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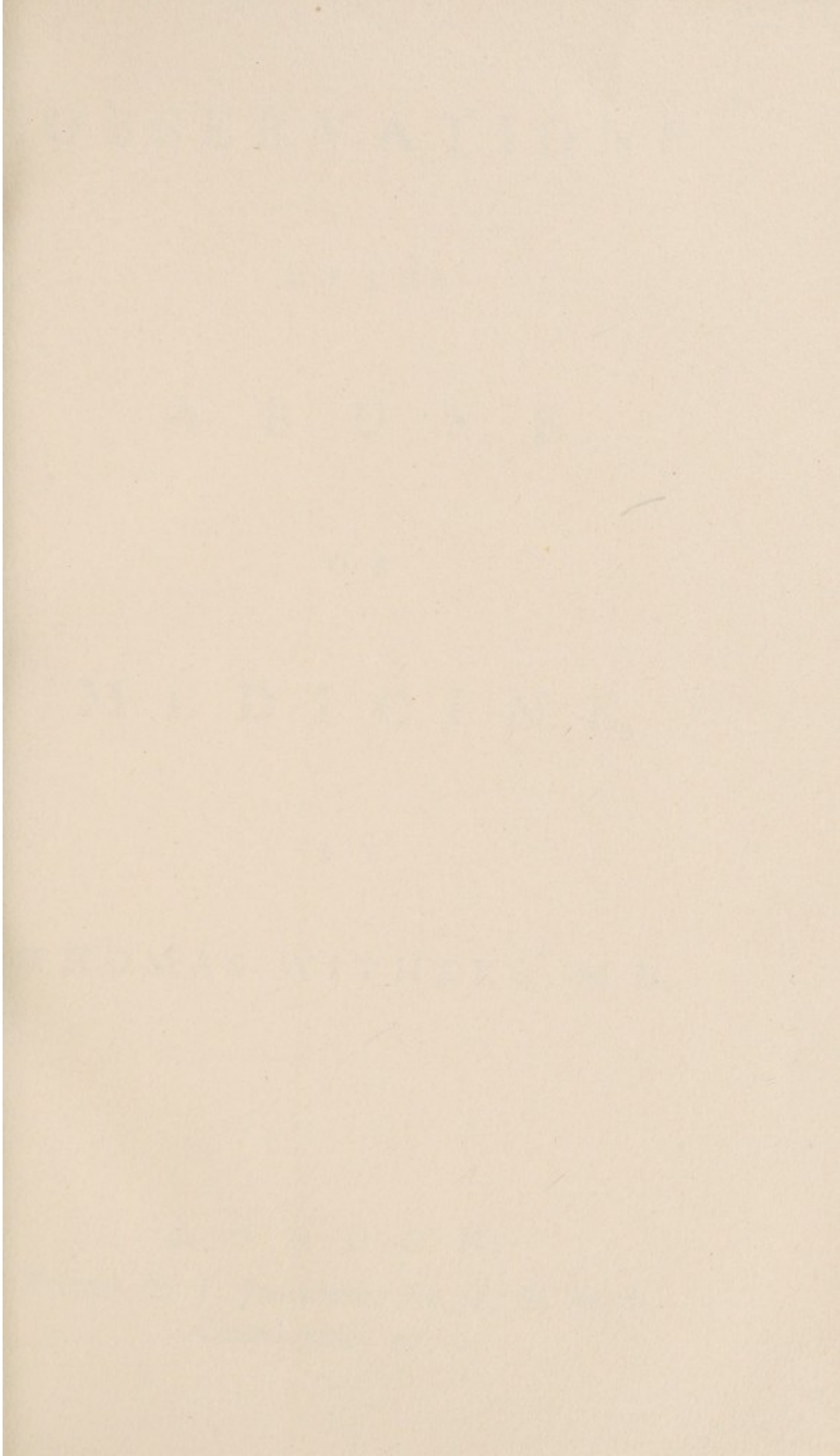
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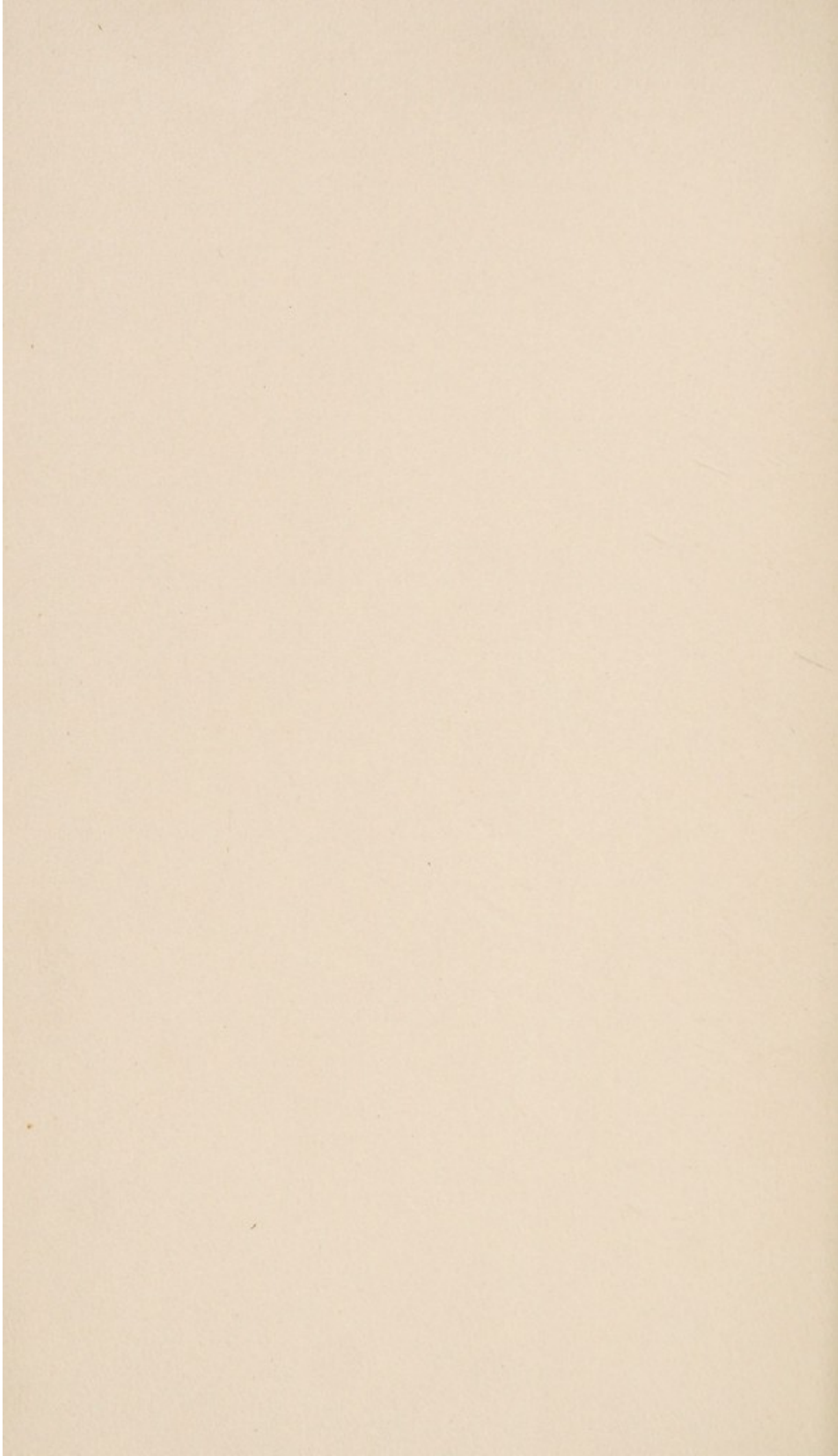




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OBSERVATIONS

ON THE

ABUSE

OF

MEDICINE,

BY

THOMAS WITHERS, M. D.

L O N D O N:

Printed for J. JOHNSON, No 72, St. Paul's
Church-yard, 1775.

OBSERVATIONS

ON THE

ABUSE

MEDICINE



THOMAS W. B. M.D.

LONDON

Printed by J. Johnson, No. 7, St. Paul's Churchyard

1825

T O
DR. WILLIAM CULLEN,
PROFESSOR OF MEDICINE
IN THE
UNIVERSITY OF EDINBURGH,
THE FOLLOWING
OBSERVATIONS
ARE,
WITH ALL RESPECT AND GRATITUDE,
INSCRIBED
BY
HIS MUCH OBLIGED
AND MOST OBEDIENT SERVANT,
THOMAS WITHERS.

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THE intention of this treatise is to present to the public SOME EXAMPLES of the ABUSE of MEDICINE. The importance of the subject will at first sight appear evident. It is closely connected with the art of medicine, the art of preventing and curing diseases. To contribute something towards the successful practice of so necessary and useful a profession, is the author's highest ambition. To determine how far he has succeeded in this view, he willingly submits to the candid judgment of the public.

The author has enumerated instances of the abuse and neglect of some of the most useful remedies, which have been hitherto discovered by experience.

The abuses of medicine indeed are so very numerous and important, that great candor is requisite to treat of them in such manner as not to give offence to men of sensibility and judgment. Every candid person, engaged in the discussion of a subject of this nature, will with the utmost attention pursue that train of argument, which, without irritating the passions, may lead to the discovery of errors, with a view only to correct them.

“ The author has abstained most religiously from personal reflections. He has censured no man and therefore hopes he has offended no man.” If he be found to have departed from any commonly received doctrines either of theory or of practice, which may be thought in some measure to have stood the test of time and from thence to have derived an additional authority, he has been induced to do so, not from the desire of indulging an idle curiosity, nor from the illiberal
motive

ADVERTISEMENT. vii

motive of gratifying a spirit of opposition, but from a full conviction of the inaccuracy or falsehood of such doctrines.

In pointing out the abuses of medicine, the author has first treated of the pernicious effects of the UNNECESSARY USE of remedies, which is universally admitted to be a principal source of diseases *. He has next touched upon the NEGLECT and IMPRUDENT USE of them; a subject that presents to view an extensive field of observation. "He could have illustrated the truth of his remarks by a variety of cases, but to enter into so minute a detail would he thinks be equally unnecessary and uninteresting." After having pointed out instances of such errors in practice, he is naturally led to mention those methods of cure, which experience has proved to be the most successful. To avoid the repetition of words, he has in several cases hinted

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* Gaub. Inst. Pathol. Med. de intempestivo remediorum usu, p. 242.

at the use only of a remedy, hoping that the neglect or imprudent application of it will easily be ascertained by the reader. In selecting the particular instances of the abuse of medicine, he has endeavored to fix upon those that are general and important. He has also taken notice of the abuse of certain remedies in several diseases, in which the practice is either contradictory or obscure. But though the reader may find some examples of the abuse of medicine here enumerated, he will, with very little reflection and medical knowledge, be able to perceive that a multitude of abuses yet remains unnoticed, all of which are serious in themselves, but could not have been included in this essay without having swelled it to a size far greater than was originally intended.

The author has been cautious to make use of the most easy and familiar language in every part of this treatise, where the knowledge of what it contains might
prove

prove of some utility to the public. Every one, not unacquainted with the first principles of anatomy, will, it is hoped, find no difficulty in comprehending the observations made on this subject. Perhaps too there will be some who, upon the principle of self-preservation, will be of opinion, that it is at least an useful, if not a necessary thing to be informed how greatly the abuse of medicine contributes to the rise and progress of diseases. Indeed mankind in general, as well as the practitioners of the medical art, ought equally to join their endeavors to prevent, as far as possible, what so nearly concerns them, as the abuse of medicine. They who are possessed of the principles of humanity and a just feeling for the sufferings of others, can never refuse to take part in a cause so generally interesting. The author has endeavored to discuss the subject in an impartial manner, and to found his observations on facts ascertained by experience.

E R R A T A.

<i>Page</i>	<i>line</i>	<i>for</i>	<i>read</i>
18	9	is	are
22	2	of bearing	to bear
123	22	(note) thoraftic	thoracic
293	8	no trecommend	not recommend

OBSERVATIONS

ON THE

ABUSE OF MEDICINE.

A

OBSE RVATIO S
*Ad utilitatem vitæ omnia consilia factaque nostra
dirigenda sunt.*

TACIT.

ON THE
*Judicio perpende, et si tibi vera videtur,
Dede manus; aut si falsa est, accingere contra.*

LUCRET.

ABUSE OF MEDICINE

SECTION I.

OF

BLOOD-LETTING.

BLOOD-LETTING is a term comprehending “every artificial discharge of blood, made with a view to the cure or prevention of disease*.” It is a remedy no less universally used, than important in its effects. Its great activity renders it dangerous when unskilfully employed. For if it be powerful in preserving life, it is also powerful in destroying it.

Blood-letting diminishes the quantity of the circulating fluids, removes plethora or the too great fulness of the vessels, and proves highly antispasmodic, by inducing a general relaxation of the vascular system, but particularly of that

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part

* Duncan's Elem. Therap. p. 172.

4 OF BLOOD-LETTING.

part from whence the evacuation is made. It mitigates morbid heat; reduces the strength and fulness of the pulse; diminishes the tone of the moving fibres; and tends to prevent the occurrence of topical determinations of blood to particular parts, affections so frequent and alarming in a variety of disorders.

After this very brief account of the general effects of blood-letting, I shall enumerate some instances of the abuses to which this valuable remedy is unfortunately prostituted through ignorance or inattention. For this purpose, we shall begin with observing the bad consequences of Unnecessary blood-letting on the general health of the constitution.

Nature has endowed the animal frame with the power of preparing, from proper aliment, a certain quantity of blood. This vital fluid, subservient to nutrition, is, by the amazing structure of the heart and blood-vessels, circulated through the different parts of the system. A certain natural balance between what is taken in, and what passes off by the several outlets of the body, is, in a state of health, regularly preserved. When this balance, so essential to
life,

life, is contrary to the laws of the animal constitution interrupted, either a deviation from a sound state is immediately perceived, or health, from that moment, is rendered precarious. Blood-letting tends artificially to destroy that natural balance in the constitution. Nature deprived of a quantity of the circulating fluid, being fitted with means for repairing the loss she has sustained, begins immediately to repair it. The secretions and excretions in general are diminished; the appetite is encreased; and, for a short time, the process of nutrition is unusually quick*.

Thus, by the wisdom of Providence, nature soon restores to the constitution what art had taken from it. The consequences, therefore, of having been once bled are rarely considerable. This single operation, however, if ordered without necessity, was an imprudent violation of nature, and of common sense.

But

* Elem. of Therapeutics, p. 173. This fact, which is admitted by all physiologists, shews the great wisdom of the Creator in the structure of the animal frame. It is properly referred to the vires naturæ medicatrices. It is indeed remarkable how very quickly a healthful constitution can repair great losses of blood.

6 OF BLOOD-LETTING.

But too often the practice has not rested here. For various are the incidents which favor the repetition of blood-letting. The patient, if addicted to an easy, indolent, luxurious way of life, may find himself, after the evacuation, sensible of some present ease. The system, being before too full of blood, enjoys a short respite from its usual oppression.—Or, after the bleeding, though it was improper, and tended rather to encrease the disease, yet the hope of relief, or a change of weather, the benefit of exercise and country air, or some other alteration in an accustomed manner of living, may, by palliating or removing the complaint, prejudice the patient in favor of the lancet.—The disorder, it may be, was of such a kind as really to admit of alleviation from the use of bleeding; but, nevertheless, the remedy unhappily proves of worse effect to the constitution than the disease itself would have done, though entirely left to nature.—Great numbers of people who have been relieved by bleeding, are apt to be partial to the means of their own recovery, and to become strenuous advocates for its use, even in cases by no means similar to their own.

These, and a variety of other accidental causes, often persuade to repetitions of blood-letting.

OF BLOOD-LETTING. 7

letting. The consequences now become more serious. The constitution, though it did not suffer materially from one injudicious bleeding, yet far from being able to undergo with impunity repeated operations of a similar kind, turns against itself those powers which were given for its preservation, and co-operates with the imprudent use of the lancet in promoting the accomplishment of its own destruction. For now the constitution not only repairs the losses of blood it sustains, but, if the common intervals of time be interposed, makes more blood than is naturally required for the purposes of health and life, that it may be able to bear such repeated evacuations.

Thus the habit of blood-letting is established. But, in fact, habitual blood-letting augments the very evil it was intended to remove. For sanguine evacuations necessitating the constitution to make more blood than is requisite, produce too great fulness of the system*. The balance between what is taken
into

* Lect. on the Mat. Med. p. 31. "On this head I may observe, that blood-letting has a manifest tendency to increase the quantity of the blood; and if this evacuation be repeated at stated times, such symptoms of repletion and such

8 OF BLOOD-LETTING.

into the body, and what passes off by its several out-lets, is no longer maintained. As the disposition to plethora exists, plethora itself, if the person continue to live in his accustomed manner, will undoubtedly prevail, except at that time when the constitution has just received the unnatural assistance of the lancet. The habit of letting blood increases and becomes stronger by repetition. In this state, the constitution, in spite of human art, will at times labour under various degrees of plethora, till the vessels arrive at that point of fulness, which again creates the necessity of bleeding. Though some constitutions are so robust, or so peculiarly framed by nature, as to bear such treatment, without any evident bad consequences, yet this is but the privilege of few. Many will severely suffer, though they themselves may often be the first to extol in the highest terms of praise that very remedy, which has proved so pernicious to their own constitutions. They have been bled till stated bleed-

such motions are excited at those times as render the operation necessary."

Gaub. Pathol. Inst. § 391. Consuetudo denique mittendi sanguinis, naturalis, artificialis, uti, reparandæ jacturæ studium indit, ita reparatæ creat intolerantiam, cui moles, aliter haud gravatura, oneri est.

bleedings become necessary, not only for the support of their health, but even for the preservation of their lives. They have injudiciously created to themselves the necessity of bleeding, and are even happy to find that it relieves complaints, which it at first tended to induce, and afterwards to confirm.

The effects of plethora are many and dangerous. A slight degree of it often produces strange commotions in weak and irritable habits *. No person who depends for the preservation of his health on an artificial discharge of blood, can ever be pronounced out of danger. Before the usual means of relief be employed, the sanguine fulness at one time or another may have proceeded to a morbid or even to a fatal length. The anticipation of the stated bleedings may with the greatest inconvenience lessen, but it can never remove the danger. An increase of fatness, unnatural heat, torpor, inactivity, and a sense of lassitude are common

B

effects

* Gaub. Instit. Pathol. § 391. In debilibus exiguum quoque sanguinis superpondium, valentiori facile tolerandum, superatis canalium viribus incommodat, & congestione, oppletionem, eruptionem gravat. Naturis irritabilibus levis humorum excessus pro stimulo est, cujus dum sentiunt molestiam, in motus inordinatos ruunt, ut amoliantur, et semet ipsas, procastis incassum viribus, fatigant.

effects of plethora *. The whole vascular system is unnaturally put upon the stretch, and along with it, the nervous and muscular fibres. Thus by slow degrees, the tone of the body, in consequence of so considerable an over-distention, is in danger of being destroyed †. The constitution itself, in proportion to its native vigor, is rendered liable, exclusive of every other cause of disease, to break many years sooner than it might otherwise have done in the common course of nature, if nature's laws had not been wantonly violated, or presumptuously despised. Hence old age sets in at an earlier season, and becomes afflicted with heavier infirmities. Frequently the appetite fails, the powers of digestion and nutrition are impaired, the body shrinks, the mind becomes dejected, the stomach and bowels are disordered, sleep is interrupted and unrefreshing, and in short the whole constitution fundamentally shaken and debilitated.

These

* Plenitudo quævis ad summum progressa, nec mature levata, etiam in robustis, sarcina demum fit viribus major, quæ spontaneam lassitudinem, ad motus torporem, sensumque gravitatis inducat. Gaub. Instit. Pathol. §. 391.

† Here it is supposed that the patient after bleeding does not prudently moderate his diet, but continues, as is commonly the case, to live in his usual manner, and to satisfy his appetite without restraint.

These are the slow and the frequent consequences of plethora. Others in fact occur, which, though on the whole they are perhaps less destructive, are however more sensibly felt, because they are more sudden, or more painful, and better distinguished.

Too great a fulness of blood predisposes the constitution to a world of disorders. Inflammatory fever and external inflammation, the phrensy, the pleurisy and the quinsy, rheumatism, hemorrhages, &c. are frequently the disorders of a sanguine habit, depending greatly on the plethoric state*. Physicians likewise are perfectly agreed, that too great a quantity of blood, increasing irritability, has a strong tendency to excite in habits where the pre-disposition to such disorders exists, convulsions, St. Vitus's dance †, epilepsy ‡, and hysteric

B 2 fits;

* Vid. Sweit. Comm. in Boerh. Aph. 729, 772, 799, 879, 1491.

† Though this disorder sometimes arises from plethora, conjoined with irritability, yet among other causes it frequently arises from irritability and weakness; of which I have had an opportunity of seeing several cases. They were successfully treated by restoring the tone and vigor of the constitution.

‡ Vid. Sweit. Comm. in Boerh. Aph. 1074, 1075.

fits; complaints which otherwise might never have made their appearance. We may further add pains of the head, vertigo, night-mare, often the forerunners of apoplexy and palsy *, which are justly ranked among the unhappy effects of plethora. Habitual blood-letting tends indeed particularly to bring on apoplectic and paralytic complaints. The morbid habit, acquiring strength by repetition, produces its fullest and most trying effects in advanced age, when venous plethora occurs †; and when too the veins of the head, in old people, are particularly subject to rupture, and the consequent

* Vid. Sweit. Comm. in Boerh. Aph. 1010, 1059.

† Cullen's Instit. of Medicine, p. 136. A greater quantity of blood is contained in the arteries, in proportion to that contained in the veins, at the beginning of life, than at any after period. From the time that the body has arrived at its full growth, the quantity of blood contained in the veins, in proportion to that contained in the arteries, is constantly increasing.

Lect. on Mat. Med. p. 12. "The arteries are larger in proportion to the veins in the young than in old subjects. Wintringham, jun. finds the density of the arterious coats less in young than in old people. The arteries therefore from being laxer grow more rigid, and are laxer as nearer to the heart. All this is wisely ordered, for the arteries being more exposed to the action of the heart, and the fluids in their moving from a greater to a lesser diameter, are sooner ren-

quent effusion of blood, far the most frequent and fatal cause of apoplexy*.

Thus much, by way of example, to shew the bad effects of unnecessary bleeding. It has been proved, that habitual artificial discharges of blood, instead of diminishing, tend to produce plethora; the pernicious consequences of which, on the human constitution, have been briefly enumerated.

Some may object to this reasoning, that, in many instances of habitual blood-letting, the effects here mentioned have not followed; and that, where they have, other causes more powerful have principally produced them. We answer, that such argument is inconclusive in itself, and foreign to the present subject. Not uncommonly the slighter effects of this abuse of blood-letting are inaccurately over-

rendered rigid than the veins, in which the power of the heart is weaker, and the fluids move in a contrary manner. Hence arises in young persons the arterious, in old the venous plethora; a distinction commonly unobserved, though it gives a considerable difference in point of temperament."

* Απόπληκτοι δὲ μάλιστα γίνονται, ἡλικίῃ τῇ ἀπὸ τεσσαρακοῦσα ἐτέων ἄχρις ἐξήκοντα. Hip. Aphor. 57. Sect. vii.

