animals, but alfo renders their muscles incapable of being excited into contraction by the ftrongeft fimuli ‡; it evidently follows, that involuntary, as well as voluntary motion, depends upon fome power or influence of the nerves ||.

BUT

* Acta Gotting. vol. ii. p. 152, &c.

t See Edinb. Phyfical Effays, vol. ii. p. 309, &c. and Phyfiological Effays, edit. 2d, &c.
t See Effay on the vital motions of animals, edit. 2d,

p. 418. || See this argument farther purfued in Phylical Effages, vol. ii. p. 304, 310, &c.

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But be this as it will; from the continuance of the motion of the heart, and other mufcles, after they are feparated from the body, one may fafely conclude, that the contraction of irritated mufcles, is not owing to the diffention of their hollow fibres, by a more copious influx of the nervous fluid at that time. Does this fluid act in fome other way than by diffending the mufcular fibres ? or is it only neceffary to keep them in a proper flate for being acted upon, by that living principle from which all their motions are to be derived*?

aA .8. me Hromeet (limal) \$; 10 evident-

* Since it has been the prevailing opinion among Phyfiologifts, that the contraction of the muscles is owing to the dilatation of their hollow fibres, by a greater influx of the nervous fluid into them, it may not be amifs, briefly, to mention the principal arguments which render this opinion, at leaft, very improbable.

1. As far as we can judge from experiments, the mufcles become lefs bulky in a flate of contraction, than they were before. The hearts of frogs, when taken out of the body, become really lefs every time they contract, and their contraction feems not to be owing to an inflation of their fibres or veffels, but to the particles, of which they are compofed, approaching nearer to one another, and running into clofer contact.

2. The

of the NERVES.

8. As the nerves are continuations of the medullary fubftance of the brain and fpinal marrow, it is probable that they are partly nourifhed by those vef-

fels,

2. The extraordinary fmallnefs of the nerves, and the very flow fecretion and motion of their fluid, makes it improbable that mufcular motion is owing to the diffention of the fibres of the mufcles by a fudden influx of that fluid. Nor have we any reafon to think, that the nervous juice dilates the mufcular fibres by means of any rarefaction or effervefcence.

3. The muscles grow more tendinous by age, *i.e.* their fibres towards their extremities degenerate into folid threads; and this happens fooneft when the muscles are much used: but if the contraction of a muscle were owing to the inflation of its fibres by any fluid, the more frequently it was moved, it would be the lefs apt to become tendinous.

4. If the mufcular fibres are hollow, and of a cylindrical form, or made up of veficles, it may be demonstrated, that they cannot be rendered, in the first cafe, above $\frac{1}{5}$, and in the fecond above $\frac{1}{5}$ part shorter, by the influx of a fluid into their cavities; but we know that the difference between the *sphintter pupille* and *ani*, and the stomach and bladder, in their greatest state of contraction and distension, is much more than any of these proportions.

5. The regular alternate contraction of the hearts of frogs, for five or fix hours after decollation, and the deflruction of their fpinal marrow, and for half an hour or more after they are feparated from their bodies, clearly proves, that an influx of a fluid from the nerves into the muscles, is not ncceffary for their contraction : for although the fpirits remaining in the nerves of the heart, fhould be fuppofed to occasion

fels, which are fpread on that product tion of the *pia mater* which furrounds them, in like manner as the brain derives its nourifhment from the arteries of the *pia mater*. If this be true, we may readily fee why the nerves lofe their powers, when they are wholly deprived of the arterial blood; and, on the other hand, retain them, in fome meafure, after the brain is offified or petrified.

It has been thought by fome, that nutrition is chiefly performed by means of the nervous fluid, becaufe those parts, whose nerves are destroyed, or wholly deprived of their usual power, are obferved to become smaller.

BUT whoever confiders the inconceivable exility of the nerves, and how

flowly

occasion a few contractions of this muscle, yet they cannot be sufficient for producing several thousand distensions of its hollow fibres.

The above arguments, if they do not entirely overthrow the common opinion, will, at leaft, justify me in not having recourse, in the following treatife, to the *irregular motion*, *increased derivation*, *repercussion*, *confusion*, or *burry* of the animal spirits, in accounting for the symptoms of nervous, hypochondriac and hysteric diforders.

Of the NERVES.

flowly any fluid must be derived by their means from the brain*, will fcarcely think that the nutrition and growth of the body can be performed in this way. Nor does the withering of fuch muscles as are totally palfied, prove, that nutrition is owing to the nervous fluid; for we know, from certain experiments and obfervations, that the motion of the fluids in the very fmall veffels, depends, in a great measure, upon the influence of their nerves; and that, when this is wanting, the fluids either do not circulate at all through those veffels, or, at leaft, in a very languid manner: whence the parts, to which they belong, collapfe, and are not properly nourifhed †.

9. OUR bodies are, by means of the nerves, not only endowed with feeling, and a power of motion, but with a remarkable fympathy, which is either general and extended through the whole fyftem,

* See Phyfiological Effays, edit. 2d, p. 22, &c. † Ibid. p. 49. and 50.

fystem, or confined, in a great measure, to certain parts.

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10. THAT every fenfible part of the body has a fympathy with the whole, will fufficiently appear from the following facts.

COLD water thrown on any part of the body that is warm, produces a fudden contraction of the whole veffels and pores of the skin, and by that means frequently puts a ftop to fmall hæmorrhages. The effluvia of certain fubstances when fmelled to, inftantly communicate new life and vigour to the whole body, while others affect fome delicate women with fainting and convultions. - By means of different mufical founds, various paffions may be excited or calmed, and difeafes are faid to have been fometimes cured*. By doleful ftories, or shocking fights, delicate people have elody out the stonded the been been

* Histoire Acad. Royale des Sciences, Ann. 1717:

· See Phyloionich Tilles, edit 14, p. 24,

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Of the NERVES.

been often affected with fainting and general convulfions*.

WHEN the brain is wounded, inflamed, fuppurated, or otherwife hurt, almost every part of the body is liable to fuffer, and vomitings, tremors, convulfions, palfies, &c. often enfue. In animals newly dead, the whole muscles of the trunk and extremities are strongly convulsed, when a probe is pushed down through the spinal marrow.

WHEN the flomach is in a found flate, and digeftion is properly performed, the fpirits are good, and the body is light and cafy; but when that organ is out of order, a languor, debility, melancholy, watchfulnefs, or troublefome dreams, the night-mare, &. are the confequences.—Grateful food, flrong wine, or other fpirituous liquors, no fooner

* Altho' in thefe cafes, the changes produced in the body are owing to the paffions of the mind, yet as the mind is only affected through the intervention of the optic and auditory nerves, they feem proper enough inflances of the general fympathy that extends through the whole nervous fyftem.

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fooner touch the flomach of one ready to faint from emptinefs, than they communicate new life and ftrength to the whole body: and, on the other hand, feveral poifons occafion violent ficknefs, vomiting, fainting, tremors, convultions, flupidity, an intermitting pulfe, difficult breathing, coldnefs of the extremities, and other fymptoms.—A fever, *delirium*, and violent convultions, have been produced by a pin flicking in the coats of the flomach*: and worms, affecting either this part or the inteffines, occafion a furprifing variety of fymptoms.

EPILEPTIC fits have proceeded from a rough bone or cartilaginous fubftance, irritating the nerves of the great toe, or the calf of the leg; and the wound of a tendon or nerve has been the caufe of a fever, *delirium*, tremors, violent convulfions, a *tetanus* and death.

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* Hildan. Centur. ii. obfervat. 34.

of the NERVES.

MANY more examples might be mentioned, were it neceffary, of that general fympathy which prevails throughout the whole body. But there is nothing which fets this matter in fo clear a light, as the effects of opium: for a folution of this fubstance injected into the great guts of a dog, in a few minutes brought on a palfy of his posterior extremities, attended with a flupor and convultions*. Some days after, a like folution being injected, by a perforation through the teguments into the abdomen of the fame dog, he became almost instantaneously paralytic, and died in a few minutes †.

A SOLUTION of opium injected either into the ftomach or inteffines of frogs, or even applied to the muscles of their belly laid bare, produces a paralytic weakness, a ftupor, and death at last; altho' fuch is the nature of these animals,

* Edinburgh Phyfical Effays, vol. ii. p. 297. † Ibid. p. 298. 13

mals, that opium does not kill them near fo foon as it does dogs*.

FROM these experiments it appears, that not only those nerves, to which opium is immediately applied, are rendered incapable of performing their office; but that the brain, fpinal marrow, and whole nervous fystem are affected in the fame manner, folely by the action of the opium on the nerves which it touches. For its effects upon dogs are too inftantaneous to allow of the fuppolition, that the more fubtile parts of this poifon are received into the blood, and by that means are conveyed to the brain: and in frogs, after the heart is taken out, and confequently a flop put to the circulation, yet a folution of opium injected into the ftomach and inteftines, has the fame effect, as when these animals are entire †. ital ta dinolo bus roquit FI. BESIDES

Edinburgh Phyfical Effays, vol. ii. p. 281 — 292.
† Ibid. vol. ii. p. 281. and 302. and Effay on the vital motions of animals, edit. 2d, p. 413.

* Edinbaigh Phylical Edays, vol. 3. p.

+ fluid. p. 208:

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of the NERVES.

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11. BESIDES this general confent (10.) which prevails throughout the whole body, there is a particular and very remarkable fympathy between feveral of its organs, by means of which many operations are carried on in a found flate; and pain, convulfive motions, and other morbid fymptoms are often produced in fuch parts, as have no near connection with those that are immediately affected.

To illustrate this, I shall give several instances, beginning with the head, and taking the parts in their order downwards.

(a) The HEAD. Violent pains in the head, which have their feat moft commonly in the membranes of the brain or *perioranium*, are frequently attended with a ficknefs at the ftomach, and vomiting. — The *fpafmus cynicus*, locking of the jaws, and an univerfal *tetanus*, have followed a wound of the left fide of the head, by which the temporal mufcle
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muscle was divided *.—Light and noise are offensive, both to the eyes and ears in fevere headachs:—Wounds and contusions of the brain, generally occasion bilious vomitings.—Certain impressions made on the *fensorium commune* by exter= nal objects, instantly give the eyes either a dull, a lively, or a fierce look.

GRIEF, vexation, or fear, leffen the fecretion of the *faliva*, deftroy the appetite, and fometimes occasion a loofenefs.—The great confent between the brain and heart, appears from the fudden and remarkable effects of the passions on the latter.

(b) The EYES. When one eye is affected with an inflammation, a cataract, or the gutta ferena, the other is often foon after attacked with the fame difeafe.— The contraction of the pupil, is not owing to light acting as a *flimulus* on the *iris*, but folely to the fympathy between this

"Hildan. Centur. v. observat. 9.

mufele

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this membrane and the retina*.____ There is fuch a fympathy between the two pupils, that, even in a gutta ferena, the pupil of the morbid eye is observed to follow the motions of the found one .- We fhut both eyc-lids, whether we will or no, as often as any thing threatens to hurt either eye .--- A bright light coming fuddenly on the eyes, fometimes occasions sneezing .- Hippocrates has observed, that the unexpected fight of a ferpent will make the countenance pale + .- The fight of grateful food, occafions an uncommon flux of the faliva, in a hungry perfon .- Yawning and vomiting are often catching.

(c) The EARS. The noife of a file and other harfh founds, affect the teeth with an uneafy fenfation.—The whetting of a knife, has caufed the gums to bleed ‡. Great and unexpected founds, fuch as B the

* See an Effay on the vital motions of animals, edit. 2d. § 7.

+ Lib. de humoribus.

‡ Boyle's usefulness of experimental Philos. part 2d. p. 248.

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the explosion of a cannon or musket, make us inftantly clofe our eye-lids .--As the ear is frequently pained when the fauces are inflamed, fo an irritation of the meatus auditorius will often excite coughing, and fometimes vomiting*. A conftant pain of one fide of the head, with a numbness of the left arm and leg, a suppression of the menses, and epileptic fits, have all been occafioned by a glafs-ball, not larger than a pea, flicking in the car +. shan lliw anoquet a lo

(d) The NOSE. The effluvia of Hungary water, or fpirit of wine drawn ftrongly into the noftrils, increase the derivation of the falival juice into the mouth, and fometimes ftop a tickling cough .- The fmell of grateful food, makes the faliva flow when one is hungry.-Sternutatories not only increase the fecretion from the nofe, but alfo from the lachrymal veffels.-After finelling

of 2.Sas an Elley on the vital motions of a simals, edit, 2d.

* Pechlin. observat. med. lib. ii. No. 45.

+ Hildan. Centur. i. obfervat. 4.

to volatile falts, or eating too much ftrong muftard with one's meat, a pain is often felt above the eye-brows; and it is obfervable, that after taking a large draught of very cold water in winter, *that* part of the fore-head immediately above the nofe, is affected with a painful fenfation.—Acrid fubftances applied to the olfactory nerves, bring the diaphragm, intercoftal and abdominal mufcles, into convulfive motions.

Mr Boyle mentions feveral, who were purged by finelling to a cathartic medicine*; and we are told, that, in fome, the effect failed, when, from a coryza, or obstruction of the membrane of the nose, the olfactory nerves had lost their power of distinguishing finells.

(e) The TEETH. A rotten tooth, will fometimes occasion a violent pain in a found one, tho' at a diffance from it; and the pain will cease as foon as the spoilt tooth is drawn, or its nerve deftroyed.—A pain in the teeth, often B 2 affects

* Usefulnefs of Experimental Philof. part 2d. p. 242.

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affects the cheek-bone, one fide of the head, the throat, and the corresponding ear.—Children, from the irritation of the gums in teething, are liable to vomiting, purging, a cough, a fever, and convulsions.

(f) The TRACHEA. An irritation of the windpipe, or any of its finall branches, raifes coughing, or a convultive motion of the muscles employed in expiration; and a *naufea*, vomiting, and convultions, are, fometimes, the confequence of a violent or long continued irritation of these parts.

(g) The LUNGS. The fympathy of the lungs, with the diaphragm and intercoftal mufcles, is evident from their motion, even in ordinary refpiration; but ftill more fo in the laborious breathing, which is always the confequence of a difficult paffage of the blood thro' the pulmonary veffels.

(b) The DIAPHRAGM. When the diaphragm is inflamed, the ftomach, brain, and

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and mufcles of the face are affected by fympathy, as appears from the *delirium*, vomiting, and *rifus fardonicus*, which attend this difeafe.

(i) The STOMACH and INTESTINES. A difordered ftate of the ftomach and inteffines, with wind or noxious humours lodging in them, will fometimes fo affect the brain, as to deprive people of their reafon. At other times, the fame causes will produce a vertigo, cephalea, hemicrania, clavus hystericus, palpitations, intermiffions of the pulle, difficulty of breathing, fudden flushings of heat, and fweating, &c .---- After hard drinking, or a large dofe of opium, the eyes lofe their luftre .- The headach, after a debauch, proceeds chiefly from the ftomach, as appears by the removal of the pain, upon drinking a few glaffes of ftrong wine .- The diforder of the ftomach, will fometimes occasion dimnefs of fight*. I know a Lady, to whom

vroving, and a leufe of fuffocation :

* Lommii observat. med. lib. ii.

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every object appears, as if covered with a thick finoke, as often as her ftomach is loaded with an acid; and who, therefore, finds vomits, absorbent powders and bitters, her best ophthalmic medicines .- Another Lady, with tender eyes, feldom has any confiderable pain or fickness at her ftomach, without her head being affected, and her eyelids or eyes becoming, in fome degree, inflamed .- In little more than half an hour, after fwallowing fifteen or twenty grains of the extractum cicuta, I have been often affected with a weaknefs and dazzling of my eyes, together with a giddinefs and a debility of my whole body, efpecially the muscles of my legs and arms; to that, when I attempted to walk, I was apt to ftagger like a perfon who had drunk too much ftrong liquor.

A CONVULSIVE motion of the ftomach and inteffines, often fpreads to the throat, where it occasions a difficulty of breathing, and a fense of fuffocation :

.it .dil .bom .tuviside iimme.i On

On the other hand, an irritation of the fauces, or pharynx, excites vomiting .----A nausea or disagreeable fensation in the ftomach, makes the pulse quicker and finaller, raifes a fweat, and fometimes greatly increases the fecretion of the faliva, or urine .- When the stomach is empty, and affected with a fense of hunger, the falival juice flows much more copioufly into the mouth, than after a full meal, or when the natural appetite for food is wanting .- An inflammation of the ftomach and bowels, is attended in the beginning, with a fhivering of the whole body, and a great coldnefs of the hands and feet .- Long continued vomiting and purging, occafion violent cramps of the muscles of the legs and thighs; and the dry belly-ach, brings on a palfy of the extremities .- A tremor of the hands, is often leffened or removed, for a while, by a dram, or fome ftrong wine; and this effect is owing folely to the action of these liquors on the sto-, daam a many other parts of the body.

(R) The

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mach, and not to their having entered the blood, which does not happen fo foon.—The particular fympathy of the flomach with the diaphragm and abdominal mufcles, appears from their convulfive motions in vomiting, and in the hiccup. A violent fpafinodic pain in the flomach or inteflines, often renders the pulfe much flower than in a flate of health.

An inflammation of the inteffines, is frequently attended with vomiting, and a suppression of urine.- An opisthotomus or a tetamis, is often occasioned, in hot climates, by a retention of the meconium, or other acrid humours, in the bowels of infants .- That itching of the nofe, which is a common fign of worms, feems to indicate a particular fympathy between this part and the inteffines; and the many other fymptoms produced by worms, which I fhall have occasion to mention afterwards, fhew a remarkable and extenfive confent, between the first paffages, and many other parts of the body. (k) The

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(k) The LIVER. Stones irritating the biliary ducts, frequently occasion a naufea and vomiting.—An inflammation of the liver, is generally accompanied with a vomiting and the hiccup, and often with a pain between the vertebræ of the neck and top of the shoulder. In a suppuration of the liver, I have twice seen the patients affected with a numbness and debility of the right arm, thigh, and leg.

(1) The KIDNEYS and URETERS. A naufea, vomiting, coffiveness, and inflation of the bowels, are often produced by an inflammation in the kidneys, or ftones in the ureters.—A ftone in the pelvis of the kidney, or in the ureter, fometimes occasions a frequent inclination to make urine, and a heat in the extremity of the urethra.—When one of the kidneys is inflamed, little urine is feparated by the other, probably on account of a spasmodic stricture of its fecretory vessels.—When a stone is passing through the ureter, the testicle of the fame

fame fide is fometimes drawn upwards, and fwells; and an erect pofture is then painful.

(m) The BLADDER and RECTUM, An irritation of the neck of the bladder, or extremity of the rectum, is the caufe of a conftant contraction of the diaphragm and abdominal mufcles.-A ftrangury and tenefmus, mutually occafion each other .- The pain of the hamorrhoids, is fometimes accompanied with a fickness at the ftomach, and faintishnefs. A ftone or ulcer in the bladder, is attended with a fharp pain near the end of the urethra, especially after making water. I had, fome years fince, a patient with an ulcer in the bladder, who, when he paffed his urine, had not only a violent pain in the point of the penis, but this pain defcended down his thighs and legs, and affected the foles of his feet, as if he had been flanding barefooted on burning coals.

(n) The GENITALS in MEN. At the time of puberty, not only the voice, but

but the whole body, undergoes a fenfible. change, which is probably owing to the flimulus communicated to the nerves of the genital parts by the femen; for we certainly know that other flimuli, applied to the nerves of the nofe or ftomach, according to their nature, will either inftantaneoufly impart new vigour to the whole body, or foon occafion a general stupor and debility .- It is owing to a fympathy with the glans, that the veficule feminales are contracted in time of coition: and, when the membrane which lines the lower part of the urethra is ftimulated by the semen, the acceleratores urina are excited into convulfive motions.

(0) The UTERUS. The great variety of fymptoms in the hyfteric difeafe, is the reafon, why a more extensive fympathy has been afcribed to the womb, than to any other part, except the brain. But, altho' thefe fymptoms proceed from the womb, much lefs frequently than has been imagined; yet the vomiting which generally

generally accompanies an inflammation of that organ, the nausea, and depraved appetite after conception, the violent contraction of the diaphragm and abdominal muscles in delivery, the headach, and the heat and pain in the back and bowels about the time of menstruation, are fufficient proofs of the confent between the uterus and feveral other parts of the body. But there is no part fo much affected by the different flates of the womb as the breafts, which become more turgid before every appearance of the menfes, and fubfide after the period is over. The changes that happen to the breafts in time of pregnancy, and after delivery, are ftill more remarkable.

(p) The EXTREMITIES. Strait floes, give fome people a headach; while finapifins applied to the foles of the feet, or blifters to the legs, often leffen, and fometimes remove a *delirium*.—In an obflinate coffivenefs, cold water thrown on the feet and legs, has fometimes opened the

the body, after many other remedies had failed.—By tickling the foles of the feet, not only the mufcles of the legs, but of the whole body, may be thrown into convultions.—An *opifthotomus*, with convultions returning every day, has been owing to a wound in the fole of the foot by a nail*; and the *fpafmus cynicus*, to a violent pain in the toes. \dagger — The locking of the jaws, fometimes happens after amputations of the extremities, or lacerations of the nerves or membranes.

MANY other examples of *fympatby*, both in a found and morbid flate of the body, might be mentioned; but the above will be fufficient at prefent, as I fhall have afterwards frequent occafion to touch on the fame fubject.

12. ALL fympathy or confent fuppofes feeling, and therefore must be owing to the nerves, which are the fole instruments

* Nova Act. Acad. Cæfar. natur. curiof. tom. i. p. 16. † Hoffman. Syftem. med. tom. iii. fect. 1. cap. 5. No. 30.

ments of fensation (5). The truth of this feems to be fully evinced, by the following experiment. When the hinder toes of a frog are wounded, immediately after cutting off its head, there is either no motion at all excited in the muscles of the legs, or a very inconfiderable one. But if the toes of this animal be pinched, or wounded with a pen-knife, ten or fifteen minutes after decollation, the mufcles, not only of the legs and thighs, but also of the trunk of the body, are, for the most part, strongly convulsed, and the frog fometimes moves from one place to another. In this cafe, is not the irritation of the toes, immediately after decollation, rendered ineffectual to produce any motion in the muscles of the legs and thighs, by the greater pain occafioned by cutting off the head? And are not the muscles of the posterior extremities, as well as of the trunk of the body, brought into action by wounding the toes fifteen minutes after decollation, becaufe

becaufe the pain produced by cutting off the head, is now fo much leffened, as not to prevent the animal from feeling very fenfibly, when its toes are hurt?

BUT further, that all /ympathy is owing to feeling, and confequently proceeds from the nerves, appears evident, becaufe the changes in the body, occafioned by the fympathy of the parts, are ftopt by whatever affects the nervous fyflem fo ftrongly, as to overcome the fenfations that produced those changes .---Thus the hiccup is ftopt by terror, fear, furprife, or other ftrong paffions .- An irritation of the nofe will not occasion fneezing, when the first effort to fneeze is attended with an acute pain, in fome of the muscles of the back or fides from a rheumatic caufe .- Hungary water, or volatile spirits, drawn strongly into the nofe, will often ftop a tickling cough; and landamum taken by the mouth, or given in a clyfter, by weakening the fentient power of the nerves, will leffen or remove

remove the fympathetic vomiting, arifing from a ftone in the kidney or *u*reter, and the violent contractions of the diaphragm and abdominal muscles, occasioned by a *tenefinus* or ftrangury.

Could we fuppole the circulation of the blood were to remain, after a total abolition of the fentient powers of the brain and nerves, there would be no more fympathy between the parts of fuch an animal body, than between those of any hydraulic machine. As in this case, the motion of the fluids would be merely mechanical, so every change made in any of its parts, must be the result of mechanism alone, and consequently, wholly different from consent, which, as it depends upon feeling, cannot be explained upon mechanical principles.

I 3. THOSE fympathies, which have been afcribed by fome authors to the tela cellulofa, blood-veffels, membranes, and the fimilarity of parts, if duly confidered, will appear either to proceed from the nerves,

nerves, or not to deferve the name of confent or fympathy.

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WITH regard to the cellular membrane, as in a natural flate it has little or no fenfibility, fo it muft, of all other parts, be the leaft fubject to fympathetic affections. Its cells have every where a free communication ; and therefore air, water, purulent matter, or other humours, are often conveyed, by their means, from one part of the body to another. But this cannot be properly referred to fympathy, and is no more than what happens to a fpunge, a piece of fugar, or other porous fubftances.

THE fyftem of blood-veffels affords us no more inflances of *true fympathy* than the *tela cellulofa*, except what may be owing to the nerves, which belong to thefe veffels. The changes made in the circulation, and the morbid fymptoms produced, or removed by the force of the blood being turned upon different parts of the body; the abforption of the venereal

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nereal contagion, of *pus*, or other humours, and their translation to distant parts, are not, strictly speaking, instances of *confent*, but are solely the confequences of the circulation of the fluids, and the communication between the feveral parts of the vascular system. The changes, indeed, produced in the motion of the blood, and in the various secretory organs, by different affections of the mind, are undoubtedly owing to *fympathy*; not, however, of the bloodvesses, as will appear afterwards.

THE various inftances of confent from the continuity of membranes, are, ftrictly fpeaking, owing to the nerves themfelves, with which those membranes are fupplied; for, were they deftitute of nerves and feeling, no fuch confent could happen. If the heat and pain in the extremity of the *urethra*, from a ftone or ulcer in the bladder; and the itching in the nose, from worms in the intestines, and

and fuch like fymptoms, were owing to the continuity of the membranes affected, the gullet and *fauces* ought to fuffer more than the nofe; and the lower or middle parts of the *urethra* fhould be more pained than its extremity. Further, if these inftances of *fympathy* were merely owing to the continuity of membranes, why does not the bladder fuffer in a gonorrhaa, where there is a great irritation and pain near the extremity of the *urethra*?

ALTHO' a deafnels has been fometimes cured by purging, this no more argues a fympthay between the ears and inteftines, from the continuity of the membrane that lines them, * than the cure of an ophthalmia by the fame remedy, proves a fympathy between the eyes and bowels. The effect in both cafes, is chiefly owing to the derivation of the humours from the parts affected ; and hence bliftering the head often affords a more C 2 fpeedy

* Haller, prim. lin. phyfiolog. § 555.

fpeedy relief, in those diseases, than purging.

THE Sympathy between the breafts and the uterus, has been derived from the fimilarity of their structure, or of the liquors fecreted by them. But altho' those parts were much more fimilar in these respects than they really are, yet if there were no connection between them by means of blood-veffels, or confent by means of nerves, it would be difficult to conceive, how the condition of the one could be fo much affected by that of the other; and much more, how a titillation of the one fhould communicate a particular fensation to the other. The fimilarity of ftructure between the muscles of the legs and arms, between the tefficles, and between the parotid glands, is confiderably greater than between the womb and breafts; and yet the former have no fuch sympathy as the latter.

14. ALTHO

14. ALTHO' it may appear, from what has been faid, that all real confent between the different parts of the body, is owing to the nerves, yet it will be found very hard to account, particularly, for the various inftances of fympathy, either in a found or morbid ftate.

THE prevailing opinion has been, that these fympathies are owing to the communications between the nerves, and particularly to the connexion which the *intercostals* have with the fifth, fixth, and eighth pairs, and with almost all those which proceed from the spinal marrow*. Upon this principle, it has been

* Hippocrates was not ignorant of a general fympathy between the parts of the body; and Galen treats particularly of those diseases which arise from fympathy or confent: but he was to far from having any notion that fympathetic affections were owing to the nerves, that he afcribes those headachs, which do not proceed from any fault in the head, to vapours afcending from the stomach or uterus. Succeeding writers, even as far down as Fernelius and Sennertus, feem to do little more than copy what Galen had faid on this subject. Andreas Laurentius, who wrote about the year 1600, ascribes the stomathy between

been thought eafy to trace the various sympathies, not only between the feveral parts of the abdomen, but also between them and the head, neck, thorax, and extremities. But however plaufible this theory may appear at first view, and how readily foever it may feem to explain many remarkable inftances of cononthe chele Twaspathie and owing to the

between the mamma and uterus, partly to the intercoftal nerve, which fends fome branches to the organs of generation, and

partly to the vena azygos, which terminates in the left fpermatic vein. He deduces the vomiting in a nephritis partly from the nerves, which the kidneys have from the flomachic plaxus, and partly from their exterior coat, being a continuation of that which covers the bottom of the ftomach. Cafpar Baubimus derives the confent between the noftrils and exterior parts of the abdomen, from the communication between the epigaftric and mammary veins. Riolan, who flourished before the middle of the feventeenth century, has not, with all his learning, made any improvement in the doctrine of fympathy ; and his cotemporary Riverius, afcrihes fympathetic difeafes to five caufes, viz. the connexion, fituation, vicinity, or fimilarity of the parts, or to their having the fame kind of office. Doctor Willis, who has given a more accurate description of the brain and nerves, than any anatomist before him, endeavoured, first, to explain the various inftances of fympathy between the parts of the body, from the connexion or communication of their nerves This doctrine was afterwards further illustrated by Ficuffens, and has been embraced by most of the later writers.

fent, yet a more strict examination will shew it to be liable to insuperable difficulties.

(a) SINCE every individual nerve, appears to be quite diffinct from every other, not only in its rife from the medullary fubstance of the brain or spinal marrow, but alfo in its progrefs to that part where it terminates (2.), it follows, that the various inftances of fympathy, obferved between the different parts of the body, cannot be owing to any communication or anastomosis of their nerves; and confequently, that it can be here of no ufe, minutely to inquire into the numerous connexions, which the intercostal nerves have with the fifth, fixth, and eighth pairs, and with those of the spinal marrow.

BUT left it should be alledged, that the course of the nervous filaments in the ganglia is so intricate, that it is not altogether clear, whether they may not intermix or communicate with one another

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other in their paffage through those bodies, it will be necessary to offer some less doubtful arguments, for proving that the *fympathy* of the several parts, does not depend on any union or *anaftomofis* between their nerves.

(b) IF there were any anaftomofis, or real communication between the nerves of the fame or different trunks, either in the ganglia or elfewhere, it is natural to think, that a confusion would necessarily happen in our fenfations, as well as in the motions of our feveral mufcles; for the impreflions of external objects would be communicated, at the places of union, to other nerves than those affected; and the change produced by the will in any nerve, at its origin in the brain or fpinal marrow, in order for moving a particular mufcle, would affect all those nerves with which it has any communication, by means of the ganglia or otherwife.

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(c) IT does not appear, that there is any sympathy between the nerves that are derived from the fame trunk, by means of the membranes that furround them. If the dura mater were endowed with that degree of fenfibility, and with those powers of oscillation, which have been afcribed to it by feveral authors, this opinion would not appear altogether improbable; but as the membranes of the brain, and those productions of them which furround the nerves, feem, in a natural state, to be possessed only of a very obtufe kind of feeling*, and are altogether deftitute of motion, we have no reafon to afcribe the various instances of fympathy between the different parts of the body, to their fenfibility or moving power.

(d) WE

* The experiments of the learned M. de Haller, altho' they do not prove these membranes to be *webelly* infensible, yet they certainly shew them to have no painful or acute feeling in a found state. *Vid.* Acta Gottingen. vol. ii. and Physiological Essays, edit. zd.

(d) WE observe a remarkable sympathy between many parts, whofe nerves have certainly not the fmalleft communication with one another. Thus the dimnefs of fight occasioned by a diforder of the stomach, the nausea upon seeing others vomit, and the flux of the faliva into the mouth of a hungry perfon, at the fight of favoury food*, are proofs, that the ftomach and falivary glands sympathize with the retina, tho' there is no communication between the optic nerves and any other .- A shuddering is excited by particular founds, and yet the portio mollis of the auditory nerve, after it leaves the brain, does not

appear

* In these instances, the change in the stomach and falivary glands are produced, through the intervention of the brain and sentient principle: for thinking strongly on favoury vistuals, or difagreeable medicines, will have almost the same effects on some people, as seeing them. But fince an impression on the optic nerve can, by means of the brain, occasion vomiting, and an increased discharge of the falival juice, why may not impressions on the other nerves, produce various other sympathies in the same manner? But of this more hereaster,

appear to communicate with the portio dura, nor any other nerve .- Altho' the optic nerves unite at the cella Turcica, yet it has been fhewn, that their fibres do not crofs, intermix, or truly communicate with each other*; neverthelefs, there is a confiderable fympathy between the two eyes .- Altho' the nerves of the two kidneys, do not appear to have any connection with each other, yet, when one of these glands is inflamed, or irritated by a ftone, the fecretion from the other is frequently much diminished .- We know for certain, that the different fize of the pupil in different lights, is owing to a confent between the retina and uvea, and yet the optic nerves, and those belonging to the uvea, have no communication, in their courfe from the brain to the eye. Nor can any fympathy be fuppofed to arife from the nerves of the uvea, paffing between the

* See Vefal. anatom. corp. human. lib. iv. cap. 4, and Santorin. obfervat. anatom. p. 63.

the retina and tunica choroidea, as there is no anastomosis, nor any other kind of union between them. The nerves, with which the uvea of the two eyes are furnished, have no connexion, and yet we find a most remarkable sympathy between the motions of the two pupils.

ALMOST the whole mufcles of the body may be brought into convulfive motions, by tickling the foles of the feet, or the fides; nay, the dread of this will affect fome people. Now, thefe motions cannot reafonably be deduced from the connection of the intercoftal nerves with those of the fpine; or, if they could, it would follow that the ftomach and bowels fhould fuffer, at leaft, equally with the diaphragm and mufcles of the trunk of the body.

(e) IF the confent between the viscera of the abdomen, and the other parts of the body, be owing to a communication of nerves, by means of the intercostals; why do not all those parts sympathize, whose

whole nerves are either derived from, or communicate with the intercostals ?-Why, in the nephritis does the ftomach fuffer more than the inteflines? and why are not the lungs and other parts at all affected in this difeafe?---Why does not an irritation of the bladder from a ftone. commonly occafion a nausea and yomiting; fince the bladder, as well as the kidneys, has its nerves partly from the eighth pair and intercoftals?---Why does an irritation of the nofe occasion fneezing only, and not coughing, vomiting, purging, or the hiccup ?- Why does not a blifter, applied from the ear to the top of the fhoulder, bring on a convulfive motion, or fome other affection of the diaphragm, fince the connexion of the phrenic nerves with the 2d and 3d cervical pairs is much greater, and lefs remote than with the nerves of the nofe*?

IF

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* The pain between the vertebræ of the neck and top of the fhoulder, which fometimes attends an inflammation of

the

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IF the *delirium*, which generally attends an inflammation of the diaphragm, were owing, as has been alledged, to the remote connexion between the phrenic, and fifth pair of nerves which fends filaments to the *dara mater*; why fhould not an inflammation of the lungs, ftomach and inteftines be attended with that fymptom as often, and in a greater degree; fince the fifth pair of nerves hath a more immediate connexion with the intercoftal than with the phrenic nerves ? Why does an irritation of the fphincters of

the

the liver or diaphragm, has been afcribed to the connexion between the phrenic nerves, and the 2d and 3d cervical pairs: But, if this were the cafe, why fhould this fymptom be fo rarely obferved in a *paraphrenitis*, as to be omitted by moft authors ? and why fhould not the diaphragm be diffurbed in its motions, when the 2d and 3d pairs of cervical nerves are irritated by blifters, the extirpation of tumours or other caufes ? It is not eafy to fay, what may be the caufe of that pain in the neck, and top of the fhoulder, which often attends a *bepatitis* ; but there feems to be good reafon to doubt of its proceeding from any connexion between the phrenic and 2d and 3d cervical nerves. Some of the older phyficians, afcribed this fymptom to the weight of the inflamed and fwelled liver drawing downwards, and flretching the membranes that line the *thorax* *.

* N. Pifo de cognoscend. et curand. morb. lib. iii. cap. 25.

the anus or bladder, occasion a continued contraction of the diaphragm and abdominal mufcles, rather than an alternate motion of those parts, as in coughing and the hiccup, when either the trachea or left orifice of the flomach is irritated?-Since the diaphragm fympathizes with the nofe, lungs, uterus, rectum, and bladder, why do not these parts fuffer equally, when that muscle is inflamed, or otherwife violently affected ?- If the fympathy between the nofe and diaphragm, be owing, not to the olfactory nerves, but to a branch of the fifth pair fent to the nofe, why do not sternutatories excite convultive motions of the mufcles of the face, (to which the 5th pair is diffributed) as well as spasins of the diaphragm, whofe nerves can have only a remote connexion with the fifth pair, by means of the intercoftals *?-And why does not

* When fneezing is ftopt, by prefling the nofe with one's finger and thumb, near the internal angle of each eye; this effect is not owing, as fome have thought, to the preflure made

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not the great irritation of fome of the filaments of the fifth pair of nerves, in the toothach, produce the convulfive motion of fneezing?-If the flux of tears occafioned by grief or joy, were owing, as Dr. Willis alledges, to the communication between the fifth pair of nerves which ferves the lachrymal glands, and the intercostals which are distributed to the pracordia*; why do not those affections of the mind produce an increased excretion of the faliyal as well as lachrymal juice?-If the difturbance of the motion of the heart, from certain founds, were owing, as Vieus imagines, to the feventh and eighth pair of nerves being partly composed of medullary fibres, derived from a particular

fafciculus

made on the nerves fent to the nofe from the ophthalmic branch of the fifth pair; for fneezing may be flopt, almost as readily, by prefling hard with one's fingers on the forehead. In both cafes, fneezing is prevented in the fame manner, wiz. by the uneasy fensation occasioned by flrongly prefling on the brow or nose.

* Anatom. cerebri, edit. in 4to. p. 288.

fasciculus arising from the cerebellum*, why should not the muscles, which are supplied with nerves from the fixth pair and the portio dura of the feventh, be equally affected; fince their connexion, at their origin, with the portio mollis is not lefs than that of the eighth pair †? Or why, in violent palpitations of the heart, are not the auditory nerves at all affected? The truth is, the changes in the motion of the heart occasioned by external objects, acting either on the organs of fight or hearing, are not owing to any communication of their nerves with those of the heart, but to the impreffions made on the fenforium commune, and the affections of the mind excited thereby ‡ .-- If the fympathy between the different parts be owing to their nerves being derived from the fame trunk, why is there not the fame confent between the feveral mufcles of the foot, of the leg, and of the D thigh,

1 See below, No. 17.

^{*} Neurograph. lib. iii. cap. 4.

⁺ Id. lib. i. cap. 12.

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thigh, as between the kidneys and the ftomach, or between the nofe and the diaphragm?—Laftly, if an irritation of the alimentary canal in hyfteric women, fometimes produces convulfions of the legs, by reafon of the communication between the intercoftals and the two laft lumbar nerves; why are not the ftomach and bowels feized with fpafms or convulfive motions, from the violent pain of the gout in the knees, ancles, or feet? Thefe queftions, I doubt, will fcarce admit of a fatisfactory anfwer, upon the principle of fympathy depending on the communication, or connexion of nerves.

15. IF, therefore, the various inftances of fympathy cannot be accounted for, from any union or *anaftomofis* of the nerves, in their way from the brain to the feveral organs; and if there are many remarkable inftances of *confent*, between parts whofe nerves have no connexion at all; it follows, that all fympathy muft be referred to the brain it-

felf

felf and fpinal marrow, the fource of all the nerves.

BUT for a more direct proof of this, we may obferve, that the confent of the feveral parts inftantly ceafes, when their communication with the origin of the nerves is interrupted. Thus, tho' the muscular coat of the flomach, in an animal newly dead, is excited into contraction by irritation, yet the diaphragm is noways affected by this flimulus. In like manner, when any of the muscles of the legs of a frog are pricked, moft of the muscles of the legs and thighs contract, even after cutting off it's head, if the fpinal marrow be left entire; but when that is deftroyed, altho' the fibres of the flimulated muscle are affected with a weak tremulous motion, yet the neighbouring mufcles remain wholly at

FURTHER, the effects of pain, and of fear and other paffions, in preventting feveral fympathetic motions, feem

to there is an anter for 2 10 Division in p. 237.
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to fhew, that the caufe of that confent which obtains between the parts of animals, is to be referred to the origin of the nerves: and, fince certain affections of the mind, excited by the action of external objects, on the organs of fenfe, produce extraordinary motions and other effects in the body, merely by affecting the brain; why may not impreffions made on the nerves in other parts, produce likewife, through the intervention of the brain, various motions and other effects in diftant parts of the body? The analogy is obvious.

LASTLY, Notwithstanding the many fympathetic motions, which are daily observed, by Physicians, to arise from an irritation of the nerves in different parts of the body; yet, when the nerve going to any muscle is irritated, there is no motion excited in any part, except in the muscle to which it is distributed*. Does it not hence appear highly probable.

* Memoire fur la nature sensible et irritable, tom. i. p. 237.

ble, that the various fympathetic motions of animals produced by irritation, whether in a found or morbid flate, are owing, not to any union or connexion of their nerves, but to particular fenfations excited in certain organs, and thence communicated to the brain or fpinal marrow? For, if this were not the cafe, why fhould not the diaphragm, for example, be convulfed, by irritating the nerves that go to the bladder and *inteftinum rectum*, as well as when thefe parts *themfelves* are affected by an unufual *ftimulus*?

IF the fympathies obferved between the different parts of the body, be owing to particular fenfations excited in them, and thence communicated to the brain; we may eafily fee why an irritation of the *inteftinum jejunum* does not affect the diaphragm fo much as an irritation of the *rectum*; for, tho' the *jejunum* is not lefs fenfible than the *rectum*, and the nerves of both have the fame remote connexion

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connexion with the nerves of the diaphragm; yet the fenfations excited by the fame stimuli, acting on the jejunum and rectum, are very different, and therefore must affect the brain or common fenforium differently .- An irritation of the nerves of the face, does not produce any fuch convulfive motion of the mufcles of refpiration as happens in fneezing, becaufe it does not occafion that kind of fensation, which is excited by flimuli applied to the nofe: And the diaphragm, which is brought into a continued contraction, when the extremity of the rectum or neck of the bladder is painfully affected, is agitated with alternate convulfions, when the left orifice of the ftomach is irritated, becaufe very different fenfations are excited by an irritation of those parts.

FURTHER, when the *meatus auditorius* is irritated, by introducing into it a feather, or any fuch fubftance; an inclination to cough is often excited, efpecially

ally if the membrane of the trachea has been rendered more fenfible than ufual, by catching cold; but, when the meatus auditorius is violently pained, in confequence of an inflammation in it, no coughing is occafioned: From which it follows, that the fympathy between that meatus and the organs of refpiration in the former cafe, cannot be owing to any connexion between their nerves, or indeed to any mechanical caufe, but proceeds from a particular feeling, and muft be referred to the fenforium commune .- In like manner, neither an acrid injection of a folution of the corrofive fublimate in water, nor the introduction of a catheter into the urethra, occasions any alternate convulfive motions of the mufculi acceleratores urina; altho' the femen, which stimulates the nerves of the urethra much more gently, produces this effect. Laftly, on this head, altho' when the fides, or foles of the feet are tickled, the body is often thrown into convulfive motions;

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tions; yet nothing of this kind happens when these parts are either inflamed or wounded; from which it evidently follows, that those motions are occasioned by the *particular* sensation excited by the tickling, and do not proceed from any sympathy, which the nerves of the fides, or solves of the feet, have with those of the other parts of the body, in consequence of any connexion between them.

16. But altho', from what has been faid, it may appear probable, that all nervous *confent* proceeds from the brain; yet we cannot pretend, from this principle, to account, in a fatisfactory manner, for all the various inftances of *fympathy* obfervable in the bodies of animals, fince many of them may depend on fuch a flate of the brain, and other parts, as cannot be the object of our fenfes*,

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If it fhould be objected, that it is as difficult to account for a fympathy between the nerves at their origin in the brain, as in their courfe to the feveral parts, where they happen to be connected; I anfwer, that the purpose of these observations, is not to explain how the different parts of the body

THE fympathy between every individual nerve and the whole fyftem *, will be readily allowed to be owing to the mediation of the brain, and not to any connexion or communication among the nerves proceeding from it: I fhall, however, mention one experiment as the most decisive of this question.

A SOLUTION of opium, applied to the abdominal mufcles of a frog, whofe brain

body can be endued, by means of the nerves, either with a fentient or a fympathetic power; but, to endeavour to trace the fympathy of the nerves to its true fource, which I take to be the brain and fpinal marrow. It would be in vain to inquire further into this matter, unless we knew the minute flructure and connexions of the feveral parts of the brain, and were better acquainted with the laws of union between the body and foul, to whofe fentient power the fympathy of the nerves, at their origin, must be at last referred : For, if confent supposes feeling (12.), and if feeling cannot, any more than intelligence, be a property of matter however modified ; it must follow, that fympathy depends upon a principle that is not mechanical ; and that, to fuppofe it may be owing folely to the particular fituation, arrangement, or connexion of the medullary fibres of the brain, or to the union of the nerves proceeding from it, is as unreafonable, as to imagine that thought may be the refult of a motion among the particles of the animal fpirits, or other fubtile matter in the brain.

* See No. 10. above.

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brain and fpinal marrow had been deftroyed, did not ftop the motion of the heart near fo foon, as it would have done, if the brain and fpinal marrow had been entire*. A clear proof, that the power of opium, to deftroy the motion of those parts which it does not touch, is owing folely to the mediation of the brain and fpinal marrow, and not to any other communication among the nerves.

'Tis true, when a frog is deprived of the brain and fpinal marrow, upon applying a folution of *opium* to the abdominal mufcles, its heart will ceafe from motion fomewhat fooner than it would otherways do; but this effect is not to be afcribed to the action of the *opium* on the nerves which it touches, but to fome of its finer parts being taken up by the abforbent veins[†], and carried with the blood to the heart.

THAT

* See Edinburgh Phyfical Effays, vol. ii. p. 283---288. and p. 303.

+ Ibid. p. 304. and 305. and Phyfiological Effays, edit. 2d, 7. 305.

THAT life and vigour, which is, almost inflantaneously, communicated to the whole body, by volatile fpirits applied to the nose, or cordial medicines received into the ftomach, are, like the effects of opium, to be referred to fome stimulus or impression communicated to the brain, by the nerves of the nofe and ftomach. A dram of brandy acts in the fame manner, when it fettles a fhaking of the hands; and as those epileptic fits, which are occafioned by fome extraordinary irritation of the nerves of the arms, legs, or toes, do not begin, till after a certain fensation has been propagated from the part irritated to the head; we may fafely conclude, that these sympathetic motions proceed from the brain, and not from any connexion which the nerves of the parts affected can have, by means of the intercoftals, with the other nerves of the body*. Nor

* Doctor Hilary has remarked, in the colica pictonum, that when the pain in the bowels has continued long, and at laft begins

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is it more furprifing, that an uncommon irritation of any fenfible part, fhould, efpecially in those of a delicate frame, produce convulsive motions of almost the whole body, thro' the intervention of the brain, than that opium applied to the nerves of the stomach, intestines, or abdominal muscles, should quickly destroy the powers of feeling and motion, throughout the whole nervous fystem *.

17. NOTHING makes more fudden, or more furprifing changes in the body, than the feveral paffions of the mind. Thefe, however, act folely by the mediation of the brain, and, in a ftrong light,

fhew

begins to abate, a pain in the fheulder-points and adjoining mulcles, comes on, with an unufual fensation and tingling along the fpinal marrow, that foon extends itfelf from thence to the nerves of the arms and legs; which members first become weak, and afterwards quite paralytic. *Vid. Hilary* on the epidemical difeases of Barbadoes, p. 184, and 185. Does not this observation seem to seem to that the palfy of the extremities, occasioned by the colica pictonum, is not owing to any communication between the nerves of the bowels and of those parts, but proceeds from the spinal marrow, which is first affected ?

* Vid. Edinburgh Phyfical Effays, vol. ii. p. 303.

fhew its fympathy with every part of the fyftem.

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SUCH is the conflitution of the animal frame, that certain ideas or affections excited in the mind, are always accompanied with corresponding motions or feelings in the body; and thefe are owing to fome change made in the brain and nerves, by the mind or fentient principle*: but what that change is, or how it produces those effects, we know not: as little can we tell, why fhame should raife a heat and redness in the face, while fear is attended with a palenefs. Thefe, and many other effects of the different paffions, must be referred to the original conftitution of our frame, or the laws of union between the foul and body.

BUT altho', in these matters, we must confess our ignorance, yet, from what

* By the *fentient principle*, I underftand the mind or foul in man, and that principle in brutes which refembles it. *Vid.* An Effay on the vital and other involuntary motions, edit. 2d p. 307.---323.

what we certainly know of the action of the nerves, we can eafily fee, that a change in them may occafion many of those effects which are produced by the passions.

As the force of the heart, and the regularity with which it contracts, depend, in a great measure, on the state of its nerves, so does the action of the arterial system, in carrying on the circulation; and particularly those alternate contractions, with which the minuter vessels are continually agitated, and to which the motion of the study in them is, in a great measure, owing *.

THE

* It has been shewn, from a variety of facts, as well as from analogy, (Physiological Essays, edit. zd, p. 35. &c.) that the very small vessels, to which the direct force of the heart does not feem to reach, are endued with a power of motion, excited by the *simulus* of the fluids, as they pass along; and that these vibratory or oscillatory motions of those vessels are much increased, when they are more than ordinarily irritated, or when, through strong passions or other causes, the nerves are greatly asserted.

The fpeedy inflammation of the eyes, by acrid fubftances, the inflammation of the fkin by blifters and finapifms, and the increafed fecretion from the nofe and falivary glands,

when

THE other mulcles of the body are often, by an uncommon exertion of the nervous power, affected either with alternate convulfive motions, or a continued fpafm. It is reafonable, therefore, to think, that the heart and vafcular fyftem may fuffer in the fame manner; and that, when the influence of the nerves is much weakened, or in fome meafure fufpended, the veffels will be relaxed, the circulation will become languid, and an univerfal debility will enfue.

THE increased force of the heart, and fometimes indeed of the whole muscles of the body, from great anger or rage, is to be ascribed to a stronger exertion of the nervous power; while the trembling

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when flimulating fubflances are taken into the mouth, or applied to the noftrils, can only be accounted for, from an increased motion of the fmall veffels of those parts. And that the circulation of the fluids, in the very fmall veffels, depends greatly on fome influence communicated to them by the nerves, appears from Dr Nuck's having observed the fecretion by the glands to be much diminished, or entirely flopt, after their nerves were obstructed or compressed *. * Adenograph. curiof. p. 16.

and debility produced by fear, arife from a contrary caufe.

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THE palpitation of the heart from terror, feems to proceed from the blood returning to it, in too great a quantity, in confequence of a fudden fpafm or contraction of the veins. It is alfo, in part, occafioned by the heart being rendered more irritable, or being otherwife diffurbed by the violent agitation of the nervous fyftem.

THE reduces and glow of the face from a fenfe of fhame, are most probably owing to an increased motion of the finall arteries of that part; for the florid colour and fudden warmth, feem to be more the confequences of a quicker motion of the blood in these vesses, than a stagnation of it from any compression or spass of the veins, which would produce but a livid reduces and less heat. Besides, we know, that a greater degree of reduces is, instantly, brought on the eyes, and, in a short time, on the skin;

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by an increased motion of their small vessels, upon the application of acrid substances to them.

SOME grow pale upon anger, which effect may be owing to a fpafm, or continued contraction of the fmall arteries of the face, by which the motion of the blood in them will be retarded.

THE paleness from fear may arise from a different cause, viz. a deficiency of the nervous power: Hence, tho' the simall vessels are not affected with any spasm, as in anger; yet they are, in a great measure, deprived of their alternate contractions, to which the motion of the blood in them is principally owing. But the more than usual flow of the blood towards the heart, occasioned by terror, seems to shew, that the veins, at least, are suddenly contracted.