Prof. Alpin. de præfagienda vita et morte ægrot, p. 54.

overlooked, or ignorantly neglected. But, where that is not the case, it may be observed, that particular causes of disease, when not alone compleatly efficient, are often applied without inducing any morbid effect. Hard would be the fate of mankind, were every species of contagion to infect every person to which it might be applied. To argue, that habitual bleedings are no cause of apoplexy, because apoplexy is not constantly induced, is just as rational as to deny the very power of a pestilential contagion, because it has been applied to thousands without exciting the pestilential fever. — To produce a disease, two particulars in general are requisite; first, the predisposition of the body; secondly, the application of the exciting cause. Without the predisposition, we are often exposed with impunity to otherwise very active causes of disease; and, without the application of the cause, the predisposition may continue with us through life without inconvenience. — With regard to the latter part of the objection, that other causes, more powerful, acting in conjunction with habitual blood-letting, may probably have produced the effects which have been enumerated, it is evidently foreign to the purpose. We grant that full living, and the neglect of exercise,

ercise, may very powerfully assist in exciting the bad consequences of plethora. It is believed too, that there are men who would rather submit to be bled even once a month, with the privilege in the mean time of indulging their vitiated appetite at large, and of enjoying the pleasures of ease, than by living a temperate active life, possess the most perfect state of health, the free gift of heaven, independent of the assistance of art *. Yet the argument, just advanced,

* It is worth remark, that full living and the neglect of exercise tend most powerfully to induce plethora, and all the train of bad consequences here enumerated. Living very much upon animal food, which is considerably more nutritious than vegetables, fills the system too full of blood, and is very prejudicial to health. A mixture of animal and vegetable diet is required. As Dr. Haller observes, *Vegetabilia requiruntur tamen, ne solis carnibus pastus homo sanguine repleatur, & nimio & nimis putrescibili, qualis in anthropophagis certa fide regnat, & scorbutum facit, & ferocitatem, fætores, lepram, corruptionis lixivæ omne genus, quæ omnia mala mutata diæta & vegetabili acidulo victu unice superantur.* Prim. Lin. p. 342. Yet a moderate quantity of animal food is extremely wholesome.—In hysteric and hypochondriac disorders, we are sometimes obliged to forbid almost the use of vegetables; but it must be observed, that this most important change in diet is often made without necessity. Dr. Cullen in his *Materia Medica* says, “ I have known several instances of scurvy in excess produced by a long

vanced, appears still decisive, that habitual blood-letting often produces a sanguine fulness of the vascular system, liable to be followed with pernicious effects, and is therefore, without very urgent cause; absurd, and highly detrimental to health.

We proceed to the consideration of the abuses of medicine, which arise from the Imprudent Use or Neglect of blood-letting, in the treatment of disorders. From surveying a catalogue of diseases, it is intended, without any studied method, to give some examples of erroneous practice with respect to bleeding. We shall avoid prolixity by omitting numberless cases of abuse, which though serious in themselves, would be superfluous to our design. For the writer has not the most distant intention

long continued use of animal diet, which it is always unlucky to be obliged to prescribe; and when it is absolutely necessary to prescribe, it should be joined with as much of the vegetable as possible, and when a cure is performed, we should gradually recur to that again." Of so much importance does Dr. Cullen consider this change.—Besides the quality, we should pay great regard to the quantity of our aliment. Haller very justly observes, that a moderate quantity of food nourishes the best. *Aliquanto parcius in universum victus melius nutrit; nisi multus labor accesserit.*

tion of making any man his own physician; well knowing that such a design, however popular it may be, is far above the reach of his capacity to accomplish.

We shall begin with the abuse and neglect of blood-letting in Febrile Disorders; which afford the most difficult and interesting part of medical practice, and ought therefore to be regarded as the principal object of our consideration.

The Synochus is one of the most frequent and fatal fevers of this Island*. It often arises from contagion †; begins in some measure
C with

* The term Synochus is employed, because there is no word in the English language expressive of the same meaning. Dr. Cullen has defined it in his Synop. Nosol. Method. p. 257, Morbus contagiosus. Febris ex synocha & typho composita, initio synocha, progressu & versus finem typhus. Putrid symptoms are not essential to characterise the disease, though they frequently occur.

† When this fever is not attended with symptoms of putrefaction, and the strictest regard is had to cleanliness, the contagion, as immediately arising from the body of the sick, appears to be not of an active nature. But when the fever is putrid, and the sick breathe a confined foul air, it is often extremely infectious. Sir John Pringle observes, that, even in the jail or hospital fever, "the common course of the infection is slow and catching to those chiefly who are constant-
ly

with the symptoms of an inflammatory fever, but in its progress, sooner or later, puts on by degrees the appearance of a nervous fever, which is frequently attended with symptoms of putrefaction. It is a disorder most common in cold climates, and considerably influenced even by the coldness of a season. It is confined to constitutions, either vigorous, or at least where there is yet some considerable remains of vigor; while the pure nervous fever, still more destructive, singles out the weaker part of mankind for the unhappy victims of its rage. Those two fevers, arising from one common contagion, may, at the same time, and in the same place, be both epidemic together. The difference between them is derived, not from their causes, but from the constitution of patients.

The Synochus is here chosen in preference to any other genus of fever, more strictly so nominated, as being particularly applicable to the present purpose. It affords a very striking, but a lamentable instance of the abuse of medicine,

ly confined to the bad air; such as the sick in hospitals, and their nurses, and the prisoners in jail". *Dis. of the Army*, p. 289.—Dr. Gregory remarks, in his *Elements on the practice*, p. 46, that the common nervous fever, without putrid symptoms, rarely arises from contagion.

dicine, both from the neglect, and from the too liberal use of the lancet.

The reaction of the system, founded on the salutary efforts of nature, excited by the sedative operation of the contagion, is very apt at the beginning of this fever, particularly in robust irritable habits, to proceed to a morbid excess. The action of the heart and arteries is dangerously encreased, as is evident from the unnatural heat of the body, with an uncommon strength and frequency of the pulse. In this state of the disease, the patient is liable to have topical determinations of blood to different parts, producing dangerous, or even fatal inflammations, particularly of the brain or lungs, sometimes of the abdominal viscera *. In such cases, the prudent, yet liberal use of blood-letting, is the best and most effectual means for preserving a due medium of reaction, and preventing the sad consequences of its excess †. But in such cases too, errors of practice frequently arise from the neglect of bleeding.

On the other hand, the contrary error, from letting blood with too great freedom, has, in

C 2

this

* Vid. Gregory's El. of Practice, § 17.

† Vid. Huxham on Inflamm. Fevers, p. 5.

this fever, been still more frequently dangerous in its effects. In the former instance of the abuse of medicine from neglect, the practitioner stands a passive humble spectator, while nature makes her own efforts to remove the disorder. In the latter, he becomes not only active, but highly rash. It was said, that, in the progress of this fever, the inflammatory symptoms gradually disappear, and change into the more depressing symptoms of debility and putrefaction. The disease, gaining strength by duration, and by the continued action of a sedative cause, becomes more and more insupportable to nature, especially if the patient be weakened by repeated imprudent losses of blood. The strength of the system, like the wealth of a nation, should be preserved with the exactest caution, that it may be found vigorous in health, and able, when under disease, to support the conflict, and overcome the dangers with which it is threatened.

This abuse from excess of bleeding has of late years become far more considerable in its effects, from the acknowledged degeneracy of the constitutional vigor of the human species. Indolence and luxury have upon the whole destroyed more men, than the sword, pestilence,

or

or famine. These calamities, it is true, have at particular times, and in particular parts of the globe, raged with more distinguished violence; but indolence and luxury, like slow poisons diffused through the atmosphere, are at all times, and in all places, extirpating the human race. Trade, commerce, and literary pursuits often confine men to a sedentary, unwholesome manner of life. The arts of hunting, pasturage and agriculture, employ perhaps fewer people in the present age, proportionably to the number of the inhabitants of civilized nations, than in former days when men were less occupied in various commercial and literary pursuits. Manly athletic exercises are much less in vogue, because they are ill suited to the softness and effeminacy of modern times. Those who among us happily live under the necessity of acquiring by their bodily labor the common necessaries of life, and who consequently stand the fairest chance of enjoying the highest health, are very liable, for the lucre of gain, to pursue business beyond their strength, and rashly to destroy in a short time the tone of their systems. These causes, among many others, have rendered men less robust than they formerly were; less subject to the Synochus, though more subject to the low nervous fever;
and

and consequently less able than our hardy ancestors of bearing with impunity the repeated operations of blood-letting.

Hence, if any modern physician were to bleed in fevers with the freedom recommended by several of the ancients, his practice would necessarily prove very unsuccessful. — What then must determine the propriety of blood-letting in all such cases of dilemma? The answer is obvious; caution, judgment, medical erudition. The able practitioner will know the true state of his patient. He will so plan his method of cure, that while he strives to steer free of one rock, he will not split his vessel upon another. He will examine the indications which occur relative to the use of blood-letting. He will consider the plethoric state of the system,—the strength and vigor of its fibres,—and the age of his patient, whether he has reached the meridian of life, when the tension of the system is the greatest. He will consider the degree of inflammatory disposition; whether his patient be subject to frequent attacks of inflammatory disorders; or whether he be habituated to natural or artificial evacuations of blood. He will reason with himself concerning the nature of the remote
cause

cause of the fever, how far it may be fairly referred to the influence of cold, unassisted by the depressing action of contagion. He will consider the time at which the disease began; whether or no the hot fit be compleatly formed, and how long it has prevailed; and whether the fever be of the continued kind, with the most imperfect remissions and exacerbations. He will deduce an argument in favor of blood-letting, from the nature of the prevailing epidemic; and ascertain, by the most cautious experience, how far it admits of relief from that remedy. He will also examine most minutely the degree of febrile heat; the state of the pulse, respecting strength, hardness, and frequency; and the tendency of the disease to topical inflammations. In proportion as he can give the affirmative to such particulars, the indication for blood-letting appearing stronger, he will proceed with greater freedom to enjoin it*.

Success, in all human probability, will often second his endeavors to relieve his fellow creatures in distress; but the solidity of his judgment will prevent him from proceeding rashly. He

* Vid. Boerb. Instit. Med. § 1230.

He will not venture on a repetition without the most evident necessity. He will reflect maturely on the consequences of the fever, which he will cautiously avoid encreasing, because his humanity has taught him to dread them. By the effects of one bleeding, he will judge of the propriety of repeating the operation *. He will be sparing of the vital fluid in infancy, in old age, in irritable and phlegmatic temperaments, which are unable to bear considerable losses of blood. He will not be deceived by the oppressed pulse, often concomitant on plethora, denoting great tension of the vascular system, feeling small, hard, and contracted, but from vene-section becoming soft and full †. He will not absurdly see his female patient expire from the neglect of bleeding, because she has her menses ‡, or is pregnant *.

* Huxham on Fevers, chap. viii.

Pringle's Observations, part iii. chap. vii. sect. v.

Monro Dis. Mil. Hosp.

† Huxham on Fevers, p. 6.

‡ Lect. on Mat. Med. p. 31. "Constant repetitions of this evacuation comes to fix it independent of strong causes, either favouring or preventing repletion, e. g. blood-letting will not impede it, &c." Physicians are agreed upon this practice. Hunter's Anatomical Lectures. Young's Lectures on Midwifery. MacKenzie's Lectures on Midwifery.

nant*. He will examine the appearances of the blood when drawn; consider the presence of the inflammatory crust as favoring a repetition of the operation; but understanding its nature, and knowing how many trivial neglected incidents prevent its formation, he will wisely not conclude much from its absence †. He will recollect that small bleedings often afford substantial relief. He will understand if his patient faint during the operation, what conclusions from thence may justly be drawn; how far debility may be supposed to have been the cause; and how far the singularity of constitution may be concerned. In all cases he will examine, with scrupulous attention, the state of the pulse, and provided there be no topical inflammation, he will not presume, if the pulse sink and become weak, to risque a repetition of blood-letting. The violence of symptoms, denoting the excess of stimulant power, will afford him the rule of his conduct. He will be persuaded that it is safer to err on the side of mo-

D deration,

* When we bleed a pregnant woman, we should cautiously endeavor to prevent her from fainting; for which purpose too great a quantity of blood should not be taken away at one time, the orifice should be frequently closed, and the patient should lie in a horizontal posture.

† Greg. Elements, § 70.

deration, than rashly to plunge into the calamities of excess; and that it is a much harder task to raise a sinking constitution, than to take off the exuberance of strength*.

Before we dismiss the consideration of the abuse of bleeding in the Synochus, an important distinction still claims our attention. Every one understands what is commonly meant by delirium in fevers. But the variety of febrile delirium frequently passes unobserved; the method of treatment is of course often erroneous, or at least unsteady. The distinction I would hint at, leads me to speak of two species only. In both these occurs a dangerous determination of blood to the head, with an inflammation of the brain, or a strong tendency towards it. The determination is discoverable by an acute fixt pain in the head; by a vivid redness of the face, and a suffusion of the eyes; by a wild fierceness of aspect; by a morbid sensibility to light and sound; by great anxiety, with frightful unrefreshing sleep; and by delirium, rendering the person at times furious and ungovernable †. Those signs being common to

* Vid. the author's Dissert. de febribus continuis medendis, p. 19.

† Boerh. Aphor. 772, 773. — Van Sweit. Comm. ib. — Cullen's Nosolog. Method. p. 265.

to both species, sometimes perplex and mislead inferior judgements. The chief distinguishing marks lie in the habit and affection of the general system. In one of those phrenetic ravings, the constitution is more full and plethoric; the force of circulation is encreased, with greater strength and hardness of the pulse; and the attack is nearer the beginning of the fever. When the other occurs, it is at a later period, attended with weakness of pulse, and prostration of strength. Timidity of practice in the first, or rashness in the latter, has often paved the way to a premature end. In one, the violence of inflammation, — in the other, the general depression of the constitution, demands singular attention. In one, large, general, and repeated bleedings, particularly from the jugular veins, are chiefly to be depended upon. In the other, topical bleedings only can with safety be admitted*.

This is one instance of the abuse of blood-letting, taken from the fatal class of fevers. Omitting all further examples from this source, we pass over intermittent, remittent, inflammatory, and nervous malignant fevers, with their endless complications and varieties. I hasten

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* Greg. Elem. § 72.

to point out a few instances of the abuse of blood-letting in local inflammations.

The improper treatment of the Inflammation of the Eyes, has greatly injured many constitutions. Various causes, it is true, may have conspired in producing this effect. But, among the rest, general bleeding has doubtless contributed its share. When the coats of the eye are inflamed; when the inflammation is deeply seated; when there is considerable swelling of the eye-lids, with violent pain, intolerable irritation from light, and an inflammatory affection of the system, general bleeding is evidently indispensable, and should be regulated in respect to the quantity of blood to be drawn and the repetition of the operation, according to the urgency of the symptoms. But there are many cases of inflammations of the eyes, which are to be considered merely as local, and not requiring repeated general bleedings*, in which, however, by such rash practice the constitution, especially if not very strong, is greatly enervated, and sometimes rendered highly irritable. The unskilful practitioner frequently

* *Dis. of the Army*, p. 135, where it is observed, that slighter cases may be cured without general bleeding.

quently expresses signs of astonishment, at the want of success from such imprudent treatment. He ought to have known that in this inflammation subsisting as a local affection, general bleeding, except in urgent cases, is unreasonable, ineffectual, and greatly inferior to topical bleeding*. By the latter the discharge is made more immediately from the part affected, the relief consequently is more manifest, and the constitution little affected. Cupping with scarification, performed by a skilful operator, is preferable to leaches. By that means the evacuation is more sudden; the relaxation of the inflamed parts is greater; the quantity of blood more exactly ascertained; swelling and discoloration of the eye-lids not liable to ensue; and the small incisions of the instrument are more favorably disposed to heal, than the orifices which are made by the bite of the leach. Both cupping and leaches are preferable to the opening of the temporal artery, because this operation is more painful as well as troublesome; and in consequence of the uncertainty of the quantity and the frequent slowness

* Gregory's Elements of Practice, § 261. "If it is merely a topical affection, but attended with great tension and pain, the cure depends upon topical bleeding in the temples, internal palpebræ and albuginea, &c."

ness of the discharge of blood, its effects are more precarious. When the blood flows freely, there is often considerable difficulty in stopping the hemorrhage, which after all is apt to break out; or if the artery be too closely compressed by bandages, the good effects of the bleeding will hardly compensate for the ill effects arising from the compression. It must however be granted that this operation, when it happens to be performed without the inconveniences here mentioned, is found efficacious.

The Inflammation of the Throat is a disease, in which the practice has too often been unsteady and erroneous. It will give us occasion to show, that there are some who practise according to a mistaken fashion without any solid principles; even when that fashion is in direct opposition to experience, and the most established maxims of physic. This genus of inflammation comprehends different species and varieties. These require the greatest diversity of practice. Hence the source of medical abuse.—The species of this disorder here to be considered, are the croup, the inflammatory sore throat, and that of the ulcerous malignant kind.

The common inflammatory angina admits of the greatest relief from blood-letting. But in the ulcerous malignant angina, blood-letting has frequently proved fatal. The croup till of late has often been totally mistaken; supposed to be a spasmodic affection of the larynx; when in reality it is primarily an inflammation of that organ*, and spasm sooner or later follows only as a consequence of irritation†. Hence it is observable, that the croup, like other inflammations, attacks most commonly in the spring‡, and is often accompanied with catarrh. The attendant symptoms are very similar to those, which authors have ascribed to the inflammation of the larynx. The sloughs found on dissection, lining the larynx, are the known productions of inflammation. Gangrene too, the consequence of previous inflammation, has in a few cases been discovered by dissection.

Though general bleeding is sometimes useful in the common inflammation of the throat, yet it has undoubtedly been often employed without the least shadow of necessity. The disorder

* Cullen's Nosol. Method.

† Greg. Elements of Practice, § 267.

‡ *Ἡ νεοήματα δὲ πάντα μὲν ἐν πάσῃσι τῆσιν ὤρεσιν γίνεται, μᾶλλον δὲ ἔνα κατὰ ἐνιας αὐτέων καὶ γίνεσθαι καὶ παροξύνεσθαι.*
Hipp. Aphor. 19. sect. 111.

disorder is frequently slight, merely local, with little feverish affection of the system. Here topical bleeding may be used with advantage; but general bleeding is highly improper. Since venesection in the ulcerous sore throat, has been experienced to be so very detrimental *, and mankind have, with good reason, been considerably alarmed; several of the faculty, awed by the apprehensions of their timorous patients, and unable to distinguish accurately between the ulcerous and the inflammatory angina, have neglected bleeding in the latter, when the fever was high, and the violence of the inflammation seemed evidently to require it. — The mistaken doctrine concerning the nature of the croup, which is a dangerous, and often a fatal distemper, has led to great abuse of practice. Antispasmodic remedies have been too much relied upon in the cure of the disease. Blood-letting, particularly topical, which is the most important part of the treatment, has frequently been omitted. Antispasmodics no doubt have their utility, but can never supersede the previous necessity of bleeding †.

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* Fothergill on the ulcer. sore throat, p. 41.

† Vid. Home's Principia.—Greg. Elements.—Van Swieten's Comment.

To avoid such confused erroneous practice, it is necessary to obtain a just notion of the nature and a correct distinction of the different species of angina. Without descending minutely into the particulars of all the species of this genus, I shall only make a few general remarks, by which to distinguish the ulcerous malignant sore throat from every species, merely inflammatory. Were this distinction generally known, errors would hardly be so frequent in regard to the use of the lancet. The ulcerous and the inflammatory anginas attack similar parts, which being affected by either species of the disease, have their functions disturbed and naturally give a similarity of symptoms.—The ulcerous is generally attended with an erysipelatous affection of the throat; the inflammatory with a common phlegmonic inflammation. In the latter the inflammation runs higher, the swelling of the inflamed part is generally more considerable, accompanied with acuter pain*, more vivid redness, and greater interruption of the functions of the

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* “In the gangrenous angina the parotid and maxillary glands and tonsils are swelled, which makes the neck stiff, but there is rather a sense of fulness in the throat than any considerable difficulty of swallowing.”

part*. The erysipelatous angina is much more disposed to spread; of a deeper florid redness †; with the sense of a burning heat, and the appearance of sloughs of different colors, as white, cineritious, or livid, concealing small spreading ulcerations. The symptom of sloughs has been regarded by many as fully characteristic of the disorder. This mistake has been productive of very unskilful practice. For ulcerations, with aphthous spots or even livid sloughs ‡, have sometimes appeared in the inflammatory angina. Hence the necessity of other distinguishing marks, which indeed of a very convincing kind are generally known to the able practitioner. The different species of the inflammatory fore throat are never contagious, though from common circumstances of climate, season and situation, they may

* Dr. Fothergill on the ulc. fore throat, p. 38, observes, that though the tonsils are sometimes very much swelled, yet “the patients often swallow with less difficulty and pain than might be expected under such circumstances.”—And in another passage, p. 12 “the parts above-mentioned were swelled more or less, though not always so much as to affect perspiration as in a common angina.”

† Fothergill on the ulc. fore throat, p. 12.

‡ Cullen's Lectures on the Practice.

may sometimes appear under the form of an epidemic. The fever too is of an inflammatory nature.—The erysipelatous angina, which is very fatal to children, is always highly contagious, and wherever it appears, it is generally epidemic. The attendant fever is of the nervous putrid kind, with remarkably fœtid breath, great debility, a feeble irregular pulse, deep anxiety and delirium, accompanied sometimes with hemorrhages, and often with a diarrhœa, and an erysipelatous efflorescence appearing on different parts of the surface of the body*. The history of the putrid fever clearly understood, in conjunction with the remarks above-mentioned, will serve to discriminate these different species of angina. When the complaints are complicated, forming a case of no uncommon occurrence, the physician from clear deductions of reason, should vary his practice according to the peculiar nature of the disease; the proper treatment of which in such circumstances is attended with the utmost difficulty.

We shall next consider the abuse of blood-letting in the Pleurisy and Inflammation of the Lungs. Venesection is the sovereign remedy

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* Fothergill on ulc. sore throat, p. 49, 50, 51.

in the treatment of both disorders. The skill of the physician discovers itself most in judging properly concerning the time of the operation, the quantity of blood to be evacuated, and the necessity of repetition. Soundness of judgment in those particulars often gives substantial evidence of the practitioner's abilities. Errors of judgment I fear have been often followed with the worst of consequences. Persons too naturally of the strongest constitutions, are the most liable in the pleurisy and inflammation of the lungs to fall a sacrifice to injudicious practice. Those disorders are often rapid in their progress. Four days neglect frequently places them beyond the reach of art. The strength and fulness of the constitution tends to increase the danger of the complaints. The assistance of art is always indispensable and very efficacious.—Timidity in the physician is death to the patient. This however is not a common fault, when the practitioner is consulted at the beginning of the disorder. But if in its progress, for instance, about the fifth or sixth day, a fresh inflammation of the pleuritic or peripneumonic kind commences, too great timidity in practice will often endanger the life of the patient. Whereas the skilful practi-

practitioner, unembarrassed by such incident, will boldly, but judiciously repeat the operation of blood-letting, and, for the most part, be able with safety to complete a cure. Here it may not be improper to observe, how extremely dangerous it is to delay calling for timely assistance *. For if the patient, unaided by the art of medicine, escape with his life, he may still suffer for his neglect, from an obstruction of the lungs and a dangerous consumptive cough, which are frequently the remains of this complaint, and liable to be continued or increased from the vicissitude of the weather, and the slightest application of unaccustomed cold.

About the fourth day, those inflammations have generally been thought to be on the point of suppuration. This doctrine was carried far beyond the line of truth. Its consequences of course have proved unhappy. Inflammations proceed to suppuration with very different degrees of quickness. Though the received
opinion

* See Monro Dis. Mil. Hosp. p. 115. "The Peripneumony was much more dangerous and fatal than the pleurisy, especially when neglected in the beginning; for then bleeding had seldom any effect, &c. and death only afforded relief."

opinion above mentioned, be often certainly true, that in four days the inflammation shall have proceeded to an incipient suppuration, or, what is more frequently fatal, to such an effusion of blood into the cellular membrane of the lungs, as to render bleeding, which in the beginning of the disorder was the principal remedy, then ineffective; yet that opinion can by no means be considered as universally established in fact. Later experience has taught us, that inflammation, which is attended with very different degrees of encreased action and resistance in the vessels of the part, may subsist a longer time without suppuration, or such extravasation as to forbid the use of the lancet. From the fourth to the ninth day, we have many examples extant, where venesection has been prescribed, not only with impunity, but with the happiest effect*.

At

* *Monro Dis. Mil. Hosp. p. 112.* "Physicians formerly used to forbid bleeding after the fourth day, if it had been omitted so long; but when no symptoms of suppuration had already appeared, on whatever day of the disorder it happened, I ordered plentiful bleeding, the same as in recent cases, and never found any disadvantage but often great service from this practice." Several cases of pleurisy and peripneumony have fallen under my own observation, in which bleeding was most successfully employed after the eighth day.

At the same time, the physician should be cautious not to check or prevent, by unseasonable blood-letting, the most happy crisis by expectoration, which is often far superior to all the secondary efforts of art*.

With regard to the quantity to be evacuated, it is scarce necessary to observe that error is not uncommon. Sometimes blood is repeatedly drawn to such excess, as to endanger life by causing too great a depletion of the vessels, by interrupting expectoration, by inducing too sudden and great diminution of the tone of the system, and by impoverishing the blood, especially in old and weak people, to such a degree as dangerously to encrease serous effusions, particularly into the cavity of the thorax, and branches of the trachea †. Hence the distressed situation

* Observ. on Dis. of the Army, p. 140.

† Dr. Cullen mentions one man who was repeatedly bled to such excess, for the cure of a pleurisy, that at last he instantly expired under the operator's hand.—Numerous dissections, and particularly those of the celebrated Morgagni, prove that the hydrops pectoris is no infrequent consequence of peripneumony. Too copious bleedings tend to increase such serous effusions.—“With regard to the quantity and

tion of such patients, who are almost suffocated with phlegm, which they are unable to expectorate.

An error far more frequently injurious than the former, takes its rise from timidity of practice. A free copious expectoration often affords great relief; but a timid expectation of its occurrence, with a servile attention to its progress, has, in numberless instances, proved highly dangerous. It would indeed be a very unsafe practice to submit the cure of a pleuritic fever to nature alone. Nature ought always

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repetitions of bleeding, no precise rule can be given. Sydenham has specified forty ounces for the whole quantity, which men may at a medium lose in a pleurisy; but this in our circumstances would have been too little had it not been for blisters, which not only shortened the cure, but prevented the loss of a great deal of blood." Pringle's *Dis. of the Army*, p. 141.—Cleghorn observes on the diseases of Minorca, p. 280, that "by carefully weighing the blood he found that between forty-eight and fifty-four ounces were frequently taken away during the first four-and-twenty hours of his attendance." If symptoms required it, he afterwards took away, at different times, twelve or twenty-four ounces more in the space of a day.—In this manner he cured pleurisies of the most fatal tendency in the space of a few days, and with as much certainty as any distemper whatever. *Ibid.* p. 281, 282.

carefully to be studied; but art where it can prevent the attack or stop the progress of a disease, should always be ready to lend assistance. Bleeding with judgment tends to promote rather than to check a salutary expectoration.

In the inflammation of the lungs, the pain, from the insensibility of that organ, is often obtuse and inconsiderable. The disease in this case is frequently attended with greater danger, from extravasation of blood into the cellular membrane, than a pleurisy with the most exquisite pain*. Hence the great fallacy of determining the practice of blood-letting, by the severity of this single symptom. The pulsation of the arteries too affords but a very uncertain indication of cure; because the course of circulation through the lungs is so greatly interrupted. We should judge therefore in such cases of the violence of the disease, from the number and degree of the other symptoms. The fever, anxiety, cough, pain generally when the patient lies on the affected side, a bloated suffusion of the countenance, with a
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difficult

* "The peripneumony was much more dangerous and fatal than the pleurisy, especially when neglected in the beginning, for then bleeding had seldom any effect." *Monro Dis. Mil. Hosp.* p. 115.

difficult laborious respiration and great depression of strength, will clearly discover the alarming nature of the complaint.

So much for the abuse and neglect of blood-letting in the inflammations of the eyes, the throat, and the lungs. We cannot stop to explain the abuses of this remedy in the treatment of External Inflammation, whether of the Phlegmonic or Erysipelatous kind. Nor with regard to the latter to attempt to reconcile the variety of opinions relative to bleeding, and to shew the great influence of the impure air of large cities in varying the nature of the disease and the method of cure, by inducing important changes in the constitution.—We shall be silent on Inflammations of the Heart, Pericardium, Midriff and Peritoneum. We shall pass by all the Abdominal Inflammations, without even attempting to reconcile the confused practical contradictions we meet with in authors.—We cannot stay to mention the fatal abuses of the lancet in Inflammations of the Alimentary Canal, which are frequently confounded with spasmodic affections, and from neglect of bleeding terminate in fatal gangrene. The great depression of strength and weakness of pulse, always attendant on inflammation of the stomach or bowels,

strongly

strongly favor the mistake. Yet blood-letting, by mitigating the inflammation, absolutely gives vigor and effectually restores the natural force of elasticity to the weakened springs of life*.—Nor shall we mention the fatal error from overlooking, in consequence of a treacherous mildness of symptoms, the rise and progress of the Inflammation of the Liver or Spleen; and from neglecting the proper use of the lancet, till there occurs an unexpected abscess †, which is generally followed by a lingering consumptive death.—We omit the Inflammation of the Kidnies, often confounded with a fit of the stone, and for want of properly distinguishing between them, terminating also from the neglect of blood-letting in a dangerous illness. We pass over Inflammations of the Womb; which are so common, so dangerous, and so frequently incurable, from injudicious practice in the art of midwifery ‡.—We pass over too

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* Fordyce's Elem. of Practice, p. 250. † Ibid. p. 259.

‡ Among a variety of other causes inducing this inflammation, none have more regularly contributed to this end than the unnatural, painful, and pernicious practice of immediately extracting the placenta or after-birth after delivery, without prudently waiting some time for the contraction

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the Acute Rheumatism, without mentioning the bad consequences of the neglect of bleeding in plethoric habits; or of the frequent unnecessary abuse from excess. This last error is often followed by weakness and irritability of the constitution, which is then rendered of course much more sensible to the impressions of cold, more subject to a relapse, and to the lingering pains of chronic rheumatism.

We come now to the Gout, which is a disease of a peculiar nature, different in its phenomena from every other genus of inflammation. The abuse of blood-letting in this disorder, has been followed with the most pernicious effects. But before I endeavor to point them out, it may not be improper to distinguish the gout from the rheumatism, a disease with which it is so frequently confounded. Dr. Cullen, in consequence of a most laborious and successful investigation of the laws of the nervous system, has thrown great light on the nature and treatment

of the womb and the kind assistance of nature. That rash practice tends to inflame the womb, to induce great discharges of the lochia, and to render the recovery tedious. It is now as universally as justly exploded by all the most able practitioners of midwifery.

ment of the gout, as well as of many other disorders.

The gout is hereditary, much connected with a peculiarity of temperament with which men are born, and which is founded on the original stamina of life, communicable from father to son *. The rheumatism is peculiari- zed by no such distinguishing mark; but may be excited by its remote evident causes in almost every constitution. To disprove that the gout is hereditary, it is by no means a conclusive argument to advance, that the son of every gouty person has not always the gout. With equal propriety we might argue, that the evil is not hereditary, because every scrophulous parent has not communicated the disease to his son. This argument would prove a great deal too much. When physicians assert that a disease is hereditary, I understand them as meaning, not that men cannot possibly acquire after birth the temperament disposing to it, but that they who are born with such a temperament, are, from the concurrence of certain causes,

* Vid. Van Sweit. Comm. in Aphor. 1255.—Gregory's Elements of Practice, § 391. — Sydenham, Hoffman, &c. unanimously agree in the truth of this fact, which is confirmed by the most undoubted experience.

causes, more liable than others to be affected with the disease. That this fact is true of the gout, none will deny with argument. A constitution with this predisposition, is subject, from even slight irregularities, to be seized with the gout; while others, not framed by nature with such peculiarity of habit, live perfectly free from gout in all the most profligate excess of luxury and debauch. The following circumstance also frequently occurs, and is, though improperly, made a cause of ambiguity, whether the gout is to be considered as an hereditary disease. Though one parent may be subject to the gout, the other may be free from all hereditary taint; and the offspring, inheriting the temperament of the latter, not be subject to the disease from constitution. Even when it has happened, that the son of two gouty parents has escaped the disease, it only proves, that though the predisposition existed, yet exciting causes sufficiently powerful have not been applied, otherwise the gout in all probability would have appeared. But if some few, born with the gouty temperament, should, notwithstanding the application of causes, live free of the gout; such exceptions, though they do not in the least invalidate the general rule, confirm a maxim well established in medicine, that
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there are men whose robust constitutions are able to bear almost every excess with impunity.

The gout generally attacks persons of more advanced age, often not appearing till the thirtieth or thirty-fifth year*, which may be considered as the meridian of life. The rheumatism occurs frequently at a much earlier period. If this distinction of gout drawn from the time of its attack, be less characteristic in the present age than it formerly was, it affords one evident proof, among many others, of the degeneracy of constitutional vigor in the politer world.—When children become the subjects of gout, it proves in general their constitutions greatly degenerated indeed, and forebodes no flattering prospects of happiness. Nothing can preserve them from the miseries of
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* Boerh. Aphor. 1255. Podagra, semper idem, quacun- que demum causa ortus, ubi naturæ suæ decursum non turbatum absolvit, sequi solet ætatem matura majorem tri- ginta, & plurium, annorum.

Syden. Oper. p. 435. Podagra eos plerumque senes in- vadit, qui postquam meliores vitæ dies mollius ac delicatius, transegerint, epulis lautioribus, vino, aliisque liquoribus spirituosis, liberalius indulgentes, tandem ob pigritiam æta- tis ingravescentis semper comitem, ea corporis exercitia pe- nitus amifere, quibus juvenes adsueverant.

this disorder, but a well-advised plan of life, and a cautious rational government of themselves.

The rheumatism after a single attack, has in a thousand instances never returned; and where it has, the patient could generally assign an external evident cause of relapse. When gout has once made its appearance, it generally recurs *, and often without any obvious cause, but especially when it is treated so improperly, and with such great neglect, as is frequently to be observed. No one practice can possibly serve for all the different species of the gout. The variety of the disease demands a correspondent variety of practice. Where one person has received real benefit from the quackish arts he may have employed, and not perhaps without a vain hope of relief, nine, at the lowest computation, have endangered, or absolutely ruined their constitutions.

Cold is almost always the remote cause of rheumatism, which is therefore a disease of cold seasons and cold countries, scarce known to the inhabitants

* Dr. Gregory observes that the gout is more apt to return at stated seasons than the rheumatism. *Elem. of Practice*, p. 192.

inhabitants of hotter climates. A fit of the gout may be hastened by any unaccustomed application of cold, but very commonly recurs without it. It claims the aid of other remote causes, equally powerful, which frequently undermine the foundation of the constitution. I refer here to the neglect of exercise; excess in venery; intense application of mind; late hours; intemperance in diet, respecting its quality as well as quantity; the passions of the mind, particularly grief and envy; with many other causes, the powers of which seem to be too much despised, because perhaps they are too little understood.

The gout may attack men of every size and temperament; but it has been observed to be particularly partial to those of a large size, of a full habit*, of the sanguine phlegmatic or sanguine melancholic temperament, with a peculiar coarseness of the cuticle. The rheumatism affords not the least ground for such

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* Vid. Boerh. Aphor. 1255.—Corpus magnum, crassum, plenum, &c.

Syden. Oper. p. 435. Ad hæc, isti qui huic morbo sunt obnoxii, crania habent grandiuscula, habitu corporis ut plurimum sunt pleniori, humido & laxo, &c.

a mark of distinction. They who are afflicted with the gout, are by constitution very liable to be afflicted with the stone or gravel*.

The rheumatism appears indiscriminately in either sex. The gout is more common to men, seldom attacking females, unless being born with the temperament strongly marked, they have been also more than ordinarily subject to its causes.

Rheumatism is very rarely preceded by affections of the stomach and nervous system, similar to those which almost regularly precede a fit of the gout. Sometimes flatulency, colic pains, indigestion, want of appetite, with dejected spirits, are the forerunners of an attack. Sometimes an uncommon voracity or keenness of appetite, foretells its immediate approach. I may add too, as signs of a similar event, various affections of internal parts, as of the head or breast, with great anxiety and want of sleep. Such affections, uncommon in rheumatic cases, determine strongly in favor of the gout.

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* Syden. Oper. p. 442.

The pain in rheumatism is for the most part seated in the larger joints, as in the ankle, the knee, the elbow, or the shoulder, and extends along the muscular flesh. The gouty pain is more confined; it generally appears in the smaller joints of the hands or feet, and very commonly in the great toe. In future attacks of the gout, the pain may occur also in the larger joints; but the distinction of the disease being made from the previous affections, this circumstance will create but little ambiguity. Besides, when the gout has continued long, the alternation with internal affections, and the frequent recurrence of fits, will still tend clearly to remove every appearance of uncertainty*.

It is thus we distinguish the gout from the rheumatism. Though no one of the discriminating marks, here enumerated, would alone sufficiently characterize either disease, yet the whole taken together will almost universally afford just ground for distinction. Should it happen (which sometimes is really the case) that both diseases exist at once in the same patient, the practitioner regulating his conduct accord-

ing to the particulars of combination, will after having made a cautious discrimination of the symptoms, proceed with safety to the method of cure.

Having founded this distinction, I shall speak of the abuse and neglect of blood-letting in the gout; both which have sometimes been attended with alarming and even fatal events. We should constantly remember what experience steadily confirms, that in the gout great evacuations of whatever kind, but especially by blood-letting, cannot in general be safely admitted. Blood-letting however ought by no means to be excluded from our practice. It is sometimes absolutely necessary in the gout, as well to preserve life, as to mitigate the excruciating violence of pain.

When the disorder begins at an early period of life; when the constitution of the patient is robust and plethoric; when the gout is of the regular kind, seated in the extremity, attended with violent pain, redness and swelling of the part, with restlessness and anxiety, with frequency, strength, and perhaps hardness of the pulse, general and topical bleeding becomes an useful remedy. When too the gout quits the
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extremity, and affects with inflammation any of the viscera, as the brain, the lungs or the stomach, venesection is as necessary for the preservation of life, as in the original inflammations of those organs*.

In some cases even of spasmodic affection of internal parts, as of the lungs or intestines, pain, vigor and fulness of habit may require a moderate evacuation of blood. But this remark leads me to mention the dangers which arise from unwarrantable freedom in the use of the lancet. Too many have experienced the fatal consequences of blood-letting, imprudently employed †. When the disease has long existed in the constitution, and weakened it by repeated attacks; when it is become irregular, and is thrown but very imperfectly on the extremities,

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* Gregory's Elem. of Practice, § 404. "If it seize any of the viscera along with fever and the symptoms of topical inflammation, it should be treated like any other inflammatory fever affecting the same part, while the above-named external applications are used to determine the disease to the feet."

† Boerh. Aphor. 1270. Ex iisdem deducitur, venæsectionem non attingere mali materiam, sedem, causam: prodesse tamen aliquando casu, revellendo parum, & vires urgentes minuendo.

alternating frequently with spasms of internal parts, but not producing external inflammation; then bleeding is evidently unsafe, and exposes the constitution more certainly to dangerous interior affections of the primary organs of life. Hence arise the convulsive asthma, apoplexy, spasms of the stomach and bowels, and many other fatal diseases.

From the class of febrile disorders, it only remains to give three more examples of the abuse of blood-letting; one selected from eruptive diseases; a second, from hemorrhages; a third, from those complaints which are attended with an increased secretion, chiefly of mucus, though sometimes intermixt with blood*. The diseases then to be considered shall be the measles, uterine floodings, and the catarrh.

The Measles being a disease extremely common, errors of practice are liable to be frequently repeated. Blood-letting is of such peculiar service in the measles, that the successful treatment of the disease turns principally on its proper use. Some, no doubt, have prescribed bleed-

* An order of diseases, named by Dr. Cullen PROFLUVIA, and defined,—pyrexia cum excretionē aucta naturaliter non sanguinea. Synop. Nosol. Method. p. 304.

ing without necessity, and some to excess; but, waving that point, we will venture to affirm what is well known to the faculty, that the neglect of this evacuation has often rendered the measles of great fatality, which is the more lamentable, because the medical art, properly exercised, might easily have prevented it. The contagious matter of the measles generally tends to excite an inflammatory state of the system. It acts likewise in a peculiar manner upon the lungs, as well as the external teguments. Hence the regular appearance of catarrhal symptoms attended with cough. From this source alone, the danger of the disease generally arises; a danger so considerable, that, from mistaken doctrine concerning the causes of it, the measles and their consequences have frequently been found almost as fatal as the small-pox. The catarrhal affection, especially in inflammatory habits, is extremely liable, even after the eruption at its usual time has disappeared, to proceed to inflammation of the lungs. This inflammation, left to nature, either proves suddenly fatal from extravasation or gangrene; or terminates in suppuration; or forms hardened knots or tubercles in the lungs, which dispose the person to habitual coughs, especially during the winter season, and frequently

quently induce at last a spitting of blood, ulceration of the lungs, and a lingering consumptive death. Hence, to avoid all these evils, appears the necessity of copious repeated evacuations of blood*. Strange that such unhappy effects should have been unexpectedly attendant on the mismanagement of so common a remedy, in so common a complaint.

Uterine Floodings, in the present age, are a more frequent disease than they formerly were. They sometimes depend principally on excess of

* Dr. Mead, after having taken notice of the bad effects of neglecting blood-letting in the measles, observes, "that as this pestilential disease is of kin to the small-pox, it requires a management not very different from the same, which we have recommended in that distemper. Blood must be taken away in the beginning, according to the age and strength of the patient. It is best if possible to do this before the eruption of the pustules, but if they are already come out it must however be taken away. For the greatest danger is an inflammation of the lungs, which cannot be prevented too soon. Therefore in the height of the fever also, although bleeding was not neglected in the beginning, yet it is sometimes necessary to repeat it. And in the last place, at the end of the disease, when the skin is now growing dry and the scales falling off, it will be a great error not to open a vein again, that by this means a flux of humors upon the breast and intestines, and the symptoms of a hectic fever and consumption may be happily prevented."

Dr. Mead, Cap. vi. de Morbillis.

of blood as their cause, but oftener on a loss of tone in the general system, and a topical relaxation of the uterine vessels. In the first case, moderate bleeding is no inefficacious remedy. In the latter, it encreases debility, renders the blood more serous, and therefore aggravates the disease. Hence an evident source of abuse, which some have unfortunately discovered by experience. When plethora occurs, the peruvian bark and stimulants tend to augment the morbid evacuation, to protract the disease, and to hasten its pernicious consequences. When weakness, with relaxation, is the cause, the improper use of the lancet concurs with the disorder, irrecoverably to destroy the constitution by encreasing that weakness, which, attended with a miserable train of depressive symptoms, often terminates in dropsical swellings, and in death. It is observable, that the diseases peculiar to females have not been so thoroughly examined into, and understood, as their frequency and importance seem to require.

The Catarrh, from the situation of our island, and from the sudden vicissitudes of weather with respect to heat and cold, may, with the strictest propriety, be looked upon as the en-

demio disease of Great Britain. It is a fatal disease indeed, not because efficacious means of cure are wanting, but because the frequent occurrence of slight attacks, lessening men's attention to it, has taught them in all cases too much to neglect the catarrh, till its consequences are vigorously rooted and become severely felt *. The danger of a consumption, or of the spurious peripneumony †, both so frequently induced by repeated colds, should deter the inhabitants at least of this country from considering the catarrh as a trivial complaint, and one therefore which may be safely neglected or committed to the practical skill of every illiterate person.

* Monro Mil. Dif. Hosp. p. 124. "Coughs were very frequent during the winter, and when the weather was wet and cold. They were often accompanied with pains of the breast, and when neglected, obstructions, tubercles, and suppurations were apt to form in the lungs, and the disease to end in a consumption".

† The spurious peripneumony arises principally from a relaxation of the mucous glands of the bronchia or air-vessels. There is an increased secretion of mucus, attended with a cough, which is particularly troublesome in the morning. This disease, if neglected, or not properly treated, becomes in time obstinately fixt, and frequently proves dangerous, and even fatal. The patient is suffocated with phlegm, which he is not able to expectorate.

person. This caution, were its validity universally known and acknowledged, might be the means of preserving numbers of valuable lives.

The catarrh is an inflammation of the mucous membrane of the lungs *; and when it occurs in plethoric habits, complicated with a degree of peripneumonic inflammation, attended with fever, pain in the breast, and violence of cough, it urgently requires the immediate operation of venesection †. The neglect of this evacuation at such conjuncture, leads to all the alarming consequences pointed out under the article of measles ‡. There are few practitioners who have

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not

* Dr. Fordyce's Elem. of Practice, p. 287. "Catarrh is an inflammation of, or greater secretion from the mucous membrane of the nose, eyes, throat, mouth, or lungs, and properly should be divided into different diseases".

Greg. Elements, p. 145. "In the beginning of the catarrhal fever, there is commonly a slight inflammation of the mucous membrane with little secretion, which becomes more copious and less acrid as the inflammation subsides."

† Observations on the Dif. of the Army, p. 163. — Monro's Dif. Mil. Hosp. p. 125.

‡ Greg. Elements. sect. 284. "Catarrh is seldom dangerous of itself when the constitution is sound, and the patient not far advanced in life; but when it is neglected, or continues long, it brings on obstructions in the lungs, hæmoptoe,

not been witnesses of too many sad spectacles from this abuse of medicine. The quantity of blood to be drawn should in this as well as in other cases, be regulated by the urgency of the complaint.—At the same time it is an indubitable fact, that the opposite error of repeatedly bleeding without necessity, has greatly injured many constitutions. The catarrh very frequently attacks delicate relaxed habits, which are rendered highly irritable from excess of heat, and unhappily obnoxious to the disease from the slightest exposure to cold. In these, as well as in more robust constitutions, the catarrh is often perfectly pure, unaccompanied with peripneumonic affection, or such other symptoms as indicate bleeding. Here venesection, especially if unnecessarily repeated, is not only attended with those general bad effects which have been already described, but renders the patient more liable to a relapse. In nervous debilitated habits, it tends, especially if the patient be weakened by the too free use of sudorifics, of laxatives, and of emetics, to sink the constitution insupportably

moptoe, phthisis pulmonalis, and a disposition to future catarrhs. It sometimes terminates in violent angina or peripneumony, or induces an inflammation of latent tubercles in the lungs. It often brings on a peripneumonia notha in old people.”

supportably low, to create dejection of spirits, and to induce hysterical or hypochondriac affections.

I come now to give an example or two of the abuse and neglect of blood-letting in Nervous Disorders. For this purpose it is intended to mention only a few facts out of the histories of the epilepsy, the hysterical affection, melancholy and madness*.

With respect to Epileptic and Hysterical Disorders, it is observable, that among a variety of predisposing causes, two are principally to be guarded against; I mean plethora † and debility. Both often occasion a morbid mobility of habit, which tends greatly to induce those complaints. When the plethoric state prevails, blood-

* The abuse of blood-letting might have been mentioned in the apoplexy, palsy, hypochondriasis, and many other nervous disorders. For, in these, bleeding is often omitted where it was indicated, and employed where it was improper. When the constitution is plethoric, bleeding is indispensable in these complaints, especially in the apoplexy and palsy. It sometimes gives very great relief in hypochondriac disorders. But the numbers of nervous complaints are so great, that it would be far beyond the design of the author to enter minutely into this subject.

† Vid. Van. Swiet. Comm. in Aphor. p. 1075.

blood-letting is a promising means of relief *, but when debility is the cause of the disease, that evacuation always encreases its violence. It is often difficult to draw the exact line of distinction between these two opposite causes, which frequently approach each other so nearly as to require the acutest discernment to ascertain with accuracy their separate action. An undistinguishing practice in such cases must evidently bear upon the face of it the plainest marks of absurdity. Yet such undistinguishing practice is sometimes apparent even to the most superficial observer. Errors too in cases so obvious as hardly to leave room for the possibility of a mistake in relation to the causes of plethora or debility, have frequently been committed by drawing blood too freely or in too small a quantity.

Hysterical Complaints, even in the fullest habits, may be treated with more moderate bleeding. But the epilepsy, dependent on plethora, requires large evacuations, and admits of little relief from weak irresolute practice.

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* River. Prax. Med. cap. vii. p. 22. Postea si plenitudinis notæ appareant, aut æger sit sanguineo temperamento præditus, phlebotomia erit celebranda.