THE diminution of perfpiration attending fuch paffions as affect us with fadnefs, may be owing to the impaired force of the heart and arteries: and

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the *diarrhæa* from fear, may be a confequence of obftructed perfpiration, or of that debility and relaxation, which fear, or grief, is obferved to bring on the alimentary canal.

THE increased fecretion of tears from grief, and the great flux of limpid urine, which is often occasioned by fear or vexation, are owing to an increased motion, excited by these passions, in the simal arteries and excretory ducts of the lachrymal glands and kidneys.

THE dull look of the eyes in grief, and their lively appearance from joy, depend upon a diminution or increafe of the motion of the fluids through the finall veffels of that organ, particularly of the *cornea*, in confequence of their vibratory motions being leffened or augmented, by the change which those different paffions produce in their nerves.

IT would be eafy, upon the fame principles, to account for various other effects produced by the paffions; but what

what is already faid, will be fufficient for fhewing in what manner we can reafon upon this fubject.

18. BECAUSE the nerves are obferved, in many parts of the body, to furround the arteries and veins like fmall cords; it has been thought, that the fudden changes in the motion of the fluids made by the paffions, are owing to thefe veffels being contracted by fuch ligatures. But this opinion, tho' fupported by authors of great character*, will, upon a further inquiry, appear inconfiftent with what we know for certain of the nature and use of the nerves.

EVERY part endowed with a power of contraction, owes that action either to its mulcular ftructure, or to its elafticity; but as the nerves are in no fenfe mulcular, fo they have been proved to be among the leaft elastic parts of the body. Further, in a natural state, the nerves ly pretty loose in that cellular

fubftance

* Willis, Vieuffens, &c.

fubstance which furrounds the arteries, and are never on the ftretch: and, upon making the experiment, we shall find, that the trunks of those nervous branches, that encompass the large arteries and veins, must be confiderably pulled before these vessels can be fensibly contracted. There is no example of any motion being performed by a contraction of the nerves, whofe action does not confift in pulling, or in growing more tense at one time than another. but in fupplying the mulcular fibres with that influence or power, which feems to be immediately neceffary for their contraction.

LASTLY, it appears from experiments, that the nerves are utterly incapable of any fuch contraction as is here fuppofed. Nothing occasions a more fudden or ftronger exertion of the nervous *power*, than an irritation of the brain, fpinal marrow, or nerves; as appears from the violent convulsions in the muscles

muscles and muscular organs, when those parts are injured: but, on fuch occasions, it has never been observed, that the nerves themselves became shorter, or underwent any sensible change. Nay, the illustrious *M. de Haller* has, after many experiments, justly concluded, that the nerves are not endowed with irritability, or a power of contraction when stimulated*.

But, fuppofing the nervous filaments could, like cords, ftraiten the bloodveffels, as feveral writers have imagined; yet, upon reflection, we fhall be convinced, that the changes produced in the body by the feveral paffions, cannot be explained upon that principle.

THUS the rednefs and glow of the face attending a confcioufnefs of fhame,

cannot

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* It may be proper here to take notice, that, altho' M. de Haller had embraced the doctrine of the nervous laquei, and faid more in support of it than any other author; yet he has candidly given up this opinion, upon finding it not confirmed by any of those numerous experiments he has made on living animals. Vid. Memoires fur la nature fenfible et irritable, tem. i. p. 238, and 239.

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cannot be owing to a confiriction of the temporal or jugular veins by the nervous cords furrounding them*; for this would not raife a florid colour, but a redness of a different kind, and accompanied but with little heat.

In like manner, a compreffion of the veins of the *penis* by the nerves, will not account for its erection \dagger , which is owing more to an increafed motion of the blood in the arteries, than to any obftruction of its veins \ddagger . Nor is it lefs credible, that the finall arteries of the *penis* fhould, in confequence of an affection of the mind, be agitated with an uncommon motion, than that the finell, fight, or even remembrance of grateful food, fhould affect the falivary veffels of a hungry perfon in a fimilar manner.

A CONVULSIVE contraction of the plexus renalis occasioned by fear, might render

- * Vieuffens Neurograph. lib. iii. cap. 4.
- + Duvernoy in act. Petropol. tom. ii. p. 379. 583. 384.

‡ See an Effay on the vital motions, § vi. and the celebrated Albinus's annotationes academica, lib. ii. cap. 18.

render the urine limpid, by ftraitening the fecretory veffels of the kidneys; but, upon the fame principle, it ought alfo to leffen its quantity, contrary to what happens.

I SHALL only add, that it may appear from what has been faid, that fuch expressions as the increased motions, convulsions, or *spasmodic contractions* of the nerves are all improper, altho' they have been frequently used by many learned writers.

19. THERE are many of the moft remarkable fympathetic motions, both in a found and difeafed flate, in which we can plainly perceive a wife intention. Thus, the contraction of the pupil when light offends the eyes, and of the eye-lids when groffer bodies threat en to hurt them;—The vomiting, from a flone in the kidneys and ureters;— The coughing, occafioned by an irritation of the *meatus auditorius*;—The continued contraction of the abdominal mufcles

cles and diaphragm in a tenesmus, a frangury, and during the pains in labour ;- The alternate contractions of the fame mufcles in fneezing, coughing, and in the hiccup;-The increafed motion of the organs of respiration in the fit of an afthma;-The copious fecretion of tears and the faliva, when flimulating fubftances are applied to the eyes, or taken into the mouth; and the uncommon flux of humours to every part that is irritated .- All thefe, and many more, are the efforts of nature to free the body of lomething hurtful; and are fo many inftances of that principle of felf-prefervation fo confpicuous in all animals. Thefe motions, therefore, cannot, in my opinion, be referred to any connexion or communication among the nerves, but to the brain itself, and to that fentient being which animates our whole frame, and which endeavours, at all times, to free adted contradion of the abdominal paule

cles

the body from whatever occasions pain or uneafines.

INDEED, when these efforts are unable to expel the offending caufe, as in great inflammations of the ftomach, or when a large ftone is lodged in the kidneys or bladder, they often become hurtful, and increase the pain they were intended to remove. Nay, as in many other instances, the best things may, by excefs, become the worft; fo this endeavour to free the body, or any of its parts, from what is noxious, is fometimes fo ftrong and impetuous, as to have fatal confequences. But, in general, this principle of prefervation is highly ufeful, fince without it we fhould often cherish, within our bodies, such caufes as would fooner or later end in our ruin.

NOR can we confider the mind as acting either ignorantly or perverfely, when it fometimes excites fuch motions in the body as increase its own pain, and,

and, in the end, prove more hurtful than beneficial; for these motions do not proceed, as the followers of Stahl have imagined, from any rational views in the mind, or a confcioufness that the welfare of the body demands them, but are an immediate confequence of the difagreeable perception which excites it into action *. into action to the

20. THERE are various inftances of fympathy, which feem to be chiefly occafioned by the vicinity of the parts †, ions, itime what is nozions, is fome-

" See this point further illustrated in an Effay on the vital and other involuntary motions of animals, edit. zd,

+ Parts may fuffer from vicinity, altho' their nerves have no particular fympathy with one another. Thus, pain caufes inflammation, not only in the veffels immediately affected, but also in those contiguous to them. Further, any confiderable obstruction, tho' attended with little or no inflammation, may, in fome cafes, occafion fympathetic affections in the neighbouring parts, by changing the diffribution of the blood through the veffels of those parts.

When one of the fingers is inflamed, in confequence of a wound below the nail, or fome acrid matter lodged there; the hand, and fometimes the arm, may become fwelled and inflamed, not only by means of the pain, which occasions

Of this kind is, perhaps, the confent between the neck of the bladder and extremity of the rectum; whence a violent tenefmus and firangury mutually excite each other .--- The vomiting occafioned by an inflammation of the liver ;- The pain, fwelling, and inflammation of the hand and arm, from a paronychia;-The increased sensibility of the retina, from an inflammation of the conjunctiva or cornea;-The pain and fwelling of the face from the toothach, and the pain in the ear from an inflammation of the back part of the fauces;-The suppression of urine from an inflammation of the intestines or mesentery, or from a severe nephritic paroxyfm in either kidney ;--The fympathy between the larynx and pharynx, and feveral others, may be, in a great meafure, owing to the fame caufe.

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a greater derivation of fluids to the veffels of the finger and hand, but also from a kind of inflammation being propagated up the arm, along the coats of the nerves which are difiributed to the fingers.

- To this head, alfo, may be referred, those fympathies which are fometimes occasioned by hard tumours preffing upon, or irritating the nerves that are contiguous to them. Thus, a hard fwelling on one fide of the neck, has occafioned an uneafy fensation near the end of the radius, a little above the wrift: and the fwelling and drawing up of the tefticle, from a ftone defcending through the ureter, is probably owing to an irritation of the nerves of the tefficle, where they run along the ploas mufcle, over which the ureter passes. But it may be proper to obferve, that the heavinefs of the eyes, and fleepinefs after a full meal, drinking largely of ftrong liquors, or a dofe of opium, which have been afcribed to the compression of the third pair of nerves, by the diftension of a branch of the carotid artery, which passes over them near their origin, are owing folely to the change produced in the nerves of the ftomach ; whence

whence the fenfibility of the whole fyftem is impaired.

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MAY not the complaints of the flomach and bowels, from a fuppreflion of the *menfes*, and foon after conception, be owing not only to a particular fympathy between their nerves, but partly alfo to the change made in the quantity of the blood thrown upon thefe parts, by the obftruction of the uterine veffels? And does not the fudden relief, obtained by a fmall evacuation of blood from the hæmorrhoidal veins, fhew, that many diforders may be either occafioned, or cured, by a fmall change made in the diftribution of the blood to the different parts of the body?

THE pain in the head, fometimes the confequence of wearing firait fhoes, is, perhaps, rather to be afcribed to a greater determination of blood to the veffels of the *pericranium*, than to any particular fympathy between the nerves of that part and the feet. And the effect

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fect of finapifins applied to the foles of the feet, in leffening a *delirium*, is chiefly owing to the pain they excite ; which, by affecting the whole nervous fyftem, leffens the perception of that irritation in the brain, or its membranes, which is the caufe of the *delirium* : and hence it is that finapifins, applied to the hams, or other fenfible parts, have produced the fame effects, as when laid to the feet.

22. LASTLY, in morbid cafes, we meet with a variety of anomalous fympathies, which we can neither explain from the vicinity of the parts, the connexion or communication between their nerves, nor from that general tendency to the welfare and prefervation of the body, which is fo obfervable in many fympathetic motions, that take place in a found as well as morbid ftate.

OF this kind, are the purging from finelling to a cathartic medicine;—That pungent fenfation felt on the top of the left fhoulder-blade, when a pimple a lit-

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tle below the out-fide of the right knee was feratched * ;- That burning pain, which, upon making water, has been felt in the foles of the feet by a perfon affected with an ulcer in the bladder ;- The spasmus cynicus from a wound in the foot, and the locking of the jaws after an amputation. Thus, what reafon can be given, why, fometimes, after cutting off an arm or leg, those muscles which raife the lower jaw should be affected with a fpalm, rather than any other mulcles? I shall allow, that fome fymptom of this kind might be expected from the irritation of the nerves of the flump, or from fome acrid humour abforbed by the veffels of the fore, and carried to the brain; but in either cafe, why do the temporal and maffeter mufcles only fuffer ?

I THINK it most probable, that the anomalous sympathies above mentioned, and many others, whose cause appears equally obscure, proceed from

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* See Hale's Statical Effays, vol. ii. p. 60.

that general fympathy which prevails through the whole nervous fyftem; and which, in certain cafes, in confequence of the uncommon weaknefs or delicacy of a particular organ, makes *it* fuffer, altho' the other parts of the body are not fenfibly affected. The following cafes, compared together, will ferve to illuftrate this.

A MIDDLE aged woman, who had fprain'd her right foot and ancle, fome weeks after, not only complained of a pain and ftiffnefs in thefe parts, but alfo felt, tho' in a much lefs degree, a tenfion and forenefs over her whole body. —On the other hand, a girl of nine years of age, as often as one of her feet was extended, fo as to bring it nearly to a right line with the leg, and confequently greatly to ftretch its ligaments and tendons, was inflantly feized with a moft violent convulfive cough, which continued without intermiffion, as long as the foot was kept in that pofition.

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In the former cafe, it will readily be allowed, that the ftiffnefs and forenefs felt through the whole body, proceeded from that general fympathy which obtains between all its parts, by the mediation of the brain, which, however, would not have produced fuch an effect, but for the peculiar delicacy of the nervous fyftem in that patient.

In the latter cafe, the convulfive cough, occasioned by extending the foot, could not proceed from any particular fympathy between this part and the lungs, in confequence of any connexion or communication between their nerves, fince the nerves of many other parts have an equal or greater connexion with those which ferve the feet. This convulfive cough, therefore, must be afcribed to a peculiar delicacy or uncommon fenfibility of the lungs; whence, in confequence of that general fympathy which prevails thro' the whole nervous fystem, they were affected with SINCE

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a difagreeable fenfation, as often as the ligaments and tendons of the ancle and foot were overftretched; which, however, produced no uneafinefs nor fympathetic motion in the other parts of the body, becaufe they were endued with no fuch morbid delicacy or uncommon fenfibility.

As a further proof of this, I knew a woman who had fo delicate a ftomach, that, when this organ was more than usually indifposed, was apt to fall a retching as often as the made the neceffary effort to pass water; and I have had feveral patients affected, in confequence of a virulent gonorrhea, with a gleet and a tendernefs, and fome degree of forenels in the urethra, who, as often as they drank two or three glaffes of wine, immediately felt an uncommon uncafinefs in that part. This extraordinary fympathy, however, between the ftomach and urethra, ceased as foon as the latter became quite found.

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SINCE we observe that only those, whole nervous fystem is remarkably delicate, are affected with general and violent convultive motions or fpafms, from the paffions of the mind, diforders in the prime vie, and other caufes; have we not reafon to conclude, when, in confequence of an irritation of any one part, an uncommon fympathetic motion is produced in a diftant organ, with which it has lefs connexion, either by the nerves or blood-veffels, than with many other parts which are noways disturbed; that fuch fympathetic motion is owing to a peculiar delicacy or mobility of that organ; and that, were the other moving organs of the body equally delicate and fenfible, universal, or at least more general convulfions or fpafms would have been the confequence?

But, fuppofing we could neither explain fatisfactorily, nor even conjecture with probability concerning the caufe

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of many uncommon and anomalous fympathies, it would be no more than what happens to us every day, in our inquiries into the more abstrufe operations of nature. In every part, even of the inanimate world, we find inexplicable difficulties: what wonder then, if, in the human body, a fystem fo curious, fo fubtile and compounded, we should meet with many appearances which we cannot at all account for? The farther we push our inquiries into nature, the more shall we be convinced of our ignorance, and how finall a portion is known of the works of the Great CREATOR!

Scarcely do we guefs aright at the things that are upon earth, and with labour do we find the things that are before us*.

CHAP.

Wifdom, chap. ix. ver. 16.

CHAP. II.

Of NERVOUS, HYPOCHONDRIAC, and HYSTERIC Diforders, in general.

THE nerves, like the other parts of the body, are liable to various difeafes, which may arife from a fault either in their coats, their medullary fubftance, or in the brain and fpinal marrow, from which they all proceed.

THE coats of the nerves may be obftructed, or inflamed, compreffed by hard fwellings, or irritated by acrid humours. With regard to their medullary fubftance; if a fingle nervous filament, exclufive of the membranes furrounding it, be an extremely finall canal, we may conceive it, according to the different ftates of the body, to be endued with different

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Of NERVOUS

different degrees of firmnels or laxity, whence the action of the nerves may perhaps be confiderably affected.

THIS nervous canal may likewife be obstructed, tho' fuch obstruction is rather more likely to arife from fome external caufe, than from any fwelling in the medullary fubftance of which its fides confift, or from the vifcidity of the fluid it contains. In the fmall arterial veffels, obstructions may often happen from a spasin; but altho' the nerves communicate a power of motion to other parts, yet it does not appear that they themfelves have any motion. · IF the medullary part of the nerves be fimple and not made of veffels, like the other parts of the body, it can neither be liable to obstructions nor inflammations, but may fuffer greatly from the irritation of acrid fubstances.

WITH refpect to that fluid which the nerves are fuppofed to contain, as we are wholly ignorant of its nature, both

DISORDERS in general.

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both in a found and morbid ftate, we can never know when the difeafes of the nerves arife from a fault in this fluid, altho' their action must be confiderably affected whenever it is vitiated.

WHEN the brain or fpinal marrow is obstructed, compressed, irritated, or otherwise difeased, the nerves will suffer almost equally, as if they themselves were primarily affected.

IT would be of little use to infift further on those faults, in the brain or nerves, which may produce difeafes, fince the fubtility of thefe parts makes it often impoffible for us, either before or after death, to difcover, precifely, from what caufe fuch difeafes proceed; nor have we any figns to diffinguish, from one another, those morbid fymptoms, which may arife from a fault in the coats, the medullary fubftance, or the fluid of the nerves. But how much foever we may be in the dark about the immediate caufes of the difeales of the WILL nerves
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nerves, yet their effects may all be reduced to fome change in that fenfibility or moving power, which the nerves communicate to the different parts of the body.

THE fentient power of the nerves may be either too acute, obtufe, depraved, or wholly wanting; and that power in them, which is neceffary for mufcular motion, may be either weakened, or quite deftroyed.

1. (4) WHEN the feeling of the nerves is too acute; difagreeable or painful fenfations, and violent or irregular motions will be excited in the body, by the application of fuch fubftances to the nerves of the different organs, as in a more healthy and firmer flate, would either occafion lefs uneafinefs and difturbance, or none at all. In fuch a condition of the nervous fyftem, the paffions of the mind, errors in dict, and changes of heat and cold, or of the weight and humidity of the atmosphere, will

will be apt to produce morbid fymptoms; fo that there will be no firm or long continued flate of health, but almost a constant fuccession of greater or lefs complaints.

(b) ON the other hand, when either the whole nerves or a part of them, are deprived of a proper degree of fenfibility, altho' the body, in general, will then be lefs apt to be affected by the caufes above mentioned; yet, as fome of its organs will not be fufficiently irritated by the stimuli defigned by nature to excite them into action, the action of those parts will be imperfect. Thus, when the nerves of the inteftines are less disposed than usual to be affected by their natural stimuli, the irritation of the aliments, air, and bile, will only be able to raife a languid periftaltic motion. and therefore the perfon will become coflive. ---- When the fenfibility of the retina is impaired, objects are feen lefs diffinctly; and when the audito-

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ry nerves lofe fome part of their exquifite fenfibility, the ear cannot accurately diffinguish the various mufical founds.

(c) WHEN the feeling of the nerves in any of the organs of the body, becomes unnatural or depraved, the moft difagreeable fenfations and alarming fymptoms are fometimes raifed by the application of fuch fubftances, as in a found flate would produce no manner of diffurbance: And hence we may underftand the furprifing effects of certain fmells, aliments, and medicines on many delicate people.

THIS UNCOMMON OF depraved feeling of the nerves does not always confift in a more acute fenfibility; for water will raife violent convultions in a *hydrophobia*, whilft the *fauces* and *afophagus* are not at all affected in that manner by folid food; and a finall quantity of honey will fometimes occasion more violent gripes, than many of the fronger purgatives.

(d) WHEN

(d) WHEN any of the nerves lofe their power of feeling entirely, the organs, or parts to which they are diffributed, become quite infenfible. When the whole nerves of the organs of fenfe and voluntary motion are thus affected, whilft the heart and muscles of respiration continue to act, we call the difease an Apoplexy.

2. (a) A GREATER degree of that power in the nerves, which is neceffary for motion, can only give more force and fleadiness to the muscles, when they all poffess it in an equal degree; the increafe, therefore, of this power is hardly to be accounted a diffemper: it is never exerted, except in confequence of an effort of the will, of fome affection of the mind, or of the action of fome stimulus on the brain or nerves; to the two last of which, are to be ascribed all the depraved and irregular motions obferved in the body, and not to any real depravation of the nervous power itfelf, which

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which feems only to occafion difeafes, when it is either weakened, or wholly deftroyed. Thus a *tetanus* or unufual fpafmodic contraction of any mufcle, is not owing to an increase of that power in its nerves, which is necessary for mufcular motion, but to an extraordinary exertion of it, in confequence of some uncommon irritation or affection of the brain and nerves.

(b) A DIMINUTION of the moving *power* of the nerves, produces a debility of the whole body.

(c) A TOTAL want of this power, occafions either a partial or univerfal palfy, according as only a few of the nerves, or the whole fyftem is affected. When any of the mufcles are deprived of the nervous *influence*, they are not only rendered paralytic, but foon after become fmaller; becaufe the circulation of the fluids cannot be carried on, as ufual, through the very fmall veffels when they are deprived of the *nervous* power*.

* See above, chap. i. No. 8.

BUT

BUT here it will be proper to obferve, that, as there is fearce any part of the body without nerves, and very few altogether without feeling, the nerves muft not only fuffer, when they themfelves, or the brain and fpinal marrow are primarily affected, but alfo when the other parts are difeafed: and hence the difficulty, perhaps the impoffibility, of fixing a certain *criterion*, by which nervous diforders may be diftinguifhed from all others.

ALL difeafes may, in fome fenfe, be called affections of the nervous fyftem, becaufe, in almoft every difeafe, the nerves are more or lefs hurt; and, in confequence of this, various fenfations, motions, and changes, are produced in the body.—However, those diforders may, peculiarly, deferve the name of NERVOUS, which, on account of an unufual delicacy, or unnatural flate of the nerves, are produced by caufes, which, in people of a found conflicution, would either

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either have no fuch effects, or at leaft in a much lefs degree.

To illustrate this by a few examples. -We do not call the toothach a nervous disease, because the nerves of the teeth are greatly pained; but if, from a particular delicacy of conflitution, the patient is, by this pain, thrown into convulsions and faintings, we call these fymptoms nervous .- An obstruction in the coats of the ftomach, or other hypochondriac viscera, is not, ftrictly speaking, a nervous difeafe; but if the nerves of these parts are so changed from their natural state, that low spirits, melancholy, or madnefs, are the confequence of this obstruction, then these fymptoms deferve the name of nervous .- Again, altho' the fever excited by the painful inflammation of the finger in a paronychia, and the fever and vomiting occafioned by a nephritis, arife from the fympathy of the nerves, yet fuch fymptoms are not commonly accounted nervous diforders,

diforders, becaufe they do not indicate any particular unfound fate of the nerves, and happen, in fome degree, to every one labouring under a paronychia or nephritis; but if convulsions or faintings are added, then these last fymptoms, being the effects of an uncommon delicacy of the nervous fystem, may be justly called nervous .- In like manner, the convultions fometimes preceeding the eruption of the fmall-pox, deferve this name, becaufe they only feize those, whose nervous fystem is eafily moved, while the quick pulfe, and other feverifh fymptoms, tho' excited by the variolous matter acting as a flimulus on the nerves, are not reckoned nervous. - To conclude, even a gutta serena, from a tumour preffing upon the optic nerve, is not, in our fenfe, fo much a nervous difeafe, as that dimnefs of fight, which is fometimes occafioned by a diforder of the flomach; for the caufe now mentioned will produce the gutta ferena in every perfon

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perfon equally; whereas this dimnefs, will only happen to fuch as have a peculiar delicacy of nerves.

In treating, therefore, of nervous diforders, I shall confine myfelf chiefly to those complaints, which proceed, in a great measure, from a weak or unnatural conftitution of the nerves; and of this kind, I prefume, are most of those fymptoms, which phyficians have commonly diftinguished by the names of flatulent, spafmodic, hypochondriac, or hysteric.

As the fagacious Sydenham has justly observed, that the shapes of Proteus, or the colours of the chamaleon, are not more numerous and inconftant, than the variations of the hypochondriac and hyfteric difeafe*; fo those morbid fymptoms which have been commonly called nervous, are fo many, fo various, and fo irregular, that it would be extremely hard, either rightly to defcribe, or fully to enumerate them. They imitate guilta forena in every

* Sydenkam. oper. epift. ad D. Cole.

tate the fymptoms of almost all other difeafes; and, indeed, there are few chronic diftempers with which they are not more or lefs blended or intermixed. Hence it is, that the late celebrated Dr Mead fays of the hypochondriac affection, non unam sedem habet, sed morbus totius corporis est*. I shall not, therefore, undertake to give a full or exact defeription of these diforders, nor pretend to exhibit a complete lift of all the morbid fymptoms, which have been commonly reckoned of the nervous, hypochondriac, or hysteric kind; but shall content myfelf with mentioning the following, as being the most common and remarkable.

WIND in the ftomach and inteffines, heart-burning, four belchings, fqueamifhnefs, and vomiting of a watery ftuff, tough phlegm, or a black liquor like the grounds of coffee; want of appetite and indigeftion, or an uncommon cra-

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* Monita et pracept. med. cap. xvii.

ving for food and quick digeftion; a debility, faintnefs, and fense of great emptiness about the ftomach, when hungry; a ftrong defire for rare or uncommon forts of food, or for things that can afford no nourifhment; a vifible fwelling or inflation of the ftomach, efpecially after eating; fometimes a fevere pain with cramps in that viscus; an oppreffion about the precordia; an uneafy, tho' not painful fenfation about the ftomach, attended with low fpirits, anxiety, and fometimes great timidity; ftrong pulfations within the belly; fpasins in the bowels, and distensions of certain portions of them; violent cholic pains; a rumbling noife from wind paffing through the inteffines; the body fometimes too lax, oftener bound ; pains in the back and belly, refembling those of the nephritic kind; a fense of irritation and heat in the neck of the bladder and urethra, with a frequent defire

* Mining a fraues, med une weil.

fire to make water; a great difcharge of limpid urine; at other times a frequent fpitting.

SUDDEN flufhings of heat over the whole body, fhiverings, a fense of cold in certain parts, as if water was poured on them, at other times an unufual glow; flying pains in the arms and limbs; a troublefome pain in the back, and between the fhoulders; pains, attended with a hot fensation, shifting often from the fides or back to the interior parts of the abdomen; cramps, or convulfive motions of the muscles, or of a few of their fibres; fudden startings of the legs and arms; almost constant involuntary motions of the muscles of the neck and head, or arms and legs ; a general convultion affecting, at once, the ftomach, bowels, throat, legs, arms, and, indeed, almost the whole members of the body, in which the patient ftruggles as in a violent epileptic fit; long G 2 faintings,

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faintings, in fome cafes, following one another, after fhort intervals.

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22 minnings.

PALPITATIONS, or trembling of the heart; the pulfe very variable, frequently natural, fometimes uncommonly flow, and at other times quick, oftener fmall than full, and, on certain occafions, irregular or intermitting; a dry cough with difficulty of breathing, or a conftriction of the lungs, fometimes returning periodically; yawning, the hiccup, frequent fighings, and a fense of fuffocation, as if from a ball or lump in the throat; fits of crying, and convulfive laughing. Altho' in the daytime the patients are generally pretty cool, and the pulfe fometimes flower than natural, yet in the night, efpecially in time of fleep, hot flushings often fpread over almost the whole body, the pulfe becomes quicker and ftronger, and a faintnefs, or fome degree of ficknefs at the ftomach is felt.

A GIDDINESS, especially after rising up haftily; pains in the head, fometimes returning periodically; a violent pain in a fmall part of the head, not larger than a shilling, as if a nail was driven into it; a finging in the ears; a dimnefs of fight, and appearance of a thick mift, without any visible fault in the eyes. Objects are fometimes feen double, and unufual fmells are perceived; obstinate watchings, attended fometimes with an uneafinefs, which is not to be defcribed, but which is lessened by getting out of bed; difturbed fleep, frightful dreams, the nightmare; fometimes a drowfinefs, and too great inclination to fleep; fear, peevifhnefs, fadnefs, defpair, at other times high fpirits; wandering thoughts, impaired memory, ridiculous fancies; strange perfuasions of their labouring under difeases of which they are quite free; and imagining their complaints to be as dangerous as they find them troublefome ;

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troublefome; they are often angry with those who would convince them of their mistake.

PATIENTS, after having been long afflicted with many of these fymptoms, (for all of them never happen to any one person) fometimes fall into melancholy, madness, the black jaundice, a dropfy, tympany, *phthisis pulmonalis*, palfy, apoplexy, or some other fatal diffemper.

THOSE patients who are liable to the above complaints, fome of which deferve the name of *nervous* much better than others, may be diffinguished into three class.

1. SUCH as, tho' ufually in good health, are yet, on account of an uncommon delicacy of their nervous fyflem, apt to be often affected with violent tremours, palpitations, faintings, and convulfive fits, from fear, grief, furprize, or other paffions; and from whatever greatly irritates or difagreeably

ably affects any of the more fenfible parts of the body.

2. SUCH as, befides being liable to the above diforders from the fame caufes, are almost always more or less troubled with indigestion, flatulence in the stomach and bowels, a lump in the throat, the *clavus hystericus*, giddiness, flying pains in the head, and a fense of cold in its back part, frequent fighings, palpitations, inquietude, fits of falivation, or pale urine, &c.

3. SUCH as, from a lefs delicate feeling, or mobility of their nervous fyftem in general, are fearce ever affected with violent palpitations, faintings, or convulfive motions, from fear, grief, furprize, or other paffions; but, on account of a difordered flate of the nerves of the ftomach and bowels, are feldom free from complaints of indigeftion, belching, flatulence, want of appetite, or too great craving, coftivenefs, or loofepefs, flufhings, giddinefs, oppreffion or faintnefs

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faintness about the *precordia*, low spirits, difagreeable thoughts, watching or difturbed fleep, &c.

THE complaints of the first of the above classes may be called *fimply ner*. *vous*; those of the second, in compliance with custom, may be faid to be *hysteric*, and those of the third, *hypochondriac*.

THE hypochondriac and hyfteric difeafes are generally confidered by phyficians as the fame; only in women, fuch diforders have got the name of *byfteric*, from the antient opinion of their feat being folely in the womb; while in men, they were called *bypochondriac*, upon the fuppofition, that in *them* they proceeded from fome fault in those *vifcera*, which ly under the cartilages of the ribs.

THE learned Hoffman, diffenting from most of the later writers, affirms that the hypochondriac and hysteric are different difeases, whether we regard their symptoms,

symptoms, caufes, or termination*: But we cannot agree to this opinion, as their fymptoms are of fo fimilar a nature, and as the hypochondriac difeafe is not more unlike the hyfteric, than this laft is often unlike to itfelf. It is true that in women, hysteric fymptoms occur more frequently, and are often much more fudden and violent, than the hypochondriac in men; but this circumstance, which is only a confequence of the more delicate frame, fedentary life, and particular condition of the womb in women, by no means fhews the two difcafes to be, ftrictly speaking, different. Nor does it appear more reafonable to pronounce the hyfteric diforder of a different kind from the hypochondriac; because the former may have its feat frequently in the uterus, and the latter in the alimentary canal, than it would be to diffinguish the hypochondriac complaints, into as many different difeafes

as

? Syftem. med. tom. iii. p. 4. cap. v. §. 5. et 6.

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as the caufes from which they may arife; or to divide hyfteric fits, as they are called, in women, into nervous, ftomachic and hyfteric, becaufe they often proceed from violent affections of the mind, or a difordered flate of the ftomach, as well as from a fault in the *uterus*.

BUT further, it is to be observed, that in women, the fymptoms commonly called hyfteric, are lefs frequently owing to the unfound flate of the womb, than to faults fomewhere elfe in the body; for virgins are often free from fuch complaints, while married women, and even those who bear children with eafy labours, are fometimes afflicted with them. Add to this, that women who are regular, and have no ailment about the uterus, do not always escape the hysteric difease; while those who labour under fchirrous tumours and other diforders of that part, are often not affected,

. To Broot mind sour . II. p. 4. cop. V. S. C. & G.

ted, at leaft, with its worft fymptoms. Laftly, in thofe, who have long and greatly fuffered by this malady, the womb, after death, has frequently been obferved to be found.

UPON the whole therefore, the fymptoms of the hyfteric difeafe in women, feem only to differ from those of the hypochondriac in men, in so far as the former, sometimes, proceed from the *uterus*, and are, on account of the more delicate frame of the sex, more frequent and often more violent, than the symptoms of the hypochondriac affection in men.

But whether thefe two diffempers be confidered as the fame or diffinct, fince the fymptoms of both are fo much akin, we fhall confider them under the general character of NERVOUS; and begin with inquiring into the caufes from which they most commonly proceed.

THE antient phyficians, with feveral of the moderns, have agreed in placing the

the fole, or, at leaft, the chief feat of the hyfteric difeafe, in the womb; but, with regard to the parts affected in the hypochondriac, the opinions have been various and contradictory.

MANY authors have afcribed this diforder in men, to obstructions in the fpleen, liver, and mefentery .--- Highmore, to a vitiated conflitution of the ftomach* .-- Willis, to an indifposition of the brain and nerves, or to a fault of the fpirits .- Etmuller, who confounds the hypochondriac difeafe, when in a higher degree, with the fcurvy, has written a differtation to prove that its feat is not in the fpleen, but in the inteffines, efpecially in that part of the colon, which lies in the left hypochondre, in which the excrements often ftagnate, and where much wind is pent upt .---Sydenham afcribes the fame diftemper to

• Exercitationes de passione byster. et affection. bpochondr. + Oper. p. 1820.

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an ataxy or confusion of the fpirits* .--Mandeville, to a difordered chylification, and a deficiency or paucity of the fpirits + .-- Junckerus makes the caufa proxima of the hypochondriac affection to confift in an obstructed motion of the blood in the vena portarum and viscera connected with it 1-Boerbaave derives it from an atrabiliary humour lodging in the pancreas, fpleen, ftomach, and neighbouring organs ||.-Hoffman from a perverted periftaltic motion of the ftomach and intestines **. And lastly, Dr Cheyne is of opinion, that all great nervous diforders proceed from fome glandular obftruction in the ftomach, bowels, liver, fpleen, mefentery, or other organs of the lower belly tt.

BUT

* Epift. ad D. Cole.

+ A Treatife of the hypochondriac and hyfteric paffions, dialogues i. and ii.

‡ Juncheri Conspect. Medicinæ, p. 186.

Aphorism. de cognoscend. morb. §. 1098.

** Syftem. Med. tom, iii. part. iii. cap. v.

++ English Malady, part ii. chap. vii.

Of NERVOUS TO

But altho' it is not to be doubted, that the hypochondriac and hyfteric affections, often proceed from a morbid flate of the alimentary canal, *uterus*, or other *vifcera* of the *abdomen*, yet as there are feveral of their fymptoms, which feem independent of any diforder in those parts; and as there has often no trace of those difeases appeared, after death, in any of the abdominal organs, it feems highly probable, that they may frequently arise from some less visible fault in the body.

We fhall therefore proceed to inquire into the moft common caufes of those nervous, hypochondriac or hysteric fymptoms above mentioned, treating first of fuch caufes as render the body more liable to these diforders; fecondly, of those, which, meeting with the former, actually produce them. The first have been called the predisposing caufes; the fecond the occasional caufes.

CHAP.

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CHAP. III.

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III IIIIIII COMERCE

Of the Predifposing CAUSES of NERVOUS, HYPOCHONDRIAC, and HYSTE-RIC DISORDERS.

THESE may be reduced to two, viz.

moral loude of feeling, have yet in differ.

I. A TOO great delicacy and fenfibility of the whole nervous fyftem.

II. An uncommon weaknefs, or a depraved or unnatural feeling, in fome of the organs of the body.

1. A TOO great delicacy and fenfibility of the whole nervous fyftem, may be either natural, that is, an original defect in the conftitution, or produced by fuch difeafes or irregularity in living, as weaken the whole body, effecially the nerves. Long or repeated fevers

II2 Of the CAUSES

fevers, profuse haemorrhages, great fatigue, excessive or long continued grief, luxurious living and want of exercise, may increase or even bring on such a delicate state of the nervous system.

As the whole animal frame is contrived with the greatest wildom, fo we cannot but admire, in particular, how the nerves, tho' all are endued with the general fense of feeling, have yet in different organs, certain sensations, quite different from each other; and are perfectly well adapted to those things, which are defigned by nature to be applied to them. Thus, for example, as pure air gives no uncafinefs to the nerves of the wind-pipe, and is refreshing to those of the lungs; fo to a craving ftomach wholefom food is highly grateful : but air collected in the ftomach feldom fails to produce a difagreeable fenfation, and not only folid food, but even the mildeft liquids, falling by accident into the wind-pipe, bring

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bring on violent fits of coughing, which do not ceafe till the offending caufe is removed. In like manner, warm blood, which does not affect the heart or vafcular fystem, with any difagreeable fenfation, occasions, in the stomach, faintnefs, fevere ficknefs, and vomiting .-The nerves of the nose, tongue, and ftomach, are all endowed with fenfations of different kinds; whence fome fubfances very ungrateful to the palate, are often agreeable to the flomach. Several fubstances, which hurt the eyes, give no uncafinels to the alimentary canal; and, on the other hand, antimonial wine, or an infusion of ipecacuanha in water, which neither irritate much the tongue or other fenfible parts, affect the stomach fo difagreeably as to occasion violent vomiting.

BUT further, as the nerves, in many of our organs, have very different feelings; fo, in different people, or even in the fame perfon at different times, the H feeling

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feeling of the fame nerves varies confiderably, and is more or lefs acute or blunt, and fometimes unnatural or depraved. And hence it is, that the very fame things applied to the fame nerves, or organs, have very different effects, according to the conflictution of the perfons, or their flate of health at the time.

In fome, the feelings, perceptions, and paffions, are naturally dull, flow, and difficult to be roufed; in others, they are very quick and eafily excited, on account of a greater delicacy and fenfibility of the brain and nerves.

ALL children, when compared with adults, have their nervous fyftem very fenfible and eafily moved, and are in this refpect fomewhat like thofe grown people, who are most fubject to the higheft nervous or hysteric fymptoms: And hence it is, that children are fo liable to convusive fits from the pain of teething, from worms, acrid humours in their ftomach or bowels, and other caufes, which,

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which, in people of a more advanced age, and lefs fenfible nerves, would produce no fuch effects. In house edu gen

A DELICATE or eafily irritable nervous fystem, must expose a person to various ailments, from causes, affecting either the body or mind, too flight to make any remarkable impression upon those of firmer and lefs fenfible nerves. Thus, any accident occasioning fudden furprife, will, in many delicate people, produce strong palpitations of the heart, and fometimes fainting with convulfions .- I have known fome, even men, whole nervous fystems were fo delicate and moveable, that a vomit, a fmart purge, or the pain raifed by a blifter, would throw them into convulfive fits. Nay, there was lately a paralytic patient in the Royal Infirmary here, who felt a remarkable uneafinefs thro' his whole body, when it was charged with the electrical fluid, by means of a wire held in his hand, altho' there was no fhock given H 2

him.

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him, nor any fparks drawn from him.— We are told of a Lady, who, upon hearing the found of a bell, or any loud noife, ufed to fall into fits of fwooning, which were fcarce to be diffinguifhed from death *: And I have feen the pain of the toothach throw a young woman, of weak nerves, into convultions and infentibility, which continued for feveral hours, and returned, upon the pain becoming again more acute †.

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* Boyle's ulefulnefs of exp. Philosophy, part ii. p. 248.

+ The following cafe, communicated to me by Mr. James Spence furgeon in Dunkeld, is a remarakable inftance of the many violent and uncommon fyptoms, which may arife from a fmall caufe, in perfons of a very delicate nervous fyftem.

An unmarried woman, of 23 years of age, immediately after having been flung in the neck by a bee, felt a fharp pain, with a violent itching in that part, and over the whole head and face, which, together with her arms, felt fiff and fwelled. In a few minutes, the pain fpread to her throat and then to her flomach, occafioning a great anxiety and difficulty of refpiration. At this time, a large dram of malt fpirits was given her, which, tho' it was immediately vomited up again, relieved the pain for a little; But, foon after, it was felt violently in the lower belly, and was followed by a loofe flool. She complained now of an uncommon

Of NERVOUS DISORDERS. SOME women, from a too great delicacy or fenfibility of the nervous fyftem, are, after conception, fo much affected with a heat and uneafy fensation in their back, colic-pains, and other fymptoms, as to be in hazard of miscarriage. In fuch cafes, when the danger neither arifes from too much blood, nor too great a laxity of the uterine veffels, but merely, from an uncommon weaknefs and delicacy of the nerves, bleeding will do harm, and aftringent and cooling medicines will prove ineffectual, whilft laudanum given from time to time, in proper

common heat in her face and head, and of a great faintnefs : Her pulfe was fmall and irregular, her tongue and throat dry, her extremities cold, and the whole body affected with a tremor. After taking a draught of warm water, and having the part that was flung, rubbed with warm oil of olives, fhe was put to bed, and found confiderable relief from flannel-cloths, wrung out of a hot decoction of fome emollient herbs, applied to the abdomen and feet. After this, a draught with fome of the elixir paregoricum, foon produced a profuse fweat, and freed her from the pain, inclination to vomit, and other fymptoms. Next day her fkin being hot, and her pulfe full, a fweat was again procured by a draught with sp. minder. and fal. wol. ammon. and, before the evening, fhe was free from every complaint,

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per dofes, will produce the beft effects: For, by leffening the too great fenfiblity of the nervous fyftem, it not only quiets all the uneafy fenfations, but calms the mind itfelf, and renders it lefs liable to be ruffled by flight caufes.

WOMEN, in whom the nervous fyftem is generally more moveable than in men, are more fubject to nervous complaints, and have them in a higher degree. On the other hand, old people, in whom the nerves have become lefs fenfible, are little afflicted with thofe diforders; nay, Dr. Cheyne has obferved, that an advanced age fometimes proves a cure.

LASTLY, altho' the variolous matter in the blood, by its *ftimulus*, frequently produces in children, convultions before the eruption ; yet, in grown people, whofe nerves are lefs delicate, this fymptom, rarely, if ever, happens. On the other hand, people whofe folids are lefs firm, and their nerves more delicate and eafily

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eafily affected, altho' fubject to many complaints, yet are feldom attacked with ardent fevers or violent inflammatory difeafes; which feems to be chiefly owing to the weak flate of their blood and veffels.

To the different fenfibility of the nerves in general, or, at leaft, of those of the heart, is owing, in a great meafure, the variety of the quickness of the pulse in healthy people. A late physician of this place, told me of one of his patients, whofe pulfe, in a healthy ftate, did not beat above 38 or 40 times in a minute: And I know a young woman, whofe natural pulfe, when fitting, is rarely under 120, yet has no complaint, and feems to enjoy good health: Near nine years ago, when I attended her in a fever, her pulse beat upwards of 180 in a minute; and fhe was, at that time, troubled with the greatest startings and tremors I had ever feen: Nay, fo very irritable was her heart, that after the fe-

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ver was much abated, and when, in a horizontal pofture, her pulfe beat under 140, by only fitting up in bed for a little while, it became fo quick, that, with difficulty, I could count it; but, after repeated trials, found it to be nearly 220 in a minute.

Is not the quickness of the pulse, in children, chiefly owing to the greater fensibility of their hearts? and does not the pulse generally grow flower with age, because the heart becomes less fenfible, and, in a very advanced age, perhaps, in some degree, callous? Lastly, is not the pulse, *caeteris paribus*, quicker in small than in large animals, chiefly because the nerves are endowed with a greater degree of fensibility in the former, than in the latter*?

SINCE, as we have observed, the nerves, in the different organs, are endued with various kinds of feeling, and

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* The flowness of the pulse in larger animals, is, no doubt, partly owing to the ventricles of their heart, on account of their greater capacity, requiring a longer time for the performance of their feveral motions.

of NERVOUS DISORDERS. I2I are very differently affected by the fame things, will not morbid humours in the blood be more apt to produce difeafes in those parts, whose nerves are most ftrongly affected by them, than in others which fuffer lefs? And may not this be, partly, the reafon why, in certain difeafes, fome parts of the body are much more commonly affected than others? And why, in fome epidemics, the eyes nofe, or fauces; and, in others, the breaft or inteffines are most apt to fuffer? This alfo may, partly, be the caufe why those organs, which have fuffered by fome former diseases, are most liable to be attacked, when the body is feized with any new diforder; for this does not feem to be owing, folely, to the weaknefs of the veffels, but alfo to their being more eafily irritated by any acrimony in the blood, or by its increased force. Further, it may be proper to take notice here, that the different operations of various medicines are not fo much owing

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owing to their powers, either of diffolving the blood, or changing it in other refpects, as to the particular nature of the nerves of the different organs, difpofing them to be very differently affected by the fame kind of ftimulating fubftances.

THUS cathartic medicines applied to the belly of children, in the form of a plaister, do not sensibly increase the fecretion from the liver, or from the falivary or lachrymal glands; but they fo affect the nerves of the intestines, as to occafion a greater flux of humours from their veffels, and accelerate the periftaltic motion, and fo bring on a purging: and this does not feem to be owing, fo much, to the finer parts of those medicines, which enter the blood, and may be conveyed with it to the bowels, acting immediately on their nerves or fmall veffels, as to a particular fympathy between the nerves distributed to the teguments of the abdomen and those of the inteffines ;

of NERVOUS DISORDERS.

inteftines; otherwife an aloetic plaister applied to the back or the head, fhould open the body as much, as when laid to the belly .- Nitre, which proves often highly diuretic, does not feem to affect the fecretions of the other glands remarkably .- The finer parts of cantharides entering the blood by the application of blifters, rarely produce vomiting or purging, or difagreeably affect any part, except the urinary paffages, where the nerves are fo formed, as by the acrimony of the flies, to be more irritated, than those of the other organs. Nor can the ftrangury, occafioned by cantharides, be owing, as fome have thought, to their particles not paffing freely thro' the veffels of the kidneys and bladder, fince the veffels of the brain are much finaller than thefe, and fince the kidneys are not near fo much affected by them, as the neck of the bladder.-Does not mercury, when mixed with the blood, generally increase the fecretion of
of the faliva, much more than that of any other humour, becaufe the finall veffels of the falivary glands are more ftrongly affected by its peculiar stimulus, than those of any other fecretory organ?-Lafly, does it not appear, from what has been faid, that the virtue of a medicine, which is fpecifically to promote the fecretion of the bile, femen, urine, or the faliva, must consist in its being peculiarly fitted for flimulating, and confequently increasing the vibratory motions of the fmall fecreting veffels of the liver, kidneys, tefficles, or falivary glands, more than those of the other parts? And do not fuch medicines alone, if any fuch there be, deferve, in a strict sense, the name of Emmenagogue, which not only tend, by their general flimulating or attenuating power, to promote the menstrual evacuation, but alfo, by their particular quality, are fitted to ftimulate the nerves and veffels of the womb more than those of any other vifcus?

BUT,

BUT, to return from this digreffion;

II. BESIDES a too great fenfibility of the nervous fyftem in general, there is often an uncommon weaknefs or delicacy, or an unnatural or depraved feeling in various parts of the body, which expofes certain perfons to violent, and fometimes very extraordinary affections, from caufes which would fearce produce any diffurbance in people of a found conffitution.

THUS, feveral delicate women, who could eafily bear the ftronger finell of tobacco, have been thrown into fits by mufk, ambergreafe, or a pale rofe, which, to moft people are either grateful, or, at leaft not difagreeable. The finell of cheefe has, almost always, occafioned a bleeding of the nose in fome *. Mr. Boyle tells of a Nobleman, who was apt to faint away when tanfy was brought near him; and there lately lived, in this country, a Lady, who was affected with a general uneafinefs,

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* Kaau Boerbaave impet. faciens, § 409.

as often as there was any fellery in the room where fhe fat. The fight of a cat, nay even the invisible efflavia from that animal, have occasioned anxiety, faintnefs and fweating *. I had, feveral years fince, a patient, who was always affected with an itching and uneafinefs over her whole body, when the either fwallowed nutmeg, or applied it externally. There have been fome who were ready to faint when they fmelled to cinnamon : and Mr. Boyle mentions a Lady, who had fuch an antipathy to honey, that a little of it, put into a poultice, without her knowledge, and laid to a flight wound, threw her into great diforder, which continued until that application was removed † .--- I knew a woman, who, foon after conception, always contracted an averfion to fnuff, and did not recover her tafte for it, until fometime after her delivery: And it is well known, that, in time of

pregnancy,

* Kaan Boerbaave impet. faciens, § 409.

+ Usefulnefs of experimental philof. part ii. p. 260.

pregnancy, the nerves of the ftomach are fo much changed, that moft women are *then* troubled with a *naufea*, vomiting, or depraved appetite. Laftly, certain perfons, in confequence of an uncommon delicacy, or unnatural fenfibility of the nerves which terminate in in the *bronchia*, or veficles of the lungs, are apt to fuffer an afthmatic fit from the *effluvia* of particular fubftances, which produce no fuch effect on those whose pulmonary nerves are differently difposed.

But there is no organ of the body, the unnatural flate of whofe nerves is fo frequently the caufe of nervous, hypochondriac and hyfteric diforders, as the alimentary canal, effectially the flomach.

An uncommon delicacy of the nerves of the flomach and inteflines, which may be either, in a great meafure, natural, or brought on by difeafes, improper aliment, irregular living, excellive grief, or other caufes, is to be diftinguifhed from

from that acute feeling, or increafed fenfibility, which is the confequence of an inflammation, or of an aphthous flate of thefe parts, fince in thefe laft cafes every acrid fubftance gives them pain; whereas, in the former, many infipid and feemingly innocent aliments, produce great uneafinefs in the ftomach and bowels, while volatile fpirits, ftrong wine, brandy, and fpiceries, are not only inoffenfive, but often neceffary for allaying thofe diforders, which are produced in the firft paffages, by fuch caufes as would fcarce give any difturbance in a found flate.

FURTHER, this morbid or delicate ftate of the flomach and bowels, does not confift folely in their weaknefs, but chiefly in the uncommon difpofition of their nerves, which have a feeling very different from what is natural. As a proof of this, we obferve, that in fuch a ftate of the alimentary canal, the appetite is often not only good, but beef and mutton,

mutton, even when falted and dried, will be more eafily digefted, and give lefs diffurbance, than many vegetables, which in healthy perfons fit much lighter on the ftomach*.

It is furprifing, how much the condition of the flomach and inteflines, and the difposition of their nerves, will vary, even in the fame persons, at different times.

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* It is a miftake to think, as fome have done, that vegetable food in general, is worfe to digeft than animal. The contrary feems to be demonstrated by Waleus's experiments on dogs ; from which it appears, that bread and herbs are much fooner digefted than butcher-meat, even by these animals which are naturally carnivorous; the former remaining in the flomach only four or five hours, and the latter feven or eight. Vid. Epift. de mot. cbyl. et fang. ad Thom. Bartbolin. Agreeably to this, people whole ftomach and inteffines are quite found, find themfelves lighter, and much fooner hungry after a dinner of white bread, herbs, roots, or ripe fruit, than one of beef, mutton, or pork. It is not owing, therefore, to their being more difficult to digeft, or their remaining longer in the flomach, that many vegetable aliments give fuch diffurbance to fome delicate people, but to their affecting difagreeably the nerves of the alimentary canal. For the fame reason it is, that roafted meat agrees better with them than broth or boil. ed meat, and old cheefe than new prefied curds.

THUS cabbage, onions, leeks and other vegetables, will lie long on the ftomach, and occafion flatulence and loofe ftools in many, who formerly found no fuch inconvenience from them; and the fame thing is true of honey and other aliments: nay, Mr Boyle tells us of a perfon, who was more violently vomited by coffee than crocus metallorum, or other ftrong emetics; and was made fick even by the fmell of this liquor, as he paffed by a coffee-houfe, altho' formerly he used to drink it without feeling any difagreeable effects *. In fome people the flate of the nerves of the flomach is fo very uncommon, that laudadum, inftead of relieving, will excite vomiting, and occafion violent cramps in that organ: nay, there have been perfons with whom pills of opium always difagreed when newly made; but occafioned no difturbance after being kept fome weeks.