One distinction I would further add. There are obvious reasons for believing that a part of the system may be too copiously supplied with blood, while the other parts are evidently under a state of inanition*. Or in other words, the natural balance of the circulation may, in consequence of the occurrence of topical determinations of blood to particular parts, not be equably maintained. Such a determination to the brain is on very just grounds supposed by Dr. Cullen to be no unfrequent cause of epileptic fits; though, at the same time, the general system be neither strong nor plethoric.

These

* Some years ago I had under my care a case of palsy, where there was the strongest evidence of topical congestion in the head, and great emptiness of the general system. A lady, twenty-five years of age, who had led a very sedentary life, and whose constitution was extremely weak, was seized with a palsy on the right side of her neck, in consequence of which her head continually inclined to the left side. Her pulse was very weak and irregular. Her appetite but indifferent. She was subject to violent head-achs, and an uncommon pulsation in the arteries of the head, which frequently disturbed her rest. When the pulsation of the arteries in the head was the strongest, her paralytic affection was the most troublesome. By the use of the bark, topical bleeding, blistering, a moderate diet, and regular continued exercise, she was restored, in the space of three months, to a perfect state of health.

These cases unfortunately are very liable to be mistaken. But if the cause be accurately ascertained, and a judicious method of treatment speedily adopted, the patient will sometimes find himself unexpectedly freed from the alarming attacks of so terrible a complaint. In such cases of topical congestion in the head, with a feeble pulse and great weakness, general bleeding cannot be used with impunity; but topical bleeding, prudently employed, is very conducive to the cure of the disorder. The management of such a case is so extremely nice and difficult, that it need not raise our surprise to find the cause of it frequently overlooked and neglected, till the epilepsy by habit is become irremovably fixt.

We proceed to observe how greatly the lancet has contributed to enhance the dreadful sufferings of the Unfortunate Lunatic. We leave it to casuists and philosophers to expatiate at large on the inhumanity of those men, if they deserve the appellation, who, from mercenary views, conduct these unhappy creatures to a private mad-house, and then, under the specious pretence of administering to their relief, bleed them till nature exhausted sinks under the discharge.

Melancholy generally takes place in the melancholic temperament; madness either in the melancholic or in the sanguine. In the melancholic, both diseases alternately prevailing, sometimes form a most unhappy complication. In a fit of madness, the brain evidently appears to be in an excited state, similar in some degree to what occurs during the violence of anger. Hence may be explained the uncommon strength of lunatics, with their almost incredible power of resisting sleep and hunger*, as well as the sedative effects of cold, opium, and other narcotic remedies. When the violence of the fit is abated, the nervous energy seems sunk and depressed. These two opposite states of the system are very properly comprehended by Dr. Cullen, under the general terms of Excitement and Collapse; terms not intended for the concealment of fallacious theory, but only to be expressive of indubitable facts †.

Various topical affections of the brain, as abscesses, effusions, preternatural ossifications, &c. have been found on dissection to be the evident causes of melancholy and madness. Af-

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* Van Swieten in Aphor. 1120.

† Cull. Inst. Med. § cxxx.

fections very similar to these have also been frequently known to excite vertigo, pain of the head, apoplexy, palsy, epilepsy, fatuity, and the like stubborn maladies *. How such apparently similar causes are able to effect such great diversity of appearance, is a problem which has hitherto been found too difficult for human penetration to solve. Yet no one doubts that madness frequently occurs when not induced by such fixt topical affections. The alarming suddenness of an attack, and the disease continuing for a short time and then perfectly disappearing, sufficiently evince the validity of this doctrine. Dissections too indisputably confirm it.—The art of medicine may relieve even in those cases of fixt topical affection. In others arising from plethora, it may assist to forward and complete a cure which nature alone could never have made. When the just management of the lancet is not able to mitigate the rage of madness, this is frequently too probable a sign of the obdurate nature of the cause. How often that management is not just, I will not pretend to determine. Let it suffice on this subject to observe, that when madness appears in the sanguine temperament,

* Vid. Gregory's Elem. § 251. — Morgagni de Sed. & Caus. Morb.

perament, nothing but sudden, copious, and repeated bleedings can moderate or remove an excitement, which is the highest that is known to human nature. The plethoric state of the system and the sanguine turgescence of the brain, calling loudly for the lancet, will assist in regulating its use *. At the same time, the principles of the institutions of medicine will remind the physician, that bounds are fixed to his practice, beyond which, if he rashly venture, the consequence may be fatal to his patient. When melancholy rises to madness, blood-letting undoubtedly becomes a necessary means of relief †; but in such a case, the circumstance of the temperament claims our attention, and requires us to be somewhat more sparing of the vital fluid; otherwise, when the fit of madness is over, the gloomy miseries of melancholy may return with redoubled violence.

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* *Mania vero enata in robustis, vegetis, floridæ etatis, plethoricis, calidis, sanatur iisdem mediis, ac species epilepsiæ; missione sanguinis iterata; purgatione forti, &c. — Boerh. Aphor. 1127.*

† *Vid. Boerhaave Aphor. 1115. — Symptomata leniendo per venæsectionem, &c.*

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SECTION II.

OF

EMETICS AND PURGATIVES.

EMETICS and PURGATIVES are remedies of an active nature*. The effects of their abuse are frequently dangerous and striking. The imprudent use, as well as the neglect of them, is sometimes unexpectedly attended with fatal consequences. Omitting the relation of single cases, we shall dwell principally on the consideration of those facts, the knowledge of which promises to be of the most general utility.

Emetics

* In universum itaque hic abusus nocet sanis, præsidia adversæ valetudinis in secunda consumendo, adsuetudinem cum menti, tum corpori, inducendo, qua tandem necessaria redantur, particulis alienis, indomabilibus, succos inficiendo, vi non propria partes laceffendo, fatigando, regulares naturæ motus interturbando, ejusque pensum ingesta materie non alibili aggravando, &c. *Pathol. Inst.* § 484.

Emetics excite sickness, attended more or less with a sense of anxiety and oppression. After the sickness has continued some time, an effort is made in the constitution to expel the offending substance; which therefore is at last evacuated by the action of vomiting. To complete this effort of the system, a full inspiration is made; the pylorus* is spasmodically closed; the natural peristaltic motion of the stomach is inverted; the midriff is relaxed; and the abdominal muscles are thrown into strong convulsive action †. Hence various kinds of crudities, of noxious and putrid matters, are happily removed. The gastric fluid is secreted in greater quantity than usual. The biliary and pancreatic ducts are emulged, and the secretion of the liver and pancreas augmented, along with that of the glands of the superior part of the intestinal tube. Thus fluids which stagnated, are put in motion; morbid congestions and accumulations are prevented. The excretion

* Cheselden's Anatomy, p. 151. "The stomach has two orifices, both on its upper part; the left, through which the aliment passes into the stomach, is named cardia; and the right, through which it is conveyed out of the stomach, is named pylorus."

† Vid. Haller Elem. Physiologiæ, tom. 6, p. 281.—
Hunter's Lect. on Anatomy.

tion of mucus from the lungs is promoted. The general absorption of the system is increased. The circulation is rendered freer; the blood diffused more equably over the system; and topical determinations in many instances lessened or removed. The circulation being restored to the surface, spasmodic contractions of the cutaneous vessels are efficaciously resisted, if not resolved; and the cuticular and pulmonary exhalations very sensibly promoted. A commotion also is excited in the nervous system, which is often highly salutary in nervous disorders*.

These effects are consequent on the action of vomiting excited by an emetic, particularly by the antimonial emetic tartar. But it may frequently be adviseable to exhibit remedies of that nature in such divided doses, as only to produce a degree of nausea; which being kept up for some time, tends powerfully to induce a relaxation of the surface, to solve cutaneous spasm, and to act as a mild and safe sudorific. Part of the emetic too, passing out of the stomach, may operate gently on the bowels and become a very proper laxative. Such operation may often

* Lect. on Mat. Med. p. 460.—Elem. of Therapeutics, part II. chap. I.

often be obtained by the use of Dr. James's powder; but still more steadily, by that of emetic tartar, a safe and efficacious antimonial, possessed of almost every desirable quality. Somewhat strange indeed it seems, that so valuable a febrifuge, and the modes of its administration, should not be more generally known. When the use of a remedy has been ascertained by the experience of the ablest physicians, and generously made public to the world, one cannot but think that to be ignorant of the leading facts concerning it, argues at least great inattention.

When taken into the stomach, Purgative Remedies by their action on the alimentary canal, generally stimulate and encrease the peristaltic motion. Hence the contents of the first passages are evacuated; whether they were become hurtful to the containing parts from their accumulated quantity, or from an acquired acrimony in consequence of having proceeded too far in the latter stages of fermentation. The secretion from the numerous exhalant arteries, opening into the cavity of the intestines, is greatly encreased. The mucous glands, whose use it is to separate from the blood a mild unctuous

tuous fluid to lubricate and defend from injury the sensible internal coat of the bowels, are made copiously to secrete their mucus. Other secretions too, subservient to the purpose of digestion, are augmented by the stimulus of the remedy. I mean the secretions of the bile, the gastric fluid and the pancreatic juice. Considering the size of the larger secretory glands contained in the abdomen, and the immense number of smaller ones every where crowded between the coats of a long tract of intestine, together with an infinity of exhalant arteries, it is obvious that by the action of purgative remedies, a considerable evacuation of fluids, especially of the serous kind, may readily be obtained. Hence the utility of such remedies in cases of abdominal congestion, of fulness of the system, or of topical determinations of blood, where such an evacuation may be required. It should at the same time be always remembered, that the discharge in consequence of the action of purgatives, proceeding from such a variety of secretory organs, will be slowly made, and consequently unfit for producing that sudden relaxation of the sanguiferous system, which is often found so highly beneficial in the cure of disorders. Where that

effect is principally intended to be produced, blood-letting is preferable to purgatives, and is not to be superseded by their use. But when from debility the lancet cannot be employed with safety, and still some evacuation shall be thought necessary, gentle purging may frequently be excited to advantage*.

After this general enumeration of the effects of emetic and purgative remedies, I proceed briefly to give some examples of the Abuse and Neglect of them.

The Unnecessary Use of such medicines is notorious. The freedom with which they are sometimes employed on the most trivial occasions, would almost persuade one to believe, that some were of opinion, they might be exhibited not only without danger, but with absolute impunity. On the contrary, both emetics and purgatives of every different kind, are unnatural to the human constitution. They are capable of considerably exciting the action of the alimentary canal, and of inducing a state of debility, which may render it unable to discharge
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* Lect. on Mat. Med. p. 474. Dissert. Inaug. de Feb. Cont. Medend.

the necessary functions of the œconomy with ease, constancy, and vigor †,

The habit of taking needless emetics and laxatives, is so pernicious in itself, that not a single word can plausibly be urged in its defence. In many cases, such remedies indeed may only operate slowly in destroying the tone of the alimentary canal; but they will at last be found sufficiently powerful to destroy it.—Can the convulsive motions of the stomach, needlessly excited by an emetic, be borne with impunity? —Can the peristaltic motion of the bowels, daily admit of the unnatural stimulus of an aloetic pill, and not soon discover signs of its pernicious effects *? Will it not consequently

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become

† Lect. on Mat. Med. p. 475. “As repeated emetics weaken the stomach, so cathartics, often renewed, diminish the tone of the intestines and their sensibility also.”

Gaub. Pathol. Inst. p. 244. Evacuantium vero, uti frequentior abusus, ita effectus pessimi. Obsunt certe eo, quod aut plus justo ejiciant, aut cum inutili etiam utile, quod retineri debebat, aut nimis præcipitanter, aut tempore modove incongruis, aut non suis locis. Nocent et emunctoriis stimulo, attritu, dilatatione, anastomosi, infirmitate, &c.

* It is not meant to affirm that aloes are more pernicious than other purgatives in the same circumstances. The unnecessary

become slower and weaker than natural; and habituated at length to the stimulus of aloes, be found insufficient without it to perform the functions of nature?—In short, all such remedies, whether purgative or emetic, are, when unnecessarily employed for any length of time, very active in producing loss of appetite, flatulence, indigestion, acidity, and spasmodic pains of the stomach or bowels *. When the use of them is intermitted, obstinate costiveness is very liable to follow. This last symptom, in such a weak state of the alimentary canal, augments the severity of all the others, which the unseasonable use of medicine had contributed to induce. These remedies are found speedily to give a temporary relief to those symptoms, which they not only at first occasioned, but powerfully continue still to encrease. Deceived by such effects, the patient, too generally ignorant of the first cause of his disease, rests often fully satisfied with that method of treatment, which he will sometimes even attempt
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cessary use of all active remedies of this nature is hurtful, and therefore to be avoided.

* Sea water, Harrogate water, and other mineral waters, possessed of a purgative quality, are often used without the least necessity, and with evident bad effects.

to defend with arguments that appear to him convincing, but which are fallacious and undecided. No prudent practitioner of medicine would ever presume to order either a purgative or an emetic, without the clearest evidence of its necessity, and the fairest probability of removing a greater evil than the remedy itself is capable of producing.

It was observed that, after the exhibition of an emetic, the mucus contained in the cavity of the stomach, and in its mucous glands, is evacuated; and that from the inverted vermicular motion of the superior part of the smaller intestines, a quantity of bile, especially if the vomiting has been severe, is generally thrown up *. A practitioner, who is ignorant of the natural copious secretion of mucus in the stomach, and of the effects of the inverted action of that organ, occasioned by the medicine, supposes those appearances of mucus and bile to be in every case truly morbid, and confesses himself glad to find such matters so efficaciously removed. He should have understood, that an emetic will often produce a similar

* Haller Elem. Physiol. tom. vi. p. 307, et vulgo in omni vomitu, sub finem bilis sequitur.

lar discharge from stomachs the most sound and clear of all impurities. It is indeed undeniable, that an unnatural quantity of mucus or bile is sometimes found in the stomach; yet, doubtless, it is very often supposed to have existed there without any foundation at all*.

In like manner a natural costiveness, attendant often on the most robust constitutions, and indicating strong digestion with vigorous absorption by the lacteal veins, is mistaken for a morbid state, supposed to arise from a defect of the peristaltic motion, which is to be obviated by aperient remedies †. In consequence of such premature use of medicine, health in time is converted into disease; when in fact it might have been effectually preserved by slight regulations of Diet and Regimen, those most important, but much neglected means of preventing disorders ‡.

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* Gregory's Lect. on the Practice.

† Robustis pauca, quam quotidie ex alimentis parant, sex etiam per multos dies retenta non nocet. Gaub. Inst. Pathol. § 558.

‡ Neque enim in arte est, quas natura constituit, omnes sanitatum differentias coequare; tutiusque, quod hac in parte præstari potest, consentanea vitæ ratione, quam medicamentis obtinetur. Inst. Pathol. § 482.

We shall next speak of emetics and purgatives in diseases, where those remedies are Neglected or Injudiciously prescribed*.

It may be proper here to observe, that all the nauseous acrid substances, capable of acting as a vomit or a purge, which mankind, traversing the most distant regions of the world, could discover and procure, have not only been successively employed, but industriously extolled as being pregnant with some very singular medicinal virtue †. The whole terraqueous globe has been ransacked to furnish such rude indigestible materials, often indeed not collected without considerable labor and expence. Those remedies, forced by the decisive energy of medical logic into the human stomach, have contributed greatly to destroy the nervous delicate texture of the alimentary tube, on the tone and

* *Hæc si vel valentissima corpora tandem pessumdare debent, quanto citius certisque valetudinarios, debiliores, qui nimis frequenter ex hoc abusu robur sibi vani promittunt.* Inst. Pathol. § 484.

† If we read the Dispensatories, we shall find sufficient proof for what is here asserted.—“It is no difficult matter to shew testimonies of efficacy, adduced in favour of the most inert medicines.” Lect on Mat. Med.—

and vigor of which, the health of the whole machine is found so essentially to depend. Strong drastic purgatives are numerous, and have frequently been exhibited in an injudicious manner. Before the discovery of ipecacoean and emetic tartar, physicians scarce knew a remedy, on the operation of which as an emetic they could rely with safety and success. Hence they have been used to employ substances of a very drastic nature, which the stomach could never receive without injury*. But passing over that observation as pointing out a defect rather than any abuse of medicine, it may be asked what can be said in defence of those who, from the unhappy violence of their temper, continue still to prefer in many cases an emetic of the most severe and unmanageable action, to one perfectly safe and equally (if not more) efficacious? Strong emetics have induced vomiting of blood †. The fibres of the stomach by over-distension, and by the violence of their action during the severe operation

* See Neumann's Chymistry on the medical effects of antimony, p. 131.—Lewis's Mat. Med. p. 57.

† Neumann observes, that "a few grains of the glass of antimony shall occasion even mortal convulsions and inflammations." Chym. Works, p. 132.

tion of the remedy, necessarily lose their tone. Both violent purging and vomiting, however induced, not only debilitate the stomach and bowels; but by destroying the appetite, disturbing digestion, producing a copious evacuation of fluids, and impeding the process of nutrition, they weaken and impoverish the whole constitution.

In Intermitting and Continued Fevers, gentle emetics and cooling laxatives may be employed with very considerable advantage*. They will in such cases produce most of the salutary effects, which have been before enumerated, when we were speaking of the general action of emetic and purgative remedies. If the use

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* Van. Swiet. Comm. in Aphor. 605, 759.

Greg. Elem. of Practice, § 29, 58.

Lind's essay on diseases incident to Europeans in hot climates, part iii. chap. 1. p. 233. "The chief objects of attention in all such fevers are the contents of the stomach and intestines. Upon the patient's first complaint, and during the first hours of the fever, while perhaps he is only chilly, or complains of alternate fits of heat and cold, the stomach and intestines should be immediately cleansed either by a vomit, a purge of manna with tincture of senna, or by an oily and purging clyster, after which the patient, especially if the skin be moist, may immediately take an antimonial draught every six hours."

of them be neglected in intermittents, crudities lodged in the first passages, favor the recurrence of fits; cutaneous spasm of a more obstinate nature is apt to be formed; the paroxysms are severer and of longer duration; the peruvian bark is found less efficacious; and abdominal obstructions, schirrosities of the liver and spleen, so frequently fatal by inducing dropsies, are more liable to occur. The disease by habit gains strength, and produces greater weakness and depression of the nervous energy. — In continued fevers, especially of the putrid kind, a similar omission in not clearing the first passages, gives rise to a considerable irritation, and an evident encrease of every febrile symptom*. A diarrhæa too, in consequence of the neglect, is apt to occur in the progress of the fever, which sinks the patient's strength and spirits, and often gives an unfavourable turn to the complaint. If gentle purgatives be omitted in continued fevers attended with plethora, an useful means of lowering a morbid excess of reaction in the system

* Fordyce's Elem. of Practice, p. 147. "The primæ viæ are to be cleared of any offending matter by gentle emetics and laxatives, or glisters according to the strength of the patient."

tem is unskilfully neglected*.—It is a fact attested by physicians of the first eminence and authority, that a vomit, particularly emetic tartar, exhibited at the first invasion of a fever, whether it be remittent †, inflammatory, nervous or putrid ‡, has finally put a stop to its progress. The operation of the remedy in such cases is variously explained, but the most plausible conjecture seems to be, that it operates by removing the contagion from the stomach, by determining to the surface, and by preventing the formation of cutaneous spasm, which giving considerable irritation to the heart and arteries, favors reaction and the continuance of the fever.

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On

* Hipp. Aphor. 2. Sect. iv. Ἐν τῆσι φαρμακείῃσι τοιαῦτα ἀγειν ἐκ τῆς σώματος, ὁκοῖα καὶ αὐτόματα ἰόνηα χεῖρισμα τὰ δ' ἐναντίως ἰόνηα, παύειν.

† Monro Dis. Mil. Hosp. p. 169. "In some cases when given early, the antimonial operated both by stool and as a diaphoretic, and removed the fever."

‡ Pringle's Observations on the Dis. of the Army, p. 306. Dr. Lind too in his treatise on fevers is of the same opinion. Dr. Gregory observes that "the paroxysm of an intermittent may be prevented by gentle emetics, particularly antimonials, given so as only to excite a nausea." Elements of Practice, §. 59.—"Exercise in the open air, and a proper regimen, with a gentle emetic and laxative, and temperate bathing, will often prevent the accession of fevers when threatened." Ibid. §. 36.

On the other hand, those medicines, if they be used too freely in this order of diseases, become hurtful and dangerous; they protract the duration of the fever, and sometimes even render it fatal *. In very sanguine habits, the imprudent exhibition of an emetic, without the previous use of the lancet, has been said in some instances to have proved fatal in consequence of rupturing the vessels of the brain †. In nervous fevers, or wherever great debility prevails, the operation of emetics, too frequently repeated, has, by fatiguing the patient, encreased the violence of the symptoms ‡. Copious purging, in similar cases, has sometimes brought on such sudden prostration of strength, as to sink the patient irrecoverably low. In all those critical stages of fevers, where life seems held only by the slenderest thread, the most minute caution is required on the part of the physician. He ought indeed to be wisely

* Hipp. Aphor. 25. Sect. i. Ἦν, οἷα δεῖ καθαίρεισθαι, καθαίρωνται, ξυμφέρει τε, καὶ εὐφώρωσ φέρουσι τὰ δ' ἐναντία, δυσχερῶς.

† This fact has been frequently asserted by physicians. Lectures on the Materia Medica p. 465. "Emetics are very dangerous in congestions of the head. Vomiting may be supposed to push such to the utmost violence, and to cause a rupture of the vessels," &c.

‡ Observations on the Dif. of the Army. p. 307.

wisely bold; but if he happen to be rash, his ill-judged method of practice will very often be followed with the most gloomy catastrophe.

With regard to the choice of emetics, ipecacoan is both a safe and valuable remedy; quick in its operation, and well adapted to the purpose of evacuating the contents of the stomach. It is less proper to be given in small doses, to excite and maintain for some time sickness without vomiting. — Tartar emetic, a compound of antimony and the tartarous acid, is perfectly as safe*; capable of being made slower in its operation, and well fitted for exciting nausea. It operates with great efficacy, and with a fairer probability than any other emetic of removing entirely the symptoms of the fever, or of rendering them milder, and diminishing the original danger of the disease.

The

* Dictionnaire de Chymie, tom. iii. p. 421. Tartar Emetique. C'est ainsi qu'on nomme la combinaison de l'acide tartareux avec la partie métallique de l'antimoine à demi dépouillée de son principe inflammable; c'est la meilleure et la plus usitée de toutes les préparations émetiques de l'antimoine, parce que la partie métallique de ce minéral, qui est la seule émetique, y est dans l'état salin & de dissolubilité parfaite dans les liqueurs aqueuses.

The state of a fever may indicate nauseating doses of emetic tartar, to determine the circulation to the extreme vessels, and acting as a mild relaxant, to promote a free universal perspiration in cases where great prostration of strength would evidently contraindicate full vomiting.

For a similar intention, Dr. James's powder has often been exhibited with undeniable success; tending, when its operation does not disappoint the practitioner, to determine to the surface more steadily than even emetic tartar. But as it is an antimonial, not in a neutral state, its operation is confessedly much more uncertain, depending on the quantity of acid at that time contained in the stomach, by which it must be dissolved and neutralized, before it becomes active, and is fitted to produce its proper effect. Hence, if the acid contained in the stomach be too weak, or in too small a quantity, the remedy undissolved may pass inert. But the antimonial, if it be acted upon and perfectly neutralized by a superabundant acid, may operate too severely. Or, what is of no very unfrequent occurrence, if dose upon dose be accumulated, and afterwards an acid taken, or acescents become acid by fermentation,
and

and the whole quantity of the antimonial be at once rendered active, its operation may be violent to a fatal excess. An eminent and accurate physician of extensive practice in the city of London, assured me, that, in several instances, he had seen Dr. James's powder remove almost every symptom of a fever; and yet the patient, from the violence of its action, expired a few hours after from mere debility. Whereas tartar emetic, though liable to a little variation in point of activity, owing chiefly to the different degree of solubility in the antimonial from which it is prepared, is on the whole found, when administered in a proper manner, very certain in its effects. Its operation is uninfluenced by the precarious state of acidity in the stomach. A few trials determine the activity of a certain quantity prepared at one time; and this point being ascertained, the dose may easily be adjusted accordingly.

With regard to the choice of laxatives in fevers, those of a mild cooling nature should always be preferred, such as the neutral salts, manna, senna, rhubarb, cream of tartar, cassia, tamarinds*, &c. All heating stimulating purgatives,

* Fordyce's Elem. of Practice, p. 147.

gatives, instead of lessening, evidently add to the febrile irritation of the system; and by their beneficial, do not compensate for their pernicious effects.

We shall next consider the abuse and neglect of these remedies in Local Inflammations.

The neglect of purgatives in the different species of Inflammations of the Head, is often particularly improper. By producing an evacuation of serous fluids and determining the blood to the abdominal viscera, they in some degree make a revulsion from the head; and hence are considered as an useful remedy in the primary inflammations of the brain, the throat, the organs of sight and of hearing. But it ought to be remarked, that in slight inflammations of the eyes and throat, cathartic potions are often exhibited much too freely. By this means they concur with the lancet, as was before intimated, in shaking the very foundation of health. In the gangrenous angina*, as well as in the erysipelas of the face, purgatives, where the habit is weak and the pulse feeble, are

* Fothergill on the fore throat attended with ulcers, p. 42.

are frequently found hurtful, rendering the disease more dangerous and alarming. In the symptomatic phrensy, occurring at the decline of nervous, putrid †, and pestilential fevers, purging, in consequence of the evacuation induced, is often productive of the most fatal effects. In such a case, the mildest laxatives can hardly be given with safety. But on the contrary, the symptomatic phrensy, occurring in the inflammatory fever and at the beginning of the synochus, admits frequently of the greatest relief from the prudent use of purgatives.

Emetics exhibited in the inflammation of the brain, as well as in that of the eyes, have, in consequence of exciting violent vomiting, proved prejudicial. Whereas divided doses of emetic tartar, not producing vomiting, have, even in those complaints, when accompanied with general fever, been frequently found productive of salutary effects *.—The propriety of

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† See observations on the diseases of the army, p. 301. “The most unexpected appearances were abscesses of the brain,” &c. Later dissections also afford many examples of a similar nature.

* See Gregory’s Elements of Practice, §. 252, where the
use

emetics in many cases of angina is obvious. They have often been found highly serviceable in the croup*, and in the fore throat of the ulcerous

use of antimonials is recommended in the phrensy. And Dr. Hope, professor of Botany at Edinburgh, and physician to the Royal Infirmary, assured me that he had frequently found antimonials useful in ophthalmia, and that even gentle vomiting was sometimes useful.

* Dr. Cullen, in his Lectures on the Practice, recommended the use of emetics in the croup. He did this on the authority of my ingenious friend Dr. Crawford, who had very frequently been himself a witness of their utility. Dr. Crawford, in his Inaugural Dissertation, has given a full and accurate account of the use of emetics in the croup. Vid. *Dissert. Med. de Cynanche Stridula*, p. 31. "Aliqui adhuc, persistente inflammatione, emetica laudibus extulerunt: Clar. Homius vero autumat, se nunquam illa vidisse proficua; e contrario, suspicatur potius nocere, mucii secretionem in pulmonibus incitando, absque illam expellendo, "which is, says he, the very circumstance that, if possible, we ought to guard against:" Sed si secretio etiam mucii augeatur emeticis, attamen in principio morbi, cum tantum periculi ægro ex membranæ ortu consistat, emetica adhibere utile sit, quo impediamus, ne oriatur; nam si emetica ad membranam expellendam profint, certe etiam proderunt ad expromendam materiem ex qua conficitur membrana; aliter fieri non potest, quin plus minus expromptus erit ob inspirationem solito grandiores inter nauseandum, et vehementiorem expirationem quæ inter vomendum contingit. Theoriæ vero obsistit experientia, et emetica utilia esse confirmat, quamvis,
dum

ulcerous kind. An accumulation of viscid phlegm in the throat, not unfrequent in anginas, has, particularly in the erysipelatous,

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been

dum quæ geruntur in vomitione si consideremus, aliter esse videretur, quum in quoque molimine vel tussiendi, vel vomendi, vel flendi, partes quas occupat morbus agere impelluntur; hos autem vanos terrores discussit experientia. Supra notavimus cynanchen stridulam maxime grassari in orientalibus locis Perthshire, vel in illo terræ tractu Carse of Gowrie vocato; et hic ea est praxis, ut in primo morbi insultu emetica adhibeantur, et quandocunque morbus nocte gravius derepente adoriatur, et quoque ante sanguinem missum, vel alvi subductionem, et tuto, optimoque cum successu; pauci enim infantes morbo interficiuntur, quibus tempestive adhibita fuerunt emetica. Curationem hujus morbi vomitu confirmat Tournefort, cum loquatur de morbo in Oriente, cui nomen dedit Pestes Infantum; est enim, ut ille dixisset, apud imum gutturis carbunculus: Cum adoriatur, quamprimum adhibendum est emeticum, et etiam repetendum. Qualisqualis sit operandi modus, ex optima tamen auctoritate certior factus sum, hanc curationem felicem, nec periculofam, esse. Cognoscimus emetica, ante intermittentis paroxysmum data, accessum illius arcere, et vehementis pertussis vomitione finiri insultus: Medicamentum, quo fere utuntur loci supra memorati incolæ, est ipecacuanha ingrata; et inde vix illam deglutient infantes; quare tartarum emeticum anteponeere volui; qui, cum sapore et odore ferme careat, facilius adhibetur: Porro, vel postquam vomitio pleno rivo excitata fuisset, operæ pretium foret, hoc remedio in dosibus solum nauseam moventibus uti, qua via tanquam dia-

been the cause of suffocation, which accident, in some cases, might have been fortunately prevented by the well-timed exhibition of an emetic, promoting the secretions of those parts, and clearing away the obstructing matter †. Yet it is worth remarking, that, in the common inflammatory angina, vomits are generally im-

diaphoreticum ageret; ad quod consilium sudoriferis stimulantibus, ut calefacientibus, anteferendus est. Et jam observatu dignum est, posse magnum commodum ex sudore sic allato provenire; quandoquidem frigus secretionem mucii magnopere auget, qua morbum graviorem reddat. Etmüller, dum de asthma infantum, quod nonnulli cynanches stridulæ assimilavere, vomitum laudat, quo provocato, infantes liberantur. Ad eandem intentionem, qua tartarum emeticum ægro præbere volui, absolvendam, alia lenia sudorifera, ut vinum emeticum, in parvis dosibus, salia neutra adhibere possumus."

† Huxham on the Ulcerous Sore Throat, p. 290. "If nausea and vomiting were urgent, I ordered a gentle emetic, especially for adults, which was so far from aggravating the pain of the throat, as might be imagined, that it greatly relieved it; nay, in children, it was often necessary to make them puke frequently, with a little oxymel. scillit. essence of antimony, or the like, otherwise the vast amass of tenacious mucus would quite choak them."

Gregory's Elements of Practice, §. 281. "The general indications of cure are the same as in putrid fevers. Bleeding and cathartics do mischief; gentle vomits and blisters are occasionally of use."

Percival's Essays, tom 1, p. 382.

improper. The swelling of the tonsils and adjacent parts, frequently arises to such a height, and so straitens the fauces, as to render the action of vomiting highly irritating and unsafe †. But smaller doses of an emetic to determine to the surface, may, even in this disease, as well as in every other species of angina, be for the most part advantageously used.

In Pleurifies and Peripneumonies, the prudent practitioner will not omit to keep the body open by the most cooling laxatives. He will at the same time be anxious not to check or prevent a salutary expectoration by inducing too copious an evacuation from the intestinal tube.—Nauseating doses of emetic tartar are at any period of those diseases a valuable remedy. Yet I cannot agree in opinion with a late ingenious writer, who asserts that antimonials are specific in the pleurisy, but it is to be feared, without sufficient ground for his assertion *.—Gentle vomiting

† This observation sometimes holds good even in the ulcerous sore throat, when the swelling of the tonsils runs very high.

* Antimonials should not be considered as specific in the pleurisy, till they are found so by experience; and the term specific should not be used in a loose undetermined sense.

For

miting after bleeding may be safely and often advantageously employed, at the beginning of the pleurisy and peripneumony when the symptoms are mild, or towards their decline when the violence of the symptoms being abated, expectoration is viscid and defective, or the lungs obstructed with phlegm †. But in other stages of those disorders vomiting cannot be used with safety, on account of the severity of the pain, the obstruction of the pulmonary circulation, and the difficulties of respiration.

In the Inflammation of the Bowels, the irritation of the mildest laxative should be cautiously avoided, where the beneficial operation of an injection can be effectually obtained ‡. But if in this attempt the practitioner be disappointed,

For there is danger lest some should be led into error, by trusting too much to antimonials, and neglecting the use of more powerful remedies.

† Greg. Elem. of Practice, §. 325. "To promote any critical evacuation or metastasis, but particularly to promote expectoration, by emetics, antimonials," &c.

Huxham on Fevers, p. 203. "But I have several times given an emetic in peripneumonies with great advantage, when the expectoration hath been suddenly suppressed, and the difficulty of breathing greatly augmented."

‡ Ford. Prac. 251.

appointed, recourse must immediately be had to the use of gentle aperients taken into the stomach. The neglect of proper laxatives, or the employment of stimulating cathartics, have frequently been attended with the most alarming effects. The castor oil at such a conjuncture is a laxative, which from its mildness is sometimes found peculiarly adapted to the complaint. But if this and other laxatives of a mild sort should fail, the exigency of the case, with obstinate constipation, will demand the use of purgatives of a more active nature †.—Vomits in this disease can never be employed without the greatest hazard. If prescribed through ignorance, or given by mistake, they tend to hasten the progress of inflammation, and suddenly to induce fatal gangrene.

In a fit of the regular Gout, gentle emetics, by removing crudities, by supporting the tone of the stomach, and by mitigating the attendant fever,

† Pringle's observations, p. 150, on inflammations of the intestines. "Next to bleeding, the principal part of the cure depends on opening the body, &c. Sir John Pringle afterwards particularly recommends for this purpose, small repeated doses of the sal catharticus amarus."

fever, are often of singular utility. The omission of them therefore in many cases proves hurtful. It should be observed however, that the too liberal use of emetics would absolutely have a contrary effect, by weakening the stomach and harassing the whole constitution.—In the intervals of the gout, occasional emetics in cases of foulness of the stomach may be employed with advantage*.—But when the disease is become irregular, if it attack any internal vital part with inflammation, as the brain, the lungs, or the intestines, much nicety is requisite in regard to the management of emetics. The observations I have made when speaking of the abuse of emetics in those particular species of inflammation, are perfectly applicable in such anomalous cases of gout.—If the irregular gout terminate in a fit of spasmodic asthma, an emetic given at the height, or at any period during the violence of the disease, is a very precipitate and dangerous practice. At other times, however, when the anxiety is abated, and respiration free, an emetic, particularly an antimonial one, may be prescribed in such a manner, as greatly to relieve.—But in gouty
spasms

* Greg. Elem. of Practice, § 400.

spasms of the stomach and bowels, emetics during the severity of an attack, can have no place at all with tolerable safety.—Yet in many cases, both of the regular and the anomalous gout, nauseating doses of tartar emetic judiciously given, are well fitted for shortening the duration, and mitigating the violence of the complaint. In the regular gout, they may be exhibited most advantageously just before an exacerbation of the fever and the return of severe pain, which is frequently preceded by a shivering and a sense of coldness.

The free use of purgatives cannot be safely admitted even in the regular inflammatory gout, though the constitution of the patient be vigorous and full*. In cases of the irregular or wandering gout, where the patient is advanced in years and the constitution debilitated, purging ought to be most scrupulously avoided. In consequence of its power of destroying the tone of the alimentary canal, it is singularly injurious in those species of the complaint. Yet no one denies that mild aperients are often

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* Neque purgationem per superiora, inferiorave tantum præstare, quantum vulgo sperari solet; excitare sæpe tumultum liquidi nervosi, subducere liquidiora, labefactare virtutem expellentem. Boerhaave's Aphor. 1271.

a necessary remedy, as well in the anomalous as in the regular gout *; and that the neglect of them gives rise to crudities in the first passages, to an encrease of the fever, and to obstinate costiveness, which last symptom sometimes occasions hemorrhoids, colic pains, or even inflammations of the intestinal tube †. When the stomach and bowels are subject to gouty spasms, it will always be found necessary to give particular attention to the state of the body.

In Eruptive Diseases, in Hemorrhages, and in many other Complaints, the evacuants here treated of are much abused. But, not to exceed the limits prescribed to this work, it is necessary that we confine ourselves to a few more examples selected from those disorders in which the abuse is most considerable.

In

* Greg. Elements, § 401, 402.

† Alvi suppressione diuturna stercus accumulatum, exsuccum, durefcit, ægre dein promovendum: intestinis hinc distentis, *εμφραξι* imperviis, fibris eorum infirmatis, vasis compressis, tumet venter, molestia nascitur hypochondriaca, pertinax alvi constipatio, hæmorrhoides, capitis gravitas, dolor, vertigo, angina, ophthalmia, vomitus, ileus, putror fecis, ætus, febris, spasmus, inflammatio intestinorum, &c. Hæc quidem in naturis debilioribus, quæ plurimum excrementi generant. Gaubius's Instit. Pathol. §. 558.

In the Small-Pox, both emetics and purgatives have been sometimes found useful. Unfortunately in this instance as well as in many others, general rules have been formed from single cases, to the great hinderance of the progress of medicine. For the principle too often is unhappily found at variance with the fact. The fever attendant on the small-pox is not of one determinate kind, but very different in different persons, and even in the same person at different stages of the disease. It frequently appears under the form of an inflammatory, catarrhal, nervous or putrid fever. It is a contradiction in terms to suppose any one mode of practice suitable to such opposite species of the disease. Purging however has most unfortunately been too often admitted with equal freedom in them all. The practice has been so unhappily prevalent among us, that the prejudice in its favor is now no longer confined to the faculty alone, but is become national and spread universally among people of every rank.

Purgative remedies in this complaint have been so greatly abused, that it would upon the whole have been far better for mankind, had their use in it never been known. When the variolous fever is purely inflammatory, and

the constitution of the patient vigorous and full, moderate purging is followed with a most sensible relief of the symptoms *. When the fever is nervous or putrid, it is a necessary part of the cure to remove the putrid contents of the first passages.

But when the constitution is weak previous to the attack of the small-pox ; when the sedative action of the contagion has greatly added to that weakness ; when the fever is of the low nervous kind, attended with little reaction of the system ; and when there is a presumption that the patient will scarce have strength enough to weather through the storm of so tedious and so obstinate an illness ; what can be more inconsiderate than by copious purging during the course of the disease, to act in conjunction with the morbid powers in destroying the constitution ?

At the termination of the small-pox, what opinion must we form of the indiscriminate use of purgatives, which has so long prevailed ? It may safely be asserted that after many cases
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* Greg. Elem. of Practice.—Van Swieten Comm. in Aphor. 1399.

of the confluent small-pox, where the patient has just escaped with his life, the practice of immediately purging is extremely erroneous. In such a critical juncture, I have seen and admired the caution and sagacity of Dr. Gregory, a late celebrated professor of medicine, who wisely neglecting the use of purgatives, followed with the greatest success a contrary method of treatment, exhibiting wine and the peruvian bark to support the patient's strength by their cordial, stimulant and tonic powers. But we do not mean to be understood as never admitting the use of purgatives after the small-pox. We know that there are cases, where inflammatory symptoms remain and indicate the peculiar propriety of their use. It is here meant only to object against all promiscuous undistinguishing practice, which is generally erroneous, because it is regulated by no system, and directed by no rational experience.

It is worth observing, that in the treatment of patients under inoculation, a practice so salutary and universal, purgatives have been employed with more freedom than judgment. During the preparation, gentle laxatives in full habits are often administered with success. But
when

when strong mercurial cathartics are prescribed indiscriminately to children of a delicate and relaxed fibre, they are undoubtedly hurtful*. A weak child is most successfully prepared for inoculation, by strengthening his constitution. After the disease too, we by the same means most effectually promote the patient's recovery, preserve his health, and guard him against the accession of other complaints or enable him to bear them better. The contrary effects may often be obtained by purging. The child, if he survive, will be greatly reduced and recover slowly; but if he be accidentally attacked with another

* Dimisdale on Inoculation, p. 17, 19, 20. "In directing the preparatory regimen I principally aim at these points; to reduce the patient, if in high health, to a low and more secure state; to strengthen the constitution if too low; to correct what appears vitiated, and to clear the stomach and bowels, as much as may be, from all crudities and their effects." For all those of a weak constitution, Dr. Dimisdale observes, "a milder course of medicine, rather of the alterative than purgative kind is here preferable. Indeed the particular state of health of every person entering upon the preparatory course should be enquired into and considered. Inattention to this has, I am satisfied, done great mischief, and particularly the indiscreet use of mercurials, whereby a salivation has often been raised, to the risque of impairing good constitutions, and the ruin of such as were previously weak and infirm."

another disease, he will run great hazard of prematurely quitting the stage of life.

Emetics, as well as purgatives, are fitted to assist nature to struggle through the small-pox; but from mismanagement, they are frequently made to act a contrary part, and to assist the disease to prevail over nature. Either at the first attack of the eruptive fever, or just before the eruption, or when the pustles do not rise and proceed favorably, an emetic may be ordered to great advantage, determining the blood to the extreme vessels, and facilitating the rise, progress and maturation of the pustules, on the proper state of which, the life of the patient principally depends. This remedy too may, especially about the decline of the salivation, be sometimes most successfully employed for removing, as in the malignant angina, a quantity of viscid phlegm, accumulated in the throat and endangering suffocation. But in cases of great depression of the vital powers, which in this disease often proceeds to a fatal length, the too frequent excitement of full vomiting cannot be endured without proving manifestly injurious to the patient. The nauseating doses of emetic tartar, not causing such muscular exertion
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and fatigue, may be frequently substituted in its place with success.

The Hemoptoe or Spitting of Blood is a disease, in which the use of emetics, though sometimes important, seems not generally understood. When the blood is discharged from the lungs in a considerable quantity, flowing freely in consequence of the rupture of large vessels, the danger of giving an emetic to excite vomiting, is too evident to require a formal prohibition of the practice. Yet gross as this abuse may seem, there are instances in which it has not only augmented the disease, but proved the immediate cause of death. It ought however to be observed, that the danger even in this very case is not so certain and imminent, as physicians have been inclined to think. For some courageous men, making too free with the lives of others, have not been afraid of pushing this practice to the extreme. They have frequently succeeded in their rash attempts. They have forgotten or rather suppressed their bad success, and strenuously communicated to the public the happy effects of their practice. By this means they have confounded the judgment of practitioners of an inferior order; some
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of whom they have at last persuaded to follow their unwarrantable method of cure.

But in cases of this disease, accompanied with tubercles or an ulcer in the lungs, where the matter expectorated is only tinged with blood, without the rupture of any considerable vessel, gentle emetics, when indicated, may be administered with perfect safety, and in many cases with success *. They determine the blood from the lungs, they promote a more equable circulation, they remove cutaneous spasm, and thus lessen the anxiety, cough, sanguine evacuation, and difficulty of breathing. Hence may be derived in this disease the utility of sailing, in consequence of its inducing sickness and vomiting. But in every case of hæmoptoe, where

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* Greg. Elem. of Practice, § 337. Speaking of the consumption, attended with spitting of blood, Dr. Gregory recommends the practice of taking off the determination to the lungs by sailing and sometimes gentle emetics.

Lect. on Mat. Med. p. 465. "Practitioners have spoke of giving emetics in spitting of blood. In the infirmary I have exhibited them without bad effect, and perhaps it was for want of courage to continue them that they did not work a cure. There are certainly cases where they may be useful."

Dr. Cullen in his Lectures on the Practice recommends the use of emetics in this case.

vomiting is not allowable, smaller doses of an emetic, particularly of an antimonial one, to determine to the surface, to promote expectation, and gently to open the body, are serviceable.

In the Hemorrhoides, commonly termed the Piles, mild aperient laxatives are found universally useful. When this hemorrhage is active, proceeding from a sanguine congestion of the hemorrhoidal veins and attended with general plethora, gentle purgatives should not be omitted. But when the disease is recent, merely local, the effect of costiveness alone, and unconnected (even in consequence of habit) with the general state of the system, purging is unnecessary, therefore pernicious. An open body is requisite, and will alone often complete a cure, which is perhaps ascribed to some insignificant quackish modes of practice, accidentally or designedly made use of at that time.—It happens not unfrequently, that the prolapsus ani or descent of the rectum, is complicated with the piles. In consequence of this accident, great irritation is given to the hemorrhoidal tumours on going to stool, and the discharge of blood is increased. This fact has scarce been sufficiently attended to.

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The frequency of stools in such cases should be cautiously avoided, and the body only just kept gently open *. The aperients best adapted to the hemorrhoidal disease, are those which give the least irritation to the alimentary canal; such as sulphur, castor oil, manna, acid fruits, cream of tartar, neutral salts in small doses, &c. All strong cathartics which irritate the rectum, are very pernicious. Particular attention is requisite to the patient's diet. Whatever produces costiveness should be steadily avoided. Vegetable aliment in some constitutions, obviates constipation † and greatly favors the cure of the disease.

The Dysentery and Diarrhæa have very often been most inaccurately confounded together. But this error is now become less frequent and less excusable, since the difference of practice in these diseases is found so very material; and since the most judicious and correct observations of a very eminent physician have thrown so much light upon the nature, causes, and treatment of the dysenteric flux. For an accurate distinction of the dysentery, I shall

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* Cullen's Clinical Lectures.

† Haller's Primæ Lineæ, § 642.

refer my reader to the writings of Sir John Pringle.—That disease commonly arises from contagion, and is accompanied with a combination of symptoms very different in general from those attendant on the diarrhæa, which is for the most part symptomatic of some other complaint.

It has been observed that in these disorders the practice is materially different. In the dysentery, the larger intestines are generally obstructed with indurated fæces, which are often obstinately retained by the spasmodic contractions of the colon. The practitioner evidently trifles, if he do not instantly attack the disease with the proper use of mild and repeated purgatives*. The neutral salts are found safe and successful †. They evacuate the in-

* *Monro Dis. of Mil. Hosp. p. 74.* “I have sometimes given these purges to strong people every day for two, three, or four days successively, and observed that the patient instead of being weakened seemed stronger, &c.”

Sydenham Oper. Sect. iv. chap. iii. p. 183. Proinde ultro se, &c.

† “Next day we ordered a purge to empty the other parts of the alimentary canal. The purgative that at first was most employed for this purpose was rhubarb; but upon

indurated fæces, resist the spasms, ease the pain, and abate or remove the violent irritation upon the rectum. The neglect of purgatives has been followed in numberless instances with inflammation and gangrene, particularly of the larger intestines. Draftic heating cathartics have often been employed in the dysentery, but are in general evidently hurtful, and much inferior to those of milder operation.

In the diarrhæa which is for the most part symptomatic, the practice must be varied according to the nature of the primary disease, which will frequently be found to contraindicate the free exhibition of purgative remedies. It would be an endless task and foreign to our purpose, to treat here of the variety of practice useful in the

on repeated trials we did not find that in general it answered so well in this first stage of the disorder, as the sal catharticum amarum, with manna and oil; which operated without griping or disturbing the patient, procured a freer evacuation, and gave greater relief than any other purgative medicine we tried." *Monro on the Diseases of Military Hospitals*, p. 70.