THAT. Conver better with dam than holds or bat

* Usefulnefs of Exp. Philof. part ii. p. 260.

THAT many of those complaints, which have been commonly called nervous, proceed, in a great measure, from a particular, unnatural, or depraved fenfibility of the nerves of the alimentary canal, appears evidently from this, that altho', in many cafes, the flomach and inteffines are much difeafed, yet the patients are not affected with any remarkable nervous or hypochondriac fymptoms, while others are greatly troubled with these complaints who have a good appetite, a quick digeftion, and no tough phlegm, or other noxious humour in their ftomach. Add to this, altho' children, on account of the great sensibility of their nerves, are liable to convulfive diforders and other nervous complaints; yet they are rarely affected with the hypochondriac disease, because the nerves of their ftomach and inteffines have not that unnatural or depraved feeling which is common in this malady; and which, when it is, on certain occasions, much immediately I 2 increafed

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increased by some acrid matter in the blood falling on them, becomes not only the predisposing cause, but constitutes the hypochondriac disease itself, and gives rise to most of its symptoms.

In a weakly and delicate, or an unnatural state of the stomach and bowels, improper aliments, excels in eating or drinking, wind, fharp humours, and ftrong paffions, fuch as grief, anger, and the like, will occasion much more violent fymptoms, than in perfons whole alimentary canal is firm and found .--Thus, a draught of cold water, will inftantly affect fome very delicate women with a violent pain and cramp in their stomach; and the fight of one vomiting, or of certain difagreeable aliments, or medicines, will produce a naufea, and even vomiting, in perfons whofe ftomachs are eafily moved. Nay, in fome cafes, fo very delicate is the ftate of the flomach, that turning the body haftily in bed, or raifing one's felf, will immediately bolestoni

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immediately occafion a faintnefs, giddinefs, a general weaknefs, and fometimes an inclination to vomit. This laft fymptom has been remarked by Sydenham in hyfteric women; and I have had feveral patients in continued fevers, who, together with an uncommon debility and faintnefs, were, upon the fmalleft motion in bed, feized with a *naufea* and retching to vomit.

FURTHER, a delicate ftate of the first passages, or an unnatural sensibility of their nerves, not only disposes people to many complaints in these parts, but the whole nervous system is thereby rendered more moveable, and liable to be affected by the slightest causes.—Thus, I have known some women of a delicate frame, in whom, from an obstruction or irregularity of the menstrua, the nerves of the stomach had acquired such an uncommon fensibility, that, after eating freely of any folid mear, they were not only feized with a pain and sickness at the stomach,

ftomach, and a fenfe of ftiffness and rigidity in the trunk of the body, but fometimes alfo with faintings, attended with a quick trembling pulfe, and flight convulfions of the mufcles of the legs and arms .- A woman of a delicate conftitution, who was attacked with a quotidian intermittent, feven weeks after childbearing, as often as the fwallowed fome magnefia alba, felt immediately a kind of quivering motion propagated through her whole body. The fame perfon, as often as the took a draught of lime-water, observed the palms of her hands, which before were foft and moift, become at once dry and hard. It was remarkable, that neither crabs-eyes, nor chalk, occafioned any fuch uneafy feeling as the magnefia did.

WHEN my ftomach and bowels have been out of order, and affected with an uncafy fenfation from wind, I have not only been fenfible of a general debility and flatnefs of fpirits, but the unexpect-

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ed opening of a door, or any fuch trifling unforeseen accident, has instantly occasioned an odd sensation about my heart, extending itself from thence to my head and arms, and, in a lesser degree, to the inferior parts of my body. At other times, when my stomach is in a firmer state, I have no such seeings, or at least in a very small degree, from causes which might be thought more apt to produce them.

FROM what has been faid, we may fee, that faintings, tremors, palpitations of the heart, convulfive motions, and great fearfulnefs, may be often owing more to the infirm flate of the firft paffages, than to any fault either in the brain or heart. But it would be unneceffary to infift farther on this head, as the powers which the alimentary canal, when its nerves are difagreeably affected, muft have in producing diforders in the most diftant parts of the body, cannot be doubted of by those who attend

attend to that wonderful and widely extended fympathy which obtains between it and almost the whole fystem*. What has been faid may be fufficient to shew, how much a delicate or unnatural state of the nerves of the alimentary canal must dispose people to nervous, hypochondriac, and hysteric complaints. But further, when, through the fault of the stomach and intestines, the digestion is imperfectly carried on, the ill prepared chyle may lay a foundation in the blood for exciting a variety of nervous fymptoms, as will afterwards more fully appear.

SINCE the ftronger or weaker effects of emetics and cathartics muft depend, entirely, on the different conftitution of the nerves of the prime vie, and the quantity of mucus defending them, it is eafy to fee that the dofes of those medicines can neither be certainly determined by the ages nor fizes of the patients, nor by

* See above chapter i. No. 11.

by the quantity of blood in their veffels.

IT is owing alone to the different fenfibility which the nerves of the alimentary canal, in different perfons. have of various stimuli, that the feveral vomiting and purging medicines have fuch different effects .- That the ftrongeft emetics fcarce move fome people, while, in others, the mildeft are apt to have too great an operation .- That a few grains of rhubarb shall purge and gripe one patient feverely, and a drachm of the fame medicine have no fenfible effect on another .- That a drachm and a half of foluble tartar shall prove a ftronger purgative to fome, than four ounces of facred tincture.-That children are often harder to purge than fome adults* .- That worms, tough phlegm, and

* It is here to be obferved, that in children, frequently, and also fometimes in adults, vomiting and purging medicines have much lefs effect than might be expected, confidering the delicacy of their nerves, on account of the ftomach

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and other noxious humours, lodging in the ftomach and bowels, produce very different effects in different perfons; and that the bark, which generally makes the body coftive, occafions gripes and purging in fome. And is it not to be aferibed chiefly, if not *folely*, to the different conftitution of the nerves in different animals, that what is highly noxious to fome, proves wholefome food to others? Thus, the *cicuta aquatica*, which is eaten by goats without any harm †, is a deadly poifon to men and other animals.

WHEREIN confift the various kinds and degrees of fenfibility, which the nerves of the alimentary canal and other organs poffers, we no more know, than we do their peculiar ftructure, or how they come to be endued with fenfation at all: but that the particular fenfibili-

mach and inteffines being lined either with a great deal of natural mucus, or morbid flime.

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+ Swenche differtat. de cicut. aquat. Gesneri.

ty of the nerves of the gullet, ftomach, and inteffines, is often greatly changed by difeafes, even when the nervous fyftem in general is not much altered, we know from experience*. Nor is there, perhaps, to be found a ftronger inftance of this than in the hydrophobia confequent on the bite of a mad dog; where the pureft water excites fuch convulfive motions of the gullet, ftomach, diaphragm, and abdominal muscles, that, after a few attempts to fwallow it, the fight of any fluid, and efpecially if it touches the patient's lips, will inftantly affect him with horror, and throw him into violent convulsions and vomiting. In some cafes

* Since it is probable, that the nerves are partly nourified by the fluids diffributed to that production of the *pia mater* which furrounds their medullary fubftance; it is eafy to fee that the nerves of a particular organ may have their fenfibility increafed, diminified, or otherwife changed by fluids that are improper, or of an acrid nature, being fent to them; when, in the mean time, the brain and nervous fyftem, in general, may be found, and fuffer in no other way, but by fympathy with that organ whofe nerves are morbidly affected.

cafes (altho' thefe more rarely happen) the nerves alfo of the inteffines become fo far depraved in their feeling, that liquors can no more be admitted by injection into the great guts, than into the ftomach by deglutition. Nay, it fhould feem that, fometimes, not only the nerves of the alimentary canal are ftrangely altered in this difeafe, but alfo thofe of the face, and perhaps of the whole furface of the body, fince we are told of hydrophobic patients, who could not even bear a blaft of cool air*.

How this change is produced in the nerves of the firft paffages, or other parts in the *bydrophobia*, or in what it confifts, is, perhaps, one of those difficulties which physicians may despair of being ever able to explain. One thing, however, is certain, that, in men as well as dogs, who have died of that disease, the gullet and stomach have been often found

* Philof. Transact. abridged, vol. v. p. 366, and A.R. Acad. Moguntin. tom. i. p. 341.

found free from any visible inflammation; whence the difeafe muft have had its feat either in the nerves themfelves, or in veffels fmaller than those which carry red blood. But whatever may be the change made by this diftemper on the nerves of the alimentary canal, or in what manner foever the canine poifon produces this change, we know that if, from any caule, the nerves of the fauces, gullet, and ftomach should acquire a fenfibility, fomething fimilar to that which the nerves of the larynx and trachea are naturally endued with, the most violent convulfive motions of those parts, and retchings to vomit would enfue, upon attempting to fwallow even the mildeft liquors. In this, however, the fenfibility of the fauces and gullet, in the bydrophobia, differs from that of the larynx and trachea in a natural flate, that thefe last parts fuffer still more from folids than liquors of a mild nature; whereas

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the former are difagreeably affected by liquids alone.

But to return.—As a too great fenfibility of the nervous fyftem in general, or an unnatural delicacy of the ftomach and inteffines or other organs in particular, do not, commonly, of themfelves produce thofe various fymptoms which go by the name of nervous, hypochondriac, and hyfteric, I come next to inquire into thofe feveral occafional caufes, which, meeting with the predifpofing ones above mentioned, may bring on this numerous train of difeafes.

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CHAP. IV.

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Of the general occasional Causes of NERVOUS, HYPOCHONDRIAC, and HYSTERIC Diforders.

THESE are either to be found in the blood, or they have their feat in fome particular organ of the body. The former I shall call general, the latter, particular occasional causes.

THE general occasional causes may be reduced to three, viz.

I. SOME morbid matter bred in the blood.

II. THE diminution or retention of fome accustomed evacuation.

III. THE want of a fufficient quantity of blood, or of blood of a proper denfity.

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I. SOMETHING bred in the blood, and not carried off by any of the excretories, difagreeably affecting the nerves, as often as it comes into contact with them; or forming obftructions in the finall veffels, and producing different fymptoms, according to the parts it attacks.

THAT many of the fymptoms commonly called *nervous*, *hypochondriac*, or *hyfteric*, are frequently owing to fome noxious matter in the blood, affecting, at different times, different parts of the body, I have been fully convinced by many cafes which have occurred in my practice; but fhall only mention two, which feem to prove this point fufficiently.

1. A BOY, of ten years of age, of a very fenfible nervous fyftem, who, in December 1747, had been feized with a palpitation of his heart, fell from his horfe about the beginning of January. From this time the palpitation left him; but,

but, in a few days after, he was attacked with a violent headach, returning fometimes once a day, at other times only every 3d or 4th day. During the fit, his pulse became finaller and quicker, and often intermitted; his feet were cold, but, by the violence of the pain, a plentiful fweat broke out and relieved him. As these headachs continued to increase, the patient lost his stomach and flefh, and looked pale. By the ufe, chiefly, of an electuary of the bark and, valerian, in lefs than three weeks the pain in the head abated greatly; but his appetite grew worfe, and he often complained of a nausea. These fymptoms, however, were all removed, in four or five days, by fome warm ftomachic and cordial medicines; but were fucceeded by an intolerable pain a-crofs the middle of his belly, which, in the fpace of eight days, returned five or fix times, and not only affected his pulle, as the headach had done, but, fometimes, oc-K cafioned

cafioned a difficulty and pain in making water. This pain no fooner left his belly, than the headach returned with greater violence than ever, fo that the boy used to faint in some of the worst paroxyfms. It had no certain periods, coming fometimes twice a-day, fometimes only once in two days, and was attended with a fense of fuffocation from wind, and a lump in his throat. He was eafieft in the night when he flept or lay quiet, but any confiderable motion of his body always raifed his headach. Before the fits, he was observed to be uncommonly lively, and difpofed to laugh. On the 21ft of February, at two in the afternoon, he was feized with fits of involuntary laughter, between which he complained of a ftrange fmell, and of pins pricking his nofe; he talked incoherently, ftared in an odd manner, and his complexion changed to a livid colour; immediately after, he was feized with convulfions, and then fell into

into a fainting fit, which lafted near half an hour. When his pulfe, breathing, and fenfes returned, he complained of a great coldnefs and pain in the backpart of his head, and vomited his dinner, with fome tough phlegm. At this time his appetite was good, and afterwards it became greater than it ufed to be in perfect health.

On the 9th of March, fome purulent matter was difcharged from his right noftril, and much about the fame time, a finall quantity more came from the right ear; after which he had fcarce any violent fits of the headach, but a continued, tho' lefs fevere, pain in the back-part of the head; which being greatly increafed by motion, he lay conftantly a-bed, and moftly on his back. Altho' he had a confiderable thirft, and drank plentifully; yet, during the whole month of March, he did not make above fix ounces of water in twentyfour hours, and never fweated.

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ABOUT the beginning of April, the complaints of his head were fo much abated, that he could bear fitting up in a chair; he began to make water more plentifully, and, when any thing ruffled him, voided great quantities of quite limpid urine. During the month of *May* he continued to grow better; and, before the end of *June*, he had perfectly recovered.

In February 1749, he began to complain of a conftant headach, which, tho' more painful at one time than another, yet was never fo violent as it had been the year before, nor did it affect his pulfe or ftomach: But now, he frequently faw objects double. In the beginning of *March*, fome purulent matter came from one of his noftrils, and foon after the headach abated, but he loft his appetite, and was attacked with a pain in the left fide of his belly, between the fhort ribs and os ilium, confined to a fpace little larger than the breadth of a fhilling.

fhilling. This pain was often fo fevere, asto make him ready to faint: fometimes it fhifted, and then he was feized with fatiguing fits of involuntary laughter. His head was always eafy when the pain in his belly was worft. In the fummer he recovered his health as in the year before; and next winter complained little or nothing of his head, but, for fome months, had a weaknefs and painful feeling in his left eye, when expofed to the leaft light. As there was no inflammation in this eye, the pain feemed to be owing to too great a fenfibility of the *retina*.

2. An unmarried woman, aged between 25 and 30, had an irregular ague in *August* and *September* 1757, of which no fymptoms remained in *October*, except a fweating every other day, if she lay long in bed. This she prevented by getting up before breakfast; but, in eight or ten days after, she was seized with a tightness in her breast, which occasioned a cough, but without expectoration.

ration. This oppreffion at her breaft, with the cough increafing, altho' the pulfe was good, I thought it proper to make her lofe eight ounces of blood; but neither this evacuation, nor a blifter afterwards applied to her back, gave any relief. She ufed a mixture with the *acetum fcilliticum*, was vomited, purged with facred tincture, took camphire, caftor, *afa fætida*, and *laudanum*, with very little benefit: At laft, about the beginning of *November*, a mufk julep taken for a fortnight, almoft quite freed her from her diforder.

AFTER having continued during the winter in pretty good health, fhe began, in *April*, to complain of pains in her legs and knees, but moftly in her body. Altho' her pulfe was not altered, yet twelve ounces of blood were taken away, which had a thin fizy fkin of a blueifh colour. Some days after, the pain in her fides, ftomach, *fternum*, and back increafed, fhe was much troubled with

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with wind in the first passages, and made very little water. The fense of fuffocation and dry cough, which the had in October, returned; and the was feized, efpecially in the evenings, with fuch violent catchings or convulfive motions of her legs, thighs, and almost her whole body, as not only to fhake the bed, but the room in which she lay. At this time, fhe was vomited, bliftered on the back, and took draughts of fp. Minderer. with fal. vol. ammon. but without any advantage. By the ufe, however, of bolufes of camphire and mufk, with finall dofes of laudanum at bed-time, fhe got pretty free from the catchings; and the tightness and dry cough were alfo leffened; but the pains in her fides, bowels, and legs continued as bad as ever. On the 7th of May the complained of a pain and fwelling in one of her arm-pits, which daily increafed, and her pulfe, which had generally beat only between 60 and 70 times in a minute, now exceeded

ceeded 100. She loft ten ounces of blood which was very fizy; emollient fomentations and fuppurating poultices were applied to the arm-pit; notwithftanding which, the pain increased to fuch a degree, that fhe was obliged to . take every night a large dole of laudanum to procure reft. From the time this fwelling and pain began under her arm, the fense of fuffocation, the cough, the other pains and catchings abated, and left her entirely, about the 20th of May, after the tumor had broke and difcharged fome bloody matter. During both illneffes, fhe continued perfectly regular. FROM thefe two cafes it appears, that various fymptoms of the nervous kind, may be owing to fome morbid matter in the blood, occasioning different complaints, according to the parts upon which it falls, even when there is no reafon to fuspect any obstruction in the vifcera of the abdomen, or fault in the uterus. In the first cafe, it is not eafy to fay, ceeded what

what gave rife to the difease; but, in the fecond, an agueish diforder imprudently checked, leaving a taint in the blood, produced a fenfe of fuffocation, the dry cough, pains in various parts of the body, and fpafmodic contractions of the muscles; which complaints were never entirely cured, till fome noxious matter was difcharged by the fuppuration of a gland in the arm-pit. Nor can it appear strange, that fo finall an evacuation should purify the blood, and relieve the patient, when, in the plague itfelf, a proper fuppuration of one of the glands of the neck, arm-pit, or groin, will prove a perfect crifis.

As a further proof, that complaints of the nervous or hyfteric kind often proceed from fome morbid humour in the blood, I have frequently feen them relieved by an itching between the toes, red puftles appearing on the breaft and belly, or fome other cutaneous eruption,

THAT

THAT taint or morbid matter in the blood, which occafions many fymptoms of the nervous kind, may proceed from very different caufes; fuch as, improper food, a scorbutic * or scrophulous habit, fevers which have had imperfect erifes, or other difeafes not fully cured, efpecially the cutaneous diforders ; when the morbid matter, inftead of being thrown off by the fkin, is reaffumed into the blood, and deposited on some of the internal parts. But by far the most frequent taint in the blood affecting the nerves, is an arthritic matter, falling at different times on different parts of the body.

ARAETEUS has long ago taken notice, that, in fome, the gout wanders through

* By *fcorbutic* is not here meant, that fault in the blood which produces the *true* fcurvy, to which people who live at fea and in marfhy places are fo fubject, but that humour which has been commonly, tho' improperly, called fcorbutic, and which, when it is carried to the fkin, inflead of livid blotches, produces dry, fcurfy eruptions, feabs, tetters, &c. and, when in a high degree, the *lepra Græcorum*.

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through the whole body*; the truth of which obfervation has been confirmed by later writers†, and would have been more carefully attended to by phyficians, if those fymptoms which arose only from an imperfect gout, had not been, for the most part, either flurred over, under the specious name of *nervous*, without any particular inquiry into their real cause, or confidered merely

* De causis et signis morborum, lib. xi. cap. xii.

+ " Enimvero ufu medico vel parum exercitatos, hoc " latere nequit ; arthritide (præcipue frigida, inerti, lan-" guida; maxime vero omnium ea fupprefia, retufaque) " ægrotantes, interdum humeri, pectoris, dorfi, lumbo-" rum, aliarumque in ambitu corporis partium dolore " vago tanquam rheumatico; fæpe etiam capitis affecti-" bus, more prorfus hyfterico ; alias, aliis in corpore malis, " quafi fcorbuticis urgeri; fapifime vero valetudine du-" bia, et in tempus diuturnum incerta, et neutra esie. " Qui quidem eorum status ac conditiones, fensu remissiori " et leniori gradu morbofæ natales fuos arthritico miaf-" mati, cœco, in corpus fubrepenti, et eo loci clam agenti, " fe debere, ultro videntur agnoscere : quinetiam ali-" quando, multos post annos, dubium hunc in modum " actos ; tandem apparente paroxyimo arthriditis idoneo, " de iftorum origine et natura malorum arthritica, omnis " fublata dubitatio eft." Musgrave de arthridite anomala, cap. xix. p. 316.

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merely as the effects of the hypochondriac or hyfteric difeafe, or of the fcurvy; efpecially in fuch as, having never had a regular fit of the gout, were not fufpected of any arthritic humour.

WERE it neceffary, many cafes might be produced to fhew, that nervous, hypochondriac, and hyfteric complaints are often owing to an imperfect gout wandering through the body; but I fhall only mention the two following.

I. A GENTLEMAN aged 58, temperate, and fubject to no diftemper, except a rheumatifm, of which, for fome years, he had frequent returns in his loins, in *August* 1752, after a fevere fit of this kind had fuddenly left him, was feized with a great depression of spirits, often attended with a sickness at the stomach, and a particular fensation about the epigastric region, which he could not well describe. In less than two months, by proper medicines and exercise, he got free from those complaints; but had not

not long enjoyed good health, when he began to feel, frequently, a flight palpitation of his heart, which was attended with an intermission of his pulse. This was fucceeded by the lumbago, during which he found his appetite and fpirits better than at other times, and indeed as good as in his best health. Afterwards, he had frequent returns of the diforder about his ftomach, with low fpirits, and a nausea, especially in the morning; and complained fometimes of a difficulty of breathing, but without any cough or fpitting. This perfon, who never had had the gout, nor fufpected it, being told, that all his complaints were owing to an arthritic matter wandering through his body, feemed furprised at first, but was soon after convinced, by a flight pain and inflammation, which feized one of his great toes; and, during the few days it lasted, relieved him from his lowness of fpirits, and complaints of his ftomach.

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He was for feveral years, both before and after this fit of the gout, affected at times, with a finall running from the *arethra*, and a pain in the left groin, which fometimes attacked the tefficle of that fide. Thefe fymptoms I confidered, as well as the others, to be purely arthritic, fince he had never in his life had any venereal infection.

TEA, coffee, and all flatulent aliments, increafed this patient's complaints. Flefh-meats, old cheefe, wine, porter, and bitters with the bark, fteel, and exercife, efpecially riding, did him moft fervice.

2. A GENTLEMAN, aged 40, generally healthy, who, from June 1752, had been troubled with pains in his heels, and fometimes in the middle of his left foot, in the end of May 1755, about feven in the morning, awaked with an unufual fenfation in his breaft, and a faintnefs, but without any ficknefs at his ftomach, or fwimming in his head: his pulfe was furprifingly irregular and intermitting. Twelve

Twelve ounces of blood were taken from him, which had a natural appearance, he fwallowed fome warm wine and water, *fp. corn. cerv. tinct. caftor.* and a folution of *afa fatida*, but without any remarkable effect.

UPON getting up, and walking thro' the room, he found himfelf quite free from a pain, which, for fome months, he had felt in the middle of his left foot. About ten, he began to make pale urine, and, in five hours, voided five English pints of it, altho' what he had drunk, during this time, did not amount to half that quantity. About noon, partly to abate this immoderate difcharge, and partly to leffen the too great irritability of the heart by bracing the viscera of the lower belly, he girded himfelf very tight with a broad belt, and, in three or four minutes after, the languor, and that unufual fenfation within his breaft ceafed at once, and his pulfe became regular and natural. Next day he began

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to be troubled with wind in his ftomach and bowels, which did not occafion any fharp pain, but a difagreeable fenfation and great lownefs of fpirits.

AFTER these fymptoms had continued by fits for four or five days, he rodeout fome miles for exercife, and returned home, entirely free from his complaints; only, by being exposed to a cold east wind, he caught a fwelling, and a fmall degree of inflammation in one of his tonfils. Having fupped as ufual, he went to bed, and, after a fhort fleep. waked quite free from the inflammation in the throat, but with a great faintnefs, attended with a very quick and finall pulfe. A glafs or two of claret, and a bit of bread, removed this faintnefs for the time; and, upon its return, it was cured by the fame remedy. For fome weeks after, he was much troubled with flatulencies in his ftomach and bowels. with low fpirits fometimes, tho' in a much lefs degree than before, and did not

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not entirely recover his health and ftrength in feveral months. The pain in his heels, which he had felt but little of during moft of this time, returned and continued pretty conftant till the end of *August* 1757, when he had a flight fit of the gout, with a fwelling and inflammation in his right heel. Since that period, as well as before it, he has been often troubled with a giddinefs, and flying pains in his head, arms, and hands, frequent pains in his heels, and wind in the *prime vie*.

THESE cafes need no comment. The fymptoms with which the patients were affected, muft have proceeded from an irregular gout, the matter of which, inftead of going to the extremities, wandered through the body. The ftomach complaints could not be owing to any tough phlegm, or other crudities; for the laft perfon had never, in his life, thrown up, by a vomit, any thing of that kind; and the other, who took fe-L

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veral vomits during his illnefs, never appeared to have much of a foul ftomach; nay, tho' he was often oppreffed with a fevere ficknefs and a *naufed* in the night and morning; yet he grew eafy before dinner, and then eat with as good an appetite and digeftion, as in his beft health.

FROM what has been faid, it may appear, that fome morbid matter in the blood, either arthritic or of another kind, may be often the caufe of nervous complaints. When this matter is carried fmoothly along with the blood, without forming obstructions in any of the veffels, or irritating the nerves, it gives little trouble. When it remains fixed in the extremities, or the muscular parts of the trunk of the body, it will only occafion aching pains of the goutifh or rheumatic kind: but when it is deposited on fuch of the viscera as are very fensible, or by fympathy are apt, ftrongly, to affect almost the whole body, it may pro-IS15V duce

duce moft of those fymptoms which have been commonly called nervous, hypochondriac, or hysteric*. This matter may, in general, act either by its vifcidity in obstructing the finaller vessels, and thereby stretching too much their fensible fibres and nervous filaments, or by its acrimony in difagreeably affecting the extremities of those nerves which it touches †.

It is to be observed, however, that the kind and violence of the symptoms occasioned by this *morbific matter*, will not only be different according to the parts which it affects, but in proportion

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* See above, p. 97, 80.

† It is probable, that the morbid matter in the blood, producing nervous complaints, generally proves hurtful by its acrimony, and but rarely by its vifcidity : at leaft we know, that in the fmall pox, meafles, and continued fevers, an acrimony in the blood, by ftimulating the brain and nerves, frequently produces a *delirium*, tremors, twitchings, convulfions, and other nervous fymptoms : and the *horror febrilis*, or fhivering upon the attack of a fever, is rather owing to a fpafmodic contraction of the fmall veffels, than to an obfruction of them from vifcid blood.

to the greater or leffer natural delicacy or fenfibility of the patient's nerves.

HENCE it feems to be, that men of otherways hale and ftrong conflicutions, and fome robuft women, are liable to a regular gout, and but little to nervous complaints. Their firmer fibres and lefs delicate nerves do not predifpofe them to the latter, and the ftrength of their digeftive organs, and vafcular fyftem, enables them to throw off the arthritic matter on the extremities, by which means the body is cleared of it.

MEN of a middle conflication, between the delicate and flrong, are, from this morbid matter, affected with pains of the cold rheumatic kind, and various nervous fymptoms in a leffer degree ; and fometimes alfo with a fit of the true gout. But in them, this diftemper is not commonly fo completely formed, as to clear the habit of the arthritic matter, at leaft for any confiderable time; for foon after the imperfect fit of the gout,

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gout, their old complaints begin to return.

ON the other hand, women of a more delicate habit, and men of weak fibres and very fenfible nerves, have more rarely any diforder like the true gout; either, because in fuch constitutions the arthritic matter is imperfectly formed; or, what is more probable, becaufe the vital organs are unable to throw it off upon the joints and extremities. Hence this morbid caufe in the blood, inftead of being deposited on the aponeurofes, tendons, ligaments, and membranes of the feet, hands, or other joints, falls upon different parts of the body, and produces fymptoms almost as different as are the parts which it attacks. Such, for inftance, are the flying pains, spafmodic contractions, and fudden fenfations of heat and cold in the muscles and exterior parts of the body .- A want of appetite, or too great craving and faintness, a nausea or vomiting, flatulent fwellings,

fwellings, borborygmi, watching, low fpirits, cramps, convulfions, and violent pains in the ftomach and bowels .- An increased fecretion of faliva, from an irritation of the veffels of the falivary glands .- The globus by stericus in the gullet .-- A fpafinodic afthma in the lungs .---Palpitations and irregular motions in the heart .- An exceffive flow of pale urine, or fometimes nephritic pains in the kidneys,-A hemicrania, the clavus byftericus, or fhooting pains in the head .---Befides thefe, I have feen many other fymptoms, occafioned by an imperfect or an irregular gout, fuch as a delirium and mania, an inflammation in one of the tonfils, a troublefome dyfuria; a violent itching between the toes; a fevere pain about the cartilago enfiformis, returning twice or thrice a-day, efpecially upon any ftrong affection of the mind or effort of the body, and fometimes attended with a painful fenfation in the middle of each arm; a fenfe of a burning heat eghillo 7/1 over

over the whole furface of the body, except the legs, while, in the mean time, the fkin was fcarce fenfibly hotter than in a ftate of health, and the pulfe was under 80 in a minute. In one patient, I met with a flight, but frequently returning gonorrhæa, from a gouty humour falling on the nerves or veffels of the *urethra*; and, in another, an uneafy itching of the *fcrotum*. I have feen three cafes of a fharp pain in the tefticles from the fame caufe. In one of thefe, there was a confiderable fwelling along with the pain, both which went off upon the gout coming into both the feet.

ALL this is confirmed by obferving, that perfons who have been but little troubled before with those fymptoms, commonly called nervous, upon the rheumatic or rather gouty pains leaving their feet, hands, or loins, have been feized with an irregular intermitting pulse, giddiness, faintness, difficulty in breathing, *nausea* and vomiting, flatulence in the stomach and bowels, depression

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preffion of fpirits, and other fymptoms of the like kind*.

SUCH complaints, if the patient has never had the gout, are generally called *nervous*; but, if he has been fubject to it, are readily enough afcribed to the arthritic matter leaving the extremities, and fixing upon the head, or *vifcera* of the *thorax* or belly.

THIS difference, however, may be observed, that the fymptoms arising from the retrocession of the true gout, are

* As the arthritic matter affecting the nerves of the ftomach, not only occasions the fymptoms now mentioned, but fometimes extraordinary languors, an univerfal debility, anxiety, and faintings ; it is noways improbable, that the fudden death of feveral, fubject to a wandering gout, may have been fometimes owing to its affecting the nerves of the ftomach at once, and in fo ftrong a manner, as not only to occasion fainting, but a total fuspension of the motion of the heart : and this will appear ftill more probable by observing, that fuch perfons have often, immediately before their death, complained of a fharp pain or ficknefs or other unufual fenfation in their flomach. In fuch cafes, the caufe of death will be, in vain, fought for in the heart, lungs, brain, or, indeed, in any other part of the body ; for the arthritic matter affecting the flomach is too fubtile to be feen, altho' active enough to deftroy.

are generally more violent, than those which are occasioned by a rheumatic or imperfect arthritic humour wandering through the body.

UPON the whole, it may appear that one very frequent occafional caufe of many nervous, hypochondriac, and hyfteric fymptoms, is fome acrid matter in the blood, commonly no other than the arthritic humour, the caufe likewife of the chronic rheumatifm and true gout *.

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* It may be objected, that nervous and hyfteric complaints cannot be owing to any noxious matter in the blood or finer fluids, fince violent pains and other fymptoms of this kind, are observed to shift so fuddenly from one place to another, that we can fcarcely conceive this to be owing to the translation of any morbid matter. But altho' here, as well as on many other occafions, we are obliged to own our ignorance, yet we have no more reafon to deny that nervous, fpafmodic, or hyfteric diforders are owing to fome acrid bumour irritating the nerves of the parts affected, or of fome other parts, with which they have a remarkable fympathy, than that the gout or rheumatifm proceed from fuch a cause, because they often move fuddenly from one place to another, efpecially upon the imprudent application of topical remedies. When the gout leaves the head or stomach, and immediately feizes the feet ; is the arthritic matter, which affected the veffels of the former parts, inftantly

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It may be proper to obferve, that, altho' a gouty humour in the blood may be much oftener the caufe of nervous fymptoms in men than in women; yet, in the latter, many complaints of this kind do certainly flow from that fource. Of this I could relate many inftances which have occurred in my practice; but, that I may not be tedious, I fhall only mention one.

A LADY aged 60, of a delicate conflitution, and who had been often liable

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instantly carried to the latter ? Or, is it not more reasonable to fuppofe, that the gouty matter, which abounds in the blood or finer fluids, as foon as it falls particularly on the feet, by exciting a great pain there, leffens or deflroys the diforder in the ftomach or head ; and, perhaps, by removing fome fpafmodic contraction in their very fmall veffels, allows the gouty matter, that was fixed in them, to pafs through, and mix itfelf with the general mais of fluids ? It is further to be observed, that many fymptoms of the nervous or hyfteric kind feem to be owing not to any acrid matter immediately irritating the parts which fuffer, but only affecting the flomach and inteffines ; whence, by means of their remarkable fympathy with most other parts of the body, a variety of fymptoms is occafioned, which either increase or abate, or shift from place to place, according as the nerves of the first passages are variously affected,

to complaints in her flomach, upon her becoming free from flight rheumatic pains, which fhe used to feel in her arms, began to be affected with an averfion to food, a fevere ficknefs, and fometimes avomiting; an acute, or burning pain in her ftomach, fometimes fhifting from it to her bowels; flatulence, belching, palpitations, and, on fome occafions a fense of faintness at the ftomach, or a difficulty of breathing: After being affected with these various fymptoms, which fucceeded one another, without any regularity, for three or four weeks, or longer, they generally abated, and fometimes went quite off, upon sharp pains coming into the thighs, legs, and feet, which last not only felt hot, but were often fwelled. I fhall only add, that, as in those women, who were quite regular as to the monthly evacuation, or long paft that time of life when it naturally ceafes, I have found hyfteric complaints to be owing very of-

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ten to a rheumatic or gouty humour affecting them differently at different times; fo the most attentive observation has convinced me, that, by far, the most frequent caufe of the hypochondriac disease in men is no other, than a humour of the fame kind affecting chiefly the nerves of the ftomach and bowels, which, from an original weaknefs, had been more exposed to its attacks, than the other parts of the body. This humour, in those of a melancholic temperament, befides other fymptoms, generally occasions watching, timidity, a great depression of spirits, and sometimes very uneafy diffracting thoughts. In others, of a different conflitution, the fame caufe produces a variety of complaints in the flomach and bowels, and other parts of the body, with much lefs watching, and without any great degree of low fpirits.

THE arthritic matter may be bred, either in confequence of fome hereditary defect

defect in the conftitution, or from high living; whereby the ftomach and bowels are fo weakened, or loaded with rich, heavy, or hot aliments, as to convey very improper chyle into the blood.

PHYSICIANS have widely differed about the nature of that humour which is the caufe of the gout, fome making it tartareous or acid; others urinous or alkaline. But, fenfible how vain all fuch difquifitions are, I shall not attempt to define the nature of that noxious matter in the blood, fo often the caufe of nervous, hypochondriac, and hyfteric diforders, further than as I have already endeavoured to fhew, that it is most commonly of the arthritic kind: And I shall now add, that it may be fometimes a scorbutic or scrophulous taint, or some other fault, in confequence of other difeases imperfectly cured. Indeed, there is no reason to believe, that, whatever is hurtful to the human body, must be either acid or alkaline, or of fome other

other known fpecies of acrimony. What is the acrimony of ipecacuanha, antimonial wine, of femen byofcyami, opium, rhus, myrtifolia Monfpeliaca, and of the roots of the cicuta aquatica? Most of these fubftances fhew no remarkable fharpnefs or pungency to the tafte; and yet, when received into the ftomach, they quickly occafion either ficknefs and vomiting, raving, or infenfibility, epileptic fits, or even death. What peculiar acrimony have the effluvia of musk, ambergrease, or a pale rofe, which throw fome delicate women into hyfteric fits? In like manner, with regard to that morbid matter in the blood, the caufe of fo many nervous complaints, and even of the gout; all we know is, that it is apt to flick in the fmaller veffels; that it difagreeably affects the nerves as often as it falls upon them, and thereby occasions various fymptoms, more or lefs violent, according to the greater or leffer fenfibility of the parts affected, and the conflicution

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of the patient: But in what manner, or by means of what particular kind of acrimony, it produces these effects, we are yet entirely ignorant, and, indeed, likely to continue fo.

II. A SECOND occasional cause exciting nervous diforders, may be the retention of some accustomed evacuation, fuch as the *menses* or haemorrhoids.

THE nausea, vomiting, depraved appetite, faintings, and other complaints to which many women are liable for fome months after conception, they that a change of the circulation in the womb, an obstruction and distension of its veffels, or whatever irritates the uterine nerves, may produce many of those fyinptoms commonly called nervous or hysteric. The fame remark may be made upon the various diforders which happen upon the suppression, diminution or irregularity of the menfes, and at that time of life when this evacuation ceafes. 'Tis true thefe complaints are much

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much lefs remarkable in fome than in others: Thus, while many are only affected with a *naufea*, want of appetite, flatulence in the flomach and bowels, a cough, difficulty in breathing, headach, or flying pains through the body; there are others, who, befides feveral of thefe fymptoms in a higher degree, are alfo fubject to uncommon hæmorrhages, faintings, and violent hyfteric convulfions, on account of a greater delicacy and mobility of their nervous fyftem.

An obftruction or fuppreffion of the menfes may produce nervous or hysteric diforders, either from the fympathy of the womb with the other parts, from a redundancy of blood, or from the retention of fomething hurtful to the nerves.

1. THAT many parts of the body may be affected through the confent of their nerves with those of the womb, will not appear improbable, after what has been faid of the remarkable sympathy that

that takes place between the various parts of the body*. But it may be proper to obferve, that when the menfes are obstructed, the stomach generally fuffers first, and, by means of its confent with almost every part of the body, gives rife to many of the complaints which follow. Thus the hyfteric convulfions and other violent fymptoms, which are fometimes occafioned by a fudden stoppage of the menfes, do not feem to proceed immediately from the uterus, but commonly from the ftomach and bowels, whofe nerves are first affected either by their fympathy with those of the womb, or by the blood which fhould have been difcharged by this organ, being partly turned upon the alimentary canal. For, 2. ALTHO' it is probable that the menstrual evacuation is not owing to a general plethora, or increase of the mass of blood at the end of every month, but to the particular ftructure of the womb, tayte, upon the toM Suppression of the

* See above chapter i. No. 11. (0).

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yet as the body, after being long accuftomed to any regular evacuation, feldom fails to fuffer from a ftoppage of it, fo it is not to be doubted, that in women, and efpecially in the more fanguine, fome degree of a *plethora* may be often the confequence of a fuppreffion of the *menfes*. Agreeably to this, we obferve, that bleeding is often the beft remedy for the complaints incident to women at that time of life, when their courfes leave them.

3. IF we confider, that, by means of the other excretory organs, fome humour is thrown off, which, if retained, would prove noxious to the body, it will not appear altogether improbable that the menftrual evacuation, when fuppreffed, may become hurtful by its quality as well as quantity: And this feems to be confirmed, by those uncommon haemorrhages from the eyes, ears, ends of the fingers, and other parts, upon the total fuppreffion of the menses;

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menses; for fuch haemorrhages cannot be owing to a general plethora occasioning too great a diftension of the whole vafcular fystem: Were this the cafe, the veffels of the lungs, and other internal parts muft burft before any blood could pass by the pores of the skin. When one runs fast, or walks up a steep hill, the force of the blood is much more increafed than it can be from any plethora, that may be fuppofed to happen to women who are obstructed; and yet we never find that violent exercife makes the blood iffue from the points of the fingers, or the pores of the meatus auditorius, altho' it fometimes occasions an haemorrhage from the lungs. Further, if a general plethora were the caufe of those uncommon haemorrhages, which happen in confequence of a suppression of the menses, bleeding would always prevent them, which, however, it feldom does. An inftance of this I had many years fince in a patient, who, tho' M 2 fhe

fhe had loft by the lancet about forty ounces of blood, in the fpace of a month, yet continued to have a fmall haemorrhage from the left ear, once in twelve or fourteen days. Another cafe, no lefs remarkable, was that of a woman aged 34, who, near fix weeks after bearing her fecond child, to which fhe gave fuck, was feized with a pain in the middle of her fore-arm ftriking down to the middle finger of the left hand. Next day, she felt a pain in the point of that finger, where there had been for two or three days a red fpot, from which there iffued about four ounces of blood. At the diftance of 24 hours, she lost near an ounce of blood in the fame manner; and notwithstanding she was blooded once and again, yet for fome days, almost at the fame hour, this haemorrhage returned, but always in fmaller quantity. In this woman, the lochia had ftopt foon after delivery.

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IF these periodical evacuations of blood cannot, then, be accounted for from a general plethora, is it not probable that when the menfes are ftopt, fomething hurtful may be retained, which falling on certain parts, in people whofe nervous fystem is eafily affected, may throw the fmall veffels of those parts into fuch violent alternate contractions, as to force the red blood, inftead of the thinner fluids, through their dilated orifices? When, in this manner, the offending matter is mostly evacuated, the extraordinary motions of the fmall veffels, and confequently the flux of blood from them, will ceafe *,

In like manner, those various other complaints, consequent on the obstruction of the *menses*, may be often owing to the quality of what is retained, which foon

* See above chap i. No. 17. Also Physiological Essays, edit. 2d, p. 35. Sc. where I have endeavoured to shew, by a variety of facts, that the small vessels, when affected with any unufual *stimulus*, are agitated with uncommon contractions.

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foon becoming acrid, difagreeably affects the nerves of those parts upon which it falls.

WHAT has been faid of obstructed menses as the cause of nervous diforders, may be, in a great measure, applied to the fuppreffion of the haemorrhoids, in fuch as have been accuftomed to them: And it may not be amifs, when treating of the suppression of the menses and haemorrhoids, to add the difcharges of iffues, fetons, or other old fores fuddenly dried up, as producing fimilar effects. Further, fince cold feet, or cold and moifture in general, by ftopping the perfpiration, is obferved to increase nervous diforders, is it not probable that fome acrid matter may be then retained, which, by falling on the ftomach and other internal parts, fometimes gives rife to nervous, as well as to other morbid fymptoms? Hence we find, that, during the dry warm weather in our climate, and the dry and temperate weather

ther of hotter countries, the nervous, hyfteric and hypochondriac complaints are lefs frequent than at other times.

III. A THIRD general occafional caufe of nervous diforders may be, the want of a fufficient quantity of blood, or of blood of a proper denfity: And hence it is, that an immoderate flux of the *menfes, lochia* and haemorrhoids, or any other great haemorrhage, will often occafion violent fymptoms of this kind.

Hippocrates has obferved, that convulfions may arife from *inanition*, as well as *repletion*: And as the ftrength and firmnefs of the whole body depend upon proper fluids, and a due quantity of them, may not very irregular and ftrange diforders happen from a want of blood, or from a too watery ftate of it, efpecially in those whose nervous fystem is very delicate and easily affected? For when there does not remain in the veffels a quantity of blood fufficient for carrying on the feveral functions in a pro-

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per manner, the regular circulation of all the fluids must be disturbed, and the distribution or exertion of the nervous moving power will become irregular.

BUT, in whatever way great loss of blood may give rife to nervous difeases, we are fo certain of the fact, from experience, that perhaps the following cafes, in proof of it, may be thought fuperfluous.

1. A YOUNG gentleman of 17 years of age, complaining of a pain in his right fide after a fall from his horfe, was blooded very largely. Some days after, he felt a coldnefs in his ftomach, which was foon fucceeded by fits of violent pain and fpafins in that part, fometimes lafting twenty minutes, or half an hour, at a time. Thefe fymptoms returned after no regular intervals, but generally twice, or oftener, in 24 hours; and gradually increafed to fuch a height, that the patient was obliged to be held down in bed by two or three people, in order

to

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to prevent his tearing his hair, and doing himfelf other mifchief. The pain and cramps were always preceded with a fenfation of coldnefs in the ftomach, and frequently went off in an inftant. Ginger with hot brandy felt cold in the ftomach at the acceffion of the fit. After the patient had fuffered in this manner for three weeks, the diforder gradually abated; and, by ufing a few ftomachic medicines, a proper diet and exercife, he perfectly recovered.

ON another occasion, after losing a good deal of blood, he was attacked with the same symptoms, but in a much less violent degree.

2. A GENTLEMAN between 40 and 50 years of age, has been fubject for thefe 13 years paft, to a confiderable flux of pale urine, efpecially in the night, which has fometimes continued for two or three weeks, and has not been ftopt without using large quantities of the bark, riding, and other remedies;

medies; and this has generally happened to him, as often as he has been obliged to be blooded to any confiderable quantity, or to have fweated much, and at the fame time to have lived low for a few days, in order to get rid of a cold, rheumatifm, or other cafual diforder. 3. A GENTLEWOMAN, in whom the menfes flow too plentifully, is frequently troubled with a gnawing pain and fometimes a flatulent diffension of her ftomach when fhe is not with child; but, during the time of pregnancy, fhe is generally free of any fuch complaints. 4. IN the Philosophical Transactions, No. 174, we have a remarkable cafe by Dr Cole, of a Lady fubject to hysterics, who, after being much reduced by an uncommon lofs of blood in child-bearing, was for a long time affected with violent periodic convultions, accompanied with a great flux of limpid urine, returning every fourth or fifth day at a certain hour. Jubit shad on lo est : soibem

UNDER

UNDER this head of general occafional caufes, may alfo be comprehended watching, great fatigue and exceffive venery; all of which not only tend to break the conftitution, and difpofe the body to nervous difeafes, but alfo to create them, effectially in fuch as are already predifpofed to them.

HAVING thus far treated of the general occafional caufes, we shall proceed next to mention the chief of those occafional caufes which we call particular, from their having their seat in certain parts of the body.

IV. Aliments improper in their quan-

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VI. Violens affections of the mind.

Scirphous or other obfructions

tity or quality; amine mener a

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Of the particular occasional Causes of NERvous, Hypochondriac, and Hysteric Diforders.

HESE may be reduced to the fix following, viz.

raffectational cauties, we fhall proceed

I. Wind II. A tough phlegm in the ftomach and bowels.

IV. Aliments improper in their quantity or quality.

V. Scirrhous or other obstructions in the viscera of the lower belly.

VI. Violent affections of the mind.

I. WIND

I. WIND in the ftomach and inteftines, tho' of itself a very common fymptom in nervous diforders, yet deferves a place among their occafional causes, as giving rife to many unealy fenfations. Altho' all our food abounds more or lefs with air, yet, in the time of digeftion, it is feldom feparated in fuch a quantity, as to give any trouble, unlefs when the ftomach and bowels are weak, or when their nerves are endued with an uncommon fenfibility: But in fuch circumstances, the complaints it occafions, are various, fuch as want of appetite, nausea, faintnefs, low fpirits, watching, fwelling of the ftomach and bowels, violent pains in them, tightnefs, and oppreffion about the pracordia. difficult breathing, a fensation of a weight in the flomach, belching, the globus hystericus, giddiness, shooting pains in the head, &r. Nay, I have frequently felt, in myfelf, a plain connexion between wind in the prime vie and pains in

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in my legs and feet; and the uneafy fenfation, fometimes, as it were, coming and going between these parts.

THE manner in which wind produces fo many and fuch various complaints, may be underftood from its diftending the ftomach and inteftines, and thereby occafioning fpafins in those parts, or otherwise difagreeably affecting their nerves, which have fo great a fympathy with the other parts of the body*.

However, the complaints it,

* See above, chap. i. No. 11. SV 918 MODS000

Some have imagined, that the flatulence produced in the flomach and bowels, paffes freely by means of the abforbent veins into the blood, with which it circulates thro' the body, and produces a variety of fymptoms, fuch as fhooting pains in the head, the *clavus byflericus*, or flying pains in the arms, legs, and other parts, palpitations of the heart, a fluttering motion of fome of the fibres of the voluntary mufcles, and puffy fwellings below the fkin. At other times, when these complaints cease, and the first paffages fuffer more from wind, they fuppose, that the flatulence finds a ready way from the blood into the flomach and intestines by their pores or exhaling arteries. This opinion, however, is ill founded; for experiments made on animals newly dead fhew, that neither the flomach nor intestines.

HOWEVER, it may be proper to obferve, that the effects of wind in the first passages are not only various in different perfons, but in the same perfon at different times. In people whose stomach and bowels are in a found state, if

inteffines, nor even the *peritonæum* which is much thinner, are pervious to elaftic air : and we know, from other experiments, that capillary tubes, or abforbent veffels, do not attract elaftic air as they do watery fluids ; nay, finall portions of air, when they get into fuch tubes, prevent their attracting any more of other fluids.

In hypochondriac and hyfteric patients, I have obferved little fwellings or elevations of the fkin, of a pale colour, and of different shapes. Thefe, in a few minutes, acquired their full fize, and after half an hour, or more, would quickly vanish. In hysteric women also, we meet with foft puffy fwellings below the fkin, which, becaufe of their fudden rifing and difappearance, have, by fome, been afcribed to wind fhifting from one part of the cellular membrane to another. But this is no ways probable : and both thefe puffy fwellings, and those rifings of the fkin, feem to be owing to the fame cause, viz. an increased alternate motion of the fmall arteries of the parts, occafioned by an uncommon irritation of them, or their nerves; whence there must happen an effusion of a ferous or lymphatic fluid in the spaces of the tela cellulo/a, or in the interffices of the fkin, which, as foon as the extraordinary motion of the fmall veffels ceafes, will be quickly abforbed ; and confequently those fwellings will disappear.

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if wind happens to be collected, it may create some uneafiness, but does not quicken their pulse, or affect them with that difagreeable fenfation, anxiety about the pracordia, or depression of spirits, fo often its confequences in those whofe alimentary canal is endued with a more delicate feeling. Nay, the fame perfons are, at different times, very differently affected by wind, just as the nerves of the ftomach and inteffines happen to be more or lefs fenfible, or their feeling more or lefs different from what it is in a natural state. Thus, when an arthritic or rheumatic humour in the blood is turned upon those vifcera, the wind produces a much more uneafy fenfation than at other times.

FURTHER, the great diffension of the intestines, and sometimes also of the stomach in a tympany, without those uneasy complaints that attend wind in hypochondriac or hysteric cases, shews, that unless there be a particular indisposition

position of the nerves of these organs, flatulence alone will not give very remarkable disturbance.

II. A tough phlegm in the flomach, and inteflines.

PATIENTS generally imagine, that this is produced by their food, which they believe is all turned into phlegm: But they are miftaken; for while the ftomach remains difordered, be the aliments ever fo little of a glutinous nature, this fubftance will be continually generated.

In the alimentary canal, befides the fine exhaling arteries, which furnish the gastric and intestinal lymph, there are many small glands, which secrete a liquor of a more glutinous nature. In a found state, this *mucus* is in no greater quantity than what is necessary to defend the delicate nerves of those parts from the heat, cold, acrimony, or attrition of the food; but when the secreting vessels have lost their tone, or are N affected

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affected with an unnatural *flimulus*, not only the mucous glands, but alfo the exhaling arteries may throw out, in a greater quantity, a vifcid fluid, which, by lying fome time, may acquire ftill a greater degree of cohefion.

WHEN much phlegm is collected in the ftomach and inteffines, their nerves are rendered less sensible of the stimulus of the aliments, their absorbent vessels are partly obstructed, and the gastric and inteftinal lymph are more fparingly fecreted, or, at least, become more vif-Hence, the digeftion and abforpcid. tion of the finer parts of the food, are, in a great measure, prevented; whilft this phlegm, by difagreeably affecting the nerves of the alimentary canal, efpecially when they are in a delicate flate, occafions want of appetite, fometimes an unnatural craving for food, a nausea, flatulence, gripes and loofenefs, cold and hot fits, a quick pulfe, weaknefs, faintings, lownefs of spirits, fleepinefs, baffected fighing,

fighing, convulfive motions*, and giddinefs. Nay, I have had fome patients who, from a vifeid phlegm in their ftomach, were affected with a flight *delirium*, and had their eyes like those of people in liquor.