Sir John Pringle used as a purgative ipecacuanha, or calomel with rhubarb. — Mr. Cleghorn recommends ipecacuanha and the vitrum antimonii ceratum.

the cure of a symptom, prevailing accidentally in a great number of disorders. We must, nevertheless, complain, and with very great authorities on our side, of the frequent ill-judged employment of purgatives in the diarrhæa, which are continued to be given, like many other medicines, because they are in vogue, not because experience has repeatedly evinced their utility. They can only have place in this disorder, when the dysenteric obstruction or some species of acrimony prevails. They are not however indicated in every kind of acrimony; and in many other instances, they often prove injurious to the constitution. — If acidity in the first passages occasion the disease, absorbents, not purgatives, are generally the proper remedy. — If putrescency produce it, acids and acescents are powerful means of cure, though absorbents are often improperly preferred, which indisputably tend to promote the putrefactive fermentation †. — If, as frequently occurs in hysterical complaints, the intestines from particular causes, as for instance, from grief, surprize, or the sudden application of cold and moisture to the feet, be thrown into unnatural motions,

opiates

† See Pringle's Experiments on septics and antiseptics. Exper. 40.

opiates will allay those motions, while purgatives, not excepting even rhubarb, will have an evident tendency to encrease the malady.—If a general relaxation of the intestinal tube be the cause, as in colliquative fluxes, gentle astringents may be employed.—If from cold the obstructed perspirable matter be determined to the bowels, nature alone, or assisted perhaps with a mild emetic *, will effect a speedy cure.—If a diarrhæa be the consequence of an inflammatory affection of the bowels, blood-letting supersedes the use of purgatives.—If the bile, at a particular season of the year, happen, as in the cholera, to be too copious as well as too acrimonious, that fluid may, by the use of oily
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* Vid. Sydenham. Oper. cap. iv. p. 55. Jam vero nequid dubites humorem hunc in ventriculo nidulantem, nisi forte vomitu eliminetur, hanc tragœdiam (diarrhæam dico) quasi ex infidiis aliquanto post daturum; inquisitione instituta nunquam fere non comperies, si quando febrim diarrhæa comitetur, ægrum in morbi principio in vomitum proclivem fuisse, nec tamen emeticum fuisse propinatum. Porro etiam compertum habebis, etiamsi proclivitas illa ad vomendum jam pridem præterierit, diarrhæam tamen, quam primum vomitorium exhibueris, plerumque cessaturam; dummodo emetico ferendo pares fuerint ægri vires: Sæpius tamen observavi, diarrhæa semel aborta, medicamenta adstringentia vel nihil omnino, vel parum admodum ad eandem sistendam conferre, sive introsumpta, sive exterius applicata.

mucilaginous remedies, be diluted, rendered less stimulating, and evacuated without the additional irritation of a purge.—In a great variety of cases, the disorder is really critical, tending to remove another of a much more alarming nature, where the very attempt to check it may justly be accounted rash.

— In Weaknesses of the Stomach and Bowels, and in Hypochondriacal Complaints, which are the present reigning endemics of the world, emetics and purgatives have often been very injudiciously employed. Few practitioners of experience, however, will question their utility when properly ordered. The mode of their beneficial operation may easily be deduced from the remarks already made on their general effects. We hardly need observe, that they may be so given as really to relieve every symptom of those disorders, whether indigestion, spasms, colic pains, sickness, flatulence, acidity, heart-burn, costiveness, head-ach, want of appetite, or even dejection of spirits, a symptom so very generally accompanying all morbid indispositions of the alimentary canal. We may here with propriety take notice of the great sympathy which subsists between the state of the stomach and
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that of the extreme cutaneous vessel. Were it necessary, one might easily adduce many facts from the histories of diseases to prove the reciprocal consent of those parts, by shewing how frequently a morbid state of the one has affected the other *. The efficacy of emetics in vigorously exciting the circulation in the extreme vessels, and in supporting their tone, is often found highly conducive to the cure of those lingering species of complaints.—Costiveness also is particularly prejudicial, and therefore is very successfully obviated by gentle laxatives. Yet notwithstanding so fair a prospect of relief, these very means have frequently been so unskilfully

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* “The stomach is connected with the whole surface of the body, and seemingly with the extreme vessels every where. This is demonstrable by many observations; e. g. no sooner do some aliments reach the stomach of particular persons, than spots and efflorescences are occasioned on the skin. Van Swieten gives such an instance from crabs eyes. I myself had a patient laboring under the malum hypochondrium, who was relieved of his complaints by pimples appearing between his thumb and finger, and as immediately oppressed by their retropulsion or disappearing. Vomiting from constriction of the cutaneous pores is another instance of such sympathy. Such symptoms therefore are falsely attributed to acrimony, and in general we conclude that the stomach has a very general consent with the whole system.”

Lect. on Mat. Med. p. 9.

employed, as not only to fail of producing the desired effect, but greatly to encrease all such stomach-complaints and hypochondriac disorders, by weakening the general system and destroying the tone of the alimentary canal.

The Colic is a disease attended with severe pain in the bowels and obstinate constipation. Calculous concretions, extraneous bodies, and various topical affections of the bowels, as spasm, stricture, rupture, compression from tumors, &c. are frequently the cause of colic. Ruptures, which in general are externally discoverable and often admit of relief from the art of surgery, should in all cases of violent costiveness be suspected by the physician; otherwise he will be liable, not only to practise at random, but to aggravate the disease, to excite inflammation, and carelessly to lose his patient without giving him a chance of recovery. I have seen this unfortunate accident happen more than once in cases of femoral hernia, where the tumor being very small, lay concealed not only from the patient, but from the practitioner himself, whose profession renders it his indispensable duty to be ever attentively on his guard to avoid errors which may prove dangerous to his patient. — But independent of those causes

causes of colic, copious indurated fæces occasioning obstinate constipation, are often sufficient of themselves to produce the disease. Tho' in most other cases, to obviate costiveness, from whatever source the disease may have arisen, be an important indication; yet in this last case, the use of glisters or purgatives by the mouth, is the most efficacious means of cure. To trifle and palliate with opiates alone, in the beginning of such a complaint, is unsafe. Injections ought first to be used *. If these repeatedly fail, recourse must immediately be had to the milder laxatives, the neutral salts, manna, rhubarb, senna, castor oil, tamarinds, cream or crystals of tartar, &c. Afterwards we give, when necessary, purgatives of a more active nature, such as jalap, calomel, emetic tartar, aloes, the cathartic extract or the cerated glass of antimony, &c. In a severe fit of the colic, every moment is valuable, and impending danger

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* Turpentine glisters, and those made with emetic tartar and strong purgatives, are frequently requisite, and may be advantageously employed. Tobacco smoak has sometimes been injected with success.—Sometimes very considerable quantities of warm water, viz. two or three quarts or more, have proved efficacious by way of injection, when the most powerful purgatives have failed. Several cases of this kind are recorded in the Clyrical Reports of the Royal Infirmary at Edinburgh.

disdains a timid practice †. From neglect in not making timely application for relief, this disorder often terminates fatally; although, at its first rise, an ounce of glauher's salt might have compleatly removed it. After the pain and spasm have for some time continued fixt, the irritation of such sensible parts excites nausea and vomiting, in consequence of which the best chosen remedies are apt to be thrown up, and their operation on the bowels prevented. Hence arise inflammation and gangrene. What scenes of distress are frequently observed to occur in the colic, from carelessly or ignorantly omitting the application of proper remedies, or from employing them in an improper manner. The slightness of the disease in numberless cases, affords not the smallest excuse for negligent practice. If a physician should be remiss in his attendance in cases where medicine cannot relieve, his inattention is pardonable; but where the consequences may prove fatal, his humanity will be deservedly suspected.

With regard to the Disorder of Worms, it is a dubious question to determine, whether those animals

† Hipp. Aph. 6. Sect i. Ἐς δὲ τὰ ἰσχάλια νοσήματα, αἱ ἰσχάλαι θεραπείαι ἐς ἀκριβείην κράτισται.

animals or the general practice by purgatives to destroy and expell them, have been more detrimental to the human species. This disorder is not so very frequent as some have supposed; it is often symptomatic, the consequence of a morbid relaxation of the habit which purgatives encrease; and often it is unhappily confounded with other disorders, especially with serophulous obstructions of the mesenteric glands. It is the opinion of a great physician, that on account of worms which are frequently very harmless insects in themselves, many children have been absolutely destroyed by the imprudent use of purgatives. Though it be well known that purgative remedies, when judiciously employed, are useful in this disease; yet I readily adopt his opinion.

In Dropsies, whether the extravasated fluid be diffused through the cellular membrane, producing anasarcaous swellings, or accumulated in a preternatural quantity in some cavity of the body; emetics and purgatives have often been used to promote its absorption and evacuation*. In some few cases their effects indeed

* See Dr. Monro on the Dropsy, p. 52. " Emetics encrease the oscillation of the solids, as well as the motion of the

indeed were observed to be very considerable. Large quantities of fluids were discharged, and the hydropic tumours unexpectedly reduced. This accidental success, magnified by a heated imagination, unhappily paved the way for the long continuance of a very pernicious practice.—The causes of dropfical swellings are numerous, and many of them incapable of being relieved by such rude kind of treatment †. Will those evacuants, for instance, reduce the schirrosity of a liver to its natural tender texture?

the fluids contained in them. By which means the forcible compression of the bowels one against another, the excretion of watery and slimy liquors from the mouth, throat, and stomach, are augmented.” Dr. Monro afterwards adds some necessary precautions relative to their use, and particularly forbids them when the patients are threatened with lethargy and apoplexy. *Ibid.* p. 56. “Purgatives generally quicken the pulse before they operate; they encrease the secretion of thin liquors into the intestines, and discharge their contents, while at the same time by dissolving the crasis of the blood, they render the whole mass more watery and weaken the patient.”

† “Many and various are the causes of dropfies, the principal of which are the following: A weakness and laxity of the fibres; diminished retention of watery liquors; whatever obstructs the circulation of the blood in the larger vessels, as polypi in the heart or large vessels, schirri, imposthumes, tumors, and other causes of obstruction or compression; ruptures of lymphatics, &c.” *Monro on the Dropsy*, p. 9.

texture? Will they, however they may tend to prevent, remove any other fixt visceral obstructions, whether in the spleen, the heart or the lungs? Will they soften preternatural ossifications of the valves of the heart or of the blood-vessels, which obstruct the circulation and occasion serous effusions? Will they remove a tumor, which by compressing the jugular vein may impede the return of the blood from the head, and produce dropsy of the brain or a species of serous apoplexy? When universal relaxation, followed with encreased exhalation and diminished absorption, gives rise to the disease, which in such a case is to be looked upon as the last fatal mark of a broken constitution; will vomiting or purging brace and invigorate the relaxed fibres? Yet in all those cases as well as in others of a similar nature, emetics and purgatives have been exhibited. Many practitioners, not content with remedies of the milder sort, have not hesitated to prescribe the most drastic, such as the regulus of antimony, turbith mineral, scammony, gamboge, calomel, colocynth, &c. †. With what success

† Dr. Monro observes, “ that if the hydropic water is not evacuated, nor the symptoms alleviated by the frequent use of strong purgatives, the mischief must of course be encreased; for

success very little experience might long since have informed them. If the lives of those unhappy patients cannot be preserved, let us at least not add to their misfortunes. Though we should by such severe treatment accidentally lessen the morbid exhalation, encrease the action of the inhaling vessels, and somewhat diminish the hydropic swellings; yet the practice is merely palliative, the cause still remains unaltered, and the symptoms of the disease will most probably return with redoubled vehemence.—Some eminent physicians, whose soundness of judgment has, from the beginning of their practice, prevented them almost from making trial of such severe remedies; yet have in particular cases prudently used milder means of a similar kind. Cream of tartar, cautiously employed, has been given with evident success, where the state of the constitution

for when the strength is wasted, violent purging is hurtful, since the more moisture is carried off from the body, the greater quantity of it will in a short time be again admitted into the cavities, as Dr. Mead very justly observed, and we find to be true by daily experience." On the Dropsy, p. 58. Dr. Fordyce condemns the use of all such purgatives and emetics in dropsies, because he has so frequently seen them extremely pernicious. Lect. on the Practice. Dr. Hunter is perfectly of the same opinion. For such remedies not only hasten death but render life miserable. Lect. on Anatomy.

stitution and the symptoms of the dropsy indicated that method of cure*.

I shall draw the last example of the abuse of these remedies from the Jaundice. A calculous concretion in the hepatic or common duct, is far the most frequent cause of that disease †. The bile prevented from flowing in its usual channel, is conveyed through the absorbent veins into the blood ‡; and being circulated through the system, tinges the external surface with a yellow color, which is no where so conspicuous as on the white of the eye. Other causes also may produce a similar effect, such as vicidity of the bile; a spasmodic contraction or inflammation of the duct; coalescence of its

Q sides;

* Essay on the Dropsy, p. 61, note (c), after mentioning many cases of dropsy in which this remedy was successfully employed, Dr. Monro observes, "I have used the cream of tartar in the manner here recommended, and have found it to be a good remedy in such cases, and although it will not answer in every case, yet it will often produce good effects. Some of the cases in which I ordered it are related in the subsequent part of this essay."

† Monro Mil. Hosp. p. 206.

‡ Lymphatic Vessels from the liver are very numerous and by the dissection of people who have died of the jaundice, they have been found distended with gall. Monro's Lectures on Anatomy.

sides; tumors of the adjacent parts by compression rendering it impervious, &c *. Hence we may explain the following common facts, that the jaundice, especially in children and hysterical persons, is often a very trivial disease; that it is frequently of a most obstinate incurable nature; and that no one medicine can possibly be suited to counteract such various causes. There is no remedy yet discovered, which can be considered with any propriety as a solvent of the biliary concretions. It is well known that an essential oil combined with spirits, dissolves gall-stones out of the body †. That composition has been given internally, in order to discover whether it possessed a similar power of dissolving them when lodged in the biliary passages. It had been happy for
mankind

* *Monro Mil. Hosp.* p. 206, 207.

† “Two firm biliary calculi had been exposed to heat in spirit of wine for twenty-four hours; yet retained their size and form. Some oil of turpentine was added to the spirit in each of these vessels; a few hours after on shaking and examining the mixtures, I found that the stones were fallen to pieces, and the liquor become brown and turbid. It seemed from this experiment, that Valisnerius had reason for ascribing to heated spirits of wine and turpentine a superiority (*Opere* t. iii. p. 6, Lett. 37) over the other dissolvents of these concretions.” *Maclurg's Experiments on the Human Bile*, p. 192.

mankind had the success of such experiments proved more satisfactory *. — Emetics and purgatives in this disorder are a principal part of the practice, though they should not be employed too freely. As the intestines are deprived of the natural quantity of bile, the gentle aid of an aperient remedy is indicated to supply that deficiency, and to excite the peristaltic motion. The action of vomiting likewise has,

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besides

* Mr. White, a very ingenious accurate apothecary in the city of York, has made trial of that remedy. “ But if we consider the peculiar œconomy observed by nature in the circulation of the blood through the liver, the long stagnation of the bile in the gall-bladder, and the quickness with which alcohol and oil of turpentine pass off by urine and perspiration, it is to be feared that such a menstruum, powerful as it may be, will scarcely reach the solvend. To this objection we may also add, that the diagnostics of the disease are often obscure and uncertain.” Percival’s Essays, vol. II. p. 232.— Besides we should consider, that the remedy must first be subjected to the powers of the digestive organs; then absorbed by the lacteal veins; diluted with the lymphatic fluid, and afterwards passing through the thorastic duct, be mixt with the mass of blood, and equally distributed over the whole system. Yet in this highly diluted state, it does not arrive at the stone, which is placed out of the course of circulation.— If the biliary duct should happen to be inflamed, it is to be suspected that a remedy composed of the oil of turpentine and spirits of wine would be too stimulating to be employed with safety.

besides its ordinary effects †, a remote chance of forcing the gall-stone out of the duct into the intestinal tube *. Such fortunate events have actually happened on the exhibition of an emetic. But when the biliary concretion obstructs the passage of the bile, it sometimes excites, in consequence of irritation, a spasmodic stricture and inflammation of the duct. In such cases, emetics are evidently unsafe.—Sometimes when the stone has long obstructed the biliary duct, and a variety of remedies have been tried to no purpose, nature alone will at last expell it; after which fortunate change, the symptoms of the disease, although previously violent, will gradually disappear. This incident, together with the frequent occurrence of slight cases

† “ Vomits are reckoned amongst the most efficacious remedies in this disorder, and I have often seen good effects follow their use.” *Monro Mil. Hosp. p. 211, note (e).*

* *Lect. on Mat. Med. p. 461.* “ While vomiting continues, it not only inverts the peristaltic motion of the stomach itself, but also of the intestines, which pour out their mucus to be carried to the stomach, and evacuated with its contents. This serves to explain the throwing up of bile, but is by no means the common cause of it, for it is manifestly produced by squeezing of the liver and gall-bladder, a proof of which is that it occurs at the end of the operation. — As squeezing the liver and gall-bladder, vomiting may push biliary stones into the intestines, and cure the jaundice.”

cases of jaundice, and the difficulty often of ascertaining with certainty the existence of gallstones, has produced, as might have been expected, much quackery, great profusion of nostrums, amulets, and charms.

cases of jaundice; and the difficulty often of
ascertaining with certainty the existence of gall-
stones. The great variety of remedies have been ex-
posed, and a great number of great pretensions of
restoration, emetics, and cathartics.

OF THE
SYMPTOMS AND TREATMENT OF
GALL-STONES

SYMPTOMS AND TREATMENT OF
GALL-STONES

A GREAT variety of remedies have been em-
ployed as sudorifics. Numbers of the
most inert animal, vegetable, and mineral sub-
stances, possessed in reality of no virtue at all,
have been administered under this character,
and not without a pretended success. External
heat and warm diluents are generally sufficient to
themselves to produce sweating. Their very
powerful effects have been erroneously ascribed
to tartar, conyaxer, melleoides, diaphoretic
antimony,

* The term diaphoretic in this section is frequently used in
synonymy with the term Diaphoretic. By diaphoretic
remedies are meant those substances which being taken inter-
nally, promote a discharge of the skin without producing
any effect either in consequence of violent agitation or
acute pain. Elixir of Theriac p. 113.

SECTION III.

OF

SUDORIFICS.

A GREAT variety of remedies have been employed as SUDORIFICS*. Numbers of the most inert animal, vegetable, and mineral substances, possessed in reality of no virtue at all, have been administered under this character, and not without a pretended success. External heat and warm diluents are generally sufficient of themselves to produce sweating. Their very powerful effects have been erroneously attributed to saffron, contrayerva, millepedes, diaphoretic antimony,

* The term Sudorific in this section is frequently used as synonymous with the term Diaphoretic. "By diaphoretic remedies are meant those substances which being taken internally, promote a discharge by the skin without producing this effect either in consequence of violent agitation or acute pain." Elem. of Therap. p. 128.

Vid. Home's Methodus Mat. Med. p. 17, 18.

antimony,—to small doses of castor, snake-root, camphor, neutral salts *,—and to a thousand other such ineffectual means. The practice of sweating has been employed in a multitude of disorders of the most opposite kind. The cure of inflammatory, catarrhal, nervous, putrid and pestilential fevers,—of eruptive, rheumatic, cutaneous, nervous and hydropic diseases, &c. has been indiscriminately attempted by sudorifics. An abuse, so notorious and universal, has been productive of such scenes of calamity, that the record of them will ever stand as a disgrace to the art of medicine.

While practitioners supported by the obstinacy of vulgar prejudice, wandered in a labyrinth of confusion, kind instinct made endless, but unsuccessful efforts to correct their mistaken doctrine †. It is really surprizing, that phy-

* Speaking of the violent fever, Dr. Fordyce observes, that “small doses of the neutral salts have been exhibited at this time of the disease, but for the most part without any sensible advantage.” *Elem. of Practice*, p. 163.

† *Greg. Elem. of Practice*, § 25. “If fevers were to be treated on nature’s plan, as indicated by natural instinct, patients would breathe a cool pure air, would be indulged in cold drink, in sitting up or lying in bed as was most agreeable

physicians till of late should have so anxiously continued for centuries in an erroneous practice, which might have been detected, and which ought to have been exploded, as soon as it had been fairly put to the trial. Almost every case in which it was adopted, might have afforded a convincing proof against it. Almost every case in which the patient refused to comply with such treatment, or where in consequence of his poverty he was happily neglected, might, one would imagine, have given a satisfactory demonstration of its absurdity. The sense of coldness, which generally precedes febrile affections, led men to suspect cold to be an universal cause of that class of disorders. Sudorifics and the sweating regimen seemed to be indicated and to afford the most natural method of cure. This theory, carried to a ridiculous length, paved the way, in spite of facts, of instinct and experience, to a very abusive practice. It was a practice

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which

able to them; they would not have their limbs pinioned within the bed-cloaths, would not be teased to eat or to drink more than thirst prompted them, and when low and faintish, would be indulged in such cordials as were most grateful to them. Till of late the common practice in fevers was almost diametrically opposite to this in every particular; and yet physicians believed they were following nature."

which during the long period in which it prevailed, rendered the medical art more destructive of health and life, than almost any one cause of disease to which human nature is obnoxious.

The employment of sudorifics, when really indicated, constitutes a very important part of the practice of physic. Those remedies generally accelerate the motion of the blood and promote a free equable circulation. They determine the blood to the surface of the body, they lessen or remove internal congestions, encrease lymphatic absorption, obviate spasm of the extreme vessels, favor the cuticular discharge, and diminish the quantity of the circulating fluids*.

Sudorifics then, since their operation on the animal œconomy is so considerable, ought not to be trifled with or unnecessarily employed. Their unnecessary administration, however, has led to an abuse as notorious as frequent. The practice of sweating seems to have been considered as being little capable of injuring the general

* Elements of Therapeutics, p. 128.—Boerhaave Instit. P. 435.

neral health of the constitution, and therefore safely admissible on the most trivial occasions. Inaccuracy of observation has permitted the fallacy of the opinion to remain too much neglected.

Unnecessary Sweating, on the contrary, has always a pernicious effect on the constitution. Promoted by external heat, warm confined air, and hot stimulating medicines, (which have been the means most commonly employed) it becomes still more certainly injurious. Besides being generally accompanied with uneasiness, it often converts a trivial complaint into a serious one. It renders the patient more liable to take cold, as well as to suffer from its influence. The constitution by this means is apt to acquire an unnatural delicacy, which is very unfavorable to health and happiness. The heat and moisture with which the body is surrounded, tend to weaken and relax it. The skin and exhalant vessels, through which the thinner parts of the blood are thus unnaturally forced, are particularly subject to feel the effect of its enervating power. How great the connection is between the state of the extreme cutaneous vessels and that of the stomach, has been already observed. Those vessels have a

similar connection with the brain and nervous system *. If by repeated sweating, they lose their tone, the whole constitution will be most materially injured. The evacuation itself, induced by the remedies and the regimen, is often considerable, and in some constitutions it is profuse. The skin, which is the secretory organ from whence it is made, is very extensive and richly provided with innumerable vessels. In proportion to the greater degree of irritability of the system, of increased action of the heart and arteries, and relaxation of the surface, the evacuation is more copious. Weak persons can seldom undergo the operation without much fatigue, and a very sensible depression both of strength and spirits. If great irritability prevail along with the weakness, the injurious

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* Lect. on Mat. Med. p. 8. "At present I shall mention only one consent, viz. that of the stomach, as it is to be more particularly regarded in accounting for the operations of medicines. Nothing affects the mind more than the state of the stomach, and nothing draws the stomach into sympathy more than affections of the mind. This is evident in hypochondriac people, whose disease being chiefly seated there, have often grievous effects on the sensorium commune, or the seat of it, the head. This is farther illustrated by wounds of the head. Does not, in these cases, the vomiting of bile proceed from consent between the stomach and liver?"

ous consequences will be still more severely felt. If the system be not already too irritable, the practice of sweating tends greatly to induce a morbid state of irritability, which predisposes to many disorders, and will unavoidably be found a considerable source of uneasiness *. As the mind too is so intimately connected with the body, the increased irritability of the one adds generally to that of the other †. Necessity which gives rise to the practice of sweating, can alone justify its use in the treatment of disorders.

But these facts will appear still more evident and decisive, as we proceed in the consideration of the Neglect or Mismanagement of Sudorifics
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* Gaub. Pathol. Instit. § 191 and 195. " Ut adeo huic vitio obnoxiiis intolerabilia sint, quæ sani facile ferunt.—Generales, qui ex irritabilitate oriuntur, effectus reducere licet ad solidorum vibrationes tremulas, crispationes, tensiones, spasmos, convulsiones; ex quibus iterum dolores, anxietates, cavitatum contractiones, obstructiones, inflammationes, & multiplex circulationis, secretionis, excretionis, aliarumque functionum impedimentum, ac alienatio consequi possunt.—Unde dubites, utrum huic par affectio detur alia, quæ tot tantisque hominem malis obnoxium reddat."

† A mente corpus irritabilius reddi non magis probabile est, quam illam ab hoc incitari. Ibid. § 194.

in cases where their use was required; and of the Imprudent Administration of them in cases where they ought to have been scrupulously avoided.— We shall confine ourselves to the abuse of sudorifics in febrile disorders only.

In the Intermittent and Remittent Fever, the paroxysm is generally terminated by a spontaneous sweat. This crisis indicated the practice of imitating the salutary operation of nature, and of promoting the cuticular discharge, in order to mitigate the violence and to shorten the duration of the fever. The dryness and paleness of the skin at the invasion of the fit, denoting a spasmodic contraction of the extreme vessels and a defective circulation of the blood, seemed to point out the necessity of restoring by sudorific remedies the determination to the surface. The principle is rational and well founded on facts. The utility of sudorifics in intermittents and remittents will not admit of a doubt. Experience confirms the truth of that assertion. Sweating, judiciously conducted, has not only mitigated the symptoms, but prevented the return of the fits and radically removed the disease *. It is the abuse only

* Boerh. Aphor. 761. Frigus et febris sudorifero hic tollitur

only which is justly to be complained of. Sweating has been universally promoted by external heat and stimulating remedies, which by exciting the action of the heart and arteries and not proportionately relaxing the external surface, have aggravated all the symptoms of the fever. Hence an encrease of heat, of thirst, anxiety, head-ach, frequency of pulse, &c. Such practice has protracted the duration of the paroxysm. It has converted a tertian into a double tertian, a double tertian into a quotidian, a quotidian into a remittent, and a remittent into a continued fever which has often proved fatal in its consequences. Or if the intermittent in spite of such pernicious treatment, continue obstinately to preserve its form, the constitution of course becomes weak and irritable, the disease more fixt and severe, its effects more durable and unhappy. What other changes could rationally be expected from the stimulus of pepper, ginger, and other heating vegetables,—or of vinous spirits, acrid volatile salts

tollitur sæpe, dum aliquot ante tempus cognitum futuri paroxysmi horis liquido aperiente, diluente, leviter narcotico, repletur corpus ægri, dein una hora ante malum excitatur sudor, et continuatur, donec binæ ultra tempus initii paroxysmi elapsæ sint horæ.

salts and external heat,—all which have been improperly used for ages past*.

In the Inflammatory, Nervous, and Putrid Fevers, a spasmodic constriction of the cutaneous vessels is found also to occur in fact, and as was before observed, to give an irritation which tends to continue and support those diseases. A spontaneous relaxation of the surface with a warm gentle universal moisture, has often been concomitant on the critical solution of a continued fever. To promote this natural crisis in such disorders, is as obvious an indication, as in the intermittent. The practice has been equally common. Recourse likewise has been as universally had to heat, cordials and stimulants. The great Sydenham was among the first of those illustrious men, who preferring public good to private interest, risked his fortune and his character in boldly opposing that rapid torrent of evils and the still more irresistible prejudices of the world. Fortunately
not

* *Prodestque, in vetere quartana, ante accessionem forbere, vel aceti cyathos duos, vel unum sinapis, cum tribus græci vini falsi, vel mista paribus portionibus; & in aqua diluta, piper, castoreum, laser, myrrham. Per hæc enim similiaque corpus agitandum est, ut moveatur ex eo statu, quo detinetur. Celsus de Medicina. lib. III. cap. xvi.*

not only for himself and for his country, but for mankind in general, his honest labors were crowned with success. He was bold, judicious and observing; eager in the pursuit of facts, and faithful in his representations of them. His great judgment and acuteness enabled him to make accurate observations, to draw minute distinctions, to ascertain their importance, to correct and confirm them.

Sweating, excited in the improper manner already described, was a practice, which though long esteemed by physicians essential in the treatment of continued fevers, was yet no less erroneous in theory than in fact, and rendered the condition of febrile patients truly deplorable.

In the inflammatory fever, stimulating sudorifics and the hot regimen added fuel to the fire, and caused it to burn with redoubled violence *. The heat of the body, which was before unnaturally great, then became absolutely insupportable; thirst, anxiety and oppression

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* "But the most pernicious method of raising sweats in the beginning of fevers is by giving hot volatile alexipharmic medicines, stoving up the patients in hot air, and smothering them almost with loads of bed-cloaths." Huxham on Fevers, p. 10.

were encreased; topical pains were univerſally aggravated; and the blood was conſiderably rarefied by the heat, occaſioning a temporary plethora, which is frequently productive of the moſt fatal conſequences. Thus a profuſe ſweat was at laſt obtained, but attended with ſuch an evident encrease of the ſymptoms, as was dangerous and alarming. A furious delirium often accompanied the raſh attempts of the practitioner, which he, ignorant of its cauſe, confidently attributed to the effects of the diſeaſe itſelf, and believed it might have been worſe, had the unhappy patient, unaffiſted by art, been committed ſolely to the blind efforts of nature.

Not only delirium is produced or augmented by ſuch rude method of ſweating, but a moſt dangerous determination to the head is often cauſed, indicated by a vivid redneſs of the face, a ſuffuſion of the eyes, pulſation of the carotid and temporal arteries, violent pain in the head, and the other common ſymptoms of a phrenſy*, which is often the fatal conſequence of an ill-treated fever.—Or in this hazardous ſtate of the diſeaſe, a topical determination of blood to ſome other part may occur, and put an untimely
period

* River. Prax. Medic. lib. I. cap. xi. p. 27.

period to life.—If the breast be affected, cough, topical pain, anxiety, difficulty of breathing and of lying, a livid bloated suffusion of the countenance, &c. are symptoms which indicate the danger of the complaint and the absurdity of the practice.—If too large a quantity of blood be forced upon the abdominal viscera, the determination will be discoverable by a fulness in the regions of the liver and spleen; by a fixt pain, and an unnatural tension of the abdomen; by uneasiness in a recumbent posture, with a sense of anxiety without pulmonic affection; by nausea and vomiting unusually obstinate, and not yielding to the ordinary methods of treatment. Hence arise inflammation, suppuration, or gangrene of the stomach, of the intestines, the liver, the spleen, the peritoneum, &c. or morbid effusions of blood into the cellular membrane of the laxer viscera, which often prove mortal*.

In the nervous fever, the consequences enumerated under the inflammatory fever are frequently

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* Every able physician is now fully convinced of the truth of these facts. Dr. Cullen, in his Practical Lectures, describes very fully and accurately the pernicious effects of that mode of sweating, by inducing the most fatal inflammations of the viscera.

produced, except those which depend merely on the greater vigor of the constitution. All the symptoms of the fever are encreased. Sanguine determinations and topical inflammations, particularly of the brain, are induced †; and though they are of less frequent occurrence than in the inflammatory fever, yet they are evidently attended with greater danger and more signal fatality. In one, the plethoric state of the system admits of the free use of the lancet, to moderate or remove the pernicious effects of the practice of sweating. In the other, the general weakness and depression both of body and mind forbid at least every considerable evacuation, but especially of the vital fluid. If such unhappy effects as those should not be induced, yet other dangers occur equally serious. The nervous fever is one of long duration. Such unnatural mode of sweating, which seldom or never relieves, excites often
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† Diseases of the Army, p. 316. Sir John Pringle observed, that “ a delirium would arise from two opposite errors; one from large and repeated bleedings, and the other from wine and the cordial medicines being given too early. It appears therefore how nice the principles are that regard the cure; thus neither a hot nor a cool regimen will answer with every patient, nor with every state of the disease.”—He found abscesses of the brain on dissection.

by the skin a profuse evacuation of fluids, which greatly reduces the strength of the system, and renders it unable to sustain the conflict of the fever. The nervous energy thus unskillfully exhausted by the treatment as well as the disease, is not sufficient to support in the constitution the necessary functions of life*. Hence arise the symptoms denoting excess of debility, which are among the most certain presages of death.— If the fever has any tendency to putrefaction, the increased heat occasioned by the imprudent administration of sudorifics, will hasten the putrid fermentation, which is so fatal to animal life. Debility also will accelerate its progress. Hence an increase of the symptoms of putrescency, which are always more or less an unhappy omen in proportion to their number, their degree, and the regularity of their succession.

This treatment, employed in the cure of the synochus, (the nature of which fever has already been briefly explained) is capable of inducing every pernicious effect which has been now enumerated with regard to inflammatory, nervous

* See Greg. Elem. of Practice, § 17, where the symptoms of debility are enumerated.

vous and putrid fevers. While the inflammatory symptoms prevail at the beginning of the synochus, the improper administration of sudorifics is well fitted to excite the action of the heart and arteries to a very considerable degree. Hence an encrease of the fever, and all the dangers of topical affections. In the latter stages of the disease, the ill consequences mentioned under the nervous fever, follow this imprudent method of sweating. Hence the symptoms of weakness and putrescency are induced. The puerperal fever too, attendant on lying-in women, is very often rendered dangerous or even fatal by the same pernicious practice.

Having given these instances of the unhappy effects of the abuse of sudorifics in intermitting and continued fevers, it may be proper now to endeavour briefly to point out their Use.

Physicians universally acknowledge, as was before observed, the advantage of sweating, when properly conducted, in the intermitting and remitting fevers. Sudorifics may with propriety often be administered in those disorders. The saline mixture, the spirit of Mindererus, tartar emetic, opium, or the emetic and sedative in conjunction, &c. are remedies

dies well fitted for answering this indication*. Full vomiting may be easily prevented, and the determination to the surface happily promoted.

With regard to continued fevers, it remains to be considered in what stages the practice of sweating is admissible; in what manner it ought to be conducted; and what remedies are to be used in order to avoid its pernicious, and to obtain its beneficial effects.—No physician of experience doubts the utility of sudorifics in continued fevers†. Innumerable facts, attested by the ablest men of all ages, prove the propriety of their administration.

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* “The paroxysm may be prevented by mild sedatives, antispasmodics and diaphoretics, gentle emetics, particularly antimonials, given so as only to excite a nausea; warm bath; opiates.—In the paroxysms the views are

1st, To render the cold fit milder and shorter by—emetics, &c.

2d, To render the hot fit milder and shorter and accelerate the sweating, by sedative diaphoretics, neutral salts, diluents, acids,—opiates.” Greg. Elem. of Practice, § 59, 60.

† Lectures on the Mat. Med. p. 490. Boerhaave Aphor. de febris in genere, § 558, &c.

In the very beginning of the fever this practice may be adopted with success. Sir John Pringle at this period of the disorder is a strong advocate for the use of sudorifics. He is persuaded that by this means he has frequently put a final stop to the progress of a malignant contagious fever, and once indeed when he himself was attacked *.—At other stages of the disease too, when the reaction of the heart and arteries is moderate and there is sufficient vigor of constitution; when the tongue is parched and covered with a crust, the skin pale and dry, and devoid of that unctuous feel, which it naturally has in a state of health; and when the urine is limpid and without any sediment, the pulse small and contracted, and no topical affection has supervened which contraindicates the exhibition of sudorifics; sweating cautiously excited is sometimes productive of the most salutary effect †.—In the
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* *Diseases of the Army*, p. 290. “In this state, (viz. at the beginning of the jail fever) sometimes a vomit, sometimes a change of air, will remove the disorder, sometimes a sweat; I have had experience of the two last methods of prevention in my own case.”

† *Greg. Elem. of Practice*, § 29, 72, 86, 102, &c. It is there recommended to produce an equable determination of
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progress likewise of fevers, after even a few of the first paroxysms, when the disease is known to be of a very malignant nature, sudorifics ought to be administered to promote, if possible, a speedy and favorable solution of the fever, and to rescue the patient from its destructive power. Hence they have always been esteemed of singular utility in the most malignant fevers*, and in the plague †.—Or if at any period of the disease, nature points out a crisis by a spontaneous discharge from the skin, attended

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the blood and nervous power and promote the obstructed secretions by whatever takes off spasm, sedative diaphoretics, gentle emetics, antimonials, &c.

* Greg. Elem. of Practice, § 102. “A gentle emetic and afterwards procuring a diaphoresis, often cures the fever on the appearance of the first symptoms of infection.” Afterwards Dr. Gregory observes, “that gentle evacuations of the primæ viæ should be procured, and the perspiration promoted by mild emetics and diaphoretics.”

† Vid. Traite de la Peste.

Syden. Oper. Sect. ii. cap. ii. p. 120.—“Hujusce autem praxeos utilitatem etsi non mente tantum ac judicio adsequor, verum etiam re ipsa, atque editis experimentis, dudum exploravi; tamen pestilentis fermenti per diaphoresin dissipatio, præ ejusdem per venæ-sectionem evacuatione, mihi multis nominibus arridet; utpote quæ nec ægrorum vires æque prosterнат, nec medium infamiæ periculo objiciat.”

with an evident alleviation of the symptoms, it is certainly the business of the physician gently to promote the evacuation and forward the cure*.—These and other stages of fevers, with their different complications and the great variety of their symptoms, which it is not necessary here to enumerate at large, require the prudent use of sudorifics, and admit of relief from their operation.

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* Hipp. Aph. 36. Sect. iv. Ἰδρῶτες πυρελαίνουσιν ἢν ἀρξάνται, ἀγαθοὶ τριτῶν, καὶ πεμπλαῖοι, καὶ ἐδομαῖοι, καὶ ἰνναλαῖοι, καὶ ἑνδεκαλαῖοι, καὶ τεσσαρεσκαίδεκαλαῖοι, καὶ ἐπλακαίδεκαλαῖοι, καὶ μίη καὶ εἰκοσῆ, καὶ ἐδόρη καὶ εἰκοσῆ, καὶ τριακοσῆ προσῆ, καὶ τριακοσῆ τελαρῆ. Ὅσοι γὰρ οἱ ἰδρῶτες νέσθαι κρῖνουσιν. Οἱ δὲ μὴ ἔτιωσ γινόμενοι, πόνον σημαίνουσιν, καὶ μῆκος νέσθαι, καὶ ὑπόστροφιασμός.

Bagliv. Prax. Med. lib. i. de sudore in acutis, p. 67.

Hipp. de Morbis Popularibus, lib. i. sect. iii. Τὰ δὲ παροξυνομενὰ ἐν ἀρλίῃσι, κρῖνεται ἐν ἀρλίῃσιν· ὧν δὲ οἱ παροξυσμοὶ ἐν περισσῆσι, κρῖνεται ἐν περισσῆσιν. Ἔστι δὲ πρώτη κρίσιμος τῶν περιόδων, ἐν τῆσιν ἀρλίῃσι κρῖνουσῶν, δ'. ε'. ἦ. ι. ιδ'. κή. λ'. λδ'. μή. ξ'. π'. ρ'. Τῶν δὲ ἐν τῆσιν περισσῆσι κρῖνουσῶν περιόδων πρώτη, γ'. ε'. ζ'. θ'. ιά. ιζ'. κά. κζ'. λά. Εἰδέναι δὲ χρῆν, ὅ, τι ἢν ἄλλως κριθῆ ἔξω τῶν προγεγραμμένων, ἔσομένης ὑπόστροφας σημαίνουσι, καὶ γενοῖτο ἂν ὀλέθρια. Δεῖ δὲ προσέχειν τὸν νῦν, καὶ εἰδέναι ἐν τοῖσι χρόνοισι τέτοισι, τὰς κρίσιμας ἔσομένας ἐπὶ σωτηρίῃ, ἢ ὀλέθριον, ἢ ῥοπὰς ἐπὶ τὸ ἄμεινον, ἢ τὸ χεῖρον. Πλανῆτες δὲ πυρελοὶ, καὶ τελαρῆαῖοι, καὶ πεμπλαῖοι, καὶ ἐδομαῖοι, καὶ ἰνναλαῖοι, ἐν ἧσι περιόδοισι κρῖνεται, σκεπτόμενοι.

One general rule however may be added, the observance of which is of much importance. By whatever causes, whether natural or artificial, sweating be induced, the practitioner should always attend with the minutest exactness to its effects. If the sweating be forced, partial and viscid, it is seldom or never of the salutary kind *. If the febrile symptoms be increased; if there be greater heat, anxiety, hardness and frequency of pulse, head-ach or delirium, &c. the evacuation is evidently dangerous and immediately to be checked †. Or if the combination of symptoms, then present, be not relieved by the operation of the sudorific, the physician, instead of needlessly exhausting his patient, should speedily desist from an unsuccessful practice. — On the other hand, if no increase of symptoms can be fairly attributed to that method of treatment, but an evi-

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* “The critical sweats are rarely profuse, but gentle, continued and equally diffused over the body: sometimes the disease will terminate by an almost imperceptible moisture on the skin.” *Dis. of the Army*, p. 293.

† Hipp. Aph. 4. Sect viii. Ἰδρώτες ἐν τῆσι κρισίμοισιν ἡμέρησι γιγνόμενοι σφοδροὶ καὶ ταχέες, ἐπικινδυνοὶ καὶ οἱ ὠθήμενοι ἐκ τῶ μείωσιν, ὡσπερ σαλαγμοὶ καὶ κρηνοὶ, καὶ ψυχροὶ φόδες, καὶ πολλοί. Ἀνάγκη γὰρ τὴν τοιοῦτον ἰδρῶτα πορεύσθαι μὲν βίης, καὶ πῦος ὑπερβολῆς, καὶ ἐκθλίψιν πολυχροῖα.

dent diminution both of their violence and number is obtained, the practitioner ought steadily to pursue the use of sudorifics*.

With regard to the method of conducting the practice of sweating, much caution and judgment are requisite. Without attention to this particular, the practitioner, however judicious he may have been in the choice of his remedies, or in the time of exhibiting them, will in vain expect to relieve his febrile patient. Hence may be explained a common truth, that one physician shall with a certain remedy relieve a complaint, and another with the same remedy aggravate it. — Sweating should never be excited in fevers by the stimulus of external heat. The contrary practice, however, has been as universal as destructive. Not only the heat of the fire should not be too great, but the natural heat of the human body should not be too closely confined about its surface. If it be, it will encrease the fever by its stimulus, in spite of any advantages which may be obtained from its relaxing power. — The air of the room should be temperately cool, and as pure
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† Cullen's Lectures on the Practice, where this subject is most accurately discussed.

as possible, which, besides its good effect of invigorating the system, will favor a salutary encrease of perspiration. Fresh air should circulate freely about the patient, that he may not breathe a mephitic vapor, extremely noxious to animal life.—The requisite conditions of the sweating are, that it should be free, moderate, universal and continued for a proper length of time. Sweating, if profuse, is found almost universally pernicious; and if of short continuance, it is seldom effectual, but on the contrary favors a more obstinate formation of cutaneous spasm. The space of twelve hours is a moderate time for supporting in this gentle manner the determination to the surface. The practice may often be continued with advantage for twenty-four hours, or even a still longer time. After the sweating, the body is found more susceptible of the influence of cold, and therefore should for a while be kept rather warmer than usual, and cooler air be admitted only by slow degrees.—The patient, if he has no particular aversion to it, should lie in cotton or flannel †, which are preferable to linen, because they are more languid conductors of heat,

† A flannel shirt is very convenient for this purpose.

heat, and therefore not apt to become so suddenly cold, and of consequence to check a salutary flow of the perspirable matter. But whether the patient be laid in cotton, flannel, or linen, his shirt should be changed at proper intervals; which is a practice not attended with the smallest danger, provided it be done with dexterity and caution*. The evident advantage is, that a clean, warm, dry shirt is substituted in the place of one already moistened with the perspirable fluid, which moisture, independent of the degree of coldness necessarily produced by evaporation, obstructs the free discharge by the skin. The reabsorption too of a septic noxious vapor is prevented †.

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* Greg. Lect. on the Practice.—Dr. Gregory observes on the treatment of fevers, that “the utmost cleanliness should be attended to, and the linen shifted as frequently as can be done without occasioning great fatigue.” *Elem. of Practice*, § 32.

† Mr. Cleghorn observes that “during the times of the critical sweats the patient’s shirt and sheets should frequently be changed, for when once they are thoroughly wet, they do not readily absorb the sweat; and besides this there is a chance lest the morbid exhalations should be absorbed from the wet linen by the cutaneous veins and again conveyed into the mass of blood.”—*Diseases of Minorca*, p. 191.

We come next to speak of the sudorific remedies to be used in the cure of continued fevers. All hot stimulating medicines should, in general be avoided, as they are capable of inducing the most fatal consequences from excess of reaction, from topical inflammation, or from debility and prostration of strength.

The acids and several of the neutral salts have been very generally employed. In the common manner of administering them, they are for the most part found very inefficacious. But when given in a larger dose, they are really medicines of considerable utility. Instead of accelerating, they mitigate the encreased circulation of the blood. They diminish heat; they correct putrefaction, particularly in the first passages; they encrease the secretion of the kidneys, and sensibly promote the cuticular discharge*. Besides those effects, the vegetable acids and neutral salts tend to remove the constriction of the exhalant arteries opening into the alimentary canal, and to obviate coarctation which is very unfavourable to the successful practice of sweating. The vegetable acids are generally preferable to those of the mineral kingdom.

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* Lewis's Mat. Med. p. 17, 393, 394.

They can be given in greater quantity, be more perfectly subdued by the digestive organs, and more intimately mixt with our fluids.—Of the mineral acids, the vitriolic is the best and most frequently used. The dulcified spirit of nitre too is an useful convenient remedy. Of the neutral salts, nitre, the saline mixture, the spirit of Minderirus or the vitriolated tartar* seem most eligible.—Acids and neutrals may be given with propriety as sudorifics, except where a catarrh or an inflammatory affection of the lungs is complicated with the fever, and the cough exasperated by their use. In this case, they should be employed more sparingly; and nitre, which in some constitutions is particularly liable to irritate the lungs, should in general be avoided †.

Emetics, as was before observed, are safe and valuable sudorifics. Vomiting determines power-

* Lewis's Mat. Med. p. 583.

† I lately attended a patient subject to an asthmatical complaint, and in whose lungs I had reason to suspect tubercles. She informed me that she had discovered by repeated experience, that common salt encreased her cough. Dr. Cullen mentions several cases of catarrh and asthmatical complaints in which nitre disagreed with the patient, even when given only by way of glister.

the blood powerfully to the surface of the body. Tartar emetic given in nauseating doses, is for the same purpose very efficacious. If given at considerable intervals, in still smaller doses, it may easily be made to act as a sudorific, independent of its operation in exciting either vomiting or nausea. In some cases this last mode of exhibition, as being the least fatiguing, is even preferable to any other. The use of the remedy for answering this indication should not be continued above forty-eight hours*. Emetic tartar combined with opium, may, on similar occasions, be often employed with perfect safety and peculiar advantage †. Dr. James's Powder too, when given with judgment, has frequently been found very successful. Sometimes its use has

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* "If the fever continues, in the evening following that in which the emetic was given, until the fifth day,

R. Sach. Alb. Gr. XX. Tart. Emet. Gr. fs ad Gr. j. divid. in Pulv. ii. Capt. unum hora viii. alterum hora xi. Vespert. cum haustu. (N^o. 4) vel sexta quaque hora."

Fordyce's Elem. of Practice, p. 162.

† I have frequently prescribed that remedy and with very evident good effects. Dr. Gregory in such cases recommends the use of sedative diaphoretics and anodynes. Elem. of Practice, § 29.

evidently snatched a patient from the arms of death †.—Whether or no, after proper evacuations, the cure of the plague and of some other fevers, as well as that of the rheumatism, might be successfully attempted by means of Dover's powder *, experience must determine.—If, during the time of sweating, the reaction of the system should be too weak, and a gentle stimulus seem indicated, wine properly diluted, is found in fact to be the most eligible. The volatile alkaline salt in moderate doses, is the next in choice. Its transitory stimulus, when the system is low, may be safely admitted †.