Nor will it appear ftrange, that fo many and fuch different fymptoms fhould proceed from a diforder in the ftomach and bowels only, if we attend to that fympathy which I have fo often mentioned as taking place between them and the other parts of the body.

III. WORMS in the first passages, efpecially in children, are frequently the cause of nervous symptoms, such as great craving for food, inflations of the alimentary canal, hiccup, vomiting, dry

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* A Girl aged 14, who had been troubled with the chorea Santi Viti, was feized with the meafles. A few days after her recovery, fhe had a return of her former diffemper, which, after it had continued near a fortnight with little abatement, notwithstanding the use of several medicines, was entirely removed in a few days, by a natural loofenes, by which she voided a great deal of simy stuff. It may be worth remarking, that, during the continuance of this convulsive diforder, her appetite was much greater than usual.
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eough, difficult breathing, fighing, irregularities of the pulfe, palpitations, tre mors, convultions, epileptic fits, drowfinefs, raving, infenfibility, &c.

WORMS produce most of these fymptoms, by preventing the proper digeftion of the food, or by irritating, with their frequent motions or biting, the fensible nerves of the flomach or bowels, whence every other part may be affected by fympathy.

SEVERAL of the above fymptoms may also be occasioned by acrid humours in the *prime vie*; as will appear by the following case.

A Boy of 14 years of age, on the 12th of January 1757, was feized with a pain in his head and belly, and foon after became delirious, and made no anfwer when fpoke to. When awake, he fometimes cried out in a wild manner, as if complaining, or praying to be freed from his trouble; but his words had generally little connexion. He flept

ulfine divinder, hef appenite was much greater than ulfah.

flept well, had a fharp appetite, was not coffive, and his pulfe was full and flow, but fomewhat irregular. Thefe fymptoms continued 'till the 16th of January, when I faw him first, and ordered feven ounces of blood to be taken away, a blifter to be applied between his shoulders, and a clyster to be injected. On the 17th no better: the blifter had occasioned a strangury. On the 18th, took a bolus of calomel and rhubarb, but foon vomited it up again. On the 19th, fwallowed five grains of calomel at bed-time, and next morning had three ftools, after which he became much more fensible, but still complained of his head: 21ft, had a natural ftool, in which were two finall worms of the afcarides kind. Upon this he was ordered pulvis stanni, and another dofe of calomel and rhubarb, which brought away a great deal of flime, but no worms. On the 25th, he was free from all his complaints.

THIS

THIS patient, in July 1758, having had a return of the fymptoms above mentioned; he was blooded without any benefit, but was greatly relieved by a dofe of rhubarb and calomel, and entirely cured by a repetition of it, altho' no worms were found in his ftools. At this time, as well as in his former illnefs, he had a greater appetite than ufual, efpecially when the difeafe began to yield.

IV. ALIMENTS improper in their quantity or quality.

THE most wholefome food, in too great a quantity, oppresses the stomach and bowels, is not properly digested, but becomes either acid or putrid, and generates much wind; whence the nerves of those parts being disagreeably affected, a variety of complaints are produced.

On the other hand, the want of a due quantity of aliments occasions faintness and wind, and, in time, fo much weakens the stomach and bowels, as to render

render them unfit either to receive, or to digeft what is neceffary for fupporting the body.

BUT altho' food be taken with neither too full nor too fparing a hand, yet its quality may difpose it to produce nervous diforders. Thus high feafoned and heavy meats, ftrong fauces and wines, will not only, by degrees, enervate the tone of the ftomach, and prevent or deftroy the natural feeling of its nerves, but will corrupt the blood, perhaps breed the arthritic matter, and bring on a difeafed flate of the whole body. On the contrary, a watery and flatulent diet, by difagreeably affecting the nerves of the first passages, generating a great deal of wind, and not affording proper nourifhment, will be the caufe of many ailments.

IT is, however, to be obferved, that aliments, either hurtful in their nature or quantity, will chiefly produce neryous fymptoms in those, who, from the peculiar

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peculiar ftate of their alimentary canal, are most liable to fuch diforders.

THUS, wind or crudities in the primæ viæ, occafioned by diet, will often give no great uneafinefs to those of firm nerves, and whose stomach and bowels are strong; but in more delicate people, on account of the particular fensibility of these organs, such causes will either excite painful spass, or other difagreeable sensations, attended with lowness of spirits.

I HAVE obferved above, that in fome the flomach becomes fo very delicate, that even a fudden change of poflure will be apt to occafion a *naufea* or vomiting: and there are others, who, when their flomach is empty, efpecially after a late error in diet, feel an uneafy craving, faintnefs, and giddinefs, which fymptoms are almost as certainly relieved by a little folid food, or a glass of wine, as pain is by opium. To this faintnefs and difagreeable fensation in the

the ftomach, when empty, those are most liable, who, besides a particular weakness of that organ, carry an arthritic matter in their blood frequently affecting it.

V. SCIRRHOUS, or other obstructions in the stomach, intestines, liver, spleen, pancreas, mesentery, *uterus*, and *ovaria*, often produce symptoms of the hypochondriac or hysteric kind; such as want of appetite, *nausea*, cramps in the stomach, vomiting, sometimes of a black or bloody coloured matter, flatulence and crudities in the sirst passages, hectic heats, cold sweats, low spirits, and other complaints, more or less violent, according as the patient's nerves are more or less delicate.

SUCH obstructions in the stomach and bowels, seem to occasion many of the above effects, by hindering the free circulation of the sluids through these parts, by affecting their nerves with an uneasy sensition, and by preventing digestion.

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geftion .- In the liver and fpleen, by impeding the fecretion of bile, and, by their weight, occafioning a difagreeable fenfation, not only in thefe, but the neighbouring parts by fympathy* .- In the mefentery, by preventing the further preparation of the chyle, and its courfe towards the thoracic duct .- In the uterus and ovaria, by diffurbing the functions of these parts, and by consent affecting the ftomach and bowels. Further, hard fwellings in the uterus or other abdominal viscera, by irritating fuch nerves as are contiguous to them, more at one time than another, may give rife to fpafmodic contractions of the inteflines in fome parts, and flatulent diftenfions of them in others, and may fo affect the whole nervous fystem, as to oc-

cafion

* In the bodies of those who have died of the hypochondriac difease, the meseraic, and other veins which meet to form the *vena portarum*, have been often found greatly diffended with blood. But this diffension of those yeins, if any thing preternatural, was probably only a confequence of some obstruction in the liver, and not to be reckoned, as it has been by some authors, the cause of that diftemper.

cafion hyfteric faintings and convulfions.

As obstructions in the stomach, liver, dre. may be often the caufe of low fpirits, fo, on the other hand, melancholy, or long continued grief, frequently gives rife to hypochondriac and hysteric complaints, and fometimes to obstructions in those viscera. For such a state of the mind not only diforders the nerves of the ftomach, liver, and bowels, and occafions a want of appetite and digeftion, with its various confequences; but by means of the agency of those nerves, it may also produce in some of the small veffels of these viscera, fuch a fixt spafmodic contraction, as to lay the foundation of an irrefolvable obstruction; in much the fame manner as a fudden fright has given rife to a scirrhus, and afterwards to a cancer in the breaft. Further, the flow interrupted breathing, and the fedentary life of those who are much affected with grief, will make the fluids

fluids more apt to stagnate, and confequently to form obstructions in the small vessels of the hypochondriac viscera.

I. A GENTLEMAN aged 60, who had been above three years fubject to cramps and pains in his ftomach, want of appetite, belching, fits of fickness and vomiting, began, in fpring 1748, to throw up a dark-coloured liquor like coffeegrounds, and to void the fame by ftool. In the end of April 1749, he vomited a greater quantity of this black ftuff than ever, and foon after he threw up about an English quart of blood, mostly clotted, which reduced him fo low, that he never recovered his flefh or colour. Throughout the fummer, he continued in a declining way, being much oppreffed with belching, ficknefs at the ftomach, and frequent retchings to vomit, tho' rarely bringing up any thing, but a tough phlegm, till the beginning of Octeber, when, after fevere ficknefs, he one morning vomited a great deal of black-

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ifh coloured fluff, and in the evening a confiderable quantity of clotted blood. On the 15th of this month, about eleven in the forenoon, after retching to vomit, he complained fuddenly of a fharp pain below the falfe ribs of his left fide: immediately after which, his pulfe began to fink, and he died at two o'clock.

His body being opened, the coats of the ftomach were found thick and fcirrhous in feveral parts, efpecially about its left orifice. In those morbid parts feveral fmall ulcerations and chops were obferved, and near the bottom of the ftomach a hole as broad as a shilling. This part, which had been thinner than the reft of the ftomach, feems to have given way on the morning before the patient died, and the laceration was probably the caufe of that sharp pain he complained of in his left fide. There was nothing in the ftomach, as all its contents had been emptied into the cavity of the abdomen.

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IT can hardly be doubted that the black-coloured liquor, which this patient frequently vomited, as well as the clotted blood, came from the veffels of those fcirrhous parts of the ftomach, in which the fmall ulcerations and chops were obferved. The blood that ouzes flowly into the ftomach from very finall veffels, may ly for a confiderable time before it is thrown up, and acquire a dark brown, or blackifh colour; but when it flows in greater quantity, and from larger veffels, it is vomited up, either partly coagulated, or quite fluid, if it has remained only a very little time in the ftomach.

It may be proper to obferve, that the black as well as bloody vomitings, were probably increafed, if not first occasioned by the frequent emetics which the patient had taken to remove the fickness, want of appetite, and other complaints of his stomach: and undoubtedly whenever there is a confirm-

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ed *fcirrhus* in the ftomach, ftrong vomits muft increafe, exafperate, or inflame it, and probably break fome of the veffels leading to the tumor. In fuch cafes, therefore, inftead of *ipecacuanha* and antimonials, the patient fhould ufe nothing but warm water, or a decoction of camomile-flowers, which will be fufficient to relieve the ftomach when foul, without occafioning fuch violent convulfive contractions in it, as the ftronger emetics do.

2. A MAIDEN Gentlewoman about 30 years of age, in September 1755, began to complain of want of appetite, and wind in her ftomach, and loft her flefh and ftrength. From the beginning of March following, her pulfe became quicker than natural, and fhe then began to bring up every thing fhe fwallowed, two or three hours after; and feldom went to ftool without a clyfter. When her ftomach was empty of victuals, fhe threw up tough phlegm, which, a few days before

before her death, was mixed with fome blackifh matter. She never complained of any acute pain, but only of an uneafinefs and tightnefs about the ftomach. Her bowels were much diftended with wind, which gave her a great deal of trouble; and the air fhifting frequently frome one place to another, produced confiderable fwellings, which could be eafily felt outwardly. After trying various medicines, to little purpofe, fhe died about the end of *May*.

UPON opening her body, the colonwas obferved to be much contracted in feveral places, and, in the right fide, to adhere to the *peritoneum*; but the chief caufe of her complaints and death, appeared to be a fcirrhous tumor, which fpread over the whole *pylorus*, and a finall part of the ftomach adjoining to it. The fides of the *pylorus* confifted of a firm cartilaginous fubftance, near an inch thick, and the paffage was fo ftraitened, as fcarcely to admit a quill. On the infide

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fide of the pylorus were found fome finall chops and inequalities, from which, as I imagine, a confiderable part of the phlegm which the vomited might come. Be that as it will, it is fcarce to be doubted, that the black coloured ftuff was furnished by the mouths of the finall blood-veffels in those ruptured parts of the pylorus. If these vessels had been larger, this matter would have had more of a dark brown, or reddifh colour; or blood itfelf, either fluid or clotted, would have fometimes appeared. At no rate could this matter come from the liver, for that part was found; nor, fuppofing it otherways, could any thing have eafily paffed from the duodenum into the ftomach, on account of the ftraitnefs of the pylorus.

3. A FEMALE child, which, from its birth, had been afflicted with wind, gripes, and violent convultions, died at the age of five months, after many remedies had been used unfuccefsfully. O Nothing

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Nothing preternatural was difcovered upon diffection, except a portion of the *colon*, about five inches in length, quite fcirrhous.

4. A GENTLEWOMAN, who had born feveral children, and had been generally healthy, in the 59th year of her age, ten years after the menfes had left her, began to complain of pains in her back, groins, and belly, above the os pubis, the violence of which brought on the fluor albus, and frequently a difcharge of blood from the vagina. These pains lasted usually five or fix hours, and returned every day nearly at the fame time. During the fit, she had always this haemorhage, but at other times the white flux only.

NOTWITHSTANDING the use of feveral medicines for twelve or fourteen months, her complaints were increased; the pains which now began in her legs and thighs, and rose to the lower parts of her belly, returned regularly every morning

morning at ten, and were fo acute, that fhe cried out almost the whole time they lasted; nor had she now any perfect intervals of eafe. During the paroxyfm, her pulfe was fmall and quick, and her body cold, altho' all over in a fweat. Her pains were always most fevere and lafting when the was coffive, which happened often. The matter discharged from the vagina had no offenfive fmell. She was much troubled with wind in her ftomach and bowels. While the fit lafted, fhe never made any water, but fpit a great deal more than usual. By the continuance of her difeafe, fhe gradually wasted away, and at last died.

As I was only confulted for this perfon at a diftance, I never learned whether her body was opened or not; but I think there can be little doubt, that almost all her complaints, and particularly the fharp periodic pains in the hypogastric region, were owing to a O 2 four hus

feirrhus in the uterus beginning to turn cancerous.

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VI. VIOLENT affections of the mind. NOTHING produces more fudden or furprizing changes in the body, than violent affections of the mind, whether these be excited by external objects, or by the exercife of the internal fenfes. Thus doleful or moving ftories, horrible or unexpected fights*, great grief, anger; terror and other paffions, frequently occafion the most fudden and violent nervous fymptoms. The ftrong impreffions made in fuch cafes on the brain and nerves, often throw the perfon into hysteric fits, either of the convulsive or fainting kind .- Long continued grief and anxiety of mind weaken the tone of the ftomach, deftroy the appetite and noifigibhere can be little double that

* It is faid, that the great Lord Verulam was wont to faint, when he faw an eclipfe of the fun: and we are told of a Lady, who, upon looking through a telefcope at the comet of 1681, was flruck with fuch terror, that fhe died in a few days. Pechlin. obfervat. Med. lib. iii. obferv. xxiii.

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digeftion, occafion thirft, a white tongue, flatulence, and other complaints* .---Great fear produces paleness of the countenance, an universal debility and shaking, palpitations of the heart, anxiety about the breaft, quick breathing, and a loofenefs, or a large difcharge of limpid urine .- By fudden terror, delicate women or children have been not only thrown into fainting and convulfions, but rendered fubject, all their lifetime, to epileptic fits .- Anger quickens the pulfe and refpiration, and increafes the force of the heart: Hence it has been immediately followed by an uncommon excretion of the faliva, by bilious vomitings †, bleeding at the nipples‡, and a rupture of fuch veffels as were

" Qui laborant animi pathemate, potifiimum corripi
" folent morbis ventriculi, ut inter caetera obfervavi in
" moerentibus, qui conqueruntur primo de languore ven" triculi, mox inappetentia, oris amaritie, fiti circa horas
" matutinas, cruditatibus, flatibus, et tenfionibus hypo" chondriorum." Baglivii opera, 410, p. 565.

- + Pechlin. lib. iii. obfervat. xxv.
 - ‡ Stalpart. Vander Wiel. cent. i. obf. lxxiv.

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were lately cicatrized. In women, it frequently occasions spasmodic contractions in the bowels, and a flatulent or hysteric cholic.—Some of the more vio lent passions have, all at once, occasioned a kind of *tetanus*, or catalepsy; fo that the person has appeared liker to a statue than to any thing alive; nay, excessive fear, grief, joy, and shame have been sometimes followed by sudden death.

Bonetus has recorded the cafe of a Lady, who, among other hyfteric fymptoms, owing to grief and difappointments, was feized with frequent fainting fits, which fometimes lafted half an hour*: And, feveral years ago, I had a patient, who, upon the unexpected death of her hufband, fell into fuch fits, generally holding her from five to fifteen minutes. In these faintings she lay like a dead person, without any apparent breathing, or motion of the breast; only, when

* Sepulchret. anatom. lib. ii. § xxxiii. ob/. ix.

when a candle was held near her mouth, the flame was obferved to move a little. Her pulfe, however, was fcarce changed, only fomewhat flower and feebler than ufual. She came out of thefe faintings with fighings and crying, and generally relapfed into them in little more than a quarter of an hour. In this way, fhe continued for two days.

Baglivius mentions a young man of Dalmatia, who, from looking at a perfon in an epileptic fit, was himfelf affected in the fame manner*: And it has frequently happened, in the Royal Infirmary here, that women have been feized with hyfteric fits, from feeing others attacked with them. But one of the moft remarkable inftances of this kind, happened in the Poor's-houfe at Haerlem, in the time of the learned Dr Boerhaave, and is recorded by his nephew in the following manner,

"IN

• Praxis Medica, cap, xiv. § ii. See also Natur. curiof. 1730, p. 302.

" In domo, qua pauperes ex eleemofynis publice aluntur in civitate Harlemensi, perterrita puella incidit in morbum nervorum convulfivum, certis paroxyfinis reducem: Adftantium et adjuvantium in cam intenta itidem corripitur eodem morbo; postridie altera, deinde tertia, quarta, imo fere omnes, tam pueri quam puellae : Status miferrimus! Corripitur hic, corripitur illa, imo fere omnes codem tempore, dum unum alter afpicit, prosternuntur. Medici solertes frustra adhibent, quae dictat ars, faluberrima antiepileptica medicamina. Confugitur tandem ad Boerhaavium, qui, mifertus infelicis pauperum fortis, petiit Harlemum, et dum rem examinat, invadente in unum paroxyfmo, vidit convelli plures specie epilepfiae. Datis incaffum optimis remediis a medicis fapientibus, et ad imaginationem ex uno in alterum traducto morbo, rite perpenfis, hanc avertendo, credidit posse curam obtineri, et obtinuit. Scilicet

Scilicet praemonitis ephoris, praefentibus omnibus, juffit per cameram disponi fornaces portatiles, prunis ardentibus instructas, atque iis imponi ferreos hamulos, ad certam figuram adaptatos; tum ita mandavit: Quia omnia frustra forent, fe aliud nefcire remedium, quam, ut qui primus, puer foret vel puella, infausto morbi paroxysmo arriperetur, locus quidam nudati brachii candente ferro ad os uíque inureretur; utque gravitate pollebat dicendi, perterriti omnes ad crudele remedium, dum instare sentiunt paroxysmum, omni mentis intentione, et metu dolorificae inuftionis, eidem refiftunt fortioris oblatione ideae: et certe quantum valeat hic ab objecto animae intentae revulfio, docet epilepfia diversimode curata, ut. quidem ipfe terror eandem fustulerit, febris epidemica, quartana, ptyalifmus, matrimonium, virga*." voo as nool as

THERE

* Abr. Kaau Boerbaave impet. faciens Hippocrati dictum, § 406.

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THERE is a difeafe very common in the Island of Zetland, which is known there by the name of the convulfive fits. It begins with a violent palpitation of the heart; foon after which, the patients fall to the ground, unless they are fupported; their arms and legs are alternately contracted and relaxed; and, in fome cafes, their joints become fo rigid that they cannot be bent. Their refpiration feems to be difficult, and they cry terribly while the fit lafts, which is generally lefs than a quarter of an hour; altho', in fome rare cafes, it has continued above an hour. This diforder feldom attacks married women; but young women, and even girls of twelve or ten years of age, are liable to it. Some boys and two young men in the ifland have been also affected with it. In the church or other public meetings, as foon as any one is feized, all fuch as have been formerly fubject to the diftemper are attacked with it, which of-

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ten occafions great difturbance; and fome, who never had thefe fits, have been affected, upon feeing or even hearing the noife of fuch as are feized with them.

THIS difeafe does not feem to impair the health of the patients; for the young women fubject to it are generally as ftrong, and, in other refpects, as healthy as any in the Ifland.

WE have feen above*, that there is a remarkable fympathy, by means of the nerves, between the various parts of the body; and now it appears that there is a ftill more wonderful fympathy between the nervous fyftems of different perfons, whence various motions and morbid fymptoms are often transferred from one to another, without any corporeal contact or infection.

In these cases, the impression made upon the mind or *fenforium commune* by feeing others in a difordered state, raises,

* See chap. i. No. 10 and 11.

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raifes, by means of the nerves, fuch motions or changes in certain parts of the body as to produce fimilar affections in them: And hence it is, that the fight only of a perfon vomiting has often excited the fame action in others; that fore eyes become fometimes infectious: that yawning is propagated from one perfon through a whole company, and that convulfive diforders are caught by looking on those who are affected with them. Now, altho' we cannot explain how different impressions made on the senforium commune should occasion, by means of the nerves, those various changes in the body; yet that the nerves are really capable of producing very fudden changes in the circulation and diffribution of the fluids, when the mind is varioufly affected, we have full proof in that rednefs of the face which accompanies a fense of shame, that increased flux of the faliva which happens to a hungry perfon upon the fight of grateful food, and at has or old a made so 8

and that plentiful discharge of tears which is often produced by piteous objects or tragical ftories.

THUS far we know, from certain experience, that, when the nervous fystem is extremely delicate, a finall impreffion on any of the organs of fense will often throw the whole body into diforder. For example, I have known people of weak nerves, fubject to wind in their ftomach, and a fwimming of their head, who, by looking into a mirroir that was kept conftantly moving before them, became fo giddy, as to be in hazard of falling. Others, upon the fudden opening of a door, or any other unexpected noife, have been liable to be feized with convultions. Nay; there have been fome, whofe brain and organs of fenfe were fo fusceptible of impressions, that they could fcarce abstain from imitating every motion and gefture they faw performed by others*. NO bid appearances have been obferved

* Philofophical Tranfact, abridg, vol. iii. p. 8.

On the other hand, it is to be obferved, that ftrong nervous fymptoms are feldom occafioned by fear, terror, grief, the force of imagination, or any fudden imprefion on the organs of fenfe, in perfons whofe nerves are firm and lefs fenfible; but, when the contrary is the cafe, the caufes above mentioned will often produce the moft fudden and violent hyfteric fits, or convulfive diforders, without any fault in the womb, alimentary canal, or other parts of the body.

To conclude our obfervations on the caufes of nervous difeafes, it may be proper to take notice, that altho' it appears from the diffections of those who have died of them, that the stomach and intestines, liver, spleen, omentum, mesentery, or uterus, have frequently been found obstructed, scirrhous, or otherwise unsound, yet, as in many other cafes of the same diforders, no such morbid appearances have been observed

nie Philosophica Tennist, abride vol. in p. 8.

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in the body after death; it follows, that these fymptoms may frequently proceed from caufes, which, eluding our fenfes, are not to be difcovered by diffection. Nay, obstructions, fcirrhi, and other diforders of the viscera, observed in those who have died after fuffering long from nervous ailments, seem, sometimes to have been the confequences of a long ftate of bad health, rather than the caufes of it: Particularly, by the frequent attacks of that arthritic or other morbid matter which is often the caufe of thefe diforders; and, by the pains and fpafins attending them, fome obstructions may at length be formed in the fmall veffels of the ftomach or neighbouring parts; to which every new return adds a little, just as new inflammations of the cornea always increase fpecks on that membrane.

CHAP.

CHAP. VI. The view

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equility mainter, eluding

in the body sites death, is follows, that

Observations on some of the most remarkable Symptoms of the NERVOUS, HYPO-CHONDRIAC, and HYSTERIC kind.

ies of its Farticularly, by the frequent

orders of the offerer, obferved in thefe

I. A N uncommon fenfe of cold or heat in different parts of the body, fometimes fuddenly fucceeding each other.

THE natural heat of animal bodies is owing to the regular and uninterrupted circulation of the fluids. As this degree of heat, however, is nearly the fame in every part that is defended from the external cold, and is what we are accuftomed to, we are, commonly, no more conficious of it, than of the beating of the heart, or of the alternate contraction

NERVOUS SYMPTOMS.

traction of the inteflines. But as often as there is a more rapid motion of the fluids through the whole body, or only in the fmaller veffels of fome part, we feel a greater heat, than the natural. In like manner, a fenfation of cold proceeds from a diminished circulation, or a stagnation of the fluids in the fmaller veffels.

In hypochondriac and hyfteric cafes, a quicker or flower motion of the fluids, and confequently an unufual fenfation of heat or cold in the veffels of the head, back, arms, legs, and other parts, may arife either from the veffels themfelves, or their fluids. From the yeffels,-when thefe, from fome fault or irritation of the nervous fystem, or from fympathy between their nerves and those of the stomach, or some other very fenfible part, are either thrown into an unufual alternate motion, or affected with a continued spafmodic stricture. From the fluids,-when, by their acri-P

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Of the most remarkable

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mony or viscid quality, the very small vessels are either excited into uncommon vibratory contractions*, or become in a great measure obstructed.

IT is observable, that in those parts of the body, in which patients complain of an unufual heat or cold, we can, often, neither by our feeling, nor the thermometer, difcover a greater or lefs degree of heat than in the neighbouring parts, where there is no fuch fenfation. This may be owing to the heat or cold, in fuch cafes, being felt below the fkin and membrana adipofa, viz. in the muscles: Or, perhaps, a violent alternate motion excited in the very fmall veffels, by fome acrid fluid, may give a fallacious fense of heat to the perfon, when there is really no greater degree of it, as far as can be difcovered

* That acrid humours and affections of the brain and nerves may excite a violent alternate motion in the fmall veffels, or affect them with a continued fpafm or *tetanus*, we have fhewn above, chap. i. No. 17.

NERVOUS SYMPTOMS.

difcovered by the thermometer. In like manner, the ftagnation of fome vifcid humour in the fame veffels may produce a fenfe of cold, altho' the real heat is little, if at all diminifhed. 'Tis true, that in blufhing the increafed motion of the fluids through the veffels of the face is accompanied with a glow ; but it is to be confidered that the increafed motion here, is in the veffels of the fkin, and fuch alfo as carry red blood, which feems more apt to acquire heat by friction or agitation, than the thinner fluids.

THE fenfe of cold and fhivering in the beginning of moft fevers and inflammations, feems not to be owing, as fome have imagined, to vifeid fluids ftagnating in the fmall cutaneous veffels, but to a fpafmodic contraction of thefe veffels, in confequence of that irritation which the nervous fyftem fuffers from the febrile *flimulus*, or the beginning inflammation. However, altho' all fevers P 2 proceed

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proceed from irritation, and confequently from an affection of the nerves, and many fevers of the low kind have had the name of nervous peculiarly beftowed on them; yet a regular intermittent feems to deferve that appellation better than almost any other species of fever; for its paroxfyms, like those of the epilepfy, or other convultive diforders, are owing, not fo much to any fixt obstruction in the vascular system, or general acrimony, or vifcidity of the mass of fluids, as to an irritation or affection of the nerves of fome particular part, fuch as the ftomach or inteftines; whence the whole fystem fuffers by fympathy, and a fhivering is produced, which is fucceeded by a hot fit and fweating, that, for the time, removes the caufe of the difeafe. And as an intermittent agrees with epileptic and other convulfive diforders as to its caufe, fo its returning paroxyfms, like theirs, may be often prevented or weakened,

NERVOUS SYMPTOMS.

ened, by raifing, a fhort time before the approach of the fit, an acute pain or any great commotion in the body.

II. PAINS in different parts of the body, fuddenly moving from one place to another.

THESE pains are fomething a-kin to those of the rheumatic kind, but generally have their feat in the fkin, membranes, and muscles, and not in the ligaments and joints. Their shifting fuddenly, and their feeming fometimes to have a connexion with the flatulent complaints of the ftomach, has induced fome phyficians, as well as the patient, to afcribe them to the motion of air between the skin and muscles, from one part of the body to another. But their true caufe feems to be, either fome vifcid or acrid matter flicking, for a fhort time, in the fmall veffels of certain parts, and irritating them, or fpafmodic contractions of these veffels from a fympa-

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thy between their nerves and those of the stomach and intestines, or some other very sensible part*.

FROM the fame caufes affecting the veffels or nerves of the pericranium, or other parts of the head, proceed flying pains in this part, and the clavus hyftericus, which Sydenham, who imagined the hyfteric difeafe to proceed from a confufion of the animal fpirits, afcribed to the whole fpirits of the body being contracted into a finall part of the head, and producing much the fame fenfation, as if a nail were driven into it \uparrow .

THAT those pains in the head often proceed from a fympathy with the ftomach, is rendered probable by the violent vomiting which fometimes accompanies the *clavus hystericus*, and by observing, that people much troubled with wind

* It is observable, that Diocles Caryflius mentions, among the figns of diforders of the belly, pains flying through the body, without any apparent cause. Vid. Epist. ad Regem Antigonum.

+ Sydenhami Oper. Epist. ad D. Cole.

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wind in their ftomach, and flying pains in their head, are not fo often affected with these pains, when they are free from the flatulence.

III. HYSTERIC faintings, and convulfions.

MANY hyfteric women are liable to be feized with faintings, during which they lie as in a deep fleep; only their refpiration is fo low as fcarce to be perceived. Others, along with faintings of this kind, are affected with catchings and ftrong convultions.

THESE fits come on differently in different patients; in fome, a coldnefs, attended with a fenfe of fliffnefs, is firft perceived in the legs, or in the trunk of the body; after this, a yawning and fretching of their arms; a lownefs of fpirits, with an oppreffion about the *pracordia*; the flomach, or fome part of the inteflines, is diffended with wind ; they often feel, as it were, a ball in their throat ;
throat; their breathing becomes quick; the heart flutters, or is affected with a ftrong palpitation; a giddinefs, a noife in the ears, and a lofs of fight, as well as of the other fenfes, fucceed, together with convulfive motions of the extremities and other parts of the body.

FITS of this kind may be owing to various causes; such as,

1. An irritation of the nerves of the ftomach or inteffines, from wind, acrid humours, or other caufes, whence the whole fyftem is often brought into confent. Nor can it admit of any doubt, that hyfteric fits frequently proceed from this caufe, fince the patients are often fenfible of their beginning with an uncafy fenfation in those parts.

2. A SUDDEN fuppression of the menses often gives rife to hysteric fits: And in some a fatal apoplexy, attended with a violent spasm of the muscles of the glottis, has been the consequence of the menstrual

menstrual evacuation being fuddenly stopt; as in the following case.

An unmarried woman, aged 20, of a delicate habit, having exposed herfelf to cold at the return of the monthly period, was, next morning at four o'clock, fuddenly feized with a stupor, and a difficulty in speaking, and moving her limbs. She was foon after blooded, and a blifter was applied between her fhoulders. At eight, when I first faw her, she could neither fpeak nor fwallow; fhe then laboured under a hiccup, her face was pale, her fkin cold, altho' her pulfe and breathing were natural. About half an hour after ten, she began to breathe with labour, and with a fnorting noife. This ftruggle, however, especially in expiration, did not arife from any fault in the lungs or muscles of respiration, but from a spasim of those muscles of the larynx which fhut the glottis; and it came by fits, which continued three or four minutes, and fometimes more. In the intervals,

intervals, which were fomewhat longer than the acceffions, fhe breathed pretty eafily. The oleum fuccini held to the nofe, leffened at first the spasmodic contraction of the glottis, and made her breathe eafier, She was blooded again, and had a purging clyfter injected. About eleven, the fore-part of her neck around the larynx, and under the fterno-mastoid muscles, was much fwelled, as if the cel-Jular membrane had been diftended with air. A poultice of theriaca and camphire applied to this fwelling, feemed to leffen the violence of the fits of difficult refpiration. In the afternoon, her pulle becoming quick and full, and her fkin hot, fhe was blooded a third time; but notwithftanding this and other remedies, fhe died that night at ten; eighteen hours after fhe was first taken ill.

3. A VERY acute pain in any of the more fenfible parts of the body, or violent affections of the mind, as terror, grief, anger, or difappointments, will fometimes

fometimes fo ftrongly affect the whole nervous fyftem, as to bring on hyfteric faintings, with convulfions, altho' the body be in every refpect healthful and found, bating the too great delicacy or fenfibility of the brain and nerves.

IV. A Catalepsis and Tetanus.

OF all the nervous or fpafmodic diforders, there is none more furprifing than the catalepfis or flupor vigilans, as it is called by Fernelius*. In this the patient becomes either wholly, or in a great meafure, infenfible of what is doing about him, and remains exactly in the fame pofture in which he was firft feized. His joints are fometimes fo ftiff, that they can fearcely be bent, or, if they are, they remain in whatever fituation they are placed. The pulfe is often low and irregular. This difeafe may be owing to fome violent affection of the mind difordering

Patholog. lib. v. cap. ii.

dering the brain and nerves, or to fome acrid matter affecting them, either by its immediate contact, or by fympathy with the ftomach, inteftines, uterus, or fome very fenfible parts. To the fame general causes are likewife to be afcribed the emprosthotonus and opisthotonus, and tetanus. And here we must rest; for to endeavour to explain more particularly, either how the paffions, or an irritation of the brain or other fenfible parts, bring on alternate convultions or fixt fpasms of the muscles, would be to no purpofe, till we are better acquainted with the ftructure of these organs, and with that caufe which immediately produces their contraction; points which will, probably, for ever elude our refearches. All we know, is, that whatever irritates, or difagreeably affects the brain, nerves, or any of the more fenfible parts, occafions continued spafms or convultive motions, either in the parts themfelves, if muscular, or in those with

with which they have any confiderable fympathy; and that, when the nervous fyftem is delicate, or the irritation great, almost all the muscles will be sometimes agitated with alternate contractions, or affected with a *tetanus* or general rigidity.

V. WIND in the ftomach and bowels. ALL our aliments, efpecially those of the vegetable kind, abound with air. In the time of digeftion, part of this air is feparated, and produces that flatulence or wind in the ftomach and bowels with which many people are greatly troubled. But altho' flatulence arifes from our aliments, fome of which produce it more than others, yet ftrong and healthful people are feldom troubled with wind, unlefs they either over-load their ftomach, or fwallow liquors that are in a fermenting ftate, and confequently full of elastic air. While, therefore, the matter of flatulence proceeds from

from our aliments, the caufe which makes air separate from them in such quantity, as to occasion uneafy complaints in the prime vie, is, almost always, a fault there; for when, on account of a weaknefs of the ftomach and bowels, or an unnatural flate of their nerves, the digeftion does not go on properly, not only more flatulence is produced, but less of it returns again to a fixt state. Further, when, thro' the weakness of the coats of the ftomach and inteffines, the preffure upon its contents is confiderably diminished, the air emitted by the aliments in digeftion, will not only be in greater quantity, but will expand itself more than in people of ftronger organs. Agreeably to this, it is obferved, that dogs are much troubled with wind and borborygmi, after tying the eighth pair of nerves, which fends many branches to the alimentary canal.

AIR

AIR in the ftomach being often hindered from rifing, by a flight fpafm of the cardia, or lower part of the gullet, either occasions an inflation of that organ, with other unealy fymptoms, or paffes into the inteffines ; where, joined to more that is generated there, it diftends them in fome places, and confequently occafions a contraction in others. Hence pain; and when the fpalm gives way, the air rushing through a narrow paffage of fome of the bowels, makes a rumbling noife : But when the fpafm in any part of the inteffines, efpecially the colon, is greater, or lafts longer than ufual, the air is more and more rarefied by the heat of the body, whence their coats being over-ftretched, great pain is occafioned, which is often attended with a vomiting. This is what is commonly called a flatulent or hysteric cholic. In fome cafes, certain parts of the alimentary canal are affected with fuch a fixt fpafmodic contraction, that fcarce

fcarce any air paffes either upward or downward; and more being daily generated, the ftomach and bowels become at length greatly diftended, or a tympany is produced. In this difeafe, I have, feveral times, obferved the fwelling of the belly fall greatly, and the difeafe go almost quite off, while in the mean time very little wind was difcharged. This shews, when the alimentary canal returns to a found state, that not only less air is generated from the food, but what has been produced may be mostly destroyed or reduced to a more fixt condition.

VI. A GREAT craving for food.

THIS may be owing to fome humour in the cavity of the flomach flimulating its nerves, or to those nerves being fo changed, that they are almost always affected with that fensation we call hunger, unless when food is newly taken into the flomach.

DOCTOR

DOCTOR Lower has observed, that hypochondriac and hyfteric people, are often troubled with an uncommon hunger, or fames canina; and while this lafts. they are almost quite free from other complaints; but that their usual ailments return with their natural appetite. In other cafes, however, the morbid matter affecting the nerves of the ftomach in hypochondriac and hyfteric patients, fometimes occasions a want of appetite and a nausea. In like manner, the true gout, when turned upon the Romach, according to the different fenfibility of the nerves of that organ, or its being more or lefs fixed upon these nerves, produces very different effects; fuch as, an oppreffion, a languor, flatulence, want of appetite, and a fense of coldness in the ftomach, or a violent pain with cramps and vomiting.

THE malacia and pica, common to women with child, and to girls affected Q with

with the *chlorofis*, proceed either from an acid or fome other acrid humour in the ftomach, or from its nerves being fo changed by the ftate of pregnancy, as to produce a longing for certain foods, and other fubftances, which, in thefe cafes, are generally most grateful to the tafte, as well as apt to remedy the diforder of the ftomach.

VII. A BLACK vomiting.

ALTHO' not a few of the moderns, following the opinion of the antient Phyficians, have fuppofed the hypochondriac difeafe to be owing to an atrabiliary humour produced in the ftomach, liver, or fpleen, yet, in many hypochondriac patients, there is no fuch humour; and where it is obferved, it is only a fymptom or confequence of that difeafe, but not its original caufe.

PATIENTS who have been long afflicted with violent pains and cramps, or other diforders in their flomach, often

ten throw up fome dark coloured ftuff, which is commonly nothing but blood that has loft its colour; for altho' when blood is poured into the cavity of the ftomach in a large quantity, it is foon vomited either into its fluid ftate, or coagulated; yet, when it ouzes flowly from the finaller veffels, it lofes its red colour by lying long, and when thrown up, refembles the grounds of coffee. This kind of black vomiting is generally owing to one or more of the following caufes, viz.

I. VIOLENT pain or cramps in the ftomach; the first of which may greatly increase the motion of the fluids in the finall veffels, and the last may squeeze the globules of blood through the orifices of the small arteries, designed for conveying the gastric lymph, only, into the cavity of the stomach.

2. SCIRRHOUS tumours in the ftomach beginning to ulcerate, or a rup-

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244 Of the most remarkable ture of fome of the fmall veffels leading to them *.

3. A * Further, fcirrhous tumours in the flomach, by obfiructing, in a great measure, the course of the blood through the indurated part, may occasion a more copious influx of this fluid into the neighbouring vessels ; whence the orifices of some of the exhaling arteries in the villous coat of the flomach may be so dilated, as to allow globules of sed blood to escape with the thinner humours. This supposition is rendered, at least, not improbable by the following inflance of bloody urine, occasioned by the womb pressing upon the neighbouring parts in time of pregnancy.

A Gentlewoman, aged 19, began, in the fourth month of her first pregnancy, to make bloody urine, which continued till within fifteen days of the time of her delivery. This conftant difcharge, tho' weakening, yet was not attended with a quick pulfe, nor any pain in the back or belly. After being delivered, fhe recovered and enjoyed perfect health, 'till about three or four months after fhe had conceived again, when the bloody urine returned and continued, as formerly, till a fortnight before fhe was brought to bed. In her third pregnancy, the was affected in the fame manner, only fhe was much troubled with coftiveness, which increased the other diforder ; and after this delivery, before she became again with child, fhe had fometimes returns of the bloody urine. During her fourth pregnancy, which happened in the 25th year of her age, the fame fymptom returned, but her lofs of blood was now greater and more conftant than ever, fo that fhe complained of great weaknefs, of a giddinefs and lofs of appetite; her pulfe was quick and fmall, and, for above a month together, fhe had quotidian feverish paroxyfms, generally of ten or twelve hours continuance. About the middle of the ninth month, her water

3. A fupprefion of the menfes or haemorrhoids, whence the blood that ufed to be evacuated by the uterus or rectum is turned upon the ftomach, and partly difcharged by fome of its exhaling arteries.

I HAVE known fome hyfteric patients affected with fevere pains and fpafms in their bowels, who did not vomit any black ftuff, but often paffed it by ftool. In this cafe, the black purging was owing to red blood making its way, in fmall quantity, into the cavity of the inteffines;

water returned to the natural colour; but after lying in and recovering flowly, in fix or feven weeks fhe grew as ill as ever. Her blood was now become fo thin, that when fhe happened to cut her finger, it would fcarcely tinge linen.

This difease, to which this perfon seems to have been predisposed by a laxity of the vessels of the kidneys, was most probably owing to the pressure of the womb on the iliac arteries by which means the blood was thrown with greater force upon the emulgents; for, if the cause of this haemorrhage had been merely the suppression of the menses, it ought to have appeared much sooner than the fourth month. But however that may be, the patient found great benefit from the tincture of roses, the bark with elixir of vitriol, a strengthening plaister, and a diet consisting chiefly of mucilaginous substances, gellies and the lighter fleshmeats, with a little claret.

inteftines; for that this atrabiliary humour, as it has been called, did not come from the liver, I was convinced by obferving, that fuch patients as paffed it by ftool, frequently vomited up, at the fame time, bile of a natural colour. However, as hypochondriac and hyfteric patients fometimes throw up a dark green bilious humour, there may be, perhaps, a few cafes, in which a blackifh liquor coming from the liver or gall-bladder, may pafs from the *duodenum* into the ftomach, and be afterwards difcharged by vomiting.

VIII. A SUDDEN and great flux of pale urine.

THIS is reckoned by Sydenham the pathognomic fign of the hypochondriac and hyfteric difeafe*. It has been afcribed by Hoffman to a fpafin of the fphincter of the bladder †; and by Dr. Cheyne

* Epift. ad D. Cole.

+ System. Med. tom. iv. part. iii. cap. vi. & xvi.

Cheyne to an obstruction of the perspiration *; but without sufficient reason.

THE real proximate caufe of this fymptom is always the fame, viz. an increafed motion, together with fome degree of conftriction of the fecretory veffels of the kidneys; the firft augments the quantity, and the fecond occafions the pale colour of the water : Altho', it must be owned, that this colour is, principally, owing to the quickness of the fecretion of the urine and of its passing through the bladder, before the finer parts are absorbed, and it has had time to acquire the common finell and taste, as well as colour of that fluid.

The caufes of fuch an increased motion of the fecretory veffels of the kidneys may be reduced to the following;

I. SUDDEN or violent affections of the mind. Thus people of a delicate frame and very moveable nerves will, foon af-

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* English Malady, part ii. chap. ix.

ter a fright, anger, or vexation, make great quantities of pale water. The whole nervous fyftem being in fuch cafes violently agitated, the fecretory veffels of the kidneys are thrown into ftronger and quicker alternate contractions than ufual, and fo make a larger fecretion of urine. Add to this, that as the perfpiration is generally checked by diforders of the mind, the watery parts of the blood will be turned more upon the kidneys.

2. An increased motion of the renal veffels is often owing to fympathy. Thus as pain in the kidneys produces a *naused* and vomiting, so a difagreeable fensation in the ftomach and bowels from wind, crudities, or other causes, frequently affects the veffels of the kidneys with such an increased alternate motion, as greatly to quicken the fecretion of urine. Further, when the body is thrown into a general diforder, which happens in hysteric fits, the nerves of the kidneys

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are affected as well as others; and if the renal veffels are weaker or more irritable than those of the other glands, the fluids, which are put into violent motion, will run off this way in the form of pale water. If the intestines are particularly weak, the person will be feized with a purging.

IN children breeding teeth, the irritation of the nerves of the gums, fometimes, affects the kidneys by *confent*, fo as to occafion a confiderable difcharge of urine of this kind.

3. SINCE Sydenham has obferved, that the hyfteric difeafe does often feize the kidneys, and occafion a pain, like that of a nephritic paroxyfm*, may not that noxious matter in the blood which is often the caufe of nervous diforders, be thrown, fometimes, in fuch a manner on those parts, as, tho' not to produce pain, yet fo to ftimulate their fecretory veffels, as greatly to increase the

* Epift. ad D. Cole.

the quantity of the urine? Nor is this more furprifing, than that the fame matter affecting the nerves of the ftomach fhould produce, at different times, very different complaints. I have met with feveral inftances of a great and long-continued flux of urine from an arthritic humour turned on the kidneys.

FURTHER, fince a ftoppage of urine, with a pain at the neck of the bladder, does in fuch patients, fometimes proceed from the morbid matter producing a fpafin there; may not a dimifinisht fecretion of urine, without any pain in the bladder or *urethra*, be owing, in fome cafes, to a spasinodic contraction of the ureters, or secretory vessels of the kidneys?

I HAVE had patients, who, after a long fever, or fome other tedious and weakening diftemper, made a great quantity of pale water in the night, but in the day-time no more, fometimes lefs,

lefs, than ufual, and of a natural colour. This increased fecretion did not generally begin at any certain hour in the evening, but foon after going to bed; and in the morning, after getting up, it gradually abated. Nay, a Gentleman who had been in ufe, for ten or twelve days, to make from four to fix English pints of pale water in the night, finding himfelf greatly weakened thereby, refolved to try what getting out of bed would do; and accordingly, at two in the morning, after having that night paffed about a pint and a half of urine at twice, he rofe and fat up for two hours, and then was able to make but about half a gill. After this he went to bed again, and, in two hours more, made near three quarters of a pint of pale water. This experiment was repeated fome nights after with the fame event.

THOSE who are troubled with this flux of limpid urine in the night, find themfelves ftronger, cooler, and in the beft

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beft fpirits in the evening, at which time their pulfe is floweft; but foon after going to bed, their pulfe becomes quicker, they grow warmer, and begin to make water in great quantity: They are not refreshed with fleep, and, in the morning, they feel thirsty and languid, and have a quicker pulfe than at other times.

THIS excess of pale urine, tho' most incident to people of weak nerves, yet, to diffinquish it from the true hysteric profluvium, may be called hectical or colliquative, as coming in the place of those night-fweats, which often exhauft fuch as have had their veffels weakened, and their blood impoverished by fome difeafe. When the veffels of the kidneys are relaxed, and yield too eafily, or are too irritable, the fever raifed in the night, by the heat of the bed, will naturally throw off the humour by them, rather than by the pores of the fkin: But, in the day-time, the whole body, and

and the loins in particular, being kept cooler, the blood will be lefs rarefied, and will move with lefs force; whence the dilatation, or increafed alternate motion of the renal veffels will abate, and confequently the urine will be feparated in much lefs quantity.

An increafed fecretion of the *faliva*, is, like the copious limpid urine, owing to an unufual motion of the veffels of the falivary glands: And it may be obferved, that in patients whofe falivary veffels are weakeft and most irritable, a falivation will oftener happen, while, in those whose kidneys are most apt to be affected by any diforder in the body, a flux of pale water will be more frequent.

IX. A NERVOUS atrophy.

A marasmus, or fensible wasting of the body, not attended with sweatings, any confiderable increase of the excretions by urine or stool, a quick pulse or feverish

verifh heat, may deferve the name of nervous: Not that I would be thought by this to infinuate, that fuch a difeafe proceeds from a diminisht fecretion of the animal fpirits, or from their vitiated quality. The fluid of the nerves does not feem to be that nutritious juice, by means of which the daily wafte of the body is repaired*; and we know too little of its properties, to make it the foundation of our reafoning on the nature or cure of difeafes. But this kind of atrophy, tho' not, perhaps, owing to any fault in the fpirits, or even in the brain or nervous fystem in general, may yet deferve the name of nervous, as it feems, frequently, to proceed from an unnatural or morbid flate of the nerves, of the ftomach, and inteftines.

THE influence of the ftomach in the animal œconomy, is greater than is, perhaps, generally imagined: It not only contributes to the digeftion of the aliment,

* See above, chap. i. No. 9.

ment, but the whole fystem is either invigorated, or affected with a languor, according to the different difpofition of its nerves. By proper food the nerves of the ftomach are gratefully ftimulated, and the whole body is thence enlivened and ftrengthened; fo that, befides its use for nutrition, food in the stomach becomes, on account of its stimulus, altogether neceffary in fome delicate nervous people, for keeping up the ftrength of the body, and the due exercise of all its functions: And hence it is, that fuch perfons become often faintish as foon as the greatest part of the food has passed into the inteffines ;- that ftrong broths, tho' they may afford as much, or more nourishment than fome kinds of folid meat, yet do not fatisfy the ftomach, at leaft for any confiderable time, or enable us to endure much labour; and that, according to the different difpofition of the nerves of the ftomach, different

ferent aliments are most grateful to it, and most invigorating to the body.

We know, that an unnatural flate of the nerves of the flomach may either produce a craving or an averfion to food; that low fpirits and melancholy often proceed from *that* caufe; nor is it to be doubted, that when the nerves of the flomach are, from certain caufes, affected in a manner fomewhat different, an indifference for food, a weak digeftion a languor and coldnefs, a flow pulfe, and wafting, may be the confequences^{**}.

THE morbid affection of the nerves of the ftomach, by fympathy, impairs the

* Long continued grief, and other paffions, too great application of mind, a gouty humour, or the morbid matter of fome difeafe imperfectly cured, remaining in the body, and thrown upon the flomach, as well as other caufes, may bring on fach a flate of the nerves of that organ, efpecially in those whose nervous fystem and alimentary canal are naturally too delicate and fensible. I had fome time fince a patient subject to fits of the gout at the distance of feveral years, who, after labouring under fuch an atrophy as I am now treating of, for eight or ten months, and using various medicines with no great benefit, was cured by a return of the gout to one of his great toes.

the vigour and energy of the whole fyftem; whence the motion of the heart and circulation of the blood will become flower and more languid, the body will be deprived of its natural heat, and be affected with a general weaknefs. The patient decays daily, tho' exhaufted by no exceffive evacuations, becaufe his food is not converted into good chyle; and the nutritious fluid in the blood, either does not poffefs its ufual properties, or, on account of the languid manner in which all the operations of the body go on, is not applied to the feveral parts, in fuch a way as to repair the wafte they daily fuffer. Further, the watching or want of refreshing reft, and low fpirits or melancholy, which generally accompany this difeafe, may contribute to prevent the proper nutrition of the body.

THIS atrophy is generally attended with great coffiveness, and fometimes with belchings, and other figns of flatu-R

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lence in the alimentary canal. In fome cafes, the urine does not exceed the natural quantity, there is no thirft, and the tongue is clean. In others, the difcharge by urine comes at length to be confiderably increafed, a drought prevails, and the patient decays fafter.

THE pulle often differs little from what it is in health, except that it beats with lefs force. In fome, it has a fmall degree of quicknefs; and in others, it becomes a good deal flower than is natural.

AFTER a nervous atrophy has continued long, and reduced the patient much, obftructions, fometimes, begin to be formed in the lungs, either from the languid circulation, or the fault of the fluids; a dry cough comes on, the pulfe grows quick, and a hectic fever is kindled, which, together with the original difeafe in the ftomach, increafes the decay, and haftens the patient's fate.

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SOMETIMES this difease, after it has brought the patient very low, takes a fudden turn, without any apparent cause. The patient, who had little inclination to eat, has an uncommon craving and quick digeftion, even of folid food, which used to ly remarkably heavy on his ftomach: His pulse becomes quicker than natural, and his skin warm; his veins, which were contracted, appear fwelled with blood; from being low spirited, he becomes more chearful, and daily grows flronger and plumper*: All which effects feem to proceed, in a great measure, if not folely, from fome change in the nerves of the ftomach and bowels.

In other cafes, this diforder goes off as flowly as it came on, and the patient does not recover fully, 'till after a long time. to older and

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* See a cafe of this kind, in a young lad of 14 years of age, described under No. xiii. of this chapter.

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X. A NERVOUS or spafmodic afthma.

EVERY difficulty of breathing, which is owing to a fpafm of the bronchial veffels, or veficles of the lungs, may, in a large fense, be called a nervous or spafmodic asthma; but as in most asthmatic ailments, where the lungs are obstructed, or loaded with phlegm, there is generally more or less of a spasmodic contraction excited in the air-veffels of the lungs; I should chuse to define a spafmodic afthma to be that species of difficult breathing, which is not owing to any obstruction in the lungs, or load of humours compreffing their veffels, but to an uncommon contraction of their bronchial tubes and veficles, whereby they do not yield, as ufual, to the preffure of the air in infpiration.

THE predifpofing caufe of this difeafe, is a particular weaknefs and delicacy, or fenfibility of the pulmonary veffels and nerves, which renders

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the mulculo-tendineous membrane, connecting the annular cartilages of the *bronchia*, liable to be affected with a fpafmodic contraction from fuch occasional causes, as in a found state of the lungs would not produce this effect.

THESE caufes may be reduced to the following.

1. ANY acrid or noxious matter in the blood, whether of the arthritic, rheumatic, or fome other kind, thrown on the lungs, and irritating their nerves.

As a proof of this, I have known a perfon, affected with a fit of the fpaimodic *afthma*, fuddenly relieved by a gouty pain in his great toe, and become worfe after a day or two, when this pain went off.

2. SYMPATHY with the ftomach. When the nerves of this organ are difagreeably affected by wind, phlegm, or crudities, the lungs, if they are more than ufually irritable, often fuffer by fympathy, and are feized with a fpafin. Further, when the ftomach is much dif-

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tended by wind, it may, by preffing upon the diaphragm, increase an afthmatic fit.

3. As hyfteric fits and fpafinodic cholics are often occafioned by violent affections of the mind; fo I have known fudden fear bring on an afthmatic paroxyfm, in a woman who was fubject to frequent attacks of this difeafe.

4. A SUDDEN diminution of the perfpiration or contraction of the cutaneous veffels from cold, may, by turning the humours in too great quantity upon the lungs, occafion a fit. The cold affecting the cutaneous nerves, may alfo, by fympathy, produce fome kind of fpafm in the air-veffels of the lungs.

5. Too great loss of blood will, in those who have very delicate or irritable lungs, be fometimes apt to produce afthmatic fits, rather than other nervous fymptoms*.

6. Some

* See an inflance of this in Dr Barry's treatife on the three digeflions and difcharges of the human body, p. 294.

6. Some fixt obstruction in the lungs, which, at all times, makes the breathing fomewhat lefs free than in perfect health, efpecially if any confiderable exercife is used, and which, when fome of the above-mentioned caufes concur, produces an afthmatic fit, which, indeed, ftrictly fpeaking, is of the mixt kind. And here it may be proper to obferve, that among the many patients liable to periodical fits of the afthma, there are but very few who have not fome obstruction, or other obstacle conftantly remaining in their lungs; fo that a true nervous or spafmodic asthma, without any other fault in the lungs, than an uncommon delicacy, or irritability of their nerves, is a difeafe which we feldom meet with; and, on this account, I have fubjoined the following cafe. Docks who has only bob your

A GIRL, healthful, well made, and of a feemingly good conftitution, began, at the age of feven years, to complain of a pain

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pain at the lower part of the sternum. This pain, which returned after no certain intervals, became gradually more fevere during the fpace of near two years; after which, in place of it, the patient began to be affected, at times, with a difficulty of breathing, which returned frequently, without obferving any certain periods; as a week, a fortnight, or a month, would fometimes interveen between the fits. She was generally feized with the fits all at once; and after breathing with the utmost difficulty for half an hour, fometimes more than an hour, fhe would, of a fudden, become perfectly well, and fall a dancing immediately after with her companions. It was observable, that this girl had no complaint of her ftomach, no cough, nor other apparent fault in her lungs; nor did fhe ufually expectorate phlegm when the fit went off; and, except in time of the afthmatic paroxyfin, breathed with the fame eafe as any perfon

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fon in perfect health. After having been fubject to returns of this fpafinodic afthma for above two years, fhe died of a continued fever, in which her head was greatly affected.

Was this diffemper owing to fome morbid matter in the blood, which firft affected the parts about the *fternum*, or, perhaps, the *mediaftinum*, with a painful fenfation, and afterwards falling on the lungs, and irritating their nerves, occafioned a fpafin, or true cramp of their aereal veffels? I fhall only add, that fits of the fpafinodic *afthma* are fometimes preceded by a great difcharge of pale urine; fo that the patients can foretel them a day or two before they come on.

XI. A NERVOUS cough.

A COUGH may be called *nervous*, when it does not proceed from any phlegm, obstruction or other irritating caufe in the lungs themselves, but from fympathy

lowing the cough remained with as

thy with fome other part whofe nerves are difagreeably affected. Of this kind is that dry cough which is occafioned by worms, or by teething in children. A cough with very unufual fymptoms, has alfo been owing to water in the *pericardium*, and other diforders of the heart, when the lungs themfelves appeared to be found. But inftead of making any further obfervations on this fubject, I fhall give a particular account of a very extraordinary cough of the truly nervous or fympathetic kind.

A GIRL aged eight, in January 1760, was feized with a dry cough, which continued for two or three months, notwithftanding feveral remedies that were used to remove it. In October following the cough returned with as much violence as before, and with this difference only, that it was rather more fevere when she fat up than when she lay in bed. Altho' her skin was cool, her pulse fearce quicker than usual, some blood

blood was taken away, and a vomit was given, but without any good effect. Upon a fufpicion that this cough might be owing to worms in the ftomach or inteffines, fhe took fome powder of tin, and two dofes of rhubarb with calomel. The cough ceafed in eight or ten days after ufing thefe medicines, altho' no worms were brought away by them.

Towards the end of December 1760, this girl, after having been in good health for fix or feven weeks, was again feized with a dry cough, for which fhe was twice blooded without any advantage; but fhe found fome relief, for a few days, by a blifter applied to her back.

ABOUT the middle of January, the cough became more conftant and fevere when fhe fat up, but never affected her when fhe lay in bed. On the third of February, when I was called, I found the following fymptoms.

WHILE
WHILE she lay in bed, she had no cough, no difficulty in breathing, nor any pain or uncafinefs in her breaft; . her skin was cool, her tongue moist and clean, her appetite good ; and fhe was as chearful as ufual. Her pulse beat, then, about 90 times in a minute; it was of a moderate ftrength, but a little irregular. When she fat up in bed, her pulse became quicker by ten or twelve ftrokes in a minute, but fhe ftill was free from the cough and every other complaint; and in this posture she continued most part of the day. When the flood either on the bed, or on the floor, or when fhe fat on the bedfide or on a chair, fhe was immediately feized with the cough, which continued without intermission, 'till she lay down again. The cough was dry and convulfive, for the could not reftrain it for one moment; it was attended with a pain in the sternum, about an inch or more above the xiphoid cartilage, which pain fhe

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she never felt in any degree, when she lay down or sat up in bed.

WHEN she stood on her feet, her pulse became very small and irregular, and beat at the rate of 200 times in a minute.

AT different times, in the months of February and March, I frequently repeated the following experiments with a view to different more of the nature and caufe of this uncommon cough.

1. WHEN fhe lay on her back, acrofs the bed, with her legs hanging over it, fhe was free from the cough, but was immediately troubled with it when fhe fat up.

2. WHEN fhe fat up in the bed, or fat on the floor, with her thighs and legs in a horizontal pofture, fhe did not cough at all.

3. WHEN fhe fat in the bed, and drew up both her legs as close as fhe could to her thighs, fhe was then attacked

tacked with the cough, and with the pain in her breaft.

4. WHEN fhe fat in her bed on the bolfter and pillow, with her thighs and legs inclining a little downwards, fhe had no cough.

5. WHEN she kneeled down, either on the floor or in the bed, with her body erect, she was immediately feized with the cough, and the pain in her breaft.

6. WHEN fhe lay on her back, with her head and fhoulders as low, or a little lower than her body, fhe coughed without intermiffion, as fhe did alfo in an erect pofture.

7. In a prone pofture, with her head as low, or lower than her body, fhe coughed inceffantly, and was like to be fuffocated; but as foon as her face was a little raifed and fupported on the bolfter or pillow, the cough ceafed.

THE cough, the pain in her breaft, and fense of fuffocation, were greater, and

• and her pulfe was fmaller, quicker, and more irregular, when her head was low, than when fhe ftood upright; but lying low on her face feemed to give her ftill greater uneafinefs than lying low on her back.

8. SHE lay on either fide with eafe, and without coughing, unlefs when her head was as low, or lower than her body.

9. WHEN fhe fat or flood with her feet in warm water, fhe had neither any difficulty in breathing, nor inclination to cough, nor pain in her breaft; but fhe coughed without intermiffion, the moment her feet were taken out of the water.

WHEN the fat with her feet in the warm water, her pulfe beat 120 times in a minute; and, when ftanding in it, between 130 and 140 times. When the ftept out of the water, and ftood on the floor, the cough inftantly returned, and her pulfe role to 200 in a minute.

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10. WHEN the heat of the water was reduced (by pouring fome cold water flowly into it) from above 100 degrees of *Farenheit*'s fcale, to about 70, the cough returned with its ufual violence; and altho' fhe fat in a chair, her pulfe rofe from about 120 to near 190, and became fmall and irregular. After this, upon gradually adding boiling water, fo as to raife the heat of the bath to 88 or 90 degrees, the cough ftopt, and her pulfe became fuller, much flower and more regular.

II. WHEN the coughed the most violently, if the foles of her feet were only made to touch the warm water, the grew immediately eafy, and continued fo, altho' her feet were not wholly immerfed.

12. WHEN one of her feet was taken out of the bath, the cough was not prevented, by increasing the quantity of warm water, fo as to make it not only cover the other foot, but also a good part of the leg.

13. AFTER

13. AFTER her feet had been, for fome minutes, in water heated to about 114 degrees, one of them was taken out of it, and, that inftant, the cough returned with its ufual violence; notwithftanding, that foot and ancle continued, for fome time, to be warmer than the body naturally is, or than was neceffary to prevent coughing upon putting the foot into the warm water.

14. WHEN one of her legs was taken out of the water (warmed to about 96 degrees) and wrapt in a dry or wet piece of flannel whofe heat was at leaft 114 degrees, fhe coughed as ufual, but was relieved as foon as her foot was again put into the warm water.

15. WHEN her feet were covered with dry fand, heated to above 110 degrees, fhe coughed with the fame violence fhe ufed to do on the floor. Nor was the cough, either when fhe fat or flood, prevented by the flannel wrung out of hot water, and applied round her feet S and

and legs; altho' an equal or a greater degree of heat, was, by this means, communicated to these parts, than by the *pediluvium*.

16. WHEN her hands were dipt in warm water, fhe continued as free from the cough, as when her feet were bathed. But a bottle filled with hot water and held between her hands, had no fuch effect.

17. WHEN one of her feet was taken out of the bath, altho' the hand of that or the other fide was put into water of an equal or a greater heat, fhe coughed without intermiffion; but as foon as both hands were dipt in the warm water, fhe coughed no more.

18. I MADE her breathe over the fteam of hot water, when one of her feet was taken out of the *pediluvium*; but this did not prevent the cough.

19. WHEN fhe lay with her head as low or lower than her body, (No. 6. and 7.) warm water then applied to her hands

hands or feet had no effect in preventing or leffening the cough; but in every other pofture it kept her quite eafy.

20. IF one or both hands were dipt in cold water, fhe was prefently feized with the cough, and with the pain in her breaft, whether fhe lay in bed or fat with her feet in warm water. The fame thing happened when her palms were applied to a quart bottle of cold water; with this difference, that the cold water inftantly raifed her cough, whereas the cold bottle took two or three feconds before it could produce that effect. The cough was alfo raifed by applying a bottle full of cold water to her ftomach.

21. WHEN fhe lay with her legs hanging over the bed-fide, (No. 1.) fhe began to cough as foon as the foles of her feet touched fome cold water.

22. THE putting her hands in cold water, when fhe lay in bed, not only excited the cough, but raifed her pulfe S 2 from

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from about 90 to above 180 ftrokes in a minute.

THESE experiments were often repeated between the 3d of *February* and the 8th of *March*; but fome time after this, I found the following difference with refpect to fome of the above mentioned fymptoms.

23. On the 1ft and 4th of April, when fhe lay acrofs the bed with her head fupported by a pillow, and her legs hanging over, (No. 1.) fhe was immediately attacked with the cough, and her pulfe became fo finall and quick, that I could not exactly count it; but I was fure it did not beat less than 18 or 20 times in five feconds. (No. 9.) Upon raifing her legs, fo as to bring them to a horizontal pofture, the cough immediately ceafed, and her pulse in a minute after beat only ten times in five feconds. As foon as her legs were allowed to hang down again, the cough returned with its ufual violence.

24. ON

24. On the 5th April, by putting one of her hands into cold water when a-bed, she was feized with the cough, and her pulse became very small, and beat at least 20 times in five seconds. (No. 22.)

OF late, fhe felt more uneafinefs and pain in her breaft, with a greater fenfe of fuffocation, when fhe was feized with the cough, either upon a change of poflure, or putting her hands into cold water. And her pulfe which ufed to be about 90 when fhe lay in bed, was now at 96 in a minute: but her fkin continued cool, fhe had no thirft, and her appetite was good.

IT will be proper to add, that fhe has had no expectoration from the beginning.

FROM the above facts it appears,

(a) THAT an erect pofture does not excite the cough, unlefs either the legs or thighs be much bent, or in a depending or perpendicular fituation. See No. 1. 2. 3. 4. and 5. above.

(b) THAT

(b) THAT a depending fituation of the legs did not, at firft, occafion the cough, unlefs when the body was erect; but afterwards, that pofture of the legs had this effect altho' the body lay horizontal. No. 1. and 23. Her pulfe alfo became a great deal quicker in this attitude than it had formerly been, either when fhe fat up, or when fhe ftood; whence it would feem that the caufe of the difeafe had been gradually increafing from the third of *February* to the ift of *April.* No. 9, 10, 23 and 24.

(c) THAT, when the head and fhoulders are as low, or lower than the body, the cough is still more fevere than when she ftood upright. No. 7.

(d) FROM the experiments already related, I was ready to imagine that the cough might be owing to fome tumour or other fixt caufe in the breaft, which, in certain poftures, fo ftrongly irritated that part of the lungs which it touched, as to occafion a conftant convulfive motion

motion of the muscles of refpiration; but the following experiment, which I frequently repeated, foon diffipated this theoretical illusion.

WHEN my patient lay in bed, upon extending one of her feet, fo as to bring it nearly to a right line with the leg, fhe coughed violently, and her pulfe rofe from 94 in a minute to 18 in five feconds: But when her hands were either ftrongly bent inwards, or extended outwards, or when fhe pulled ftrongly or raifed a confiderable weight with them, no coughing enfued.

WHEN the cough was raifed by ftretching her feet, warm water applied to her hands immediately put a ftop to it.

FROM this experiment, as well as No. 23. it may appear, that this extraordinary cough did not depend on any fixt obftruction or tumour within the *thorax* irritating the lungs in certain poftures. But, in this patient, the nerves

of the lungs feem to have been endued with an uncommon degree of fenfibility, and to have had a peculiar fympathy with the legs and feet; whence, as often as they were in a depending fituation, or the nerves, tendons, and ligaments at the ancles, were ftretched, an uneafy fenfation was felt in the lungs, which occafioned an inceffant cough. Altho' the fympathy between the lungs and the other parts, appears to have been lefs remarkable, yet the flock which their nerves fuffered from cold water, (No. 20 and 21.) was fo ftrongly felt in the lungs, as to occafion a pain in the breaft, together with the cough.

WHEN the head and fhoulders were lower than the body, the cough was more fevere than in any other fituation, probably, becaufe in that pofture the refpiration is lefs free, and the blood paffes with more difficulty thro' the lungs.

(e) WARM

(e) WARM water did not, by its preffure on the nerves or blood-veffels of the feet, prevent the cough, becaufe it was excited by cold water, whofe weight is greater. Neither did the *pediluvium* produce this effect by its heat alone, or even by its heat and moifture; for fand or wet flannel of an equal or greater degree of heat applied to the feet, did not prevent the cough. No. 15. and 16.

(f) As the effects of the *pediluvium* cannot be deduced from its rarefying the blood by its heat, neither can they be owing to any derivation of this fluid towards the inferior extremities; because warm water, whether it was applied to the hands or the feet, had the fame influence in ftopping the cough; and as foon as the foles of her feet touched the water, the cough ceased. No. 16. and 11.

(g) IT remains, therefore, that warm water, by its particular action on the extremities of the nerves to which it is applied,

applied, renders the whole fyftem lefs fenfible of any irritation; whence the too delicate lungs are lefs affected in confequence of their fympathy with the inferior extremities (d). However, when the patient lay with her head lower than her body, the warm water did not then prevent the cough; becaufe, in that position, the irritation in the lungs was too great to be wholly removed by the anodyne power of the warm water: And, for the fame reafon, it feems to have been, that the pediluvium did not prevent the pain within her breaft and the cough, which were raifed by dipping her hands in cold water. No. 6. 7. 19. and 20.

(b) IT appears from the above experiments, that warm water affects our nerves very differently, not only from a dry heat, but alfo from warm fteams, or cloths dipt in hot water; a fact which feems not to have been known, or, at leaft, not fufficiently attended to, and which,

which, perhaps, may afford fome useful hints in practice. No. 14. and 15.

(i) SINCE warm water, applied to the nerves, has a fuperior anodyne effect, not only to fubftances that are warm and dry, but even to warm fleams or vapour; it is eafy to fee, how clyfters of warm water may give relief in pains of the bowels and other abdominal *vifcera*, altho' they do not communicate more heat to the great guts than they poffeffed before.

(k) LASTLY, the effects of the warm water in this cafe appear the more remarkable, as a pill confifting of half a grain of opium, and three grains of afa fatida, given every evening and morning, for feveral days, had not the leaft effect in either preventing or leffening the cough.

BETWEEN the 20th of January and the 25th of March, a variety of remedies were prefcribed for this patient, without any advantage, viz. vomits, blifters and

and an iffue between the fhoulders, the bark, powder of tin, rhubarb with calomel, pills of *opium* with *afa fætida*, bolufes of theriaca with camphire and valerian.

Towards the end of March, I put her on a courfe of pills made of the extract of hemlock, which fhe continued for two months. About the middle of May the began to have lefs pain in her breaft, and lefs fenfe of fuffocation and coughing, when the fat up out of bed, or walked through the room. Upon the 22d of May, these complaints left her altogether; and on the 28th of that month, the cough was neither raifed by flanding nor walking, nor when her head was laid lower than her body: Alfo cold water applied to her hands, had now no effect in exciting the cough or pain in her breaft. On the 30th of May, after walking a little abroad, the cough returned for a day or two. Upon the 3d of June, after having made a journey

journey of about ten English miles in a chaife, the cough attacked her with as great violence as ever. Being now fully convinced, that this ailment was not owing to any fixt obstruction in the lungs, but to an uncommon delicacy or fenfibility in their nerves, I ordered for her, pills of extract of gentian and limatura martis, which she took twice a-day for about ten weeks. Towards the end of July, the violence of the cough began to abate, and, for the first eight or ten days of August, the was feldom troubled with it. On the 10th of August, it returned and continued to the 2d of September, when it left her entirely. In the month of November following, fhe had a flight attack of the cough and uneafinefs in her breaft; which fymptoms returned, for one day, in September 1762, fince which she has been very rarely affected with them in any confiderable degree. It was obferved, that the returns of her cough after September 1761, were

were always owing to her using exercife too freely.

XII. PALPITATIONS of the heart.

1. In those whose nervous fystem is easily moved, any fudden and strong passion, but especially fear, will produce palpitations, and an irregular motion of the heart, by rendering it more irritable, and, at the same time, by forcing upon it the venous blood in greater quantity than usual*.

2. The regular motion of the heart may be alfo diffurbed by its fympathy with the flomach, when this organ is difordered, by wind, noxious humours, worms, or other caufes ;—by the fuppreffion of fome habitual evacuation ;—by fome acrid matter in the blood falling

* Fear or furprize feems to occasion a fudden contraction of the right *finus venofus*, and, perhaps, also of the adjoining trunks of the *venæ cavæ*; for I frequently feel, upon any furprize, a fudden contraction about my heart, while the veins in my hands and fingers feel as if they were diffended with blood.

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on the heart itfelf*;—by inflammations or obftructions in it or the *pericardium*, and by *polypi* or offified valves; for thefe caufes either render the heart more irritable than in a natural flate, or difturb the free motion of the blood through the great veffels adjoining to it.

XIII. THE pulle often varying in quicknefs, ftrength, and fulnefs, not only in different patients, but in the fame at different times.

To account for these variations of the pulse, it will be sufficient to mention, briefly, the general causes of a strong and weak, hard and soft, quick and flow pulse.

1. As a ftrong pulle is owing to the ventricles of the heart expelling, with a confiderable force, that quantity of blood which they can contain; fo a weak pulle may proceed from a debili-

* I have often feen palpitations, which, as far as I could judge, were owing folely to an arthritic humour affecting the heart.

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ty of the ventricles, whence a proper impulse is not given to that fluid; or it may be owing to a too great irritability whereby the ventricles contract before they are fufficiently filled; or to the want of a free circulation of the blood through the lungs, whence it returns in too fmall a stream to the heart.

2. A HARD pulfe is owing either to a too great denfity of the blood, or to an obftruction, or, oftener, a fpafinodic contraction of the vafcular fyftem, particularly the capillary arteries; in which cafe the blood paffing with difficulty into the veins, the arteries muft feel tenfe and hard*.

THIS pulle often occurs in pleurifies, and other inflammatory difeafes. It is to be obferved, however, that in inflammations of fuch parts as are very fenfible,

* I have known fome people, whofe pulfe, in a natural ftate, was harder than that of most others in the greatest inflammatory difeases. It is not probable, that, in such, the coats of the arterial system were more tense, and the passage from the arteries into the veins straiter than usual.

fible, and have a remarkable fympathy with the heart, while the pain produces a kind of fpafmodic contraction of the arterial fystem, it often renders the heart fo irritable, that, tho' the pulfe feels fomewhat hard, yet it is very fmall; becaufe the ventricles contract before they are fufficiently filled with the returning blood: And this is frequently the cafe in inflammations of the flomach, bowels, and uterus*. On the other hand, when the lungs or liver are inflamed, the pulfe is generally fofter and fuller, becaufe these parts have but little painful feeling; and therefore the vafcular fyftem is feldom affected with any fpafm. It is, however, to be obferved, that an inflammation of the external membrane of the liver or lungs, is attended with confiderable pain, and a hard pulfe as of fentibility, and confequelizuralque ni

3. A тоо foft pulfe is owing either to a laxity of the whole veffels, and par-T ticularly

* Phyfiological Effays, edit. ii. p. 66.

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ticularly of the capillary arteries, or to a thinnefs or watery flate of the blood, which paffes into the veins and fecretory veffels fo eafily, that it can exert little of its force in dilating the arteries.

A SOFT pulfe is more common than a hard one, in those patients who are fubject to nervous or hysteric complaints; because, too thin blood and a laxity of the vascular system are more common in such, than dense blood and a too great tension or spasmodic contraction of the arteries, which occasion a hard pulse.

4. A PULSE quicker than natural muft be owing to one or more of the following caufes, viz. an increase of the flimulating quality of the blood, its quicker return to the heart, or a greater degree of sensibility, and confequently a greater aptitude for motion in the heart.

(a) THE stimulating quality of the blood is increased, by its becoming too dense

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denfe or fizy,—by external heat,—by fresh chyle, such especially as is prepared from animal food, or acrid and heating aliments; and by the mixture of any noxious humours bred in the body, or of malignant or poisonous *effluvia* received from the air.

(b) THE blood is made to return in greater quantity to the heart by all kinds of exercife, fudden fear, and other ftrong paffions.

(c) The fenfibility, and confequently the irritability of the heart * is increafed by various affections of the mind, or whatever increafes the general fenfibility of the nervous fyftem,—by fympathy with the other parts, efpecially the ftomach and inteffines, when thefe are pained, or affected with a difagreeable fenfation,—by an arthritic, fcorbutic, T 2 or

* See Phyfiological Effays, edit. ii. p. 185, &c. and p. 252, &c. and Edinburgh Phyfical Effays, vol. ii. art. xx. p. 310, &c. where it is proved, from undoubted experiments and obfervations, that the irritability of the mufcles of animals depends on their fenfibility.

or fome other morbid humour thrown upon the heart; and by obftructions and inflammations in any part of the body, but especially in the lungs, *pericardium*, or in the heart itself.

5. A PULSE flower than natural muft be owing either to a diminution of the flimulating quality of the blood, its flower return to the heart, or a lefs degree of fenfibility, or aptitude for motion in that organ.

(a) THE flimulating quality of the blood is leffened by external cold,—by too weak or too fpare diet; and by the blood being not of a proper denfity, but poor and watery from a weaknefs of the vafcular fyftem. Hence, after great evacuations, the pulfe not only often becomes low, but very flow. I have feen, in patients recovering from fevers, or in women, ten or twelve days after child-bearing, the pulfe fall under fifty ftrokes in a minute, and rife afterwards to about feventy, its natural ftandard,

ftandard, when the patients were ftronger, and their veffels fuller. In fuch cafes, befides the poornels of the blood, and the want of a fufficient quantity of it, a general languor and debility of the whole body, probably concurred to make the pulfe fo very flow.

(b) THE return of the blood to the heart becomes flower when the body is at reft, effectially in a horizontal pofture, and when the mind is not diffurbed by paffions.

(c) THE fenfibility and irritability of the heart are leffened by age, deep fleep, and every medicine or diffemper that impairs the general fenfibility of the brain and nervous fyftem, as opium, a lethargy, coma, apoplexy, &c. Further, as the heart is often rendered more irritable by its confent with the flomach and bowels, when thefe parts are difagreeably affected by wind, the arthritic matter, or other caufes; fo its irritability feems, in fome cafes to be leffened by

by its fympathy with thefe parts, when their nerves are affected in a different manner *. Thus, worms or vifcid phlegm in the ftomach and bowels, or a violent pain of the fpafmodic kind affecting them, will fometimes make the pulfe much flower than natural, as well as irregular: And long continued grief, melancholy, or low fpirits, by impairing the vigour of the whole nervous as well as vafcular fyftem, may render the pulfe flower than in its natural ftate, unlefs fome morbid caufe quickens the motion of the heart.

FROM what has been faid of the caufes of the quicknefs, flownefs, ftrength, and fulnefs of the pulfe, it will eafily appear, why, in nervous, hypochondriac, and hyfteric diforders, the pulfe is often fo different, not only in various perfons, but in the fame perfon at different times. I fhall, therefore, only add

* " Venze — plerumque fatis fano corpore, fi sto-" machus infirmus est, fubeunt et quiescunt." Celjus de medicina, lib. iii. cap. 6.

add a few inftances of the effect of those ailments in making the pulse quicker or flower than usual.

(1.) A LADY aged 38, who had loft a great deal of blood in child-bed, on the eighteenth day after her delivery, at fix in the morning, was feized with a fharp pain above the os pubis, darting towards the anus. This pain fometimes extended upwards, and then over to the right fide in the direction of the colon. Notwithstanding her having taken twentyfive drops of laudanum, fhe complained of a nausea and inclination to vomit about half an hour paft feven, and before two in the afternoon, fhe vomited fix or feven times. About eleven in the forenoon, having had a clyfter administered with afa fatida, fhe had two ftools, and paffed a great deal of wind. Her pulfe, which, when fhe was taken ill, beat 60 times in a minute, about feven in the morning began to grow quicker, and, before two in the afternoon, rofe to 130, but

but became feebler and fmaller in proportion to its quicknefs. At this time, as fcarce any thing would flay on her ftomach, a broth clyfter was injected, with 40 drops of *laudanum* in it: After which fhe lay quiet for two hours, and her pulfe came down to 120. From four in the afternoon to ten, fhe took every hour fome panada, with a little claret and cinnamon, by which her pulfe was reduced to 100 in a minute, and began to be fuller. After this, as the complaints in her ftomach and bowels decreafed, her pulfe returned to its natural ftrength and flownefs.

A QUICK pulfe, as in the above cafe, is carefully to be diftinguifhed from a quick pulfe occafioned by an inflammation, or a common fever. In the former it is foft, and neither full, hard, nor contracted; it becomes fmaller as it increafes in quicknefs; nor is it commonly attended with any great heat or thirft; but the fureft mark is, that it becomes

comes flower upon eating a little flefhmeat, drinking a glafs of claret, or ufing caftor and *opium*; all which are hurtful when the pulfe is quickened by inflammation, and, for the most part, in fevers 'till their decline.

HOWEVER, it may be proper to obferve that a quick pulfe, occafioned by pain from fpafins or wind in the ftomach or bowels, may, efpecially in fuch as are plethoric, upon continuing long, change its nature, and, from being merely *nervous* or fpafinodic, become, at laft, inflammatory; that is the confequence of an inflammation produced in the part affected with pain.

(2.) An unmarried Lady, between 30 and 40 years of age, was feized with a fevere pain in her lower belly, and had been ill of it near two days before I was called. I found her pulfe at the rate of 70 ftrokes in a minute, and of a natural foftnefs. I ordered her, at bedtime, 25 drops of *laudanum* with as ma-

ny grains of rhubarb. She was eafy through the night, but next morning, when the effects of the laudanum were over, and the rhubarb had begun to operate, her pains returned with greater violence, and fhe had two ftools. About noon, the pains increased, and then her pulle, which, in the morning, had been just as the day before, became finaller and flower, fo that at two in the afternoon it did not beat above 56 in a minute. At that time, fhe complained of a lownefs, and a coldnefs through her whole body. I directed her to take fome panada with wine and nutmeg, and ordered a clyfter with fifty drops of laudanum in it. This foon removed the pain, and reftored the pulfe to its natural fulness and quickness; the coldness went off, and her fkin grew rather warmer than ufual.

In these two cases, we see, from the fame general cause, viz. a sharp pain in the bowels, opposite effects, a quick pulse

pulfe in the first, and a flow one in the fecond; and by the fame medicine and diet, viz. laudanum, panada and wine, we find the pulfe made flower and fuller in the one, and quicker and fuller in the other. What might be the reafon of fuch a difference is hard to fay: Was it owing to the different kind of *ftimuli* affecting the nerves of the bowels, or rather to the different constitution of thefe two patients?

An acute pain in any part generally brings on an inflammation, and quickens the pulfe, but in people fubject to nervous or hyfteric complaints, a violent pain in one fide of the head, in the ftomach, or inteffines, often renders the pulfe flower and more languid.

WHEN pain produces inflammation, it not only excites the veffels of the part into ftronger and more frequent alternate contractions than ufual; but the heart and whole arterial fystem are, by fympathy, rendered more irritable. On the

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the contrary, when an irritation or pain in any part occasions a spasin, or continued contraction of its vessels, no inflammation is produced in it; and the heart and vascular system, being, by system of spase of spase, by system of spase, perform their alternate motions with less freedom and readines; whence the pulse becomes flow, finall, and sometimes irregular, and the whole body feels cold.

DOES then the difference between pain, with or without inflammation, confift in the veffels of the part affected being agitated, in the former cafe, with an uncommon alternate contraction, and in the latter with a continued fpafm?

WHEN, in delicate people, we meet with pain producing a quick but foft and feeble pulfe, and without any confiderable increafe of the heat of the body, we may fuppofe, either that, altho' the veffels of the pained part be affected with a fpafm, yet the heart does not

not fuffer in this way, but is only rendered more irritable by the pain; or that, notwitflanding those veffels may be agitated with a greater alternate motion than usual, yet, on account of the weak state of the blood or laxity of the folids, scarce any degree of inflammation is produced.

(3.) A GENTLEMAN betwixt 30 and 40 years of age, who, for feveral years, had been much troubled with flatulent complaints, was, after an error in diet, feized with a pain about the middle of the abdomen, ftriking into his back, which foon became fo intolerable, that, after having vomited up feveral dofes of laudanum, and had clyfters injected to no purpose, he was obliged to have recourse to the femicupium for relief. His pulfe, which, in a natural flate, beat about 64 times in a minute, was, by the violence of the pain, reduced to 44 ftrokes in that time, and was, befides, fmall, feeble and often irregular. The warm bath not

not only relieved the pain in the bowels almost instantaneously, but also rendered his pulse full, soft, and regular, tho' somewhat quicker than it used to be when he was in health. Sometime after he came out of the warm bath, the pains returned with confiderable violence, and his pulse also became flow, simall, and irregular; but upon having recourse to it again, he was immediately made easy, and the pulse returned nearly to its natural state.

(4.) A YOUTH of fifteen, of a ftrong make, and feemingly healthy conflitution, had, for fome time, been fubject, once in fix or eight weeks, to a violent pain in his belly, with an apprehenfion of immediate danger. During the time he was most troubled with these cholic pains, his pulse commonly beat only fifty times in a minute; but as foon as, by the use of laxatives, and aromatic bitters, he had got free of this complaint, it returned to its natural quickness,

quickness, which was about 80 strokes in that time.

(5.) ANOTHER lad of 14 years of age, of a thin and delicate habit, and of quick and lively feelings, whole pulle in health used to beat between 70 and 80 times in a minute; about the beginning of June 1757, was observed to be low-spirited and thoughtful, to lofe his appetite, and have a bad digeftion. Altho' he loft flefh daily, yet he had no nightfweats, no extraordinary difcharge of urine, and was coffive. His tongue was clean, his fkin cooler than natural, and when in bed, his pulse beat only 43 times in a minute; nay, about the middle of July, when reduced almost to fkin and bone, his pulfe, in a horizontal pofture, did not exceed 39. About the end of August, his diftemper took a fudden turn; he then began to have fuch a craving for food, with a quick digeflion, that he grew faint unlefs he eat almost every two hours; he had two or three
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three ftools a-day; his pulfe beat from 96 to 110; his fkin was warm, and his veins, which fcarce could be feen before, became now turgid with blood. The ftrong apprehenfions he formerly had of dying left him, he was fure he fhould recover; and accordingly, by the middle of October, he was plumper than ever he had been before. Towards the end of November, his appetite became moderate, and his pulfe gradually returned to its natural ftate.

IT was obfervable, that the pulfe was floweft towards the evening, and generally of a proper ftrength and fulnefs.

SINCE, with all my attention, I neither could difcover the caufe of this patient's firft complaints, nor of the fudden and contrary turn which they took afterwards; I fhall not pretend to reafon on his cafe; but I thought it deferved to be mentioned, as a good inftance of a nervous atrophy, and of the effect of fuch diforders in making the

the pulfe much flower, than ever it has been obferved in a natural flate.

XIV. PERIODICAL Headachs.

THESE either affect almost the whole head, efpecially the fore-part, or only one fide of it; fometimes no more than one of the eyes, with part of the fore-head and temple of the fame fide .- They generally return once a-day, nearly at the fame hour, and as regularly as the fit of a quotidian ague.-In fome cafes, they are attended with a vifible fwelling, not only of the eye affected, but alfo of that fide of the fore-head. Sometimes the eye feems to fink within its orbit: at other times, nothing can be observed but that the eyes want their ufual luftre, and look as if the perfon had watched long, or drunk too much.

THE most common causes of periodic headachs in those who are subject to nervous diforders, are,

I. SYMPATHY with the flomach, by which the nerves chiefly of the fore-part

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of the head fuffer; and the finall veffels to which they are diffributed, are either affected with a continued fpafin, or agitated with uncommon alternate contractions and relaxations; in confequence of which the patient feels a pain, ftraitnefs, fulnefs and pulfation about the fore-head and temples.

2. A VISCID or acrid humour obftructing or irritating the fmall veffels of the *pericranium*, mufcles of the head or *dura mater*, and confequently affecting the nerves of those parts with a painful fensation. This may be often no other than a rheumatic, gouty, or fcorbutic humour falling chiefly on the head.

3. A PARTICULAR weaknefs, delicacy and fenfibility of the nerves of thofe parts of the head; whence, from fudden changes of weather, errors in diet, fatigue of body, ftrong paffions, intenfe application of mind, fuppreffion of ordinary evacuations, or even from flighter caufes, thefe nerves being eafily fufceptible

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tible of pain, the finall veffels to which they are diffributed, become affected either with violent alternate contractions and relaxations, or with a fixt fpafm. This feems to be confirmed by obferving, that women liable to thefe periodic headachs fuffer moft feverely about the menftrual periods; at which time it is well known, that iffues and other fores become generally more painful and inflamed, as being more irritable and eafily affected than the other parts. In any general indifpofition, thofe parts, which are leaft firm and found, fuffer moft.

How these headachs should return every day, or sometimes once in two days, is a hard question. We know, that intermitting fevers observe very regular periods: And I have seen epileptic patients have fits once or twice every day, or once in two days, almost preeisely at the same hour. Hysteric convulsions, and other diseases, have also U_2 been

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been obferved fometimes to be regularly periodical.

DOES the morbid matter in fuch cafes, after being diflodged by the violence of the paroxysm, require a certain time, before it is again collected or depofited on the parts affected, in fuch a quantity, as is fufficient to produce a new fit? Such is the obfcurity of Nature in many of her operations, that we meet, almost every where, with appearances, of which we are unable to give any fatisfactory explanation. However, both in natural philosophy and medicine, it is often fufficient, at leaft for the purpofes of life, to know the certainty of fome particular phanomena, altho' we cannot account for them. Sufficit, si quid fiat intelligamus, etiamsi quomodo quidque fiat ignoremus. Cicero.

XV. A GIDDINESS.

THIS may proceed from fome of the caufes which have been mentioned above,

bove, as producing periodic headachs, efpecially when they affect the anterior part of the brain or *dura mater*.

MANY people of a delicate, nervous, and vafcular fystem, after stooping and fuddenly raifing their head, are apt to be feized with a vertigo, which is fometimes accompanied with a faintnefs. In this cafe, the veffels of the brain being too weak, feem to yield more than ufual to the weight of the blood, when the head is inclined; and afterwards, when it is fuddenly raifed, and the blood at once defcends towards the heart, those veffels do not contract fast enough, fo as to accommodate themfelves to the quantity of blood remaining in them: At the fame time the brain, on account of its too great fenfibility, is more affected than usual, by any fudden change in the motion of the fluids through its veffels.

IT feems to be owing to an uncommon delicacy and fenfibility of the retina, and indeed of the whole nervous fyftem,

fyftem, that fome people become fo giddy as to be in hazard of falling, if they look ftedfailly into a glass that is kept conftantly moving before them, or at any object that is turned fwiftly round.

XVI. A DIMNESS of fight, without any visible fault in the eyes.

THIS fometimes proceeds from the ftomach*; in which cafe the patients are only affected with it, at particular times, when that organ is out of order, and, by fympathy, affects the retina, optic nerves, or that part of the brain from which they take their rife. I know a Lady much troubled with a fournefs in her ftomach, who, when this increafes to a greater degree than ufual, fees every thing indiffinctly, as if a thick fmoak or mift was before her eyes; nor does the get quite free of this, till, by chalk, or crabs eyes, lime-water, magnefia alba, vomits and bitters, fhe has deftroyed,

* See Lommii Observat. Med. lib. ii.

SII

flroyed, in a great measure, the acidity in her flomach.

I HAD fome years fince a patient of a very delicate nervous fyftem, whofe eyes, when his ftomach was much troubled with acidity and flatulence, were fometimes rendered fo very fenfible, that looking ftedfaftly on a crimfon colour, or coming fuddenly from a bright light into a dark room, or from this laft into the fun-fhine, would occafion a giddinefs and pain above his eyes, together with a dimnefs of fight, and a bilious vomiting.

XVII. Low fpirits, melancholy and a mania.

1. In cafes of an irregular gout, when the arthritic matter falls upon the ftomach and bowels, it frequently produces a *naufea*, flatulence, low fpirits, and other uneafy fymptoms. In fuch, wind pent up in the ftomach or inteffines, occafions a difagreeable, tho' not painful,

ful, fenfation, attended with a faintnefs, languor, and deprefion of mind. But at other times, when this arthritic matter has left thefe parts, we may obferve, that a greater degree of flatulence, occafioned by errors in diet, will have no fuch effect. Low fpirits, therefore, in hypochondriac and hyfteric cafes, may be frequently owing to fome morbid matter in the blood, flatulent and improper aliments, or other caufes affecting the ftomach and bowels with a particular fenfation; which, tho' not painful, neverthelefs is attended with great dejection of mind.

2. Low fpirits may be occafioned by obstructions in the hypochondriac vifcera, viz. the stomach, liver, &c. But as obstructions often happen in those parts without any remarkable dejection of mind; whenever they are attended with this symptom, it must be owing, principally, to the nature of the obstructing matter,

matter, or rather to a particular morbid ftate of the nerves of those viscera.

3. A MANIA, and the higher degrees of melancholy, may proceed from fome noxious matter in the blood, carried from the *vifcera* of the lower belly or other parts, where it was chiefly lodged, to the brain. Of this I fhall give an inftance or two, that fometime ago occurred in my practice.

(a) A GENTLEWOMAN upwards of 30 years of age, who had been long troubled with wind in her ftomach and bowels, indigeftion, faintnefs, languor, palpitations, and fudden fits of terror, with a pulfe generally quick, but variable, having been for fome little time much freer from thefe complaints than ufual, on the 24th of *August*, became all at once deprived of her reafon. During the nights and in the mornings, she talked incoherently, but throughout the day, she had some intervals of reafon. While she continued in this way,

way, her pulfe was better than ufual, and fhe was quite free from her ordinary nervous fymptoms. She had no fharp pain in her head, but complained of an uneafy fenfation and great confufion in it. Being coftive, fhe took fome aloetic pills; but could not be prevailed on to ufe any other medicine. However, in a few days, fhe grew much better, and by the 5th of September entirely recovered the ufe of her reafon, but relapfed, in fome degree, into her old complaints of flatulence, indigeftion, and palpitation.

(b) A GENTLEMAN aged between fixty and feventy, after having been for fome years free from the gout, began to have conftant complaints of his ftomach and bowels, and at laft was feized, all at once, with a *delirium*, which, by the application of finapifins to the foles of his feet, went off in a few h our In two days the *delirium* returned, when, by bliftering his legs, a pain came into one

one of his great toes, upon which he recovered his fenfes entirely. In this manner the gouty humour moved backwards and forwards, between his head and feet, for near two months, 'till at laft, being more fixt in the brain, it brought on a continued and violent madnefs, which no remedy could leffen. In this ftate he obftinately refufed almoft every kind of food, and died in a few weeks.

4. SUDDEN terror, exceffive grief, or other violent paffions of the mind, in people whofe nervous fyftem is very delicate, may affect the brain fo as to produce a continued *mania* or melancholy. But in what manner the paffions, or the morbid matter of nervous difeafes change the ftate of the brain or *common fenforium*, and occafion fuch diforders, is entirely unknown.

XVIII. THE Incubus, or night-mare.

In this difease the patient, in time of fleep, imagines he feels an uncommon oppression

oppression or weight about his breast and stomach, which he can, by no effort, fhake off; but groans, and fometimes cries out, tho', oftener, he attempts to fpeak in vain. He imagines himfelf to be ftruggling with ftrong men, or devils, to be in a house on fire, or in danger of being drowned in the fea or fome river. In attempting to run away from danger, or climb up a hill, he fancies he falls back as much after every ftep as he had advanced before. The terror excited by the frightful ideas attending the night-mare, fometimes occafions a tingling of the ears, and a tremor over the whole body.

THIS diforder has been commonly fuppoled to proceed from a flagnation of the blood in the *finufes* of the brain, or in the veffels of the lungs; or from too great a quantity of blood being fent to the head.

THE horizontal pofture in time of fleep, and the preffure of the flomach upon the *aorta*, in a fupine fituation, have

have been thought fufficient to occafion a more than usual distension of the finufes and other veffels of the brain; and the weight of the heart preffing on the left auricle and large trunks of the pulmonary veins, may, it is faid, prevent the eafy return of the blood from the lungs, and fo produce an oppreffion, and fense of weight and fuffocation in the breaft*. But not to enter into a particular examination of thefe opinions, which are far from being fatisfactory, I shall only observe, that, if they were true, fome degree of the nightmare ought to happen to every perfon that lies on his back, efpecially after eating a full meal. Further, if a horizontal fituation could overcharge the brain with blood, fo as to occafion the Incubus, how comes it that people, who, remain, for fome time, in an inverted posture, do not feel this disease beginning to attack them? And why does a flighter

* See Dr: Bond's Effay on the Incubus. Chapter ii.

flighter degree of the night-mare fometimes feize people who fleep in an erect fituation in a chair*? As the weight of the ftomach, even when filled with food, can have fcarce any effect upon the motion of the blood in the *aorta*, fo the preffure of the heart is by much too finall to be able, fenfibly, to retard the motion of that fluid in the pulmonary veins; otherways people exhaufted by tedious difeafes, who generally ly on their back, would be conftantly affected with the *Incubus*.

WE know, that certain medicines or poifons, worms, and even corrupted bile, or other humours, by difagreeably affecting the nerves of the ftomach, produce an oppreffion about the *pracordia*, wild imaginations, frightful dreams, raving, and infenfibility: And there is no doubt, that low fpirits, melancholy, and

* Something of this kind I have experienced myfelf, not only after eating, but also before supper, when my ftomach was out of order, and toubled with wind.

and difturbed fleep, often proceed from a difordered ftate of the ftomach. Is it not probable, that the night-mare has its feat chiefly in the fame organ? If epileptic fits often proceed from the ftomach, why may not the Incubus, which has been confidered by Galen as a nocturnal or flighter epilepfy, have its feat in that part? People troubled with nervous and hypochondriac ailments, and who have delicate or flatulent flomachs, are more fubject than others to this diforder .- A heavy or flatulent fupper greatly increases the night-mare in those who are predifpofed to it .- The fympathy of the ftomach with the head, heart, lungs, and diaphragm, is fo remarkable, that there can be no difficulty in fuppofing the feveral fymptoms of the Incubus to arife from a difagreeable affection of the nerves of that organ.

WHEN my ftomach has been out of order, and troubled with wind, I have often perceived a flighter *Incubus* feize

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me before I was fully afleep, the uneafinels of which would make me get up fuddenly. As foon as I was quite awake, I was generally fenfible I had been affected with a weight and uneafinefs about my ftomach, attended with a faintness, and some fort of oppression or fuffocation about my breaft, as if the circulation in my lungs had been a good deal obstructed. While I fat up in bed, or lay awake, I felt nothing of these fymptoms, except, perhaps, some degree of uneasines about my ftomach; but when I was just about to fall afleep, they began to return again. In this way, I have often gone on, for two hours or more, in the beginning of the night. At laft, I found, that a dram of brandy after the first attack, kept me eafy the whole night. This remedy has never failed to fucceed with me, the few times I have had occafion to try it; for of late, fince my ftomach has been pretty found, I have feldom

feldom felt in my fleep any of those uneafy sensations which resemble the night-mare.

FROM what has been faid, it feems probable, that in the Incubus the ftomach. is commonly the part primarily affected: I fay commonly, becaufe fymptoms like those of the night-mare may fometimes arife without any fault in the flomach. Thus, I have known afthmatic patients, whofe lungs were much obstructed, who, in time of fleep, were greatly oppreffed with a fense of fuffocation, and difturbed with uneafy dreams : And Dr Lower mentions a patient, who, tho' he could fleep pretty eafily with his head inclined forward, yet in the opposite situation, he was always foon awaked with horrid dreams and tremors; the caufe of which appeared, after his death, to have been a great quantity of water in the ventricles of the brain.

THE Incubus is most apt to feize perfons when lying on their back; because

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in this position, on account of the ftomach and other abdominal vifcera preffing more upon the diaphragm, we cannot infpire with the fame eafe, as when we fit up, or lie on one fide. Further, in that fituation of the body, the food feems to lie heavier on the ftomach, and wind in it does not escape fo readily by the asophagus or pylorus as in an erect pofture, when these paffages are higher than the other parts of the ftomach*. We are only affected with the nightmare in time of fleep, becaufe the ftrange ideas excited in the mind, in confequence of the difordered state of the ftomach, are not then corrected by

* When I have been liable to be attacked with a fenfation of faintnefs at my flomach, I have found it always worfe when I lay on my back in the night-time, and become better when I got out of bed, or fat up in it: And a middle aged woman, who, in the morning, was frequently fubject to faintings, found that fhe could prevent them by getting up as foon as fhe perceived them about to come on. Further, when the miliary eruption does not come out properly in women after child-bearing, they are often affected with a fenfe of faintnefs, and with an opprefion in their breathing, which fymptoms are commonly worfe when they ly on their back, than when they fit up in bed.

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the external fenfes, as they are when we are awake*; nor do we, by an increafed respiration or other motions of the body, endeavour to shake off any beginning uneafy fenfation about the stomach or breaft. The *Incubus* generally feizes one in his first fleep, but feldom towards the morning, because at this time the stomach is much less loaded with food, than in the beginning of the night.

IF the night-mare were owing to a flagnation of the blood in the lungs from the weight of the heart, or in the *finufes* and other veffels of the brain from the horizontal pofture of the body, it would become greater the longer it continued, and would fcarce ever go off fpontaneoufly: But we know, that this difeafe, after affecting people for X 2 fome

* I had, fome years fince, a patient affected with an *eryfipelas* in his face, who, when awake, was free from any confusion in his ideas; but no fooner did he fhut his eyes, altho' not a-fleep, than his imagination began to be great-ly diffurbed: He thought himfelf carried fwiftly through the air to diffant regions; and fometimes imagined his head, arms, and legs, to be feparated from his body, and to fly off different ways.

fome time, often gradually ceafes, and is fucceeded by refreshing fleep; for as foon as the load of meat, or wind, or other caufe difagreeably affecting the nerves of the ftomach, is removed, the oppression and weight on the breaft, wild imaginations, frightful dreams, &c. vanish, as all these proceed originally from the diforder of the ftomach. It is worth while, however, to observe, that as neither wind, tough phlegm, nor crudities in the ftomach, do ever occafion the fymptoms of the hypochondriac difeafe, unlefs the nerves of that organ be indifpofed; fo neither a horizontal posture, fleep, nor heavy fuppers, do ever produce the night-mare, at leaft in any confiderable degree, unlefs the perfon be predifpofed to it from the particular condition of the nerves of his ftomach: And here I shall just remark, that a plethora, as well as other caufes, may fo affect the nerves of the ftomach as to give rife to the Incubus. Hence, a tuppreffion

fuppreffion of the menfes in women, fometimes occafions this, as well as other diforders of that organ. It muft, however, be acknowledged, that a plethora, by rendering the circulation thro' the lungs lefs free, may help to produce, or at leaft increafe, the oppreffion of the breaft in the night-mare: And hence it is, perhaps, that young men, who abound in blood, are often troubled with this diforder.

It has been obferved above*, that violent or long continued complaints of the nervous, hypochondriac, or hyfteric kind, fometimes terminate in an apoplexy, palfy, jaundice, dropfy, tympany, or *phthifis*. Now, from what has been faid, it will not appear ftrange, that the brain and nerves may, by the continuance or frequent repetition of fuch fhocks, be fo weakened or difordered, that not only fatuity, a deep melancholy, or *mania*, but alfo a palfy or an apo-

See p. 102.

apoplexy, may enfue. Further, as nervous diforders are often owing to fome morbid matter in the blood, when this leaves the ftomach and inteftines, or other parts where it ufed chiefly to fix, and is thrown in a great meafure on the brain or origin of the nerves, it is eafy to conceive, how a palfy or apoplexy may be the confequence.

AGAIN, fince hypochondriac and hyfteric diforders, are fometimes occafioned by obftructions in the abdominal *vifcera*, and often give rife to them; and as from a bad digeftion the chyle muft be ill prepared, it will appear why those difeafes do fometimes terminate in the jaundice or dropfy.

It has been obferved alfo, that patients much afflicted with those ailments have at length fallen into a tympanites, which may be thus accounted for. I have shown above, that the great predisposing cause of nervous, hypochondriac, and hysteric disorders, is a particular

cular weaknefs and delicacy, or uncommon fenfibility of the ftomach and bowels; whence, from flight caufes, they are often affected with fpalms. Now, when the fpafmodic contractions of the alimentary canal do not continue long, the wind that was pent up is allowed to move from one place to another, and is at last expelled either upwards or downwards: But when the ftomach and inteftines, by reafon of their weaknefs, and finall, but continued, fpafms, have been inflated by flow degrees, the irritation occafioned by this diftenfion increafes the fpafm fo much, that the air, continually generated by the aliment in time of digeftion, is mostly retained, or, at leaft, is not difcharged in fuch a quantity as to relieve the patient, or fenfibly to diminish the fwelling of the belly.

LASTLY, a *phthifis pulmonalis* may alfo be the confequence of nervous diforders, when the morbid matter producing them falls chiefly upon the lungs; or when

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when the vitiated chyle or blood forms obstructions in that organ,

AND here it may be worth obferving, that while the morbid matter producing the hypochondriac difeafe, chiefly affects the ftomach and bowels, the patients are always apprehenfive, and often greatly alarmed from any trifling increase or variation of their complaints, as if they were in immediate danger of dying; but after this matter has left its old feat, and, by fixing on the lungs, has brought on an incurable phthifis, they generally ceafe to be apprehenfive or fearful, and cherish the hopes of life to the laft. The reafon is, that when the lungs are affected there are no fuch uncafy feelings excited in the body, nor fear and defpondency in the mind, as when the flomach and inteffines fuffer, which are not only poffeffed of a much more delicate fenfibility than the lungs, but have alfo a more remarkable fympathy with the brain, and whole nervous fystem.

CHAP.

CHAP. VII.

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Of the CURE of NERVOUS, HYPOCHON-DRIAC, and HYSTERIC DISORDERS.

LTHO' it may be faid in general, that these diforders are more troublefome and lafting than dangerous, yet as they proceed from various caufes, the danger, as well as the cure, must be often very different. Thus, when they are owing to an original delicacy of the whole nerves, or a debility of those belonging to the ftomach and inteffines, they feldom prove quickly fatal, but fcarce ever admit of a thorough cure.-When they are occafioned by an arthritic matter in the blood, their cure will be almost as difficult as that of a chronic rheumatism, or of the gout itself; and

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and in fuch a cafe, perhaps, the beft that can happen, is, that the morbid matter may throw itfelf off, by regular fits, in the extremities .- When they arife from too great or too finall a flux of the menses, if the uterus can be reftored to a found state, the nervous fymptoms will vanish of course .--- When great and confirmed fcirrhous obstructions in the abdominal viscera are the causes of hypochondriac or hyfteric complaints, they are not only incurable, but likely to prove foon fatal .- When they proceed from worms, phlegm in the ftomach and bowels, or violent affections of the mind, they may be often, and fometimes fpeedily cured .- Laftly, when intemperance in eating or drinking has brought on nervous ailments, they may be, almost always, leffened, and fometimes cured, by a proper diet, moderate exercife, and a few medicines.

BUT however troublefome and obftinate nervous diforders often may be, they

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they have fome advantages attending them; for the weak flate of the blood and vafcular fyftem in many of thefe cafes, renders fuch patients much lefs fubject to inflammatory difeafes, than those of a ftronger conftitution.

FROM the account I have given of nervous, hypochondriac, or hyfteric diforders, it will appear, as has been already obferved, that their cure, far from being the fame, muft differ according to the various caufes from which they proceed: and that the numerous, warm, aromatic, ftimulating, and fœtid medicines, which have been called nervous, or antihyfteric, however proper they may be in fome cafes, are, neverthelefs, hurtful in others.

In treating, therefore, of the cure of those difeases, I shall not attempt to lay down any general method to answer in all cases or circumstances, even for the same symptoms; but shall endeayour to point out that particular treatment,

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ment, which feems best fuited to the cafe, according to the various causes from which it may arise.

BUT, before I proceed, it will be proper to obferve, that as it is generally in the power of medicine to relieve, it is frequently beyond the power of art to eradicate the diforders we now treat of; and therefore it may be often of use to intimate this to our patients, efpecially to fuch as have fortitude enough to bear those evils, which can neither be wholly prevented, nor fully cured .--It is further neceffary to acquaint every patient, that without a long perfeverance in a course of medicines, diet, and exercife, no great or lafting benefit can be expected. To this purpofe is the following paffage of Montanus, which equally deferves the attention of fuch patients as are affected with nervous ailments, and of the phyficians who undertake their cure: " In curatione " hujus morbi (fciz. bypochondriaci) non " licet

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licet præfinire tempus mensis unius, aut anni, sicut in aliis contingat; sed oportet in
toto vitæ suæ tempore curationi operam dare; interdum curationi, interdum præservationi, attendendo."*

THE general intentions in the cure of nervous diforders, may be reduced to the two following, viz.

I. To leffen or remove those predifposing causes in the body, which render it peculiarly liable to nervous ailments.

II. To remove or correct the occafional caufes, which, efpecially in fuch as are predifpofed, produce the numerous train of nervous, hypochondriac, and hyfteric fymptoms mentioned in the preceeding part of this work [†].

I. THE great predificing caufe of nervous diforders is, as I have fhown, a too great delicacy or uncommon fenfibility of the nerves in general, or of those of the flomach and intestines, or other

* Confil. 230. + See above, p. 98. &c. 334 Of the CURE of

other organs in particular. If this fault in the conflictution could be effectually cured, we fhould always have it in our power to leffen the violence of nervous fymptoms from whatever caufe they might arife, and to prevent moft of those which proceed from fudden impreffions made on the mind. But when the fault in the nervous fystem, alimentary canal, or other parts, is original, *i. e.* natural to the conflictution, and not the confequence of fome difease or irregularity in living, it does not admit of a perfect cure: The utmost that can be done, is to leffen it.

THE best remedies to answer the fir/tintention of cure, are either fuch as not only strengthen the stomach and bowels, but the whole body, or those which, by their peculiar action on the extremities of those nerves to which they are applied, lessen, for a time, the too great fensibility of the whole strengther.

I. THE

Const. Inno?"

NERVOUS DISORDERS.

1. THE remedies which have been found by experience to communicate greater firength to the body are,

(a) BITTERS. Of thefe, I most commonly use the radix gentiana, summitates centaurii minoris, and cortices aurantiorum ; the two former, as being lefs naufeous and heating, than many of the other bitters; and the laft, partly on account of its agreeable flavour. These bitters may be put into any of the ftronger white wines; but if the patient be troubled with acidity in the first passages, they ought to be infused in brandy or boiling water. The watery infusion will be rendered more agreeable to many ftomachs, by adding to each English pint of it three ounces of the aqua cinnamomi fortis, or aqua aromatica of our Difpenfatory*.

THE ftrength, as well as the dose of these bitters, must be adapted to the

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* The officinal compositions mentioned in these observations are always understood to be those of the *Edinburgb Dispensatory*, unless the contrary is expressed.

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conflitution and circumftances of the patient. If they heat too much, they must be weakened, or taken along with fome drops of the elixir of vitriol*. When bitters lie heavy on the flomach, and leffen, inftead of mending, the appetite, they ought to be omitted, and the cure must be attempted by other remedies: and the laft, partly o.seibamar

(b) The BARK. This is more ftrengthening and lefs heating than any of the bitters. It may be given either in fubstance or decoction, or infused in cold or in boiling water, in lime-water, wine, brandy, or rum.

THE bark in fubftance, frequently difagrees with delicate ftomachs, and occafions ficknefs, gripes, and fometimes a loofenefs. An infusion or decoction of it in water, especially, if some grateful aromatic, fuch as cinnamon or nutmeg, be added, is lefs apt to produce thefe effects; but when infused in brandy

* Mead monita medica, p. 109.

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dy, with fome bitters or aromatics, it will agree well with most people. The bark in substance often fits lighter on the stomach, if a glass of red port be taken after every dose of it; and the gripes and purging, which it occasions in some, may be certainly prevented by adding, for a few days, the confectio Japonica to it; for after the stomach and bowels have been accustomed to the use of the bark, it generally occasions either much less disturbance, or none at all.

For feveral years paft, I have frequently joined the bark and bitters in the following form.

R. Cort. Peruvian. Pulv. unc. iv.
Rad. Gentian.
Cort. Aurant. ana unc. i. fs. Mifee.
Infunde in fpir. vin. Gall. lib. iv. in balneo arenæ per dies vi. et cola.

OF this tincture, I generally give one table-fpoonful, with four or five fpoonfuls of water, every morning, an hour and a half before breakfast, and between seven and eight in the evening.

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I fometimes add to each pound of this tincture, an ounce or more of the fp. *lavend. comp.* which improves its tafte, and makes it fit better on fome fto-machs.

I HAVE, myself, taken the above tincture in the morning, for eight months together, and with remarkable advantage. For three or four years before, I had been much troubled with wind in my ftomach, a giddinefs, and fometimes a faintnefs. I obferved in the morning, foon after taking this medicine, a grateful sensation in my ftomach, accompanied with better fpirits, than I had at any time through the day, or than I ever found from drinking wine, even when I used it freely. I have ordered this tincture to many patients, who have taken it for two or three months fucceffively, and, after intermitting it for fome time, have begun again. Moft of them have found benefit, and those most who ufed

NERVOUS DISORDERS.

fed it longeft. The cafes were chiefly weak and windy ftomachs, with a general delicacy or debility of the nervous fyftem *.

WHEN acids do not difagree, twenty or thirty drops of the elixir of vitriol Y 2 may

* A married Lady aged 40, of a thin habit and delicate nerves, had been complaining for some years of a general weakness and feebleness through her whole body, especially in her limbs, with a pain fometimes in her flomach and belly, which the attributed to wind. I prefcribed for her the tincture of the bark, &c. which fhe took once a day for near two years, intermitting now and then a week or ten days. It had a most sensible effect in strengthening her, and never failed to raife her fpirits. When, after intermitting this medicine for a longer time than ufual, her old complaints have begun to return in a lefs degree, a few doses of it have, almost always, put her to rights again. Another married Lady, aged between 30 and 40, of a delicate nervous fystem, and affected with wind in her ftomach, giddiness, flying pains through her body, frequent fits of loofenefs in a morning, feeblenefs and low fpirits, was, by the use of the fame tincture for near two years, (intermitting it now and then for a month or more at a time) cured, in a great measure, of all her complaints, except that the continued fometimes to be troubled with the pains, and fomething of the low fpirits, tho' in a much lefs degree than formerly.

Were it neceffary, I could add many other cafes in which the fame remedy has been remarkably ufeful.
may fometimes be taken with advantage in each dofe of the tincture. This elixir taken twice a-day, in this or a larger dofe, in fpring water alone, has often good effects in ftrengthening the ftomach and reftoring a decayed appetite; and is generally an excellent cooler when the ftomach complaints are attended with any degree of febrile heat, thirft, and a white tongue.

ALTHO' the bark is preferable, as a ftrengthener, to any of the bitters, yet it does not wholly fuperfede their ufe. The bark alone will not fit fo well on many ftomachs, as when it is joined with an agreeable bitter; and I think I have found more benefit, myfelf, from the above tincture, than from the bark alone either in fubftance or decoction. With regard to the fafety of taking, for a long time, the bark, againft which many have had great prejudices; I can fay, that I do not recollect its proving hurtful in any cafe in which

which I have ordered it, unlefs where it happened to difagree with the patient's ftomach. About fourteen years fince, I fwallowed, in fixteen days, near four ounces of it in fubftance, when I laboured under a catarrhous cough, without feeling any bad effects from its aftringent quality. In a tertian intermittent attended with a cough and fpitting, after the use of vomits and fome pectorals, I have prefcribed the bark in the ufual quantity, without the breaft being any ways hurt by it. I have had repeated experience of its virtues in curing a hoarfenefs after the measles, unattended with a fever or difficult breathing; and in the chincough, when given early, and before any obstructions are formed in the lungs, I have found it one of the beft remedies. Laftly, The fuccefs of the bark in refolving indolent glandular fwellings*, may fhew that it is not poffeffed

* See Medical Inquiries and Obfervations, vol. i.

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feffed of any confiderable obstructing quality.

(c) STEEL. There are few medicines that fo remarkably firengthen the ftomach and bowels, and indeed the whole body, as iron and its preparations. The aftringent quality of this metal was not unknown to *Diofcorides*, who recommends, for a weaknefs of the ftomach and inteffines, water in which a red-hot iron has been extinguifhed.

THE *fal martis* was in great effecm with *Riverius*; but *Sydenham* preferred the filings of iron to all its preparations *.

THE filings have been commonly prefcribed from five to fifteen or twenty grains; but altho' this last quantity will heat many people, yet fo different are constitutions, that fome will bear a much greater dose; nay, I know a Gentleman,

* Differt. epiftol. ad D. Cole.

Gentleman, who, for a weakness in his ftomach and indigeftion, has taken every day, for fome months together, about 230 grains of the filings of iron, divided into three dofes. It is obvious, however, that these filings will act varioufly as they are finer or coarfer, and according to the quantity of an acid in the ftomach and bowels. They fometimes occasion, especially in the more delicate conftitutions, a diforder in the first passages; in which cafe Sydenham has advised a few drops of laudanum to be taken with them at bedtime; but fifteen grains or a scruple of theriaca will have as good or a better effect.

THOSE who cannot take the *limatura* martis will often bear Mynficht's tincture, the chalybeate wine, and Pyrmont or other fteel waters of a weaker nature. I know a Lady, whom fix or eight grains of the filings of iron will purge more ftrongly than an ordinary dofe of rhubarb,

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barb, and yet fifteen or twenty drops of the *tinctura martis Mynfichti* give her no difturbance.

I SOMETIMES order this tincture, or the mars faccharatus, to be taken at the fame time with the tincture of the bark and bitters above mentioned; but commonly, I advife the chalybeates only at those times, when the patients intermit the bitters.

THE chalybeate waters, altho' they contain but a very fmall proportion of iron, are often obferved to have remarkable effects in ftrengthening the body. Particularly, the waters of *Bath* in *Somerfet/hire* have been of great ufe to many, who, from a weak ftate of the ftomach and bowels, were affected with low fpirits and other nervous complaints.

It may be worth while to obferve, that notwithstanding the remarkable effects of chalybeates in many difeases, yet these medicines, in a state of solution,

tion, or in a faline form, do not feem to enter the blood; for the late ingenious Dr Wright, having made a dog, who had fasted 36 hours, swallow a pound of bread and milk, with which he had mixed an ounce and a half of fal martis diffolved in a fufficient quantity of water, and filtrated; he opened the dog an hour after, and collected from the thoracic duct near half an ounce of chyle, which did not fuffer the leaft change of colour by dropping into it a tincture of galls; altho' this fame chyle, after $\frac{1}{4}$ of a grain of fal martis was diffolved in it, acquired a deep purple colour from that tincture*.

IF *fal martis* and other preparations of iron do not enter the blood, it is obvious, that they may produce their effects *folely* by ftrengthening the ftomach and inteftines; whence not only the digeftion of the aliment will be bet-

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* See Philosophical Transact. for 1750, vol. L. part. ii. P. 595.

ter performed, but, by means of that remarkable fympathy which fubfifts between the alimentary canal and the whole fyftem, a greater degree of vigour will be communicated to every part of the body: for there is nothing more certain, than that we feel ourfelves either vigorous and healthful, or feeble and fickly, as the nerves of the ftomach and bowels are in a found, or an infirm ftate.

The above medicines, (a, b, c,) are to be used not for days or weeks only, but often for many months together, otherwise no great or lasting benefit is to be expected from them. In some cases, it may be necessary not to omit their use, wholly, for years; for when the cause of any disease is deeply rooted in the constitution, those medicines which are proper for removing it, must be taken almost like our diet, not only regularly, but for a very long time.

IN fuch cafes, it may be beft to take the bark and bitters chiefly in the winter and fpring-feafon, intermitting their ufe now and then for a week or two; and in the fummer to drink either fome of the chalybeate waters at the wells, or a gill or more of the Pyrmont or Hartfell-Spa* thrice a day on an empty ftomach.

(d) The COLD BATH. Nothing perhaps ftrengthens the nervous fyftem more fenfibly, or gives a greater fpring to all the veffels, than cold bathing; for altho' the water only acts immediately

*The Hartfell-Spa is a water which iffues from a mountain of that name near *Moffat* in North *Britain*. It has a ftrong chalybeate together with an aluminous tafte, is much faturated with iron, and feems alfo to contain an aluminous falt. It is defitute of that fpirit obfervable in the *Pyrmont* water and those of *Spa* near *Liege*, but retains its virtues longer, and may be carried to a great diffance without being fensibly weakened. It is an excellent ftrengthener, and has often been found ferviceable in weakneffes of the ftomach and inteffines with indigestion and flatulence. For a more particular account of this water, See Effays Physical and Literary, vol. i. and Philosoph. Tranfact. vol. L. part i.

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diately on the cutaneous nerves and veffels, yet its ftrengthening power is, by fympathy, communicated to the inmost parts of the body. The cold bath, like the former remedies, ought to be long continued. The most proper feafons for it, are the fpring, fummer and autumn. It is enough, efpecially for those of a spare habit, to go into the cold bath three or four times a week; but as it tends to make people thinner, those who are too plump may use it daily. When the stomach, liver, or other vifcera are much obstructed, or otherwife very unfound, the cold bath is improper, fince by turning the blood with more force than ufual upon thefe parts, it may increase, instead of lessening the patient's complaints.

MANY inftances might be given of the good effects of cold bathing in ftrengthening people of delicate conftitutions, and making them lefs fubject to nervous ailments; but as fo much may

may be found to this purpofe in Sir John Floyer's hiftory of cold bathing, I shall only observe, that I have known it of great fervice to feveral women, who, chiefly from a weakness of their nervous fystem, were very liable to fuffer abortion; and that a young Lady, whofe nerves feemed to have a very great degree of fenfibility, from the intolerable pain which fhe felt from blifters, and from the very uneafy fenfation, which was occafioned by every red pimple that role on her face, found more benefit from a long courfe, first of the cold bath, and afterwards of feabathing, than from bark, bitters, chalybeate waters, and various other remedies.

To prevent miftakes, it may be proper to mention here, that while I recommend bitters, the bark, elixir of vitriol, chalybeates, and cold bathing, as the beft ftrengtheners of a delicate nervous fyftem, I do not mean that all thefe

thefe are to be used, especially at once, by the fame patient. In fome cafes, the tincture of the bark with fome bitters will be fufficient: In others, more benefit may be found from fteel in fubflance, or from the chalybeate waters; and fometimes cold bathing may fucceed, or at leaft make the cure more. compleat, after internal strengtheners have in a good measure failed. I shall only add, that when nervous complaints, arifing principally from a delicacy of the nervous fystem, are attended with a quick pulfe and a preternatural heat, bitters and fteel are improper; but an infusion of the bark in cold water, with elixir of vitriol, will often prove ufeful.

(e) AIR. As a cool and dry air braces and imparts vigour to the whole body, fo nothing tends more to relax and weaken than hot air, efpecially that which is rendered fo by great fires, or by floves in fmall rooms.

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WHEN the ftomach and bowels are weak, the body ought to be well guarded against cold, especially in winter, by wearing a thin flannel waistcoat next the skin; for this will keep up an e qual perspiration, and defend the alimentary canal from many impressions to which it would otherwise be subject, upon every sudden change from warm to very cold weather.

(f) ALIMENT. The food ought to be nourifhing, but of eafy digeftion, and fuited to the ftomach of the patient. Fat meats and heavy fauces are hurtful. All excefs is to be avoided. Valetudinarians ought never to eat more at once than they can digeft with eafe. Every time the ftomach is overloaded, its ftrength is impaired, and its nerves are difordered; but when one eats moderately, not only the ftomach, but the whole body is invigorated and repaired. Above all things heavy fuppers ought to be avoided, fince the ftomach

mach is more apt to be oppreffed, with the fame quantity of food, in a horizontal than in an erect pofture; and fince the digeftion goes on more flowly in time of fleep, than when we are awake.

WINE in excess enfeebles the body, and impairs the faculties of the mind. A few glaffes in time of eating, or after it, may be ufeful, but more will load a weak flomach, and retard digeftion. The best time to drink a little wine, is upon an empty ftomach; for the liquor being, in that cafe, lefs weakened and more readily applied to the nerves. there, must have the greater effect in ftrengthening them. When my ftomach has been weak, and when, after having been indifpofed, I had hot palms, was languid and apt to fweat upon motion, I have often found myfelf much better for a glafs of claret, and a bit of bread, an hour or more before dinner; in this cafe, the wine cooled me, made my pulse flower, and gave

gave me more fpirits and ftrength. I have ordered claret in the fame way to others, before dinner, and between feven and eight in the evening, with advantage. When children are weakly, have a tendency to the *fcrophula*, or are inclined to the rickets; or when they have been much reduced by a fit of teething, I find a little claret once or twice a day, upon an empty ftomach, an excellent ftrengthener, and the beft *fuccedaneum* to the bark, which many children will not take.

THESE good effects of wine thus used, feem not to have been altogether unknown to Celfus, who tells us "Si quis "vero stomacho laborat, non aquam, sed vi-"num calidum, bibere JEJUNUS debet *."

WINE in general, is preferable to malt-liquor, as being lighter, lefs apt to ferment, and lefs flatulent. For common drink, water alone, or with a little wine, is the lighteft and beft; but when Z the

* De medicina, lib. 1. cap. viii.

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the flomach and bowels are troubled with acidity, water mixed with a finall proportion of rum or brandy is greatly preferable to wine or malt-liquor.

UNDER this head, it may not be improper to obferve, that the frequency, now-a-days, of ftomach complaints, and nervous ailments, as they are commonly called, may be partly owing to the too great use of tea. I once imagined tea to be in a great measure unjustly accufed; and that it did not hurt the ftomach more than an equal quantity of warm water; but experience has, fince, taught me the contrary. Strong tea drunk in any confiderable quantity, in a morning, especially if I eat little bread with it, generally makes me fainter before dinner than if I had taken no breakfast at all; at the fame time it quickens my pulse, and often affects me with a kind of giddinefs. Thefe bad effects of tea are most remarkable when my ftomach is out of order.

(g) Ex-

(g) EXERCISE. Exercise is of fuch use for strengthening the nervous fyftem, that, without its affiftance, the most powerful medicines will prove often ineffectual. Of all kinds, riding on horfeback has been justly effected the beft: It has been particularly extolled by Sydenham in hypochondriac and hyfteric diforders. It greatly promotes digeftion, fanguification, the diffribution and fecretion of all the fluids; and ftrengthens the whole body, as well as the ftomach and bowels. Riding is preferable to walking, as it fhakes the body more and fatigues it lefs. But it is proper to obferve, that any great exercife, efpecially riding on horfeback, after a full meal, will diforder the ftomach, and retard digeftion, inftead of promoting it.

THE ingenious Dr Gilchrist of Dumfries, has recommended failing, as a kind of exercise well adapted to the cure of nervous complaints arising from a weak state of the blood and alimentary canal,

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and has given fome inftances of its good effects*. But as we find it very difficult to prevail with any patient in this place to undertake a long fea-voyage, I can fay little on this head from my own experience. However, I have not only been well informed, that a Gentleman, who had been long fubject to epileptic fits at land, was never feized with them when at fea; but a young Gentleman, lately my patient, who had a very delicate nervous fystem, and whose stomach and inteffines were fo uncommonly fenfible, that a fingle ftool, procured even by the elixir facrum, made him faintifh; and vomiting or purging was almost fure to bring on fainting fits with flight convultions: This perfon, I fay, had his conflitution fo changed while he was at fea, that altho' during a voyage of four or five weeks, he vomited much every day, and purged frequently; yet he had neither any and visionamile back and faintings,

* See his Treatife on the use of Sea-voyages in medicine.

faintings, nor was fenfible of any particular weaknefs in his ftomach or bowels. After this voyage, he had no return of those fits to which, for some time before, he had been liable, till at the distance of eight months, when he applied a blister to the under part of his breast; the pain of which, when the plaister was taken off, occasioned faintings with flight convulsions.

FRICTION of the legs, arms, trunk of the body, and *abdomen*, with a flefhbrufh, with flannel or a coarfe linen cloth, is a kind of exercife that ftrengthens, promotes the circulation, and is particularly beneficial when the bowels are weak.

LYING too long in bed will weaken and relax, while early rifing, like gentle exercife or cool air, will brace and invigorate the body.

(b) AMUSEMENT. The mind ought to be diverted and kept as eafy and chearful

chearful as poffible; fince nothing hurts more the nervous fyftem, and particularly the concoctive powers, than fear, grief, or anxiety.

2. BUT as the remedies (a, b, c, d, e, f, g, h,) above mentioned, however proper for mending a delicate flate of the nerves in general, or of those of the alimentary canal in particular, must often be used a confiderable time before they can produce any great effects, it becomes frequently necessary to have recours to medicines of another nature; in order to palliate those uneasy fymptoms with which nervous and hyfterical people are often affected.

THE principal remedies of this kind are the following, viz.

(a) SUCH as weaken, during the time of their operation, the fentient power of the nerves, and confequently leffen those pains, irregular motions or spass which arise from any unusual irritation. The chief of these is opium, which, when applied

applied, in fufficient quantity, to the nerves of any fenfible part, not only leffens their power of feeling, but, by fympathy, alfo that of the whole fyftem: By this quality, it often gives fudden relief in many violent diforders of the nervous and hysteric kind. It is of great use in fixt spasms, as well as in alternate convultions of the mufcles, and in pains not attended with inflammation; in a weaknefs, laffitude and yawning, occasioned by too great a flux of the menses, in flatulent colics, and fometimes in the true fpafmodic asthma, where there is no obstruction in the lungs, nor phlegm oppreffing them. When given, at bed-time, to the quantity of a grain, or a grain and a half, along with a little afa fetida, I have frequently feen it leffen that reftleffnefs, and those hot flushings and fick fits which many hypochondriacal people are liable to; but after being used for fome time, it lofes this effect in a great measure,

measure, unless its dose be increased from time to time. It is to be observed, that if the patient be in any degree plethoric, bleeding or some other evacuation ought to precede the liberal exhibition of opium; for this will make its good effects more certain and confpicuous, and will prevent, in a great measure, any bad confequences that it might otherwise have.

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ALTHO' opium is often proper for quieting many nervous and hyfteric fymptoms, from whatever caufe they may arife, yet it is peculiarly ufeful, when those fymptoms are principally owing to an extraordinary delicacy of the nervous fyftem.

BUT however useful opium may be in many cases, yet we often meet with patients who receive more hurt than benefit from it. Some are affected with an uncommon faintness and languor about the *pracordia*, or with startings; others with a fickness and vomiting, or

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a violent pain with cramps in the flomach, or an itching over the whole body, efpecially about the eyes and nofe. In fome few, it occafions a raving and madnefs.

ALTHO' opium, in many cafes, exhilarates, inftead of occasioning heaviness and fleep, yet it ought rarely to be given to patients who are low-spirited; for however it may relieve them for the present, yet after its effects are over, they generally become more deprest than before.

OPIUM given too largely, and too long continued, leffens the fenfibility and vigour of the whole nervous fyftem, whence, not only the ftrength of the body, but alfo the faculties of the mind are confiderably impaired.

BUT notwithstanding these bad effects of opium when too liberally used, I have feldom seen any mischief from it, as a palliative, in disorders arising from a too great delicacy of the nerves, where

where it was ordered with difcretion, and given in fmall quantities at firft. Nay, in this way, those who fuffer most from opium may be brought at length to bear it eafily; a remarkable inftance of which, I lately had in a middle-aged Lady, whom four or five drops of laudanum, taken by the mouth, affected with a violent pain and cramp in her ftomach; and fixteen drops in a clyfter, tho' it did not occasion these complaints, made her delirious for twelve hours; for this Lady having afterwards begun with one drop of laudanum, gradually role to twenty-five; nay, fhe has fometimes taken that quantity thrice a day, without feeling any of its former bad effects. In cafes of great fickness accompanied with a pain in the ftomach, and frequent vomiting, when the patient could not bear laudanum inwardly, I have ordered three or four tea-spoonfuls of it to be rubbed on the belly and region of the ftomach, afterwards

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wards applying to these parts a piece of flannel moistened with Hungary-water made hot. The effect was, that all the patient's complaints began to abate in less than an hour after the application of the *laudanum*, which I ordered to be repeated at the distance of fix or eight hours, if it was necessfary.

THERE is one inconvenience which feldom fails to attend the continued ufe of opium, viz. coftiveness, which is best remedied by taking, now and then, an aloetic pill, or fome other gentle purgative. But in fome cafes of pains in the ftomach and bowels, with indigeftion, much flatulence and belching, where laudanum, chiefly through its binding quality, did not answer fo well, I have found very good effects from the extractum byoscyami, given from a grain and a half to three or four grains at bed-time, and repeated in a lefs quantity in the morning; for altho' as an anodyne, the powers of this extract are much 364

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much inferior to those of opium, yet, by its proving often laxative, it becomes preferable to it in several cases.

(b) SUCH as, by affecting the nerves in an agreeable manner, and perhaps relaxing them, leffen the fenfe of pain, and often put a ftop to tremors, convulfions, fpafms, and an uncommon agitation of the nervous fyftem. Of this kind are the warm *femicupium*, *pediluvium*, and hot fomentations, which are frequently ferviceable in cafes where *apium* would be improper; but as they all tend to relax, they are only to be ufed by delicate people, as palliatives in urgent cafes.

(c) SUCH as, by their peculiar *ftimu*lus, powerfully affect the nerves, fo as not only to render them lefs fenfible of the irritation arifing from various morbid caufes, but alfo to communicate to them fome degree of vigour, at leaft for a fhort time.

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OF this kind are camphire, caftor, mufk, and the fetid gums. The firft and moft remarkable effects of thefe medicines are owing to their action on the nerves of the flomach; but in what particular manner they operate on thefe nerves, we know not. They do not feem, at leaft, moft of them, to poffefs any real flupifying or narcotic quality, like *opium* and other medicines of that clafs.

CAMPHIRE is very volatile and penetrating; it promotes perfpiration, and frequently acts as an antifpafmodic; it fometimes procures fleep in fevers attended with raving, where opium would prove hurtful; and I have found it of good use in rendering more quiet and composed, fome maniac and melancholic patients.

CAMPHIRE, given in large quantities to different animals, produces fleep, fometimes madnefs, a vomiting, purging, a flux of urine, the hiccup, epileptic

leptic convulfions and death*: and feveral of thefe effects are fo fudden, that they must proceed rather from the immediate action of the camphire on the nerves of the stomach, than from its being mixed with the blood.

PHYSICIANS have differed widely in their opinions concerning the nature of camphire; fome having effeemed it hot, and others of a refrigerating nature;

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* Commentar. Bononienf. tom. iv. p. 199, Sc.

The following cafe was, fometime fince, communicated to me by a friend.

A Gentleman defirous of knowing what effects a large dofe of camphire would have, fwallowed half a dram of it diffolved in a little oil of olives, and very foon after perceived an uncommon but not difagreeable glow of heat in his ftomach. After having walked abroad for half an hour, upon looking at a news-paper, he found himfelf quite incapable to underftand what he read, his head being crowded with a great many confused ideas. He now began to ftagger when he walked : and, fometime after, a dark cloud feeming to come over his eyes, and feeling other fymptoms which made him apprehend an apoplectic attack, he went to a neighbouring apothecary, with a view to get fome blood taken away ; but upon going into the open air, all thefe fymptoms began to abate ; and, in a few hours, he found himfelf in his usual health, without the affiftance of any remedy.

but as it is not my purpose to enter deeply into this difpute, I shall only obferve, that altho', in fome cafes, a glafs of claret or port, or even a dram of brandy, will render the pulse flower and the body cooler; and, in catarrhous fevers, baftard peripneumonies, pleurifies and anginas, blifters often leffen the quickness of the pulse remarkably; neverthelefs, wine, brandy, and blifters, are, in their own nature, not cooling, but heating : In like manner, camphire, as its effects in the mouth, and on the fkin and the eyes, fhew, is naturally heating; but fometimes it may cool, by leffening or removing fome diforder in the body which increased its heat and quickened the pulfe. I have known in many cafes, a confiderable fense of heat raifed in the ftomach, by a bolus of fix or feven grains of camphire well mixed with a fcruple of conferve of rofes. However, altho' I cannot agree with those who think camphire a cooling medicine,

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cine, yet I do not look upon it to be for heating as fome have imagined. Perhaps camphire may excite a lefs degree of heat in the ftomach than in the mouth, or even than when applied to the fkin; for we know that the fame ftimulating fubftances affect the nerves of the ftomach and of thefe parts very differently.

CASTOR. I cannot help thinking the virtues of this medicine, in nervous diforders, are lefs than many have imagined. When given from twelve to twenty grains, it fometimes procures reft, not, as I imagine, by any true narcotic quality like opium, but by leffening that uneafy fenfation in the ftomach from wind, which is often the caufe of watching: and indeed, caftor feems to have the best effects on those patients, whofe complaints are in a great meafure flatulent. In fome cafes, I have thought laudanum had a better effect when it was joined with caftor either in fubstance CLID

fubftance or in tincture. A Gentlewoman aged upwards of forty, much troubled with flatulence and low fpirits, was often feized, when fhe lay to fleep, with a fenfe of faintnefs about her ftomach, which obliged her to fit up, and often prevented her from getting reft moft of the night. Twenty drops of *laudanum* made her drowfy, but did not remove the faintnefs; this, however, was effected by adding to it a teafpoonful or two of the *tintl. caflorei compofita*.

MUSK is lefs heating than caftor, and may be given in cafes, where neither it nor opium are proper. Altho' the finell of mufk is offenfive to many, yet I have fcarce ever found it difagree with the ftomach. It is chiefly ufeful in the fubfultus tendinum in fevers, in the hiccup, cramps in the ftomach, and other fpafmodic diforders. I have tried it in the chincough and the true fpafmodic afthma, but it was given in too A a fmall

small doses to determine, with certainty, as to its virtue in these difeases. Two or three grains of musk well rubbed with a little fugar, and mixed with half a table-spoonful of mint-water, will fometimes ftop the vomiting occasioned by teething in children. The good effects of mufk are frequently lefs confpicuous from its being not genuine, or taken in two fmall dofes. Riverius mentions it as having, in his time, been given with fuccefs, to the quantity of thirteen grains, in a hysteric fit; and now it is common to order it in this, or a larger dose, three or four times aday. oddA- . requerq an wally los a

ASA FOETIDA is the ftrongeft of the fetid gums, and almoft the only one that I have been in ufe to preferibe internally in nervous or hyfteric cafes. It has good effects in flatulent diforders, and fpafins of the alimentary canal, and in afthmatic fits that are either owing to wind in the ftomach, or increafed by it.

it. In cafes where fudden relief is wanted, it ought to be given diffolved in fome of the fimple waters. I have often given with advantage, pills of afa fætida, p: iii. aloes and fal. mart. ana p. i. to patients who, along with a coflivenefs, were troubled with flatulent pains working up from their bowels to their ftomach, and producing ficknefs and vomiting. These pills were taken every night, or once in two nights, in fuch quantity as to keep the body gently open. Afa fætida, like caftor, fometimes procures fleep; it gives relief in fits of lownefs, efpecially when diffolved in fpirits, or joined with the volatile falts; but a too frequent repetition of fuch warm medicines hurts the ftomach civiler of vincein and watchel as

WHEN nervous or hyfteric complaints are attended with a quick pulfe and a feverifh heat, the fetid gums, camphire and *caftor*, on account of their heating quality, ought to be given

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very fparingly, or not at all. They are much better adapted to cafes where the pulse is low and flow. As we do not know the particular manner in which each of them operates on the nerves, fo we cannot tell, before trial, in what conftitutions they will, feverally, be most fuccessful. Frequently, one of them will answer where another has failed : nay, fuch is the uncommon difposition of the nerves of the stomach in fome cafes, that a table-fpoonful of the juice of lemons, unmixed with any thing, has never failed to relieve a palpitation of the heart, after many of the medicines called antihyfteric had been tried in vain: and agreeably to this, we are told by Riverius, that a draught, or a clyfter of vinegar and water, has often given immediate ease in a hysteric fit *. jup a dir hobesta attended with a qui .* th oir

It is to be remarked, that the feveral medicines mentioned under this head,

(2) is beating quality, ought to be given

Praxis medica, lib. xv. cap. vi.

(2. a, b, c,) are chiefly ferviceable as palliatives, for leffening or removing the prefent pain or other complaints in nervous and hysteric cafes, but not for giving any durable ftrength to the body, or firmnefs to the nerves, upon which depends the radical cure. However, when those diforders do not proceed to much from a general debility of the nervous fystem, as from a morbid or unnatural state of the nerves of the ftomach, or fome other part, long continued palliation may fometimes make a cure; for while the palliative remedies leffen the bad effects of this diforder of the nerves, Nature, either by herfelf, or with their affiftance, at length expels or fubdues the morbid caufe. Thus obflinate headachs, as well as feveral other complaints commonly reputed of the nervous kind, have been cured, after other remedies had failed, by the long continued use of opium, as will appear from the following cafes, which

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which were communicated to me by a friend.

N. N. AGED 28, healthy and ftrong, after a fea-voyage of three months, during which he was almost constantly fick at the ftomach, but never vomited, was much exposed to cold in a long journey he made by land. At this time, fomething happened which greatly vexed him, and foon after, he began to be affected with a fixt pain in his forehead, which increasing by degrees, at last fpread over his whole head. I faw him first, about two years after the headach began, at which time he complained of a conftant pain, attended with a weight and heavinefs, in his head; he had befides fharp flying pains in different parts of it, as if a nail had been driven into them. At certain times the headach increafed greatly, and was attended with a quick pulle. He frequently paffed great quantities of pale water, efpecially in violent fits of the headach.

headach. His fleep was diffurbed with frightful dreams, from which he used fuddenly to awake in terror, and with a fense of great oppression. He was generally low-fpirited, fufpicious and peevifh, tho', on fome occafions, he was uncommonly chearful. The least contradiction threw him into a fit of melancholy. He felt a tenfion about his eyes, efpecially when his head was much pained. There was fcarce any fecretion of mucus from his nofe; and fo moveable was his nervous fyftem, that if he retained his water too long, or hurt his nofe ever fo little, by haftily bringing away from it some of the hardened mucus, he never failed to have an increase of his headach. He was liable to fits of fickness at his ftomach, and often threw up a clear watery humour without tafte or finell. He was generally coffive and his pulfe good, except when attacked with the violent fits of pain in his head, which nothing was fo apt to bring on, 25
as any intense thought or long-continued application of mind. Involuntaria penis erectione, cum seminis plerumque emissione, tam die quam noctu sepe tentatus fuit.

For three years after I had first feen him in this condition, he continued under the care of fome phyficians of character in Italy, who, having preferibed for him a variety of medicines without any advantage, gave him up as incurable. Upon this I told him one remedy still remained, which might be of fervice, viz. opium; and as he readily agreed to my advice, I began with giving him half a grain every night at bed-time. I also diffolved two drams of strained opium in four ounces of fpirit of wine, and ordered him to rub a little of this on those parts of his head which were most pained. The dose of opium at bedtime, was gradually increased to a grain and a half, and fometimes he took a grain twice a-day. He had not used the opium a month, before he became fenfibly

fenfibly better, and in eight or ten months found himfelf free from all his most troublesome complaints. After this, he began to leffen the dofe of the opium, and to take it only once in two nights, and fometimes feldomer. Only, when, from vexation or any other caufe, he was threatened with a fit of the headach, he immediately had recourfe to the opium in a larger quantity. He was advised to use exercise daily, and to keep his mind as eafy and chearful as poffible. At first he drank a few glasses of wine at his meals; but, after he had taken the opium for fome time, he found that. a fingle glass of wine heated him, and made his headach worfe; on which account he confined himfelf to water alone. The third year after he began to use the opium, he was fo free from his complaints, that, during the fpace of twelve months, he did not take above three dofes of it.

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It may be worth while to remark, that this patient was fo fenfible of any change of weather, that, by a general feeling of weaknefs and inactivity, and of pains in his joints, he could have told, in the morning before he got out of bed, that the weather was moift and rainy, or the winds eafterly or foutherly.

M. N. AN unmarried woman aged 30, after confiderable vexation of mind, began to be feized in much the fame manner with the above patient, and had taken medicines for five years to little purpose. The chief fymptoms were a conftant and fevere pain over her whole head, especially the back-part, a stiffness in the muscles of the neck, great pain and loofenefs of her teeth; diffurbed fleep, frightful dreams, low fpirits, fhakings and tremblings of her whole body, cold and hot fits by turns, flufhings in her face, flatulence and fwelling in her ftomach with frequent belchings, inactivity, lofs of appetite, flying pains all

all over her body, and inability to apply with attention to any thing ferious. In fummer 1759, fhe began to take the opium in the fame way with the former patient. In three weeks fhe found herfelf fomewhat eafier, and after fix weeks was much better in every refpect. Her headach was mostly gone, her teeth were free from pain, and firm, her fleep much lefs diffurbed, and the flufhings and shakings in a great measure removed. For about two weeks after fhe began to take the opium, fhe was troubled with gripes, which however went off after being longer ufed to this remedy. A folution of opium in fpirit of wine was often applied to her head and neck, and always gave her eafe.

II. WITH regard to the fecond intention of cure, which was to correct or remove the occafional caufes, which, efpecially in fuch as are predifpofed, give rife to all the nervous, hypochondriac and

and hysteric fymptoms; as these causes are various, the medicines must be often different: Nay, what is proper in one cafe, may be hurtful in another.

THE occasional causes were diffinguished before into the general and particular.

THE general causes were,

I. SOME morbid matter bred in the blood.

2. THE diminution or fuppression of fome habitual evacuation.

3. THE want of a fufficient quantity of blood.

THE particular causes were,

I. WIND

2. TOUGH phlegm { in the ftomach 3. WORMS and bowels. 3. WORMS

4. ALIMENTS improper in their nature or quantity.

5. OBSTRUCTIONS, frequently of the fcirrhous kind, in the abdominal viscera.

6. SUDDEN

6. SUDDEN and violent affections of the mind.

IN order therefore to treat diffinctly of the fecond intention of cure, it will be neceffary to mention particularly the different remedies, which are most likely to leffen or remove these feveral causes.

I. SOME morbid matter in the blood. (a) As we are often ignorant of the nature of that matter in the blood. which is the caufe of nervous diforders. fo we must be often at a loss how to correct or expel it. When I fufpect it to be of that kind which produces the arthritis vaga, from knowing the familydistemper of the patient, his constitution, and manner of life, or his being much troubled with flying pains in his head, arms, or limbs, I rely most upon a proper diet and exercife, with the tincture of the bark and bitters mentioned under the first intention of cure, in order to prevent the generation of this

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this matter; or gradually to fubdue and carry it off, when already generated. But fuppofing the bark and bitters had no power to deftroy the arthritic matter in the blood, which feems most probably to be the cafe, yet by ftrengthening the ftomach and bowels, they may not only retard the generation of more, but prevent, in a great measure, an attack upon these parts; which are obferved to fuffer most, when, from any cause, they have been much weakened, or otherwise put out of order.

THE reputation which bitters have had in gouty cafes, among the antient, as well as fome of the modern Phyficians, led me to think, that a well chofen medicine of this kind might be very ufeful in nervous, hypochondriac or hyfteric complaints from an arthritic matter in the blood: And altho, in patients in the decline of life, the tincture of the bark and bitters has often failed me, yet in those who were under forty

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or fifty, I have found it do more fervice than any other remedy.

WHEN the patients are liable to fits of the true gout, I increase the proportion of the *rad. gentian.* and *cort. aurant.* in the tincture, adding at the fame time fome nutmeg or ginger, especially if the stomach be cold and statulent. In this case also, the tincture may be taken to the quantity of two table-spoonfuls twice a-day.

I HAVE known an indigeftion and flatulence, with a pain and ficknefs at the flomach from the gout, greatly relieved, after other medicines had failed, by drinking, thrice a-day, fix ounces of a flrong decoction of feveral of the common bitters * in water: And a Gentleman of my acquaintance, who had been much troubled, for fifteen years, with a pain in his flomach, has been cured by chewing two drams of the

* Viz. Rad. gentian. calom. aromat. cort. aurant. fummit. abfynth. centaur. min. card. benedict. with fem. carv.

the roots of gentian daily. This kept his body open, and increafed his appetite; it began to give him eafe in a few days; and when, upon omitting it, the pain returned in a leffer degree, it was quickly removed by having recourfe to the gentian again.

A MILK diet which, fometimes, has proved a radical cure for the gout *, has been commended by Sydenham in certain hysteric cases, after other medicines have failed †. I can fay little of its effects in either cafe from my own experience. We meet with few patients who will confine themfelves to this diet, and, in feveral cafes, it is improper to advise it. About eighteen years ago, I had a patient aged 48, who, on account of an ulcer in his lungs, restricted himfelf for many months to a diet of milk and vegetables alone, and after he got free from that difeafe, continued to live

* Celfus de medicina, lib. v. cap. xxiv. + Differt. Epiff. ad D. Cole.

live in this way for feveral years. This perfon, who was of a very full habit, and had been formerly attacked once a-year, at leaft, with the gout, remained free from this diftemper for feven or eight years, that is, till fome years after he had returned to the use of flefhmeats and fermented liquors.

LIME-WATER is faid to have been drunk fuccefsfully by feveral gouty patients*. I have only had one who gave it a decifive trial. This perfon was aged about fifty, and had for feveral years been fubject every winter to a fmart fit of the gout. In February or March 1758, he began to drink daily an English quart of lime-water, living at the fame time very temperately. Before the end of the first year, he had a very flight attack of the gout: about the end of the fecond year, he had rather lefs of this difeafe; but after he Bb had

* See Alfton's Differtation on quicklime and lime-water, part iii.

had continued drinking the lime-water conftantly for near three years, he was feized with a fevere and long continued fit of the gout, in both his hands and both his feet. This patient obferved, that the lime-water, when drunk warm, mended the ftate of his ftomach, when it was difordered before the coming on of a fit of the gout, and he thought it had a good effect in driving this difeafe to the extremities. The lime-water agreed perfectly well with him, and mended his appetite.

FROM this cafe it may be fairly concluded, that lime-water does not radically cure the gout, or deftroy the arthritic matter in the blood, altho', by ftrengthening the flomach and inteftines and preventing acidity in them, it may render the attacks of this difeafe lefs frequent, and in fome perfons, perhaps, lefs fevere*.

WHEN

* It may be proper to mention, that a patient of Dr Clerk's, Phyfician to the Royal Infirmary here, who used to have

WHEN lime-water is drunk for the cure of nervous complaints from an imperfect gout, it ought to be taken to the quantity of at leaft an English quart daily; as, at first, it is sometimes apt to occasion an uneasy heat in the stomach, a little sweet milk may be added to it; but afterwards it is better to drink it alone. In the winter-feasion, and when the stomach is more difordered than usual, the lime-water ought to be drunk nearly blood-warm.

SOAP has been proposed by the late Doctor John Clerk, a Physician of distinguished character in this place, as the B b 2 proper

certain from my own experience, not

have a fevere and long continued fit of the gout once in two years, has been kept free from this difeafe for near three years paft, by drinking off, at once, an English quart of lime-water, every forenoon about eleven o'clock. The lime-water taken in this way, always purges him twice or thrice about three o'clock in the afternoon. But as this perfon is of a very full habit of body, it is probable that the lime-water has proved useful to him, rather by that daily evacuation which it occasions by ftool, than by any virtue it possefies of deftroying the arthritic matter in the blood.

proper folvent of the arthritic matter in the blood*. It has fometimes been of ufe in old rheumatifms, and may be properly taken along with the lime-water, as it prevents coffiveness and deftroys acidities in the ftomach and bowels.

As fome perfons fubject to the true gout, have found great benefit from drinking, twice a-day, about a gill and a half of a ftrong infufion of tanfy in boiling water, it is probable the fame medicine might be ufeful in those complaints which arife from an imperfect gout affecting the ftomach and other parts. But of this I can fay nothing certain from my own experience, not having had any patient who gave the tanfy a fair trial.

Issues and perpetual blifters have been often of use in headachs, and in the sciatic or chronic rheumatism affect-

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* See Dr Pringle's Obfervat. on the difeafes of the army, part iii. chap. ii. edit. 1st.

tion which it occasions by stool, than by any

ing one leg; but I have not found them do much fervice in nervous or hypochondriac complaints from an arthritic humour.

(b) I HAVE obferved above, that complaints of the nervous kind fometimes proceed from that kind of humour in the blood, which is commonly, but improperly, called fcorbutic; and which, when it is thrown out on the fkin, ap pears in the form of tetters, fcurfy eruptions or the *lepra Gracorum*. In this cafe, we must endeavour to drive the morbid humour outwards to the fkin, by vomits, warm ftomachics, and fudorifics; after which the radical cure must be attempted by mild mercurials, and the purging mineral-waters.

THE method which I have always found fuccefsful, at leaft in flighter cafes, is to give twelve grains of the *pilulæ æthiopicæ* every night at bed-time, and every other morning a dram or a dram and a half of polychreft falt diffolved in

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an English pint of water*. The falt, befides otherwise contributing to the cure, opens the body, and prevents the pills from raising a falivation, which they are fometimes apt to do. These medicines are to be used till the fourfy or leprous eruptions quite disappear. When the obstinacy of the disease requires it, I give the pills both morning and evening.

ALTHO' the true *fcurvy* is a difeafe rarely obferved, except in thofe who live at fea, or in marfhy places, yet we frequently meet with patients, who have fome degree of a fcorbutic taint in their blood, as appears from their fpungy gums, a laffitude and other complaints. I have had feveral patients of this conflitution, who were deeply affected with the hypochondriac difeafe; their chief fymptoms were low fpirits or melancholy, watching, flatulence, frequent fpitting

* In place of this folution of the polychreft falt, I have fometimes ordered fea-water to be drunk.

fpitting of the *faliva*, a bad digeftion, flying pains, a tightnefs about the *pracordia*, a dark colour and troubled look. I have never fucceeded in curing any of those patients; but a long course of the tincture of the bark and bitters with elixir of vitriol, and daily exercise, seemed to agree better with them than any thing elfe. When they are costive, I order, once in two or three days, as much foluble tartar as is necessary to open them gently.

(c) WHEN nervous fymptoms are occationed by fome morbid matter remaining in the blood, in confequence of fome former difeafe imperfectly cured; we must have recourfe to fuch remedies as are best fuited to the nature of that difeafe or the circumstances of the patient.

THAT humour which produces the rafh or miliary eruption, when it falls on the internal parts, inftead of being thrown out upon the fkin, generally occasions

occafions a great depression of spirits, anxiety and faintness, pale-water and watching, and sometimes raving and convulsions. In this case, I have found most advantage from the warm *pediluvium*, or warm somentations applied to the feet and legs, from blisters, wine, whey, and boluses of camphire, fassion and falt of hartshorn. When in the miliary fever, the patients are much oppressed at the stomach, and complain of a difficulty of breathing, a gentle vomit of ipecacuanha, or of an infusion of camomile, often gives relief.

THE warm *pediluvium* and fomentations often procure fleep, and give fome immediate eafe to the patient; they likewife contribute to promote the miliary eruption, by removing that tenfion or fpafinodic contraction of the cutaneous veffels which frequently retards it. Where the patients are in any degree plethoric, bleeding will often, not only give fome prefent relief, but, by

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by relaxing the vafcular fyftem, will alfo contribute to the expulsion of the morbid matter by the fkin.

2. WHEN nervous hypochondriac or hyfteric fymptoms proceed from a diminution of fome habitual evacuation; that evacuation is to be promoted by the proper remedies.

(d) WHEN the menfes are obstructed, we must endeavour to recal them, and, till that can be done, the most troublefome fymptoms are to be palliated. There are few cases in which we are oftener disappointed than in bringing back the monthly evacuation, after it has been long suppressed; and the medicines proper in one case, may prove ineffectual or even hurtful in another.

WHEN the want of good blood is the caufe why the *menfes* do not flow, the beft remedies are the bark, bitters, and fteel, together with a nourifhing diet, and exercife. After the patient has, by thefe means, got more and better blood,

it ought to be determined to the uterus by frequent doses of tinctura facra, and by making the patient fit every evening over the fteams of warm water.

IF a plethora or a too great abundance of blood prevents the flux of the menfes, bleeding, efpecially in the foot or at the ancle, and gentle purges, will prove moft effectual.

WHEN the thickness or viscidity of the blood hinders it from making its way through the uterine veffels, frequent vomits, and the pilulæ mercuriales laxantes, or gentle purges with calomel, will anfwer beft. yo villagen and sland

- LASTLY, when the fuppreffion of the menfes has been owing to a spalmodic contraction of the uterine veffels, in confequence of cold, fome violent paffion, or other caufes, the chief remedies are the warm femicupium and pediluvium, oily draughts, and pills of aloes, afa fatida, extract of black hellebore, and faffron. A clyfter of warm water, with thirty

thirty or forty drops of *laudanum*, may be given, in the evening, about the time the *menses* fhould return.

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OBSTINATE obftructions of the monthly evacuation in women, have fometimes been cured by electrifying them, and drawing the fparks chiefly from their thighs. But Dr *Clerk* informs me, that he has obferved this remedy to fucceed beft in those whose pulse was fmall and languid.

Some young women, about the time of the return of the menfes, are apt to be feized with violent pains in their back and belly, with faintings, raving, and fometimes convultions. In fuch cafes, the warm femicupium is of great ufe; but as, often, this cannot be readily got, I have generally ordered, with fuccefs, a clyfter of warm water with fifty drops of laudanum, and a flannel bag with the emollient herbs to be wrung out of hot water, and applied to the abdomen. When the patient has been

been costive, a laxative clyster with asa fatida must be given to procure a stool, before the anodyne one is injected.

In the intervals between the returns of the menfes, in order to render the patient lefs liable to the above mentioned complaints, I have advifed, with good effect, the frequent ufe of the warm pediluvium, fome dofes of the pilulæ rufi, and those oily draughts, which, in this cafe, were much commended by Sir David Hamilton*; and which I have alfo found of good ufe in pains of the bowels, in those whom the menfes had left.

I HAVE fometimes met with unmarried women, who were liable to be attacked with faintings and convulfive fits, after every period of the *menfes* was over; which feemed to be owing to this evacuation being lefs copious than ufual, In a cafe of this kind, the following remedies

* De Praxeos regulis, cap. iii.

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medies used for two or three months proved fuccefsful.

R, Aloes focotrin. Af. fætid. Extract. hellebor. nigr. Sal. Mart. Dollars od or endored Croc. Angl. ana drach. i. Elix. proprietat. q. f. ut. f. pil. gr. iv. Quarum capiat v. vel vi. alternis noctibus. R. Rad. Gentian.

Calam, aromat, ana unc. i. Summit. centaur. min. drach. vi.

M. f. materialia infundenda, per hor. vi. in aqu. bullient. lib. iv. colatur adde

Tinct. Cort. Peruvian. unc. x. Mifce. Cape unc. iii. bis in die.

ALONG with these medicines the pediluvium was used every night at bedtime. 1 1

WHEN, in the decline of life, the menses cease, various nervous or hysteric fymptoms appear, which are generally leffened, and fometimes removed, by frequent finall bleedings, gentle ftomachic purges and iffues.

(b) IF the haemorrhoidal flux is wanting in those who have been accustomed

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to it, we must endeavour to recal it by emollient fomentations, and aloetic medicines. When these or other remedies prove ineffectual, *Hoffman* has advised leeches to be applied near the *anus* once **a** month.

(c) WHEN old ulcers, or fores too quickly dried up, have given occafion to nervous diforders, purgatives, and efpecially iffues or a feton, will be most fuccefsful in carrying off that humour which difturbs the body.

(d) WHEN pimples or other eruptions on the face have been fuddenly repelled by improper applications, violent headachs, giddinefs, ficknefs at the ftomach, palpitations, and other nervous fymptoms have been, fometimes, the confequence. In fuch cafes, if the morbid humour cannot be brought back to the face, we muft try to carry it off by perpetual blifters or iffues in the head or neck, and by mercurial purges.

3. WHEN

3. WHEN nervous or hyfteric complaints are occafioned by a want of blood, in confequence of an immoderate flux of the haemorrhoids, *menfes*, or *lochia*; the cure confifts in reftraining thefe evacuations, and filling the veffels by means of fuch aliments as are light and nourifhing, but not heating. In the meantime, the violence of the fymptoms muft be abated by anodynes and wine, or other cordial medicines. A horizontal pofture is here of confiderable ufe.

THE medicines which I have found most fuccessful in restraining an immoderate flux of the menses, are the tinstura rosarum, terra Japonica, alum, opium, and elixir of vitriol.

I HAVE fometimes given the alum mixed with *terra Japonica* as in the *pul*vis flypticus; but of late I have preferibed it more frequently, in the following form, as being lefs difagreeable to the ftomach.

R. Lact. recent. bullient. lib. i.

Alum. rup. pulverat. drach. i. ad drach. i. fs. Mifce

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ut fiat coagulum ; et fero colato adde Sacchari albi unc. i. Cape unc. iii. quater in die.

IF the alum-whey occafions a fournefs in the ftomach with a cardialgia, a fcruple of crabs eyes or prepared oyster-shells twice or thrice a-day, will be ufeful. In one cafe, the alum-whey leffened a profluvium mensium after the patient had taken, for fome time, forty drops of the tinctura antiphthisica thrice a-day, without any benefit. The fame medicine alfo cured a fluor albus of feveral years flanding. W

I HAVE not observed remarkable effects from the bark, in ftopping haemorrhages. After an immoderate flux of the menses had refifted that medicine taken in substance for near a fortnight, I have feen it yield in two or three days to fuch a mixture as the following,

R. Aqu. menth. unc. vi.

Cinnamom. f. v. unc. ii. Confect. Japon. drach. vi. Syr. limon. unc. ii. Misce. Cape cochl. ii. 4ta vel 6ta quaque hora. oT Alum top, pelverst, diach, i. ad drach, i is. Milles

To remedy the coffiveness which this mixture generally occasions, it becomes necessary once in two or three days, to order either some rhubarb or a laxative clyster.

THE bark, which is more remarkable for its ftrengthening than aftringent quality, feems to be lefs adapted for ftopping haemorrhages, than for reftoring ftrength to thofe who have been reduced by them. However, it is often very proper, not only to give the bark after the flux of blood is leffened, but alfo, at the fame time, with fome of the ftronger aftringents.

WHEN a profluvium menfium, or a flooding after abortion, is attended with, or preceded by an acute pain, not inflammatory, in the lower part of the back or belly, and returns with greater violence; as often as the pain returns or increafes, opium will prove a more effectual remedy than any of the aftringents, as happened in the following cafe.

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MRS D-, aged between 30 and 40, having gone abroad too foon after an abortion in the fourth month of her pregnancy, was feized with a violent pain in her back and the lower part of her belly, which returned once in eighteen or twenty hours, and was always attended with an exceffive flooding, which abated when the pain left her. Having been called, after fhe had ufed feveral aftringent and ftrengthening medicines with very little advantage, I ordered a clyfter of fix ounces of an infusion of dried red rofes in boiling water with fifty drops of laudanum, to be given every night at bedtime, and once in two days a laxative clyfter in the morning, if it fhould be neceffary. After the first anodyne clyfter, fhe had little either of the pain or flooding, and after the third, was quite cured of both thefe complaints. Ludovicus

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Ludovicus Septalius*, and after him, Sir David Hamilton[†], has commended a ftrong decoction of bitter orange-fkins, as a most effectual remedy in a profluvium mensium; and I have been informed by an able Physician, that he has preferibed it once and again with fuccess in the following manner:

R. Cort. aurant. Sevil. recent. integr. vii. Coque ex aqu. fontan. lib. iii. ad lib. ii. Colaturæ adde facchar. alb. unc. i: Elix. vitriol. gutt. lx.

Cape cochl. vi. tertia quaque hora.

I HAVE known the fluor albus cured, in a great measure, by a course of seabathing, after many powerful medicines had been tried in vain. The same remedy, in the intervals of a profluvium mensium, has contributed much to less that flux; and a Lady aged between 40 and 50, a patient of mine, who was fo much distressed with the bleeding piles, that she rarely went to shool with-C c 2 out

* See Animadverf. med. lib. vii. art. 144. † De Praxeos regulis, cap. iii.

out lofing a great deal of blood, found more benefit from fea-bathing than from any thing elfe. It not only leffened the difcharge of blood from the haemorrhoidal veffels, but foon gave her a better appetite, more ftrength, and a frefher colour.

AND thus much may ferve for the cure of the general occafional caufes of nervous, hypochondriac, and hyfteric diforders: I come next to mention the method for leffening or removing their particular caufes, viz.

I. WIND in the ftomach and bowels.

As this proceeds either from a debility or fpafmodic affection of the alimentary canal, or from improper aliments; the remedies for performing the radical cure may be found under the first intention of cure above*, and below under No. 4, where the treatment of nervous complaints, arifing from errors in diet,

* See above, page 334, Sc.

diet, is laid down. The medicines proper for giving immediate relief for the uncafy fenfations occafioned by flatulence, will be mentioned afterwards. when I come to treat of the cure of fome of the principal fymptoms of the nervous or hyfteric kind.

2. TOUGH phlegm bred in the ftomach and inteffines.

THE cure of this phlegm is often tedious and difficult, and, in many cafes, can by no means be obtained : For altho', by repeated vomits, we may clear the ftomach of the prefent load, yet unless that organ is fufficiently ftrengthened and its fecretory veffels reftored to a found state, more phlegm will be continually produced. Wherefore, befides frequent vomits, we must have recourfe to the bark, bitters, chalybeates, animal food and exercise, especially riding or failing *. Repeated dofes of the tindura tindura

· Si vero pituita stomachus impletur, utilis navigatio. Celjus de medicina, lib. iv. cap. v.

tinctura rhabarbari amara, or elixir facrum, are not only ufeful for ftrengthening the ftomach and bowels, but for carrying down and evacuating part of the phlegm that diforders them. I have fometimes thought that the emplastrum ftomachicum applied to the epigaftric region was of ufe.

THOSE who are apt to breed much phlegm in their ftomach, generally find it neceffary to take a vomit once in ten days or a fortnight, and fometimes oftener. When a vomit of *ipecacuanha* is taken, either an infufion of horfe-radifh fhould be drunk, or a little brandy, or powder of muftard fhould be added to each draught of the warm water; for thefe, by their warm *ftimulus*, tend to invigorate the ftomach, at the fame time that the phlegm oppreffing it is evacuated.

As lime-water diffolves *icbthyocolla*, and other glutinous fubftances, I thought it might be worth while to try what effect

It is a matching lib iv. capt will

it would have on the tough phlegm bred in the ftomach. With this view, I poured three gills of lime-water on a gill of that phlegm newly vomited up, and mixed them well together: at first, the phlegm feemed to be rendered fomewhat thicker by the lime-water; but, after ftanding five or fix hours, it was quite diffolved. After this, one of my patients, at my defire, mixed one part of very tough phlegm, brought up from his flomach by a vomit in the evening, with two parts of lime-water; and upon examining this mixture next morning, he found the phlegm had wholly loft its tenacity. This Gentleman, at the fame time, mixed fome of the phlegm with common water; but after flanding 24 hours, it retained its tenacity in a great measure, altho' it was rendered thinner by the mixture of the water.

WHEN lime-water is used with a view to the cure of phlegm in the stomach, it should be drunk to the quantity

tity of near an English pint, every morning upon an empty stomach, and nothing should be taken for two hours after. An hour and a half before dinner, and as long before supper, half a pint should be also drunk.

FURTHER, as often as an emetic is ufed, the patient, fome time after its operation is over, fhould first of all take a draught of lime-water, which in this cafe, will act more strongly in disfolving any phlegm that may remain in the stomach, as well as in bracing its relaxed pores and vessels.

WHEN together with a tough phlegm there is a confiderable degree of acidity in the ftomach, I have known good effects from ten grains of the *fal abfynthii* or falt of tartar given twice a-day. When the ftomach is quite free from acidity, the elixir of vitriol may be of ufe to ftrengthen its veffels, altho' it has no effect in diffolving the phlegm,

3. WORMS

3. WORMS in the flomach and inteflines.

In this cafe, while we palliate the most troublefome fymptoms, we must endeavour to deftroy the worms by fuch anthelminthic medicines as may feem best adapted to the particular state of the patient. I shall only add on this head, that, in fome cases, I have feen good effects from an infusion of the root of the *Indian-pink**; but this remedy is certainly much less efficacious here than in *South Carolina*, and feems to lose a great deal of its virtue by being long kept.

I HAVE ordered, with good fuccefs, to fome grown perfons, fix drams or an ounce of *Spani/b* foap daily. It deftroys the *afcarides* as well as the round and flat worms. Lime-water has been much commended as an anthelminthic, but it will fcarcely be of any ufe, except when the worms are lodged in the ftomach, or high up in the inteftines; for, if they remain

* Effays phyfical and literary, vol. i.

remain in the *ileum* or the inferior part of the *jejunum*, the lime-water will be mostly all absorbed before it can reach them.

4. ALIMENTS noxious from their quality or quantity.

WHEN nervous, hypochondriac, or hyfteric diforders are owing to this caufe, or increafed by it, a proper regulation of diet is the principal remedy.

(a) IF, by a long habit of eating too little, the concoctive powers are much weakened, the patient muft, by flow degrees, increase the quantity of his aliment.

IF, on the other hand, his complaints have been occafioned by excefs in eating and drinking, he muft gradually leffen the quantity, till he has reduced himfelf within the bounds of ftrict temperance; that is, he muft never eat fo much at dinner as to make himfelf, foon after, unfit to go about any bufinefs, or apply

apply himfelf to any ftudy; and he muft make light fuppers, or none at all, if he does not find his dinner digefted.

I HAVE known fome people much afflicted with the gout, while they lived too fully, who being afterwards reduced, by neceffity, to a fpare diet, got quite free from that diftemper: And indeed, when nervous ailments have been owing to high living, or an arthritic matter in the blood; abftinence, or rather moderation in eating or drinking, is of the greateft confequence in the cure.

(b) WITH regard to the quality of the food, the patients ought to abftain from all heavy and fat meats, from whatever they find hard of digeftion, and from all flatulent aliments.

IF the ftomach and bowels have been hurt by a flatulent diet; greens, roots, fruits, and whatever is apt to breed much wind, ought to be avoided; and the
the patient fhould live chiefly on bread, rice, and flefh-meats, with a few glaffes of wine of a good body and age, and not apt to turn four.

IF heavy meats, rich fauces, and the too free use of wine or other strong liquors have hurt the flomach and bowels; the patient ought gradually to reduce himfelf to a finall quantity of wine, and cat only the lighter animal fubstances plainly dreffed, and fuch vegetables as are least flatulent. In this cafe, a diet of milk and vegetables alone may fometimes be of great fervice, which, however, must not be gone into all at once, but very gradually: And it is further to be observed, that while fome, who had been accustomed to animal food and wine, have found great benefit by abstaining from them, without losing much strength, or any spirits; there have been others of a different conffitution, who could not bear the want of fuch a diet; and, when wholly confined

confined to milk and vegetables, were not only troubled with faintnefs and lownefs of fpirits, but with great flatulence and other diforders of the prime vie: From which it may appear, how far fome have erred in recommending, without fufficient reftriction, a diet of this kind in the greatest part of nervous diforders.

IT may be obferved, that many people who have weak or windy ftomachs, efpecially fuch as are liable to the gout, find not only vegetables, but milk to agree beft with them, when they take, at the fame time, fome pepper or other fpicery: And I have known fome perfons fubject to violent attacks of the gout in their ftomach, who have been much the better for fwallowing, every morning, twelve or fixteen corns of white pepper, with the water-gruel which they took for breakfaft.

THAT abstinence from wine and flesh-meats, and a diet wholly of milk and

and vegetables, does not prevent nervous ailments, we have a ftrong proof in the poorer fort of the country people of *North Britain*, who, tho' they live on milk, whey, barley, peafe, and oat-meal, with coleworts, potatoes and other vegetables, without almost any animal food or fermented liquors, are nevertheles remarkably subject to pains in their stomach and bowels, flatulence, and other complaints of the hypochondriac or hysteric kind connected with it.

NAY, however much a milk and vegetable diet may be of ufe in fome cafes, to leffen or remove fuch diforders as have been the confequence of high living, yet, in general, it is certain that a diet of this kind is more apt to produce flatulence in the firft paffages and all the troublefome fymptoms depending upon it, than a diet confifting partly of vegetable and partly of animal food. Nay, even milk itfelf, which holds a kind of middle place between vegetable and

and animal fubftances, has been obferved by *Hippocrates*, to be hurtful to those who are much fubject to wind in their bowels*.

BECAUSE a mixture of flefh-meats with vegetable fubftances and water, kept in a heat equal to that of the human body, has been obferved to ferment fooner and much more brifkly than those vegetables and water alone, fome have concluded that vegetable and animal aliments together will produce more flatulence in the prime vie, than vegetables alone: But it ought to be confidered, that the digestion of the aliments is very different from that change which happens to them in a chymical veffel; and that, as the production of flatulence in the flomach and bowels is chiefly owing to a weaknefs of thefe parts, a difordered ftate of their nerves, or fpafmodic contractions in them ; a certain proportion of animal food, bv

* Aphor. feet. v. No. 64.

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by invigorating the alimentary canal, gratefully affecting its nerves, and rendering it lefs liable to irregular motions and fpafins, may occafion lefs flatulence in time of digeftion, than would happen from vegetables alone.

WHEN nervous complaints are owing to an arthritic matter, a diet of milk and vegetables, if the ftomach can bear it, may, by deftroying, or rather not furnishing fresh supplies of that matter, effect a cure. But where the ftomach, from its weaknefs, or the peculiar difpofition of its nerves, cannot bear the greatest part of vegetable aliments, fuch a diet would be extremely improper ; whilft the lighter animal food, in fuch quantity as can be eafily digefted, will not only nourish and strengthen the body more, but will act as an anodyne in preventing or allaying many complaints of the ftomach and bowels.

Upon the whole, no conftant rule can be given as to the kinds of food; for

for while a diet chiefly of flefh meats anfwers well with fome, others live beft on milk and vegetables, either alone or with a fmall proportion of animal food. In like manner, with regard to liquor, fome cannot do without wine, while water alone, or water with a little brandy or rum, agrees best with others. Every valetudinary perfon ought, therefore, to keep by those kinds of meat and drink, which he finds by experience to be lighteft and most agreeable to his ftomach. But whatever aliments may be used, moderation should be conftantly obferved, as people are generally lefs hurt by the quality, than by the quantity of what they eat and drink.

(c) WHEN the ftomach and inteffines have been much hurt by high living, or weakened by flatulent food; befides a proper diet, the bark, bitters, chalybeates and exercife* will be often ne-D d ceffary

* See the first intention of cure, p. 335. &c. above (a)
(b) (c) &c.

ceffary for giving new ftrength to the alimentary canal. Gentle vomits and ftomachic purges may alfo be of ufe to cleanfe the first paffages, and promote the natural fecretions there.

5. INDOLENT obstructions, chiefly of the scirrhous kind, in some of the abdominal *viscera*.

OBSTRUCTIONS of the indolent kind have their feat either in the fecretory tubes of the glands, or in other veffels fmaller than those which carry red blood, in the glandular follicles, or in the fpaces of the tela cellulofa, in which there is deposited, by the exhaling arteries, a fluid which foon becomes too thick to be taken up by the abforbent veins, and is daily increased by the addition of new matter of the fame kind. In fome cafes, the veffels of the obstructed part are fo changed from their original flate, as to feparate, from the blood, fluids which, by ftagnating in the

the follicles or cellular fpaces, acquire æ cartilaginous nature.

It is generally difficult to difcover when nervous or hypochondriac complaints are owing to fcirrhous or other indolent fwellings in the coats of the ftomach and inteftines, or in the other abdominal viscera, unless when the tumours can be felt, which is feldom the cafe. But when I meet (efpecially in women after the menfes have left them) with complaints of want of appetite, indigestion, vomiting, flatulence, and pains in the belly which have continued long, without any confiderable intervals of eafe, and inftead of yielding to medicines, become worfe ; I fufpect fome fixt obstruction in the stomach, inteftines, or neighbouring parts, efpecially if the patient has a quick pulfe, without any confiderable heat or thirft.

WHEN hypochondriac or hyfteric ailments are owing to indolent obftructions, we must endeavour to refolve D d 2 them

them by degrees, and, in the mean time, palliate the most troublesome fymptoms occasioned by them.

(a) THERE are few remedies of greater fervice in obstructions of the indolent and cold kind than gentle friction. It not only promotes the circulation through the fmall veffels, but tends to attenuate, and increase the absorption of the matter ftagnating in the follicles, or extravafated in the fpaces of the cellular membrane of the obstructed part. I have had inftances of incyfted tumours cured by long continued friction alone. One was on the upper eye-lid, about the fize of a common cherry and of the steatomatous kind. Another was fituated in the membrana adipofa on the left fide of the abdomen; it was bigger than one's fift, pretty foft, and felt like the fteatomas or atheromas. It was treated with nothing but friction of the part twice a-day with oleum camphoratum. For the first four months it did not feem emoria to

to yield, but foon after it began to leffen and went off very fast. The fmall tumour on the eye-lid was rubbed only with the *faliva*.

(b) WARM fomentations are of great use; they not only relax the veffels and attenuate the obstructing matter, but by their warmth promote the circulation of the fluids through the obstructed part. They will, often, either refolve indolent fwellings, or bring them to a fuppuration, when internal medicines, without their affiftance, would do little. They ought to be applied every morning and evening for near two hours, but should not be fo hot as to be in hazard of inflaming the fkin or making it too tender. I generally use flannelcloths wrung out of hot water alone; and fometimes, in place of this, a hot decoction of wormwood and camomile flowers or of the tops of hemlock, adding to it a little vinegar.

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It is obvious, that when obstructions are deep seated in the *abdomen*, neither frictions nor fomentations will have such remarkable effects as when they ly in the *tunica cellulofa* immediately below the skin.

(c) GENTLE vomits and purges * frequently repeated, are particularly ufeful in beginning indolent obftructions of the abdominal *vi/cera*. But when an obftruction in the ftomach is fo far confirmed as to be irrefolveable, vomits, efpecially of the ftronger kind, may prove hurtful by irritating the infarcted part, or even burfting fome of its veffels ‡. And here it may be remarked, that many of those hot and acrid medicines, commonly prefcribed in nervous diforders, must be likewise improper in this cafe, fince by their ftimulating quality,

* I look upon the good effects of fea-water in glandular fwellings to be chiefly owing to its purging quality. When it does not prove laxative, but makes the patient thirfly and hot, no good is to be expected from it.

† See above, p. 206.

quality, they will be more apt to inflame and exafperate, than to leffen or refolve any fcirrhous obstruction.

(d) WITH regard to those internal medicines commonly called deobstruent, they can have little or no effect, when the obstructing matter is accumulated in the spaces of the *tela cellulofa*, and are, therefore, chiefly useful in those obstructions whose feat is in the follicles of the glands, or in the small vessel themselves.

THE internal deobstruent medicines which I have used with most advantage, are the *tartarus folubilis*, *fal polychrestus*, mercury and foap.

I GIVE the foluble tartar from drach. i. fs. to drach. iii. or half an ounce, and the polychreft falt from fcrup. ii. to drach. i, fs. diffolved in an English pint of water, which is to be drunk at three or four draughts, every morning for two months or longer,

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I COMMONLY prefcribe mercury as a deobftruent, either in the form of the *pilulæ mercuriales laxantes*, or of the folution of the corrofive fublimate. To prevent thefe medicines from running too much to the mouth, I give the pills only once in two or three days, and when the folution is ufed, I order a gentle purgative once in four or five days.

In glandular fwellings of the neck, of the ftrumous rather than the true fcirrhous kind, I have feen nothing fucceed fo well as a courfe of the bark, in fubftance or decoction, for feveral months; giving, at the fame time, every fourth or fifth night, fuch a dofe of calomel and rhubarb, or of the *pilula mercuriales laxantes*, as may purge the patient twice or thrice next morning. Nor have I found thefe medicines lefs efficacious, when, together with indolent fwellings and a ferofulous habit, there

there was a confiderable degree of fever; as in the following cafe.

A CHILD aged 7 years, of a lax and fcrofulous habit, in March began to be affected with hard fwellings on her left wrift and one of her legs, and with a foft ædematous fwelling of her feet and hands; at the fame time, her tongue was foul, her pulle quick, and her fkin hotter than natural. In June following, when I was first called, all these fymptoms were increased, she was much emaciated, and her pulfe beat above 130 times in a minute. As she had ufed many other remedies without advantage, after a vomit and a gentle purge, I prefcribed a decoction of the bark, with fome fpirit of vitriol, to be taken four times a-day, in the quantity of two or three table-fpoonfuls; and once in five or fix days a dofe of rhubarb with calomel. In lefs than four weeks after fhe began this courfe, her pulse became flower, her skin cooler, and

and her appetite better; and, at the end of two months, fhe was almost quite free from all her complaints.

WHEN glandular fwellings ly immediately under the fkin, the mercurial ointment rubbed into the part, or a ftrong mercurial plaister applied to it, has fometimes made a cure .- A Gentleman, aged 21, had one of the conglobate glands on the left fide of his neck fwelled from cold. This fwelling, which was without pain, increased gradually, fo that at the end of three months, it had acquired the fize of a hen's egg, cut longitudinally through the middle. After he had used, for fix weeks, mercurial purges, fomentations, and the common difcutient plaisters to no purpose, the emplastrum mercuriale cum triplice mercurio was applied to the part. In two or three days after, he began to falivate, and for a week continued to fpit at the rate of an English pint a-day. After this, the fpitting decreased gradually,

ly, and left the tumour reduced to one third of the fize it had before. The warm weather of fummer, which foon followed, carried off what the mercurial plaifter had left unrefolved.

AMONG the deobstruent medicines, Spanish soap deferves a principal place. Obstinate glandular swellings have sometimes yielded to it after mercury had been tried in vain, as will appear from one of the following cases. It should be given, daily, from half an ounce to an ounce or more, if the patient's stomach can bear so much.

1. A. M. UPWARDS of 20 years of age, applied to me in April 1752 for a fwelling in the epigastric region, a little below the cartilago enfiformis. This tumour was near as large as one's fift, and felt hard, but without pain: It was evidently under the muscles and peritoneum, and as it shifted its place upon the patient's turning from one fide to the other, I conjectured its feat to be in the omentum.

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omentum, especially as it was attended with no diforder in the stomach or bowels.

I ADVISED him to let warm water fall from a confiderable height upon the fwelling; to cover it, all day, with a piece of flannel, to use the pilulæ scillitice, and drink with them, at leaft, an English quart of cow-whey daily. Sometime after, he took pills of gum ammon. galban. and aloes, but without any benefit; for the tumour became larger, and when he fat to write, which his bufinefs often obliged him to do, he fuffered much uncafinefs from that pofture. On this account, I fent him to the country in the end of July, and advised him to fwallow, every day, from half an ounce to a whole ounce of Spanish foap, and continue the whey. Towards the end of October he returned to town with the tumour fenfibly diminished, and by going on with the foap 'till about the beginning of January, it was scarcely to be felt,

felt. He then left off all medicine, and has been ever fince in good health, without any fenfible fwelling or hardnefs about the part first affected.

2. A GENTLEMAN aged 33, after having been fubject, for fome years, to rheumatic pains, observed, in March 1752, an indolent glandular fwelling, neither foft, nor yet of the hardeft kind, on the right fide of his neck, immediately above the clavicle. In the Autumn following, having exposed himfelf to cold and wet, on a journey, this fwelling became, foon after, confiderably larger. He then loft fome blood, which was very fizy; and in November he used some warm discutient fomentations, and the mercurial laxative pills. These last, which he took, once in two days, for about three weeks, made him fpit gently, but did not diminish the tumour. About a fortnight after he had difcontinued the pills, he began to take three drachms of foap daily, and foon

foon doubled that quantity. In three weeks, the fwelling being fenfibly diminished, he was encouraged to continue this medicine; but, about the middle of January, having catched cold, he was feized with a diarrhea, and obliged to omit the foap for above a fortnight. In February, foon after the diarrhaa left him, he began to be troubled with a violent itching over his whole fkin, efpecially when in bed, and this fymptom increasing, towards the end of this month, he was advised once more to difcontinue the foap. At this time the tumour was reduced, at leaft, one half, fince the middle of December.

ON account of the increase of this itching and other complaints, he never returned to the foap; but after trying a variety of other medicines, and the air of different climates, in vain, he died in *August* 1754.

SINCE people affected with the flone, often take foap to a greater quantity than

than this patient did, without any complaint of itching, I think this fymptom cannot be juftly ascribed to that medicine; efpecially as the patient had nothing of it for the first five weeks he used the foap, and as it came on after a diarrhæa occasioned by cold. Neither can I think the fwelling in his neck was critical, and that the itching and other bad fymptoms were owing to the matter in it being diffolved by the foap, and carried into the blood; becaufe, in March 1752, when this tumour began, the patient had no particular complaints; and in November, when it was become fo large as to be broader, tho' not fo thick as one's fift, his health was bad and his blood fizy.

ALTHO' I have prefcribed foap in feveral other cafes without the fame fuccefs, yet as many glandular fwellings are altogether incurable, foap, if it fhould be found to anfwer in two cafes out

out of ten, ought to be efteemed a valuable medicine.

IF it shall be objected to the virtues of foap as a refolyent, that fcirrhous tumours, when cut out of the body, are not diffolved by being immerfed in a folution of it in water; I answer, that foap, in diffolving urinary concretions, acts like other chymical menstrua; but in refolving obstructed glands, it must be affifted by the motion communicated to the fluids by the heart and arteries, which it may probably ftimulate into ftronger contractions, and thus, as well as by its refolving quality, contribute to the cure. But further, I do not imagine that foap will ever diffolve a true fcirrhus either in the body or out of it; I only expect that it will fometimes remove glandular obstructions that are lefs confirmed and of a fofter kind.

QUICKSILVER and its preparations, altho' among the most powerful deobftruents, if they fail of resolving hard swellings,

fwellings, are apt to irritate and inflame them. This effect has been generally afcribed to the weight of the mercurial medicines, but without fufficient reafon; for when ten grains of calomel have raifed and kept up a falivation, in fome perfons, for two or three weeks together, and when a flight fpitting has been occafioned by a grain and a half of corrofive fublimate, diffolved in fpirits and taken in four days, it is plain that the addition of weight to the mafs of blood, in these cases, must have been fo finall, that no fenfible change in the circulation could have been produced by it.

SOAP has not only this advantage over mercury, that it may be used in most cases, without irritating and inflaming, and confequently without any hazard of changing a scirrhous swelling into a carcinomatous one, but it does not melt down the fluids and reduce the strength like mercurials.

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SOAP

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SOAP feems to act chiefly by its detergent quality, and perhaps, in fome cafes, as a true diffolvent. Every one knows the property of a folution of foap for cleaning the fkin: And if a patient fwallows an ounce of foap daily, his blood will in time become fo faponaceous, that whilft it circulates through the half obftructed veffels of a fwelled gland, it may infenfibly clear away, and carry along with it that vifcid matter, which, by adhering to the infide of thefe veffels, in a great meafure filled up their cavities.

OF late, the extract of the cicuta has been much extolled as a deobftruent*; but altho' I have tried it, as well as the powder of hemlock, in feveral hard fwellings, fome of which were external and others fituated within the *abdomen*, I have only feen it do fervice in two cafes, one of which was a large fcirrhous fwelling in the left breaft, and the other a hardened gland in the neck. The latter

* See Dr Storck's three treatifes on the virtues of the cicuta.

latter was removed by the extract of the cicuta in eight months; and the former, by the continued use, either of this medicine, or of the powder of hemlock, has not only been kept from increasing for these four years past, but is now reduced to one third of the bulk it once had.

(e) In attempting the cure of obftructions in the viscera, befides some of the remedies above mentioned, it will be proper to order a diet confifting of the leaft flatulent vegetables, weak broths, and the lighter meats. Ripe fruits, if they do not offend the ftomach and bowels by their flatulence, may be useful on account of their faponaceous or refolving quality; as alfo, goat or cow-whey, especially in the beginning of Summer, when it is most impregnated with the virtues of the grafs and other herbs. The patient's drink ought to be rather tepid than cold, and the beft is either water alone, or mixed with Ee 2 a lit-

a little Rhenish, or some other light white-wine.

(f) EXERCISE, especially riding, is exceeding useful, not only to prevent, but to remove beginning obstructions. And here it may be proper to obferve, that as those who lead a fedentary life, efpecially the fludious, (who in reading and writing fit fo much with their body bent forward,) are most subject to hypochondriac diforders and obstructions; it would be of great confequence for fuch, to allot fome part of the day for exercife, or if that cannot be done, at leaft, to read or write moftly flanding; in which pofture the abdominal viscera are much lefs compreffed than in the other.

(g) IN confiderable obftructions of the *vifcera*, if the patient be of a full habit, the cure ought to begin with bleeding, which, by emptying the veffels, may not only tend to leffen the obftruction, but affift the action of the deobftruent medicines.

(b) WHILST

(b) WHILST by the use of some of the above remedies, we aim at a radical cure, we must not neglect to palliate the symptoms which so often attend these obstructions. This is to be done, chiefly, by opiates, and by the less heating carminatives and nervous medicines. But of this more hereafter.

6. VIOLENT affections of the mind.

WHEN nervous or hyfteric diforders arife from this caufe, the cure confifts,

(a) IN avoiding all difagreeable and fhocking fights, and every occafion that may be apt to excite violent paffions, or commotions of the nervous fyftem.

(b) IN ftrengthening the nerves, fo that the mind may be lefs apt to be ftrongly affected, either by imprefions from external objects, or by fuch ideas as arife purely from reflexion; the beft medicines for this purpose are the bark, bitters, fteel, the cold bath, and exercise with proper aliment; concern-

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ing all which, fee the first intention of cure*.

(c) NERVOUS diforders occasioned by ftrong impreffions on the mind, are often prevented, lessened or cured by exciting other fenfations or paffions of a superior force. Of this we had a remarkable inftance in the cure performed by Boerhaave, on the boys and girls in the poor's-house at Haerlem + .- Epileptic fits have been cured by whipping I .---Convulsions from the toothach are removed by blifters ;--- vomiting has been ftopt by putting the hands fuddenly in cold water; and a common hiccup is inftantly cured by whatever excites furprize, or ftrongly engages the attention.

(d) NER-

inelf the

* Pag. 344, Ec. above.

+ See above, p. 217.

1 Kaau Boerbaave, impet. faciens Hippecrat. dict. § 406.

In the Histoire de l'Academie Royale des Sciences 1752, there is an account of a girl, who was cured of epileptic fits arifing from melancholy, by firing a gun at her bedfide, juft, as the was coming out of one of the paroxyfms.

(d) NERVOUS or hyfteric affections from a concealed or difappointed paffion, are better cured by the fruition of the object*; or if this cannot be obtained, by proper diet, amufements and by opiates, especially at bed-time, for composing the mind and procuring fleep, than by the whole class of nervous medicines.

HAVING thus far treated of the cure of the feveral caufes of nervous, hypochondriac and hyfteric diforders, I fhall conclude thefe obfervations with mentioning particularly, the remedies moft proper for removing or palliating fome of their moft troublefome fymptoms.

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* A remarkable inftance of this we have in a young man, who, from a difappointment in marriage, was fuddenly feized with a *catalepfis*, fo that he remained for a whole day in his chair, in the fame pofture, without the leaft motion or feeming attention to any thing about him : Nay, his whole body became as ftiff as if he had been frozen. However, no fooner was he told with a loud voice, that he was to have his beloved object, than waking as out of a deep fleep, he fprung from his feat, and recovered at once. See *Tulpii obfervationes medicæ*, *lib.* 1. *obferv.* 22.

CHAP. VIII.

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Of the Cure of fome of the most remarkable NERVOUS, HYPOCHONDRIAC, and HYSTERIC Symptoms.

I. CONVULSIVE motions, or fixt fpasms of the muscles.

THESE are either general, affecting almost the whole body, or confined to one or a few muscles or organs. As they often arise from very different causes, their radical or prophylactic cure must confist in the removal or prevention of those causes*. But as the immediate

* In fo far as they may proceed from fome peccant matter in the blood, from phlegm, acrid humours, worms or wind in the flomach and inteffines, from a great lofs of blood, an obfiruction of the *menfes*, or affections of the mind, their radical cure is to be found in the preceding chapter.

Of the CURE, &c.

immediate caufe is, in every cafe, the fame, *viz.* fomething that irritates the brain or nerves, or affects them with a difagreeable fenfation, their palliative or temporary cure will be beft effected by,

(1) SUCH medicines, as by their flupifying or narcotic quality leffen the fenfibility of the brain and nervous fyftem*.

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* See above, p. 358, &c.

+ See Medical Inquiries and Obfervations, vol. i.

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any liquid touching the *fauces*, or by the effort the patient makes to fwallow them, opium in large dofes, efpecially if given by way of a clyfter, and repeated at proper intervals, would probably be found, at leaft, the beft palliative *.

CONVULSIVE fits of the flighter kind, which returned daily at a certain time, have been prevented by giving opium

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* Altho' this reafoning feems to be much confirmed by the cure of Dr Nugent's patient, (See his Effay on the bydrophobia) yet, in this cafe, as mufk and other remedies were used as well as opiates, it may be doubted whether the former had not fome confiderable fhare in the cure. It were to be wished, therefore, that such as shall have opportunities, would make a fair trial of opium alone in the bydrophobia.

About the 20th of August 1761, a farmer's fervant near Norbam in Northumberland, three weeks after having been bit by a mad dog, became delirious, had violent fpasms, a dread of water, and other symptoms common in such cases. He was treated by Mr Dawson Surgeon in Coldstream, according to Dr Nugent's method, and recovered so quickly, as to be able to be employed in reaping the corn before the middle of September.

He was blooded, took every three hours mufk and cinnabar with honey in a bolus, and a pill of opium. A plaifter of galbanum with half an ounce of opium was applied to the throat and neck.

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an hour or more before that time. But in an epileptic patient, who was feized every day about two in the morning, the fits were neither prevented nor fenfibly leffened by forty or fifty drops of *laudanum*, which I ordered him to take, for feveral nights, about two hours before the return of the fit.

It is to be obferved, that in curing or palliating violent fpafms or convulfive motions, opiates muft be given in larger dofes than ufual, and repeated more frequently; for here, as in cafes of acute pain, the patients bear thefe medicines much better than in health.

IN fome cafes, especially where the veffels are full, bleeding, and other evacuations ought to precede the free use of opium.

(2) SUCH medicines as, tho' not endued with a narcotic quality, are found by experience to be useful in spass and alternate convulsions of the muscles; and seem to produce their good effects,

effects, by that *ftimulus* which they communicate to the nerves, especially of the ftomach and intestines. Of this kind are camphire, *castor*, muscless, *afa fatida*, the *spiritus æthereus*, spirit of hartshorn, *icc.**

A DRAM of brandy, by flimulating the nerves of the ftomach, will almost inftantly leffen a tremor of the hands, and in fome cafes make the pulfe flower: And, do not other ftimulating medicines, in some fuch way, remove a palpitation of the heart, and other convulfive motions, as well as fixed fpafins of the muscles? These effects may happen equally, whether those medicines excite, in the nerves, an agreeable, or an unpleasant or painful sensation. Thus a glafs of warm wine with cinnamon and nutmeg, and a mixture with aqua pulegii or rute, tincture of caftor and afa fætida, will often have fimilar effects in flatulent and spafmodic affections of the alimenhoor tight seabour of and base tary

* See above, p. 364.

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tary canal; and we fhall fee, below, that blifters and other painful applications are fometimes useful in removing fpafms and convulsive motions.

(3.) SUCH remedies as relax, and, at the fame time, affect with an agreeable fenfation the muscular fibres and nerves, rendering them, thereby, lefs liable to fuffer from irritation; viz. the warm bath, semicupium and pediluvium, emollient clyfters and warm fomentations applied to the feet and legs, or other parts of the body*. To this clafs alfo, we may, perhaps, refer venaesection, which by emptying the veffels, produces a general relaxation; but whatever be in this, we know from certain experience that it has often very fudden and remarkable effects in leffening or removing fpafms and convulfive motions.

Olaus Borichius mentions a young woman liable to a periodic hiccup, which returned regularly about the fame time

once

* See above, p. 364.

once a-year, who, after other remedies had proved ineffectual, was always cured by bleeding largely at the arm. It was obfervable, that this hiccup was not leffened by the *menfes* flowing plentifully during the time the patient was affected with it*.

THE warm bath affects the nerves with an agreeable fenfation, removes fpasms in the finall veffels, promotes an equable circulation, gently expands the fluids, and confequently fills the whole veffels of the body. But in whatever manner the warm bath and fomentations may act, their power in giving, often, immediate relief from violent pain, and preventing or allaying fpaims and convulfive motions, has been fufficiently afcertained by experience. However, as the use of the warm pediluvium and fomentations applied to the feet and legs in fevers attended with a deli-T'120777 .

* Alla Hafnienfia, 1671, and 1672. § Ixxiii.

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rium, tremors, and convultions*, may not be fo generally known, I shall give fome instances of their good effects.

(a) MRS - aged 23, on Saturday the third day after being delivered of her first child, was feized with a coldnefs and fhivering, fucceeded by a hot fit and fweating. Next day fhe was better, but after a restless night between Sunday and Monday, her skin felt hot and dry, and her pulse was quicker. Her urine which, before, had been of a natural colour, was now limpid and in too great quantity. On Tuefday her pulse was much quicker than ever, viz. at 136 ftrokes in a minute, but not full : She became apprehenfive of dying, and, after fome fits of uneafy breathing, fell into a kind of hyfteric fainting, which did

* The fuccess which fomenting the legs had in a case of this kind, was communicated to me about seven years since by my learned and ingenious friend Dr John Pringle physician to her Majesty. The Doctor mixed & part of vinegar with the water; whereas I have always used hot water alone.
did not affect the pulle, altho' her breathing was fcarce perceptible. During this fit, which lafted about an hour and a quarter, fhe fighed and moaned frequently. About mid-night, fhe was very reftlefs, her arms and head were convulfed, and the became quite delirious. This day a rafh which had come out on Monday, had in a great measure difappeared. All this time the lochia continued, tho' in a fmaller quantity than ufual. Hitherto diluents, diaphoretics, clyfters, fmall dofes of camphire, laudanum, blifters to the legs and finapifms to the foles had had no effect. On Wednesday, the delirium increased : at noon two leeches were applied to each temple, and foon after, becoming tolerably fenfible, fhe faid fhe found herfelf much easier: But, about eight in the evening, fhe grew more delirious than ever, crying out in a distracted manner, and was fo ftrongly convulfed, that with difficulty fhe could be kept in her bed by

by two ftrong perfons employed for that purpose. At this time, I ordered large pieces of flannel wrung out of hot water to be wrapped round her feet and legs. This application, which was renewed once in fifteen or twenty minutes, and continued near three hours, had a most happy effect; for her delirium, and ftruggling to get up, foon began to abate; she fell asleep at eleven, and did not awake till two in the morning, when the was quite calm and fenfible; after this she slept near three hours more, and was pretty eafy and clear in her head all Thursday, till the evening, when the delirium returned in a lefs degree. But this fymptom being foon removed by fresh fomentations, fhe paffed a good night, and gradually recovered, without any return of the raving, fainting, or convultions.

 (b) R. B. a boy aged eleven, was feized with a headach and fever. Monday, he complained of a fharp pain in F f

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Of the CURE of

his right fide, on which account near eight ounces of blood were taken from him. On Tuefday, his head was eafier, but the pain in the fide continued; his pulse beat 120 times in a minute. This evening, a blifter was applied to the right fide. Next morning, the pain was much abated, but a flight delirium began, and increased towards the evening, when his pulfe was about 130, tho' no-ways full. Leeches were applied to the temples, and poultices to the feet. On Thursday morning, the delirium and fever continuing, his head was shaved, and afterwards fomented with cloths wrung out of hot water. This made him fomewhat drowfy and calmer for a short time; but about mid-day, his pulfe became quicker, fharper and finaller, and the delirium increased. At three afternoon he was quite infenfible, had a *fubfultus tendinum*, with catchings, and his pulfe which was finall beat near 150 times in a minute. In this flate, I orb. A.

I ordered his feet and legs to be immediately fomented, as in the preceding cafe: the effect was, that he fell foon afleep and waked at four o'clock, fomewhat calmer, and with a little fweat on his fkin. The fomentations were renewed; he flept again, and about fix in the evening he was much lefs delirious, and his pulse did not exceed 124. At eight o'clock, the legs were fomented again, for a confiderable time. He had feveral good naps during the night, and, Friday morning, was perfectly fenfible, with a pulfe at 96. From this time he recovered daily, without any return of the fever or delirium.

(c) A MIDDLE-AGED man, who was feized with a continued fever, in a few days became delirious, had a quick and very fmall pulfe, a parched tongue, flufhings in his face, and twitchings; and he paffed his urine infenfibly. He was treated with the common remedies, and had a blifter applied between his F f 2 fhoulders,

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fhoulders, but with little advantage. My advice being afked about the 8th or 9th day of the difeafe, I ordered his legs and feet to be fomented with flannel wrung out of hot water. This, in a little time, put him afleep; and, next day, his pufe was fuller and lefs quick, the *delirium* was abated, his tongue was moifter, and a gentle fweat came on. After this, the fever decreafed gradually, and the patient recovered.

HAVING found fuch benefit from the warm fomentations in fevers attended with a *delirium*, tremors, and fpafins, I thought it might be worth while to make trial alfo of the warm *pediluvium* in fuch cafes; and I foon found this to have the fame, but more powerful effects than the fomentations : for, in fome cafes, when thefe laft had failed to leffen the toffing, raving, and convulfions, the *pediluvium* fucceeded, not only in the time the patient ufed it, but its effects continued a good while after ; and

and when they ceafed, it was renewed again with the fame advantage as before. In fome cafes, I have ordered the feet and legs to be put in warm water four or five times in 24 hours, and to continue in it from half an hour to near a hour at a time, unlefs the patients became faintifh.

(a) A LADY aged about 20, on the fourth day after being delivered of her first child, began to be feverish, and could not fleep. After this fhe became very delirious, talked conftantly, had fometimes tremors, and was fo reftlefs. that for two days she had not lain one minute in the fame posture, and was with difficulty kept in bed by two or three nurfes. On the 10th day after her delivery, when I first faw her, the fymptoms now mentioned were all increafed; fhe was now quite filent, and feemed to understand nothing that was faid to her; her pulfe, which was but of a moderate strength, beat above 150 times

times in a minute. Nay once, when fhe was more agitated than ufual, it rose to 180 strokes in that time, and became withal very finall. As fhe had been blooded and bliftered, and ufed feveral other remedies without advantage, I ordered her feet and legs to be put immediately into the warm pediluvium, which was done by making her fit up on the bed-fide. At first, it required two people to keep her feet in the water, but, in less than a quarter of an hour, the grew calmer, and made little motion either with her legs or any other part of her body. After using the pediluvium for half an hour, she was put to bed, but foon began to grow as reftlefs as formerly; upon which account warm fomentations were applied to her legs and feet, and renewed from time to time for near two hours, but without any benefit. I therefore thought it beft to renew the pediluvium, which was used at this time for a full hour; it foon

foon made her fit quiet, and after fhe was put to bed, altho' fhe did not fall afleep, yet the lay feveral hours without toffing as usual, and her pulfe was reduced to 136. As often as she began to be any ways reftlefs, the pediluvium was renewed. After using it the fourth time, fhe got feveral fhort naps, was lefs delirious, and her pulse only made 120 strokes in a minute; from this time (viz. the eleventh day after her delivery) the pediluvium, which was never repeated above twice in 24 hours, procured her better and lefs interrupted reft, and leffened all her bad fymptoms; fo that in two days more fhe was quite free from the delirium, and her pulfe did not exceed 90 in a minute.

(b) A GENTLEMAN aged 40, after having had a continued fever feven or eight days, began to rave, and the *delirium* increased fo much, that about the 11th day, he could not be kept in bed; nor would he allow either fomentations, blifters, or finapisms to be applied to his legs

legs or feet. In this condition, I advised to take him out of bed, as often as he infifted upon rifing, and, while he fat up, to keep his feet and legs in warm water. Between feven and half an hour past eleven in the evening, he was feven times out of bed, and as often used the pediluvium for about a quarter of an hour, or longer, at a time. Before midnight the hurry of his fpirits began to abate, he talked lefs, and feemed drowfy. In the first part of the night he flept a little, and towards the morning, he flept three hours at once. His pulle was now reduced from 120 to 100 ftrokes in a minute ; and from this time the delirium decreafed gradually for feveral days, and he recoveredia on bage wanta the

(c) HAVING been called to A. A. aged 30, in a continued fever with inflamed eyes, and fo violent a delirium, that he could not be kept in bed; I ordered him to be taken up, and to have ters, or finapilities to be applied to his

his

his feet and legs put in warm water for twenty minutes. This was done thrice in the fpace of thirteen hours; and it always leffened his raving, made him quieter, and procured fleep after he went to bed. Next day, he became a, good deal comatous, and his eyes were rather more inflamed ; but the day after, he grew more fenfible, his eyes looked better, and his pulfe had fallen from about 170, (which was its quicknefs when at the worft,) to 128 ftrokes in a minute. After this, he recovered gradually.

(d) ANOTHER patient, aged 25, in a continued fever, with a pulle above 140, inflamed eyes, and a violent *delirium*, fo that two ftrong men had been employed to keep him in bed, recovered after being taken up thrice, and having his feet and legs kept in warm water for above twenty minutes each time. The warm water always leffened the *delirium*, and, after he returned to bed, made him to fall afleep.

INSTEAD

INSTEAD of adding more cafes, I fhall only obferve, that I have faved more patients who appeared to be in great danger, in the delirious flate of a fever, by the fomentations, and efpecially by the warm *pediluvium*, than by any other remedy: and even in those cases, where these applications were infufficient to compleat the cure, they, almost always, gave fome prefent relief, by making the patients fomewhat quieter and difposing them to fleep.

THE fomentations and warm bath to the feet are particularly ufeful in fevers, where the brain and nervous fyftem are much irritated. In cafes where the eyes are inflamed, they will anfwer better, if the patient has been bled at the temples with leeches, before their application. When the fick cannot bear the *pediluvium* in an erect pofture, I order their legs to be put over the fide of the bed, fo as they may be immerfed in the warm water; the heat of which fhould not

not be less than 100 degrees of Farenheit's scale.

I SHALL only add on this fubject, that I have found the warm *femicupium*, or *pediluvium*, the beft remedy for those convulsions which sometimes precede the eruption of the small pox; and for that general tremor of the whole body, which often happens towards the end of that disease, when the pusculas are of a very bad kind. But to return,

(4.) IN convultive motions or fpafms, fuch remedies are often ufeful, as, by painfully affecting the nerves of fome part of the body that is found, in a great measure leften or deftroy the fenfe of that irritation which was the caufe of those fymptoms*. Of this kind are blifters, acrid cataplasms, dry cupping, friction and the cold bath.

ABOUT feventeen years fince, a woman aged 20, was feized with an alternate motion of the abdominal muscles.

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* Hippocrat. aphor. lib. ii. No. 46.

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In the night, when in bed, fhe was pretty free from this ailment; but, through the day, those muscles were almost conftantly in motion, and it was not in her power to reftrain them in the fmalleft degree. After she had tried many medicines without any benefit, I ordered a circular blifter of about eight inches diameter to be applied to the abdomen. This put a flop to the convulfive motions for feveral days; and altho' they returned afterwards, they were much weaker and lefs frequent, and in a fhort time, they ceafed entirely, without the assistance of any medicine, except a few dofes of camphire.

In cafes, where epileptic convultions took their rife from an uneafy fenfation in fome part of the arm or leg, I have found blifters applied to thefe parts the beft remedy. It may be proper, however, to obferve, that, in people whofe nerves are uncommonly delicate and fenfible, it is often better to attempt the

cure

cure of convultive motions or fpafins by opiates, mufk, camphire, and the warm bath or *pediluvium*, than by blifters, which fometimes do harm by the violent pain which they occasion.

I HAVE found dry cupping not only ufeful in convultive contractions of the mufcles*, but also in removing recent rheumatic pains from cold, where there was no fever; nay, in older pains of this kind, I have feen patients relieved, at leaft for fome time, by this remedy. I order the cupping glafs to be applied to the pained part and all round it, and let it flick each time three or four minutes, or till it falls off. The fuction is often fo flrong as to occasion finall effufions of blood below the fcarf-fkin. The good

* A man aged about 50, who had for many years been conftantly afflicted with an alternate motion of the mufcles of his head and neck, found more benefit from dry cupping along the back part of the neck and fhoulders, than from any other remedy. It is true indeed, the good effects of this application lafted only for a few days; but, had the diforder been lefs fixt, it is probable, that repeated cupping might have made a perfect cure.

good effects of dry cupping do not proceed folely from the pain it occasions, which is not very confiderable; but chiefly from the change it makes in the circulation of the blood through the fubcutaneous parts: for, while the cupping glass remains fixed, the blood which used to be fent to the parts below, is, in a good measure, derived into the veffels of the membrana adipofa and fkin; and, even for fome time after, the motion of the fluids through these parts continues to be greater than ufual, on account of that irritation, and flight degree of inflammation which is generally occafioned by cupping. 10 and and

THE cold bath is often useful in curing those convulsions which go by the name of *St Vitus's dance*: And cold water thrown on a person labouring under the *hydrophobia*, has enabled him, for some time, to drink pretty freely*.

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* See Mead on poilons, edit. v. pag. 182. and Van Swieten. comment. in aphor. Boerhaave, tom. iii. p. 576.

Was not this effect owing to the flrong impreffion made on the nervous fyftem by the cold water, which, in fome meafure, deftroyed or leffened the unnatural sensibility of the nerves of the fauces and gullet? For the inability to fwallow liquids in the hydrophobia is not owing to a palfy of the throat, as fome authors of great character have thought, but folely to the difagregable fenfation excited in the fauces and gullet, by the touch of water and other fluids, which raife as great fpafins and convulfive contractions in those parts and the ftomach, as they do in the muscles of refpiration, when, by an accident in fwallowing, they get into the trachea.

(5.) FEAR, furprife, attention, or other strong affections of the mind, will frequently put a stop to convulsive motions and spass, and sometimes succeed after other remedies have failed, as in the following cafe.

AGIRL

A GIRL aged eight, in the beginning of September 1759, was feized with an alternate motion of the maffeter and temporal muscles, for which no cause could be affigned. This motion exactly imitated the pulfation of the heart. Only those muscles were contracted and relaxed above 140 times in a minute, while the heart did not make above 90 ftrokes. Their contractions were all of equal ftrength, and the intervals between them were alfo equal. When the patient preffed the teeth of the lower jaw strongly against those of the upper one, by a voluntary contraction of the masseter and temporal muscles, their convulfive motions were much lefs remarkable; and when she pulled down the lower jaw as much as fhe could, and, by the continued action of its muscles, kept it in this fituation, the masseter, and temporal muscles were no ways convulled. Before I faw this patient, fhe had been bliftered upon the courfe of the

the affected muscles, which lessend their convultive motions, while the bliftered parts continued to run, but no longer. I ordered plaisters of the emplastrum antibystericum with fome opium to be applied where the blifters had formerly been. Thefe were kept on no longer than two days, during which time, the convultions were weaker and less frequent, not being repeated above 50 or 60 times in a minute; however, in a day or two after the removal of these plaisters, the convulsive contractions became as ftrong and as frequent as ever. Brimstone, in powder, was rubbed on the temples and cheeks without any visible effect. Suspecting that this convulfive diforder might, perhaps, proceed from worms, I prefcribed a bolus of rhubarb with calomel, which the girl obstinately refusing to take, her father went to fetch a horfe-whip to beat her. The fear of this affected her fo ftrongly, that, without the bolus, the convultions G g

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convultions of the *maffeter* and temporal mutcles inftantly ceafed; and have never returned fince, except once on occation of a fright, when they continued near an hour, and then went off without any remedy.

Celfus, in the spasmus cynicus, recommends pouring on the patient's head, warm fea-water and fulphur*: And a roll of brimftone, held in the hand, is frequently used, now a-days, as a cure for cramps or fixt fpaims of the mufcles; and I have known it fucceed in feveral cafes. The fnapping of the brimstone, which often happens, has been, by fome, afcribed to the electrical fire being discharged in great quantity out of the body, but without any reafon. The truth is, that a roll of pure brimftone held in the hand when warm, will frequently break, whether the perfon be affected with the cramp or not; and the fame thing happens to brimftone,

* De medicina, lib. iv. eap. 2.

ftone, when placed before the fire in a heat equal to, or a little greater than that of the human body. I am, therefore, of opinion, that brimftone cures fpafms not by any medical virtue; but that its effects are to be afcribed to the patient's attention * and faith, or rather to the furprize occafioned by the roll fnapping in his hand: And as a confirmation of this, I have known fome affected with the cramp, who, having been informed that the breaking of the brimftone was owing to the heat of the hand, miffed of a cure.

(6.) CONVULSIVE motions or fpafins are often prevented or cured by compreffion, which braces and renders firmer fuch parts of the body as are most fubject to them. Thus cramps in the G g 2 legs

* I have been often cured of a flight hiccup by looking ftedfaftly, for two or three minutes, on the imprefiion upon a fhilling, or any other coin : And I know a Lady who, tho' very liable to hyfteric fits, is never affected with them, or even flighter complaints, when any of her children happen to be dangeroufly ill.

legs are prevented by tight bandages; and when convultions arife from a flatulent distension of the intestines, or from spasms beginning in them, they may be often leffened or cured by making a pretty ftrong compression upon the abdomen by means of a broad belt. The Baron Van Swieten, mentions the cafe of a young Lady, whole legs, thighs, and belly, were kept tight with rollers for feveral months, in order to prevent convulsions, which, from an uncommon delicacy of her nerves, she was frequently fubject to*. Epileptic fits, which take their rife from a peculiar fenfation in fome part of the legs or arms, may be kept off by making a tight ligature about these members as foon as that fensation begins, or at least, before it has reached the fuperior parts of the body.

To the remedies already mentioned may be added the bark, which has fometimes

Il yluotağaab ud or nar

* Comment. in aphor. Boerhaave, tom. i.

times cured periodic convultions after other medicines had failed*.

I SHALL only obferve further, that when fpafms, or convulfive motions, arife from fharp humours in the ftomach and inteftines, nothing will procure any lafting relief till thefe are either corrected † or expelled ‡.

II.

* See Philosoph. Transact. No. 174.

† A young man under 20 years of age, in a continued fever, was affected with a ftrong *delirium* and convultions of his face, throat, and almost all the parts of his body, particularly his arms ad legs. At the fame time, he complained of a great internal heat aud thirst. After having been in this way for two or three days, he had a fweet orange given him, which he eat greedily, and calling always for more, confumed near two dozen of them in two days. After he began to eat the oranges, the convultions abated, and went quite off in three days.

[‡] For the following cafe, in which violent convultive fits were removed by repeated vomits, I am obliged to Dr John Gardiner, Phyfician in this place.

A young woman of 17 years of age, of a delicate conflitution, after having been a good deal fatigued, was feized, on the 20th of *July*, with convultions of almost every part of her body, which continued about five minutes; after which she fainted away, and the convulsions ceased; but upon her recovery, the convulsive motions of her arms, and the muscles of respiration, returned. These convulsions having

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II. HYSTERIC faintings with convultions.

IF the pulfe be full, or the patient any ways plethoric, fome blood fhould be

ving continued, except in time of fleep, to the 22d, when I was called, I ordered a bolus of ten grains of mufk to be taken, every three or four hours, with two table-fpoonfuls of a mufk julep. On the 22d, 23d, and 24th, fhe was, feveral times, free from the convultions for half an hour, or fometimes an hour: But, upon the leaft noife in the room, or any thing that occafioned furprize, they returned. The drawing the curtain of her bed, or the lifting the latch of the door, ufed to have this effect. Nay, altho' fhe faw her fifters going to open or flut the door, or to handle the tea-cups, and therefore expected to hear fome little noife, yet fo powerful was the imprefiion made by it on her nerves, that by no effort could fhe prevent the convultions from coming on.

In order to leffen this uncommon fenfibility of the nervous fyftem, camphire was added to the mufk-bolus, and fhe took 12 drops of *laudanum* in a difh of valerian tea five or fix times in 24 hours. After this, the intervals between the convultions became longer; but when they returned, they were more fevere. Altho' her *men/es* came, on the 27th, at the ufual time, her fymptoms did not abate. After this flux ceafed, the had a blifter applied between her thoulders, the ufed a folution of *a/a factida*, and had the *laudanum* increafed to a hundred drops a-day.

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be taken away; after which, we may endeavour to roufe her by the finoak of

On the 31ft of July, fhe began to be feized with faintings, for about five minutes at a time; and foon after this, the convultions became universal, and attacked her from twelve to eighteen times a-day in regular paroxyfms, which lasted two or three minutes. In the night, she was almost always free from them. I then prefcribed for her an ounce of the bark, half an ounce of valerian and a drachm of caftor, to be made with fyrup of white poppies into an electuary, of which she took the fize of a nutmeg three or four times a-day; at the fame time, the laudanum and bolufes of musk were continued. After the 3d of August, she was attacked with fevere affhmatic fits, which, together with her faintings and convulsions, often made the number of paroxyims amount to thirty in a day : Some days after this, upon the convultions leaving her, the was feized with continued fpafms in her arms, legs, and thighs ; after which fhe fometimes complained of a fmall degree of pain and confusion in her head.

Her pulse during all these complaints, seldom exceeded 80 strokes in a minute, nor were there any appearances of her stomach being difordered. However, on the 9th of *August*, I prescribed a vomit of *ipecacuanha*, which made her throw up a great deal of dark greenish and very bitter bile; about an hour after this, she was attacked with one of the convulsive fits, but had no more of them that day. On the 10th of *August*, she had twelve, and on the 11th, fourteen of these fits. Upon the 12th, in the morning, she took another vomit, which was also repeated on the 13th. Each time

of afa fatida or burnt feathers, or by oleum fuccini and fpirit of hartfhorn dropt on cotton, and put into the noftrils. Thefe medicines, by the ftrong and fudden impreffion they make on the very fenfible nerves of the nofe, not only tend to excite the feveral organs into action, but to leffen or deftroy the difagreeable fenfation in that part of the body, which brought on the fit. With the fame view, hot bricks may be applied

time fhe threw up a good deal of bile, and had no fit on either of thefe two days. On the 14th, fhe took a decoction of tamarinds with *Jenna*, which purged her five or fix times, and in the evening fhe was attacked fix times with the convultions and fainting fits. On the 15th their number was almost double to that of the preceeding day; but on the 16th, when the vomit was repeated, fhe escaped them altogether. Every other day for a week, the took a vomit of *pulv. ipecacuanbæ gr. v.* and *tart. emet. gr i.* and at night, fometimes, a finall dose of *elixir facrum*; by which means, before the beginning of *September* the got quite free from the fainting fits and convultions.

It was obfervable, that, during her illnefs, in the intervals of the fits, fhe was often very chearful, and fometimes jocofe; but after fhe recovered, fhe became grave, thoughtful and fomewhat morofe, which was her natural difpofition.

applied to the foles of the feet; and the legs, arms, and belly may be ftrongly rubbed. But there is no remedy, which I have found fo effectual in removing hyfteric faintings with convultions, as the warm pediluvium; for after many other things had been tried to no purpose, I have seen the patients restored to their fenfes, almost instantly, by putting their feet and legs in water a little more than blood-warm: And it was remarkable, that upon difcontinuing the pediluvium too foon, the fainting and catchings often returned in a lefs degree, and the pulfe became finaller and irregular. In a few cafes, where the patients were plethoric, and the convulfions very ftrong, the pediluvium has failed.

WARM water thus ufed, is not only the fpeedieft, but the fafeft cure for hyfteric faintings; while ftrong volatile fpirits held to the nofe, are apt to throw

throw fome very delicate women into more violent convulfions.

In cafe of coffiveness, a laxative clyfter with *afa fatida* will be proper; and, as foon as the patient can fwallow, two table-spoonfuls of a folution of *afa fatida*, or some cordial julep, may be given.

AFTER the fit is over, the radical cure muft vary according to the different caufes from which it may proceed. However, fuch medicines will commonly be found moft efficacious as ftrengthen the alimentary canal and the whole nervous fyftem. An antihyfteric plaifter applied to the *abdomen* has been, in fome cafes, ufeful; as alfo gentle vomits and ftomachic purges.

III. A VIOLENT pain with cramps in the flomach.

THE method which I have found most fuccessful in this case, is, to make the patient, if there be any inclination

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to vomit, take fome draughts of warm water to clean his ftomach. After this, I order a clyfter of fix ounces of water and from 50 to 80 drops of *laudanum*. This is much furer than *laudanum* given by the mouth, which is often vomited up; and, in fome cafes, increafes the pain and fpafms in the ftomach.

IF the pain and cramps return with great violence, after the effects of the anodyne clyfter are over, I order another to be given, with an equal or larger quantity of *laudanum*; and, once in four hours, two table-fpoonfuls of fuch a julep as the following.

R Molch, ferup. ii, optime teratur cum Sacchar. alb. drach. ii. Dein adde Mucilag. gum. Arab. unc, fs. Aqu. cinnamom. f. v. menth. piper. ana unc. ii. aromat. drach. vi, M. f. a.

IF the patient has been coffive, a laxative clyfter must be given before the anodyne ones.

THE

THE anodyne balfam rubbed into the ftomach, and the warm *femicupium* are often ufeful. After the pain and cramps have been removed, the *emplaftrum antihyftericum* applied to the epigaftric region, has fometimes contributed to prevent their return.

In all very violent or lafting pains of the ftomach, fome blood ought to be taken away, unlefs the weaknefs of the patient makes it improper; for this evacuation will always leffen the danger of an inflammation, and can feldom do any confiderable harm.

WHEN the pain or fpafms in the ftomach, proceed from a fuppreffion of the *menfes*, venaefection is of great ufe. If they are owing to the true gout, befides *laudanum* and mufk, fpiceries, and fome of the ftronger cordial waters, or a large dram of brandy or rum, will be neceffary, together with blifters to the ancles,

IV. AN

IV. AN indigeftion and vomiting, with pains in the ftomach.

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I. WHEN these complaints proceed from noxious humours in the flomach, the best remedies are vomits and gentle flomachic purges; together with elixir of vitriol, or the testaceous powders, according to the different nature of those humours.

2. WHEN, from fcirrhous obstructions in the alimentary canal, we can do little more than to palliate by means of grateful stomachic medicines, and opiates. However, in cases of this kind, a finall glass of *Spa* or *Pyrmont* water frequently repeated, has sometimes staid on the stomach, when every thing elfe has been thrown up.

WHEN there is a fcirrhous obstruction in the coats of the stomach near the *pylorus*, this passage is often so much straitened, that only the thinner part of the aliment can get into the *duodenum*;

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mum; while the more folid part, after remaining feveral hours in the ftomach, and occafioning heart-burning and ficknefs, is at laft difcharged by vomiting. Patients in this fituation, always find themfelves eafieft, when they use only the thinner kinds of aliments, such as light broths, milk, panada, fago, falep, and the like.

3. WHEN a fickness and pain in the stomach, with vomiting foon after eating, are owing to a too great delicacy, or an unnatural fenfibility of the nerves of the ftomach, either in confequence of an irregularity of the menstrua, or of fome acrid humour in the blood falling on those nerves; while we palliate with agreeable cordials and aromatics, we must endeavour to strengthen the stomach by the bark, bitters, chalybeates. and exercife. But, in cafes of this kind, I have found nothing produce fuch immediate good effects, as laudanum given an hour or more before dinner or fupper.

(a) AN

(a) AN unmarried Gentlewoman aged 44, irregular as to the menses, was feized. with a pain in her ftomach, and foon after every meal became fick, and vomited what fhe had eat. After having been in this way for eight or ten days, she took a vomit of ipecacuanha, several dofes of the elixir facrum, and tinctura rhabarbari amara; fhe alfo ufed warm claret with cinnamon and nutmeg, and a julep of pepper-mint water with the spirit. volat. oleof. but without any advantage. As fhe flept ill, I advised her to take twenty drops of laudanum at bedtime, which made her reft better in the night, but did not leffen the vomiting the following day. Next night I defired her to take the laudanum, not at bed-time, but an hour before fupper. The first dose, in this way, prevented her vomiting after fupper, and next day after breakfast; but she threw up her dinner as ufual. However, by increafing the laudanum, before fupper, to twentyfive

five drops, in three or four days fhe got free of the pain and fickness at her stomach, as well as of the vomiting after meals.

(b) A MARRIED Lady, aged about 30, after having been, for fome time, irregular as to the monthly evacuation, upon eating freely of almost any kind of meat, but especially fuch as lay heavy on her stomach, was apt to be affected with ficknefs, faintings and flight convulfive motions, attended with a finall irregular and quick pulfe, and a coldness of her whole body. After she had used vomits, the bark, bitters, facred elixir, and various grateful ftomachic medicines to little purpofe, I advifed her to take fome laudanum every day, an hour or two before dinner. Having been formerly much accustomed to this medicine, fhe began with thirtyfive drops, and foon increased them to fifty or fixty. The laudanum, inftead of making her drowfy, gave her better fpirits,

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rits, and enabled her to eat at dinner as ufual, without being affected with ficknefs or faintings after it. She continued the ufe of the *laudanum*, in this way, pretty conftantly for five or fix weeks. Some days, when fhe had neglected the *laudanum* before dinner, if fhe took it as foon as fhe began to be uneafy after eating, it foon leffened the ficknefs at her ftomach, and prevented the faintings and convulfive motions.

(c) ANOTHER married Lady, aged about thirty, who had been often troubled with a pain, a fournefs and wind in her ftomach, and, when thefe left her, with afthmatic fits; complained of a lump in her throat, flatulence, and fuch a weaknefs of her ftomach and indigeftion, that every kind of food occafioned pain, ficknefs, and vomiting, except bread and wine, or a very little boiled or roafted chicken. After trying the bark, vomits, facred elixir, and exercife, with fcarce any benefit, I defired H h

her to take fome *laudanum* an hour before dinner. Altho' fhe did not exceed fixteen drops, yet fhe always eat her dinner better, and digefted it with the fame eafe, as when fhe was in health; nor did fhe find any inconvenience from the *laudanum*, except that it made her thirfty in the afternoon.

4. In fome cafes, I have known a pain in the ftomach with vomiting, after eating, cured by foap taken daily to the quantity of two drachms; in other cafes, half a pint of tepid lime-water, drunk thrice a-day, has anfwered better than the foap.

WHEN a heat and forenels in the flomach arife from an acid, the teffaceous powders ought to be taken freely. They have alfo cured, at leaft, for the time, fome, who, upon drinking a glafs of wine, have felt, in their flomach, a burning heat inftantly fpreading thro', almoft, their whole body.

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SEVERAL perfons have found great relief from a pain in the ftomach, both before and after cating, by taking a large draught of warm water, with a little wine or brandy in it.

In the 2d vol. of the Medical Inquiries and Observations, we have an account of a violent pain in the region of the right kidney in one patient, and of a pain in the ftomach in another, immediately relieved by a draught of equal parts of fountain-water boiling, and Pyrmont or Bath water. But I imagine the relief procured in these cases, was rather owing to the warmth of the liquor than any virtue in the Pyrmont or Bath water; for a patient of mine near eighty years of age, who, after having been long fubject to bloody urine, came at last to have an ulcer in his bladder, found his pains always much leffened, and fometimes almost quite removed, by drinking largely of Arabic emulfion, tea, milk and water, or weak broth, a good Hh 2 deal
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deal more than blood-warm. As the good effect of thefe warm liquors was always immediate, it muft have been owing folely to their action on the nerves of the ftomach. We know that warm water applied externally, often eafes internal pains; it is no wonder then, that warm liquors received into the ftomach, a part much more fenfible than the fkin, and whofe nerves have a remarkable fympathy with almoft every part of the body, fhould have equal or more powerful effects in relieving pains, even in fuch parts as are not immediately connected with it.

V. A COLIC of the hysteric or flatulent kind.

IF the patient be coffive, as is almost always the case, the body must be opened by laxative clysters, to which a drachm or two of *asa fatida* may be added. If there are violent vomitings, after several draughts of toast and water, a mix-

a mixture ought to be given, of falt of wormwood, lemon-juice and peppermint water*, together with *laudanum*. However, thefe draughts are often ineffectual, and in fome few patients the vomiting is increafed by the *laudanum*.

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. The draughts of falt of wormwood and juice of lemons are observed, in a great measure, to lose their power of flopping a vomiting, when they are not fwallowed in the act of effervescence: And is not their superior antiemetic power, in this flate, owing to their making a much ftronger impression upon the nerves of the stomach, while they continue to emit their fixt air, and when all theirparts are in violent motion, than after faturation, when they can act only by their faline quality ? For, while the nerves of the ftomach are affected with this brifk and unufual flimulus, that difagreeable fenfation which produced the vomiting must be leffened or destroyed. And is it not the effect, which those draughts fometimes have in preventing the attack of intermittent fevers, to be afcribed folely to their action on the very fenfible nerves of the flomach, and not to any fudden change which they may be supposed to produce in the nature of the humours contained in the primæ viæ? Further, are not many of those mineral-waters which contain a good deal of fixt air and fparkle in the glafs, much more grateful, as well as invigorating to the fiomach when drunk at the well, than after they have flood for fome time in an open veffel, becaufe in this last cafe they have, together with their fixt air, lost their power of gratefully flimulating the nerves of the flomach ?

In fuch cafes I have always fucceeded, by ordering a clyfter of fix ounces of water, with fifty, fixty, or even eighty drops of *laudanum*; and when no thorough paffage could be procured, I gave, by favour of this opiate, fome pills of aloes with calomel; which paffing into the inteffines before the vomiting returned, generally procured a plentiful evacuation by ftool, which, either wholly, or in a great meafure, removed the difeafe.

IF the purging pills fail to open the body, and the pain and vomiting return, another anodyne clyfter muft be given, and foon after it, a larger dofe of the pills; and a little before the time thefe pills may be expected to work, the patient fhould go into the warm bath. In patients of a full habit, efpecially if the pain be very great, fome blood ought to be taken away.

To prevent the frequent return of hysteric colics, an antihysteric plaister applied

applied to the *abdomen*, a dofe of the facred tincture or elixir once a-week, and exercife, efpecially riding, will be found ufeful. A milk-diet has fometimes cured thofe who have been much afflicted with thofe colics; and the fulphureous water of *Moffat*, drunk for two or three months in the fummer has, in fome cafes, made their returns much lefs frequent,

VI. FLATULENCE in the flomach and bowels*.

THE medicines moft proper in complaints of this kind, are either fuch as procure fpeedy relief by expelling the wind, or those which, by strengthening the alimentary canal, lessen its generation. Among the former, I have found none more efficacious than the *spiritus athereus* and *laudanum*. I commonly give the *laudanum* in a mixture with peppermint

* I have often found great benefit in flatulent complaints of the flomach and bowels, from frequent rubbing of the legs with a flefh brufh.

mint water and tincture of caftor, or fpiritus nitri dulcis. In fome cafes, in place of this, I prefcribe opium in pills with afa fatida. And here it may be worth while to obferve, that the good effects of opiates are equally confpicuous, whether the flatulence be contained in the ftomach or inteftines; whereas those warm medicines commonly called carminative, do not often give immediate relief, except when the wind is in the ftomach.

Of the CURE of

WITH regard to the *fpiritus athereus*, I have frequently feen very good effects from it in flatulent complaints; of which I fhall content myfelf with giving one inftance. A Lady aged between 40 and 50, about the time the *menfes* were leaving her, found her belly increafe fo much in bulk, that, for fometime, fhe fufpected herfelf to be with child. In the morning, fhe was often fo much fwelled about the ftomach, as not to be able to bear her flays, or breathe

breathe freely. She ufed a variety of medicines, but nothing gave fuch immediate relief as a tea-fpoonful of the *fpiritus athereus*, mixed with two tablefpoonfuls of water. This always made her bring up a good deal of wind, and leffened the ftraitnefs and fwelling about her ftomach.

IN gouty cafes, the *fpiritus æthereus*, a dram of *French* brandy or of the *aqua aromatica*, and ginger, either in fubftance, or infused in boiling water, are among the best medicines to expel wind.

WHEN the cafe of flatulent patients is fuch as to make it improper to give them warm medicines inwardly, a plaifter made of equal parts of the *empla*ftrum antihystericum and stomachicum may be applied to the stomach or belly with advantage; or four or five tea-spoonfuls of the following liniment may be well rubbed on these parts at bed-time.

R. Balf. anodyn. Batean. unc. i. Ol. mac. per express, unc. fs. menth. drach. ii. Misce,

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THE remedies most proper for ftrengthening the ftomach and bowels, and confequently for leffening the production of flatulence are, the bark, bitters, chalybeates and exercife. In flatulent cafes, I add to the tincture of the bark and bitters, which I have fo often recommended, fome nutmeg or ginger. And when I prefcribe the filings of iron, I join them with the pulvis diaromaton. When windy complaints are attended with coffiveness, nothing anfwers better than four or five of the following pills every other night at bed, time: R. Af. fætid. drach ii.

Aloes focotrin.

Sal. Mart.

Rad. zinziber. ana drach i.

Elix. proprietat. q. f. ut. f. pil. gr. iv.

On the other hand, when the body is too open, twelve or fifteen grains of rhubarb, with half a drachm or two scruples of the confectio Japonica, given every other evening, will have very good effects,

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In those flatulent complaints which come on about the time the *menses* cease, repeated fmall bleedings, often give more relief than any other remedy.

WITH regard to diet, I fhall only obferve, that tea and all flatulent aliments are to be avoided; and that, for drink, water with a little brandy or rum, is not only preferable to malt liquor, but, in most cases, also to wine.

VII. A NERVOUS or spasmodic afthma.

(1) IN the true fpafmodic *afthma*, where there is no fixt obftruction in the lungs, nor any load of phlegm oppreffing them, the fits are beft relieved by bleeding and *opium*. If the patient be of a full habit, we may bleed largely; if otherwife, we must either take away little blood, or omit this evacuation altogether.

THE opium may be given either in the form of the elixir paregoricum, or in fuch a draught as the following.

R. Aqu.

R. Aqu. menth. unc. i. fs. Laud. liquid. Sp. volat. oleof. ana gutt. xxv. Syr. commun. drach ii. Mifce.

SIR Richard Blackmore tells of a phyfician, much affected in the winter-time with a dry afthma, who every morning took thirty drops of laudanum, without which he found himfelf unable to go abroad about his bufinefs.

NOR are opiates lefs fuccefsful when a true spasinodic *asthma* arises from sympathy with the stomach, than when the nerves of the lungs are themselves primarily affected *.

TAHTngs, nor any load of phican op-

* A Gentleman, aged 25, after having taken mercury for feveral weeks, on account of a venereal diforder, became peevifh becaufe of his confinement, and would eat no meat for upwards of twenty-four hours, but drank largely of whey and water-gruel. In the afternoon he began to be affected with a difficulty of breathing, unattended with any cough or fpitting. The tincture of *caftor*, fpirit of hartfhorn and other medicines, which were preferibed, gave very little relief; and the afthmatic fit becoming much worfe about midnight, a draught with twenty drops of *laudanum* was ordered. This foon leffened the difficulty of breathing fo much, that he fell afleep, and next

THAT fense of faintness about the ftomach, with a frequent fighing and a difficulty of breathing, with which women after child-bearing are fometimes affected, when the miliary eruption does not come properly out, are often leffened or removed by a dose of the elixir paregoricum, or a bolus of castor, sal. corn. cerv. and opium.

In the true spasmodic *asthma*, especially when it is owing to wind in the stomach and bowels, or increased by this, a solution of *asa fatida*, the tincture of *castor* and spirit of hartshorn, are often useful, altho' their antispasmodic virtue is much less than that of *opium*.

(2.) WHEN an *afthma* of the fpafinodic kind is occafioned by, or attended with fome fixt obftructions in the lungs or a confiderable accumulation of humours in them, we must use a method of cure fomewhat different from the above.

next morning awaked in a great measure free from this complaint, which, after eating fome broiled chicken for dianer, left him entirely.

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above. For altho' bleeding is equally uleful, and often more neceffary here, than in the true spasmodic asthma; yet opiates are not to be given to leffen the fits, till after the lungs have been fufficiently cleared by evacuations and attenuating medicines. A large blifter between the fhoulders is of excellent ufe to promote expectoration and relieve the lungs. Vomits are likewife proper, but cannot be fafely given, till after the afthmatic fit begins to abate. In fome patients, a purge of manna and glauber falt, or of foluble tartar, almost always lessens or carries off the fit: while in others, who have weaker bowels, whatever purges brifkly, whether it be food or medicine, is apt to bring on, or, at least, to increase the fit.

For prefent relief, I commonly give fpirit of hartfhorn or compounded tincture of *caftor*, diluted with a fufficient quantity of water. With the fame view alfo, a table-fpoonful of a folution

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of equal parts of gum. ammoniac, and afa fatida in penny-royal water, may be taken five or fix times in twenty-four hours.

A DRAUGHT of water, with $\frac{1}{8}$ part of vinegar, and fweetened with honey or fugar, often gives confiderable relief in afthmatic fits; altho' fuch is the difference of conflitutions, that I have met with fome perfons whose breathing was always made worse by acids of every kind.

THOSE afthmatic patients, whole ftomach and bowels are weak, and much troubled with flatulence, do better with the lighter flefh-meats and a little wine, than with a milk and vegetable diet; and the folution of gum ammoniac, with acetum fcilliticum or the pilulæ fcilliticæ, do not commonly agree fo well with them as the afa fætida and volatile alkaline falts.

WHEN elderly perfons have been feized with an afthmatic paroxyfin from the

the gout attacking the lungs, I have found most benefit from blisters applied between the shoulders and to the legs, and from boluses of gum ammoniac, fal. vol. ammon. and camphire, given twice or thrice a-day.

(3.) To prevent the return of the fits in the true fpafmodic *afthma*, we must endeavour to strengthen the lungs and whole nervous system by means of the bark, chalybeates, elixir of vitriol, a proper diet, country air, and riding.

A FLANNEL waiftcoat next the fkin, or a large piece of flannel wore on the breaft, has contributed to prevent the frequent return of afthmatic fits.

THE patients fhould, above all things, avoid eating or drinking fo much, at once, as to burden their ftomach.

In the mixt afthma, the bark muft be used with more caution, especially if the lungs be confiderably obstructed, or loaded with phlegm; and the cure must

muft be chiefly attempted by iffues in the back and arms, or a feton in the fide; and by other medicines that tend to remove the obftruction in the pulmonary veffels, or leffen the flux of humours to them; of this kind are the *pilule fcillitice*, taken in fuch quantity as keep the body always open; pills of garlic and foap; the juice of forty or fifty *millepede* in two or three tablefpoonfuls of *French* white wine, *Rhenifh* or cyder, taken twice a-day; and crude mercury, or quickfilver pills, which have fometimes cured afthmatic ailments after other remedies had failed.

As not only different patients are relieved by different remedies, but the fame patients, from a change in their conflictution, or in the nature of the diforder, often require a confiderable change in their medicines and diet, it may not be amifs to add the following cafe of one who has been long fubject to fevere affhmatic fits.

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A GENTLE-

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A GENTLEMAN, aged about forty, of a fpare make, lively, healthy, and ufing a great deal of exercise, one day, after too great an exertion of his ftrength, began to feel a pain in his breaft about the sternum. Two years after this, he was, at times, affected with a difficulty of breathing; which continued to increafe for feveral years, and was generally attended with a great flux of humours upon his lungs, and a confiderable expectoration of a thick phlegm. In violent fits, he found the most immediate relief from bleeding and bliftering; and he ufed, with advantage, vomits of ipecacuanha with the oxymel scilliticum, and the pilule fcillitice or a folution of gum ammoniac with acetum (cilliticum. He abstained for feveral years from wine, malt-liquor, and all flefhmeats, except chicken; and often made his dinner of bread and butter-milk on-Iv. He frequently found his breathing made eafier, by drinking water with a A GENTLElittle

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little vinegar, feveral times through the day.

AFTER he had fuffered much by many violent attacks of this diforder, he began to complain of wind in his ftomach; and, upon vomiting, discharged a good deal of tough phlegm. His body became likewife too open, and whatever food or medicine increased this difpofition was hurtful to him. The fquill-pills and the lac ammoniacum with the acetum scilliticum, did not now agree near to well with him, or do him fo much fervice as the compound tincture of caftor, or a folution of afa fatida with a little fal. vol. ammon. in penny-royal or mint-water: And a bit of broiled meat, with two or three glaffes of claret after his meals, agreed better with him than vegetable food, or watery liquors alone; but he found it beft to eat little at a time, and often. Now alfo, he found great benefit from the bark, not only in the intervals, but alfo in the decline of Ii 2 the

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the fits. He took it in decoction, with four ounces of the tincture added to each pound, to the quantity of two tablefpoonfuls four times a-day; and, fo far from finding it increase his wheezing or difficulty of breathing, he thought it often leffened them, and prevented or broke the force of finaller paroxysims.

Soon after, he became fubject to fits of loofenefs, he began to fpit lefs than he had done for feveral years before; and then I obferved that blifters, which run longer with him than with moft people, did him lefs fervice than formerly, when he had agreater expectoration and no tendency to a loofenefs. During the violence of the worft fits, he fometimes almost lofes his fight, nor is he then able to cough till they begin to abate. At first he brings up a little tough phlegm with great difficulty, but as the constriction in the lungs leffens, he expectorates more freely.

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For fome years, he had more frequent returns of his difease in fummer and autumn than in winter; fudden changes of weather, cold, or fatigue bring on the afthma, which he can fometimes foretel by the paleness of his urine. Flatulent aliments and whatever purges him much, will now, in his beft health, occasion a flight fit. Altho' he has been often free from any violent attack for two or three months, yet he feldom breathes in the night fo freely as one in perfect health. His pulse is often small, his extremities cold, and face livid, during a fevere fit. After bleeding, his pulfe becomes fuller and quicker, but does not return to its natural flownefs till his breathing is free. The fits are generally over in two or three days, fometimes they last eight or ten; and, after yielding in part, return a fecond time with more violence. He is commonly worft in the evening or in the night; and has fometimes exacerbations

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bations in the evening and morning, The paroxyfins of late are almost always attended with complaints of flatulence in his ftomach, and he finds relief as often as he brings up wind. The remedies which in this state have been of most fervice to his stomach are, the bark, a folution of afa fatida, the emplaftrum antihystericum applied to the epigaftric region, and the diet of flefh-meats with claret. A bit of mutton-chop has often given him relief in leffer fits of bad breathing. Obferving, that, even in the intervals of the fits, he often breathed with difficulty about three or four in the afternoon, he eat a little muttonchop, beef-ftake, or broiled chicken between eight and nine in the morning, and dined between one and two on panada with a little claret, or fomething equally light. By this means he found the wheezing and difficulty of breathing in the afternoon always much leffened, and fometimes prevented altogether. He

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He often drank near two thirds of a bottle of claret daily, but feldom took above a quarter of a pint of it at once. By this diet, and the conftant use of the bark, for above two months, first in tincture and decoction, and afterwards in fubftance, he not only breathed more cafily at all times, but was kept much longer free from the afthmatic fits than ufual, not having had an attack of this kind worth mentioning, from the beginning of November till the April or May following; notwithstanding his having been affected feveral times, during the winter months, with a cough and a confiderable expectoration of thick phlegm.

VIII. A PALPITATION of the heart,

(1) WHEN, from a weak or difordered ftate of the ftomach, the heart, by fympathy, is rendered fo irritable, as from very flight caufes to be liable to ftrong palpitations, the most proper remedies are, the tincture of the bark and bitters

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bitters, and moderate exercife. If there be any noxious humours lodging in the ftomach, vomits will be proper; and, if the patient be any ways coffive, a table-spoonful of the facred elixir may be given once in two or three nights.

For present relief, spirit of hartshorn, the tinctura caflorei composita, spiritus athereus, and opiates generally answer best.

(2) WHEN palpitations proceed from the gouty matter affecting the heart, we ought to truft chiefly to warm ftomachic laxatives, to camphire, the volatile falts, the warm pediluvium, blifters applied to the legs, or finapifms to the foles of the feet; and to bleeding, if the patient be of a full habit.

(3) WHEN palpitations arife from the fuppreffion of fome habitual evacuation; if this cannot be reftored, the redundant humours are to be carried off by finall bleedings, gentle purges, diaphoretics or iffues. and odi to endoni: or (4) LASTLY,

(4) LASTLY, when palpitations are owing to polypi in the heart itself, or in the great blood-veffels opening into it, to accretions of the pericardium to the heart, offified valves, or fuch like caufes; the difeafe may be looked upon as incurable; fince, hitherto, we know of no medicines which can remove thefe causes. However, some relief may be procured by frequent finall bleedings, gentle purges, and a cooling attenuating light diet; at the fame time, avoiding all vifcid, incraffating, and heating aliments, and every kind of exercife that too much quickens the motion of the blood.

IX. AN immoderate difcharge of pale urine.

As I have obferved above*, that the proximate caufe of that great difcharge of pale water, to which hyfteric people are frequently liable, is an increafed motion

* See chapter VI, No. VIII,

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motion of the fecretory veffels of the kidneys; fo there is no medicine that will generally leffen it fo foon, or fo remarkably as opium*; but as opium does not ftrengthen the kidneys, nor remove the feveral remote caufes of this increafed fecretion, other remedies are required to prevent its frequent returns.

THOSE which have fucceeded beft with me are, the bark, either in fubftance or decoction, with fome cinnamon added to it; finall dofes of the *tinctura rhabarbari amara cum vino*, once in three or four nights; moderate exercife on horfe-back or in a chaife, and a diet confifting chiefly of rice, fago, falep, and the lighter flefh-meats roafted, together

* Altho' in fome flatulent or fpafmodic cafes, opium often proves one of the beft diarctics, yet it has a contrary effect, when, on account of an ancommon irritation of the nervous fyftem, the urine is fecreted in too great quantity. I know an elderly Lady, who is frequently hot and uneafy in the night, and paffes a great deal of pale water, whom a dofe of *laudanum*, at bed-time, always relieves, in a great measure, of this flux, altho' it feldom procures her good reft.

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gether with a few glaffes of claret or red port after meals.

In cafes, where the flux of pale urine is attended with hectical heats, I add to the above remedies the *tinctura rofarum*, or elixir of vitriol.

WHEN the increased fecretion is, in a great measure, owing to a particular debility of the kidneys, a flannel-fhirt will fometimes leffen the quantity of the urine, by increasing the perspiration.

A TIGHT belt about the loins, or a ftrengthening plaister applied to them, has been attended with remarkable effects, as will appear by the following cafes.

(1) A GENTLEMAN near to 40 years of age, troubled with wind in his ftomach, and with gouty pains in his feet, in August 1753, was attacked with fits of fickness at his stomach, attended with a quickness of pulse, for which he lay in bed and sweated for several days. After 508

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After this, he began to make great quantities of pale water, infomuch that in the night, he commonly used to pass near an English pint every two hours: After getting up, the quantity began to leffen, and continued to diminish as the day advanced. Notwithstanding the use of the bark, conferve of rofes, alum, and feveral other medicines, for near a fortnight, this flux of urine increased, and, for the two last days, it had been made almost as plentifully in the day as in the night. From a fufpicion that this profuse fecretion might arife either from a laxity or weakness of the renal yeffels, or from their being affected with an uncommon alternate motion, about two in the afternoon, a broad pofting belt was put about the belly and loins, as tight as the patient could bear it : And altho' all that morning, and the day before, he had made, every two hours at least, three gills of urine, almost as clear as rock-water, yet, after the belt was

was on, he voided none for above four hours, and then not quite half a pint. About ten at night, he paffed much the fame quantity; but not being able to fuffer the belt in bed, it was removed, and the flux of urine returned in the night-time, tho' not to that degree it had done for feveral nights before. From this time, by keeping to the belt, riding out in a chaife, and returning to the ufe of light flefh-meats, which, on account of a quicknefs in his pulfe and great thirft, he had almoft wholly abftained from, the flux of urine daily leffened, and the patient recovered.

(2) A GENTLEMAN, upwards of 30 years of age, after having been in a flow fever, attended with rheumatic pains, for ten or twelve days, began (November 20. 1745) to make a great deal of pale water, and chiefly in the night-time; this diforder, notwithftanding the ufe of the bark, *tinctura rofarum*, and other remedies, continued without any fenfible abatement till the 24th of December, when

when a large plaister of the emplastrum defensivum being applied to the os facrum and loins, had fo good an effect, that, on the night following, he made no water till after he had been three hours in bed: tho', for fome time before, he had feldom lain an hour and a half without a call. The fecond night, he was above four hours in bed before he was disturbed, and the quantity of urine through the whole night did not exceed five gills; whereas, for feveral weeks before, it had commonly amounted to three English pints a-night, and fometimes to much more. In lefs than a week, from the time he had applied the plaister, the urine returned to its natural colour and quantity, and the patient foon recovered his ftrength.

THE fame Gentleman, in November 1750, after a fever and cough, was again attacked with his old diftemper, upon which he had immediately recourfe to the emplastrum defensivum, which, tho

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tho' it feemed, fomewhat, to reftrain the flux, for the first night, yet had no effect afterwards. But it is to be obferved, that, on this relapse, neither the bark nor the other strengtheners had been used before the plaister.

(3) MR J. P. aged above 50, after a tedious fever in July 1758, began to make in the night great quantities of pale water, which much retarded his recovery. After ufing the bark, claret, and other remedies, I advifed him to apply to his loins the fame ftrengthening plaifter which I had found fo ferviceable to the laft mentioned patient; by means of which, the flux was in a few days fenfibly diminifhed, altho' not quite ftopt for feveral weeks.

X. PERIODICAL headachs.

(1) WHEN these arise from a difordered state of the stomach, the best medicines are vomits, stomachic laxatives. and bitters. If there is an acid in the

the flomach, the teftaceous powders, magnefia alba, or lime-water will be of great ufe.

(2) WHEN periodic headachs proeced from a rheumatic or gouty humour affecting the finall veffels or nerves of the pericranium, or other parts of the head; the propereft remedies are blifters applied to the head or legs; iffues in the head or neck; the warm pediluvium, with dry friction of the legs and fect, and frequent dofes of facred tincture*.

In a violent pain of the head from a rheumatic humour, after feveral other remedies had failed, I have feen good effects from fifteen or twenty grains of gum. guaiac. with ten grains of fal. vol. ammon.

* The following effect of an extraordinary dofe of facred tincture was communicated to me by a phyfician of character. A Lady, afflicted with a rheumatic pain in her head, by miftake drank over night, at once, near an English pint of facred tincture. Next day, fhe purged feven times, and, for three days after, falivated, as if the had taken mercury, but was entirely cured of the pain of her head.

ammon. given in a bolus at bed-time, and repeated for feveral nights.

THE *pulvis fol. afari*, used as a sternutatory, has sometimes cured obstinate headachs, by making a large evacuation from the vessels of the nose.

(3) WHEN periodic or frequently returning pains of the head are owing to a peculiar weakness or delicacy of the nerves of that part, rendering them liable to be affected by flight caufes, we must attempt to relieve the patients by the bark, chalybeates, moderate exercife, and daily washing of the head with cold water. Here alfo, fome of those medicines, commonly called nervous, may be of use, fuch as camphire, musk, and valerian. The last of these has been commended as a kind of fpecific in obstinate hemicranias*; and I have found it ferviceable in removing a confusion of the head, with which an epileptic patient, of very delicate nerves,

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* See Fordyce de Hemisrania.

was almost constantly affected; as well as in leffening or protracting the returns of the convulsive fits. The valerian, in this case, was given in the form of an electuary, and to the quantity of three drachms daily.

(4) WHEN headachs are regular as to their periods, vomits fhould be given an hour and a half, or two hours, before the returns of the fits, and the bark between them.

I HAVE known a violent hemicrania, which returned regularly at a certain time of the day, in a good measure prevented by taking the following draught, an hour before the coming on of the pain.

R. Laud. liquid. gutt. xl.

Tinct. ipecacuan. gutt. xlv.

Sp. Minderer, unc. fs. 20 bobarommoo nood

Aqu. rofar. unc. i. sine pinent stenifico ni

Sacch. alb. drach. ii. Mifce.

THIS medicine, while it leffens the pain, feldom fails to raife a plentiful fweat.

(5) WHEN

(5) WHEN headachs, whether regularly periodic or not, arife from a fuppreffion of the *menfes*, we must endeavour to reftore this evacuation; but if that cannot be done, bleeding, especially at the ancles, perpetual blisters or isfues in the head or neck, and laxatives, are the best remedies.

(6) WHEN the returning pain has been attended with a fwelling of the part, after other medicines had failed, mercurial laxative pills have fucceeded*.

* A Lady, between 25 and 30 years of age, of a thin habit, and delicate conflictution, was feveral years fince attacked with a *bemicrania*, which returned commonly every afternoon; at which time, that part of her forehead, which was affected, was often fenfibly fwelled. She kept a perpetual blifter on her head for many months, ufed facred elixir and tincture, *pulvis ajari* as a flernutatory, and other remedies, without any benefit; infomuch that, after a twelvemonth, her complaint was rather worfe than ever: She was then advifed to take from twelve to fixteen grains of the *pilulæ mercuriales laxantes* every other night. By the ufe of thefe pills, a gentle falivation was raifed, and kept up for about twelve days, which entirely removed the headach; nor has fhe had any return of it fince.

Another perfon, between 40 and 50 years of age, having a conftant headach with a fwelling about the occiput, was cured by the fame remedy, but without raifing any falivation.

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(7) To

(7) To relieve prefent pain in violent periodic headachs, the beft remedies are, the warm *pediluvium*; flannel cloths wrung out of hot water, or a hot decoction of rofemary, and applied to the fhaved head; the *fpiritus æthereus* applied in the hollow of one's hand to the pained part, and kept there for fome minutes; large dofes of *laudanum*; and, in fome cafes, leeches put to the temples.

COLD water will give eafe in fome headachs, while hot applications do most fervice in others. In like manner, shaving the head relieves fome patients, but is hurtful to others.

It may be proper to obferve, that in all violent headachs, we ought to begin the cure with bleeding, either by applying leeches to the temples, or opening the artery there. If the patient be plethoric, a larger quantity of blood may be taken from the jugular vein.

MODERATE exercife is generally ufeful in periodic headachs, from whichfoever

foever of the foregoing caufes they may arife, but the proper time for it is in the intervals of the fits.

XI. Low spirits.

HYPOCHONDRIAC and hyfteric patients are commonly affected with this complaint, in a greater or lefs degree. In general, exercife and the cold bath are among the beft remedies. But to be more particular:

(1) WHEN low fpirits are owing to a weak flate of the nerves of the flomach and bowels, the tincture of the bark and bitters, chalybeates, aromatics, a proper diet * and riding, will do most fervice.

(2) WHEN they arife from obftructions in the hypochondriac viscera, or a foulness of the stomach and intestines, the most proper medicines are, aloctic purges, Harrowgate waters, and soluble tartar,

* See above, p. 351, &c.

tartar. I commonly prefcribe the foluble tartar in the following manner,

R. Tart. folub. drach. ii. ad unc. fs. Solve in aqu. fontan. unc. viii. Cui adde aqu. cinnamom. f. v. Syr. violar. ana unc. i. Mifce.

THIS folution is to be taken at two or three draughts, either every morning, or only once in two days, and to be continued for feveral weeks.

DOCTOR MUZZEL has published, fome years fince, feveral inftances of the fuccefs of the foluble tartar in madnefs and melancholy. In cafes of low fpirits, I have found it cool the patients, difpofe them to fleep, and quiet the hurry of their fpirits; but it fometimes becomes hurtful, by increasing flatulence, and occasioning a faintnefs: and, as far as I have observed, the foluble tartar is more useful in maniac or melancholic diforders, proceeding from noxious humours in the prime vie, than in those which are owing to a fault in the brain.

(3) WHEN

(3) WHEN low fpirits proceed from a fuppression of the *menses* or haemorrhoids; if these evacuations cannot be restored, some others must be substituted in their place: but nothing has such sudden good effects as bleeding*. (4) LASTLY,

* A Gentlewoman, aged fifty, foon after the menfes had left her, was feized with a cough, and fometimes with a flight hæmoptoe. This last fymptom went off in a few months, but the cough lafted above three years ; and upon its ceasing, the began to be much troubled with wind in her ftomach, low fpirits, a confusion in her head, and a want of fleep. In this condition the continued for feveral months; during which, these complaints increased, notwithftanding the free use of warm, carminative, aromatic, chalybeate and antihysteric medicines. A blister applied to her head leffened the confusion in it, and procured her better reft for a few nights. Believing that as the cough was, in fome measure, a confequence of the suppression of the menses, fo the wind in the flomach and low fpirits were owing to the nerves of this organ being difordered by that matter which used to be thrown off by the lungs; altho' her pulse was neither full nor quick, I ordered ten ounces of blood to be taken from the arm; immediately after which, her fpirits were relieved, the confusion in her head, and watching were removed, and the flatulent fymptoms were much leffened.

This perfon afterwards, upon the return of the fame fymptoms, has found bleeding do her more fervice than any other remedy.

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(4) LASTLY, when low fpirits or melancholy have been owing to long-continued grief, anxious thoughts, or other diftrefs of the mind, nothing has done more fervice than agreeable company, daily exercife, efpecially travelling, and a variety of amufements.

• A Gentlewoman nged filty, foon after the wayler had left her, was feized with a cough, and fometimes with a flight harmoster. This laft fyrnptom want off in a few months, but the courts justed above three years; and apon

its crashing, the boyan to be much treached with wind in her homach, low fair is, a confision in her head, and a most of fleep. In this condition the continued for feveral months; during **G N** ho**G** com**G H** i**T** subck notwith to milling the free are of warm, form notwer, romatic, chalp, basic and antibyfleric medicines. A hilliner applied to her is for a few nights. Melleving that as the cough was, in more measure, a consequence of the happression of the same which used to her thrown off by the largershine of the her public was menter fall not quick, I ordered ten ounces of school to be thrown off by the large; althoing the her fails was relieved, the confusion in her and her public was menter fall not quick, I ordered ten ounces and watching were removed, and the fature in her her and watching were removed, and the fature in her her and watching were removed, and the fature in her her and watching were removed, and the fature in her her

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