Whatever sudorific be employed, aqueous diluting fluids are absolutely necessary to the successful practice of sweating. But if tar-
tar

‡ Every candid man will allow that Dr. James's powder has sometimes been prescribed with great success in fevers; yet it often disappoints us.

* The composition of this remedy is well known. The chief ingredients in it are opium and ipecacoan. It acts powerfully as sudorific, but is not heating or stimulating.

† Sir John Pringle recommends the use of "half a drachm of Theriaca, with ten grains of the salt of hartshorn once in twenty-four hours, washed down with some vinegar whey." Appendix to diseases of the army, p. 105.

tar emetic or James's powder be intended to operate as a sudorific, diluents should not be freely taken, till the remedy has been retained in the stomach a sufficient time for its operation. If this caution be not attended to, the medicine will frequently be rejected by vomiting without having produced its salutary effects.— Water, by reason of its mildness, may be freely given without any fear of a stimulus; and by its fluidity, it is admirably fitted for entering the minutest capillary vessels, for distending their cavities, and obviating their constriction. Besides removing the anxiety and stimulus of thirst, it tends, especially when impregnated with vegetable substances, to correct the putrescency of the fluids, which in fevers is greatly increased by the morbid retention of the perspirable matter. The water may be impregnated with the farinaceous vegetables, with tea *, sage, balm, bardana, or with any grateful aromatic, which without stimulus, promotes gently the cuticular discharge. The palate of the patient in these cases should frequently be consulted, that in consequence of an agreeable impregnation of the water, he may without

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* This is one of those very few cases in which tea is employed with advantage. Vid. Percival's Essays, vol. I. p. 140.

difficulty be able to drink copiously for the purpose of dilution. This caution is never more necessary than in the treatment of the diseases of children. For if the practitioner be too busy with medical ingredients, the child will sometimes be so disgusted, as obstinately to refuse every kind of diluent, a circumstance attended with the most unhappy consequence.

So much for the practice of sweating in fevers. In Local Inflammations, the abuse of sudorifics has been very frequent and destructive. Whatever influence a spasmodic constriction of the vessels of a part may sometimes have in exciting inflammation*; certain it is that an unusual determination and an increased circulation of blood takes place in the part affected. Hence may easily be explained the heat, redness, pulsation, tumor and pain, which are the common symptoms of inflammation†. Many

* Greg. Elem. of Practice, § 214.

† Sauvages Nosol. Method. tom. I. p. 144. Phlegmone est tumor sphaeroideus, rubore, calore, tensione, dolore pulsatili insignis, sponte non suppurationem vergens. Dicitur a *phlego*, uro. Dissert e pustulis inflammatis, ut a variola, &c. ex eo quod fit tumor subsolitarius, & multo major; a bubone, parotide, paronychia, ophthalmia, quia sedem in certis

ny vessels of the part, which in a sound state admitted only the serum of the blood to enter their minute cavities, are during the presence of an inflammation, dilated to such a degree as to admit the red globules. The general system at the same time is affected with a fever, which is attended with different symptoms, according to the species of the inflammation and to the nature and situation of the inflamed part. To pursue this subject, and point out fully the differences which are here alluded to, would lead us too far into the consideration of the doctrine and history of inflammation. Enough already has been said, to shew the absurdity of the practice of sweating by means of stimulating remedies and external heat, in order to forward the cure of inflammation.—Can any practice be conceived more effective, for encreasing the general fever as well as the local affection? Will not the circulation of the blood be accelerated, and its impetus in the part affected often dangerously augmented? Will not effusions.

tis locis determinatam non habet. Causa est impetus cruoris adauctus intra vasa partis tumentis, quæ involucris ut plurimum coercetur, ut glandula vel membrana cellulosa: Si etenim intra ramificationes vasorum fieret ille infarctus, tumor non sphæroideus nec certis limitibus circumscriptus foret, sed erysipelatis instar diffusus.

sions be caused of the different parts of the blood into the cellular membrane, producing suppuration, fatal obstruction or gangrene? Nothing can be more certain. Innumerable indeed are the examples which might be urged in confirmation of those truths. By this means, Inflammations of the Brain, of the Lungs *, or of the Abdominal Viscera, have frequently been made to terminate unhappily by effusion, suppuration, or a gangrenous destruction of the part.—How often have Inflammations of the Womb ended fatally, in consequence of the erroneous opinion, which has been and still is too prevalent, concerning the supposed necessity of promoting the cuticular discharge for some time immediately after childbirth. It was intended to have obtained a speedy recovery by such practice. But the theory on which it was founded, is no less false, than the method of treatment is dangerous and unsuccessful †. In

* Huxham observes that the ancients in difficult cases, used very powerful expectorants in the inflammation of the lungs, viz. galbanum, mustard, pepper; in desperate cases, white hellebore, elaterium, *Ανθος χαλκον* were advised. Essay on Fevers, p. 203.

† It is greatly to be lamented that this prejudice should be so prevalent, even as it is at present. For there are many

In the Rheumatism and in the Gout, the practice of sweating has been universally adopted, and often productive of pernicious consequences; not because the curative indication itself is erroneous, but because it has been too frequently pursued in an imprudent manner. Hence, in those disorders which are often of long duration, the constitution itself is materially injured by the mismanagement of sudorifics*. But truly it is an error too common, to attend only to the present disease, while the future health of the patient is disregarded. The vigor of the system, by that inattention, is not only much impaired, but the disease itself is often rendered worse, and of more difficult cure. Tho', from such injudicious practice, the complaint should admit of some present alleviation, yet it is more apt to return, and generally with an encrease of violence or of danger.

These many practitioners who still continue in that error. But it is to be hoped, that in a short time this as well as many other prejudices, so pernicious to child-bed women, will be happily exploded.

* I have seen several unfortunate cases of the gout, where the constitution of the patient was greatly injured by the imprudent use of external heat and sudorific remedies. Weakness, relaxation and irritability were the consequences of such pernicious treatment.

These facts are true in respect both to the gout and the rheumatism. In the gout, the debilitating effects of the treatment are more particularly felt. The weakness induced, predisposes to the irregular species, and tends considerably to augment the severity and miseries of the disease.

It is observable, nevertheless, that sudorifics, cautiously exhibited, are very valuable remedies both in the rheumatism and in the gout*. They should not however be in general of a stimulating nature. The external heat should be moderate; the natural warmth and exhalations of the human body not too much confined upon its surface. The general rules before mentioned, in regard to the method of conducting the practice of sweating in fevers, are most of them applicable in the present cases. — The remedies to be employed for this purpose in the gout, are the neutral salts, mild aromatic woods, ipecacoan, tartar emetic alone or in conjunction with opium, and also other sedatives or stimulants as occasion may require. Acids are frequently found pernicious, and there-

* Boerhaave observes in the cure of the gout, *Sudorifera ex arte instituta plus proficere.* Aphor. 1272.—Vid. Van Swieten Comment. *ibid.*

therefore should not be used in the gout.—In the rheumatism, the sudorific medicines prescribed in fevers, may, under proper conditions of the disease, be administered with singular utility. Dover's powder too has of late been given with unexpected success. The most excruciating pains have been quickly and effectually removed by its salutary action. The common dose of it is from a scruple to a dram. It acts powerfully as an antispasmodic and procures sweating with little stimulus. It may be given in the acute rheumatism with perfect safety, as soon as the violence of the symptomatic fever is taken off by bleeding*. It is also well adapted to the cure of the chronic rheumatism, in which it has been given with success, when every other sudorific had been tried in vain †. Yet so much

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depends

* Cullen's and Gregory's Clinical Lectures.

† Dr. Monro observes that he frequently found Dover's powder successful in rheumatism after proper evacuations, when the milder sudorifics had failed. In some cases he observes, that where mild diaphoretics were ineffectual, sweating with gum guaiac, Dover's powder, and such other medicines, after the fever was gone, removed the complaint. Diseases of Military Hospitals, p. 146.—Sir John Pringle remarks that “since the two first editions of these observations, I have used in the rheumatism when there was no fever,

depends upon the proper method of its administration, that I have known one physician repeatedly prescribe Dover's powder without advantage; when another, more sagacious, has happily removed that very disease by the judicious use of it. For though the remedy was the same, yet the mode of exciting the cutaneous excretion was extremely different.

After the inflammations, I shall just mention the abuse of sudorifics in Eruptive Disorders. These are almost universally febrile, but distinguished from fevers by an eruption upon the skin. The plague has been frequently comprehended under this class of diseases by several eminent nosologists, but not with the strictest propriety *. The fevers which accompany those disorders, are in different cases of different genera, species and varieties, from those

ver, Dr. Dover's powder, giving for some nights about 20 or 25 grains of it at bed-time, with plenty of some warm diluting liquor and laying the patients in blankets." Diseases of the Army, p. 162, note †.

* Sauvages and Linnæus have classed the plague among the eruptive disorders. Dr. Cullen, in his Nosol. Method. Synop. has given it the same place, yet in his practical Lectures, he doubts the propriety of it. Vogel has classed it among the Febres.

those of the mildest sort which terminate in the space of a few hours, to the most obstinate malignant petechial fevers. The erysipelas, the plague, the small-pox, the measles, the thrush, the miliary and scarlet fevers, with a few more of the same order *, are at present the objects of our consideration. Sudorifics in these disorders have been almost universally in use, and with every additional circumstance which could render them mischievous in their effects. Many practitioners and patients formerly believed it advantageous to promote almost every kind of eruption as much as they could, because they had had no experience of a different method of treatment. They found means fitted to

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answer

* Under the same class are comprehended the varicella, urticaria and pemphigus. The varicella is defined, Synocha. Papulæ post brevem febriculam erumpentes in pustulas variolæ similes, sed vix in suppurationem euntes; post paucos dies in squamulas, nulla cicatrice relicta, desinentes.—The Urticaria is defined, Febris amphemerina contagiosa. Die secundo rubores maculosi, urticarum puncturas referentes, interdum fere evanescentes, vespere cum febre redeuntes, et post paucos dies in squamulas minutissimas penitus abeuntes.—The Pemphigus is Typhus contagiosa. Primo, secundo, aut tertio morbi die, in variis partibus vesiculæ, avellanæ magnitudine, per plures dies manentes, tandem ichorem tenuem effundentes. Synop. Nosol. Method. p. 290, 293, 294.

answer their indication in stimulants and external heat.

The effects were every way answerable to the method of practice. — The erysipelas has been frequently made to terminate in internal inflammations, particularly of the brain, which have been followed with the most unhappy consequences.—The plague is usually attended with a malignant, nervous, putrid fever, from which it is in general distinguished by swellings of the lymphatic glands in different parts of the body, or by the appearance of carbuncles. This disease is sometimes so extremely mild as to require no medical assistance. But often the contagion is of the most deleterious nature, and proves suddenly fatal. In other cases where the constitution is able to make resistance against the sedative impression of the infection, the disease is of considerable duration, and then becomes properly the object of medical practice. The plague indeed is of itself sufficiently mortal. That part of the practice of medicine in this complaint, might have been dispensed with, which for many centuries has constantly tended to aggravate miseries, that, exclusive of its aid, were as heavy as could well be endured. The most important
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part of the treatment of the pestilential fever, has generally turned on the use, or should we not rather say, on the abuse of sudorifics *. The ill consequences attendant on that method of cure in the plague, are similar to those which have been enumerated under the article of fevers, but if possible more unhappy †. The best way of preventing them in the plague is also the same ‡. The latest and most eminent physicians, who have had opportunity of practising in that distemper, have at length discovered the errors of their unfortunate predecessors, who, by a most injudicious exhibition

* Greg. Elem. of Practice, p. 109.

† *Atqui et hæc difficultatibus suis non vacat; primo enim multis, ac præsertim calidioris temperamenti juvenibus, sudores ægrius proliciuntur; cujusmodi ægrotos, quo hydroticis fortioribus, ac cumulatori tegumentorum pondere diaphoresin conciere satagas, eo in manifestius phrenitidis periculum adduces; aut quod tristioris adhuc ominis est, vana spe aliquantisper luctatus tandem, pro sudoribus, exanthemata pestilentialia elicies.* Sydenham de Peste, p. 120.

It is observable that inflammations and gangrene of the viscera, particularly of the brain, were generally found on dissection of those who died of the plague, when it last raged at Marseilles. *Traite de le Peste, part 1.*

‡ *Traite de la Peste.*

tion of heating sudorifics and by profuse sweating, have added greatly to the devastations of the plague. If the modern improvements in the treatment of fevers were adopted in that of the pestilential disease, there is great reason to believe they would be found beneficial. — With regard to the small-pox, every practitioner is now fully convinced, that to moderate the fever, and to lessen the number of the pustules by the cool regimen, is of infinite importance to the successful treatment of the disease. As the variolous fever is very different in different cases, it is obvious that all the pernicious effects subsequent on the imprudent practice of sweating in fevers, may flow from the same practice in the small-pox. To these we may add the great increase of the number of pustules. The foreness of the external surface renders this practice, which of itself is so extremely contrary to reason, doubly offensive and dangerous. The improper administration of sudorifics in the small-pox, has sometimes produced a strong action of the vessels, with internal local inflammation, suppuration or mortification; and sometimes it has increased the symptoms of debility and putrefaction, with every unfavorable appearance of the pustular eruption.

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We shall now conclude this article of abuse. From what has been already observed, general rules may easily be applied to particular cases, and the errors of the practice of sweating further ascertained. It need not be said that the imprudent use of sudorifics in the Measles or in the Scarlet Fever *, where the increased action of the heart and arteries generally prevails, has in numberless instances excited the most fatal topical determinations of blood, and an unhappy train of subsequent affections.—Nor is it necessary to mention the Miliary Eruption, which is generally symptomatic and consequent on injudicious sweating †. This eruption may accompany any fever, whether inflammatory, nervous, petechial, catarrhal, rheumatic, pestilential,

* Sauvages Nosol. Method. tom. I. p. 453. Scarlatina, phlegmasia est exanthematis maculosis, rubris, crebrioribus, latioribus, & multo magis rubentibus, at non perinde uniformibus, ac sunt illæ maculæ quæ rubiolam stipant; illæ pariter farinosis squamulis terminantur, sed sine præludio catharrhali enascuntur, & ad secundam, tertiamve vicem se produnt ac recidunt vicissim.

† Sir John Pringle in his Appendix, p. 101, observes with Sydenham and Dr. de Hain, “miliaria exanthemata frequentius mala arte (regimine calidissimo) progigni, sponte longe rarius.”

lential *, &c. But what is not a little surprising, the very practice which most successfully produces the eruption, has often been absurdly continued to forward its removal †.—It is unnecessary also to mention the abuse of sudorifics in many other acute diseases, which have not been considered in this section.—Nor is it meant to adduce examples from all the various classes of chronic disorders; many of which have been greatly augmented by the injudicious and continued use of sudorifics. The common ill consequences

* 1. Febris purpurata vel miliaris nomen tenet a pustulis rubris vel albis, seminis milii speciem præ se ferentibus.

2. Distinguitur, 1. In rubram & albam; in priore pustulæ rubræ, in posteriore albæ sunt. 2. In Idiopathicam & symptomaticam; sæpe enim conjungitur cum variolis, morbillis, & diversis Febribus.

3. Adoritur laxos habitus; temperamenta phlegmatica; infantes & senes sæpius quam adultos; fæminas sæpius quam viros, & inter illas nobiliores, delicatas, fluore albo affectas, & sæpissime puerperas; quia humores in harum vasis uterinis stagnant & corrumpuntur, & multum sudant. Home's Principia, p. 168.

† “It is impossible to say any thing in regard to the cure, as these eruptions are symptoms of fevers of opposite kinds, and requiring opposite management; and as they are so generally the mere effects of a hot regimen and profuse sweating.” Greg. Elem. p. 93.

sequences of unnecessary sweating are in such cases unavoidably induced. The symptoms of weakness and irritability, so frequently attendant on these complaints, are greatly aggravated by all such unseasonable practice. The original disorders are of course increased; they are rendered more painful, more dangerous, and sometimes even fatal.

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OF SUDORIFICS.

frequency of unnecessary sweating, and in such cases unavoidably induced. The symptoms of weakness and irritability, especially arising from these complaints, are greatly aggravated by all such antiseptic practices. The original disorders are of course corrected, they are rendered more painful, more dangerous and sometimes even fatal.

THE HISTORY OF BLISTERS.

The history of blisters is a subject of some importance, and one which has long attracted the attention of the medical public. The various kinds of blisters have long prevailed in all parts of the world, and have been used in almost every disease. In the present state of medicine, however, the use of blisters is much less frequent than formerly, and their effects are not so generally acknowledged. In the treatment of the most dangerous diseases, it is now considered that, in treating a patient, we shall be obliged to dwell more on the state of medicine arising from the use of blisters. We shall have occasion to dwell on how the advantages of blisters are obtained from their judicious application.

S E C T I O N I V .

O F

B L I S T E R S .

THE application of **B L I S T E R S** is now become a very universal practice. The needless prejudices which have long prevailed against them, are almost sunk into oblivion. Their safety and utility in numberless disorders is clearly evinced beyond the possibility of a doubt. Such indeed is their efficacy, and so much less considerable the ill consequences of their imprudent use, that, in treating on this subject, we shall be obliged to dwell chiefly on the abuse of medicine arising from the neglect of blisters. We shall have occasion likewise to shew the advantages which may be obtained from their judicious application.

The operation of blisters on the system has been very differently accounted for by different practitioners, but does not yet appear to be correctly ascertained. It has been said to depend chiefly on the power of cantharides in dissolving or attenuating the viscosity of the blood. But the very small quantity which is absorbed, cannot be supposed, with the least colorable appearance of truth, to be capable of producing such an effect on the general mass of the circulating fluids*. It may also be safely affirmed, that in fact the supposition is found altogether destitute of support. The consistency of the blood does not appear to the accurate and judicious observer to be in the least affected by the operation of a blister. Experience confirms the truth of this assertion.

The principal action of cantharides must undoubtedly be sought for in their effects on the moving fibres. — Blisters stimulate and inflame the part to which they are applied, and cause to it an increased determination of blood, attended

* Baglivi was of opinion, that the absorbed cantharides dissolved the lentor of the blood. But this opinion is fully refuted by Dr. Percival. Vid. *Essays Med. and Experim.* vol. I. p. 187.

tended with heat and redness, but not generally with much pain or swelling. The inflammation is rather erysipelatous than phlegmonic. From the greater impetus of the blood in the part, an effusion of serum under the cuticle is induced, which separates it from the true skin.

With regard to the general system, the operation of blisters as stimulant has in several instances been correctly ascertained. Their stimulus however is generally topical, and ceases to act on the effusion of the serum or the removal of the plaister, though it is sometimes communicated to the whole system, producing much pain, with an evident encrease both of the hardness and frequency of the pulse*. Yet the degree of their stimulus is often so inconsiderable, that it would be impossible to explain the action of cantharides on this principle alone. In cases of local inflammation, blisters are very universally recommended as a most important remedy. In such diseases they are often applied, and instead of causing the least encrease of the general circulation, they evidently diminish the heat of the body, and the hardness and frequency of the pulse, in consequence of lessening

* Cullen's Lectures on the Practice.

lessening the irritation arising from the local affection *. Had the stimulus of the Spanish flies on the general system been constant and permanent, the application of them in all disorders of that kind must have proved highly injurious. But in fact we find the contrary to be the truth. I shall soon have occasion to mention the singular success of their use in local inflammations.

Besides their stimulating quality, it is very evident that cantharides act upon the moving fibres as powerfully antispasmodic †. Hence their great utility in spasms of the stomach and intestines, in the convulsive asthma, and numbers of other spasmodic diseases, in which they have frequently given sensible relief before any evacuation was produced ‡.

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* Whytt's Experiments, Ph. Transact. vol. L. p. 2.

† Diseases of the Army, p. 141. "The objection to the practice (of blistering in pleurisies) is founded on the stimulating quality of the cantharides, but the relief is so certain, that theory ought only to be employed here in accounting for the resolution of an internal spasm, or obstruction, by such a stimulus upon the skin."

‡ Ibid. p. 150. "As I have more than once known the patient relieved in his bowels as soon as he felt the burning
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At the same time it cannot be denied with truth, that the evacuation itself contributes also to the salutary effects of the remedy. It is often made with peculiar advantage from vessels, which communicate with those of the part affected. The blood by this means is artificially determined from one part to another less essential to life. Although there are many cases where the utility of blisters cannot be referred to their evacuation alone, yet this effect is sometimes of such importance in explaining their action as well to deserve attention. There are physicians of eminence, who consider blisters as useful in febrile disorders by removing, in consequence of their evacuation, the tension and spasmodic constriction of the extreme cutaneous vessels. They remind us of the infinite communications of the blood-vessels of the skin. They argue from thence, that an evacuation from any one part may have considerable influence, in relaxing the capillary vessels and obviating their constriction.

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of his skin (from cantharides) and at the same time have stools by a purge or clyster, which had been given before without effect, we have reason to believe that the blister acts more as an antispasmodic than an evacuant."

We may further take notice of another particular relative to blistering. Two inflammations at one and the same time are seldom vigorously supported in the human body. The decline of one inflammation is usually attendant on the rise and encrease of another*. Hence by exciting an external inflammation of the skin with cantharides, we imitate a salutary effort of nature, which frequently succeeds in the cure of one inflammation by substituting another.

With regard to the Unnecessary Application of blisters, the ill effects of the practice may be easily ascertained from the observations which have been already made concerning their use. It is obvious that they unnecessarily cause pain, inflammation and evacuation. They sometimes unseasonably excite the nervous energy. If their application be frequent and their effects continued, they produce a permanent change in the mode of circulation †, and establish the necessity of a needless and therefore of a pernicious evacuation from the circulating fluids. The constitution

* Fordyce's Lectures on the Practice of Medicine.

† Duncan's Elem. of Therapeutics, p. 138.

tion becomes habituated to restore the loss; and thus the balance between what is taken into the body and what passes off by its several out-lets, is in danger of being destroyed*. If in this condition of the animal œconomy, the evacuation be suppressed, plethora will sometimes occur, unless it be guarded against by abstinence and exercise.

Blisters no doubt have been often applied in cases where they were improper, but generally the abuse of medicine in this particular has arisen from neglect or mismanagement. Before we proceed to confirm the truth of this assertion, we cannot but reflect on the great variety of opinions which have prevailed among practitioners, concerning the use of vesicatories in numbers of diseases. The theory of medicine in this instance has not been more vague and contradictory than the practice. This indeed is, among many others, a conclusive argument to prove the influence of theory on the practice of medicine. Some physicians supposing blisters to be constantly stimulant to the general system,

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* Issues and Setons too have the same effect, and are frequently employed without the least necessity. When they are dried up suddenly, disagreeable consequences often ensue, if proper means for preventing those consequences are not made use of.

have industriously avoided the use of them in inflammatory fevers *, even when those fevers were attended with local inflammation. Others, regardless of their stimulus, have with the greatest freedom employed them promiscuously in almost every inflammatory disorder. Cautious in avoiding each extreme, we shall endeavor to point out the abuse of blisters, and to regulate the use of them not by the fallacy of hypothetical reasoning, but by facts founded on the solid basis of experience.—We shall dwell chiefly on the practice of blistering in Fevers, as that is a subject of the greatest difficulty and importance.

In the inflammatory fever unattended with topical affection, but in which the symptoms of a vigorous reaction of the system prevail, we avoid the application of a blister. Its stimulus, though not great, may in some measure encrease the action of the heart and arteries; but if it happen to be considerable (as it sometimes really is) the good effects of it as antispasmodic and evacuant will not compensate the ill effects arising from its stimulating power †. By this means
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* Huxham on Fevers, p. 11.

† Huxham gives particular cautions concerning this fact. Sir John Pringle and other eminent physicians particularly recom-

the heat of the body, and the hardness and frequency of the pulse will be encreased, accompanied with greater thirst, restlessness, anxiety and pain. Nor is it uncommon in such cases to mistake the cause of that encrease of symptoms ; to have immediate recourse again to the use of blisters ; and with the unhappy addition of stimulating antispasmodics or sudorifics, to endanger greatly the patient's life*.

In the beginning of every fever accompanied with an encreased action of the heart and arteries, although in its progress that fever should become nervous or putrid, blistering is for the same reason a precarious remedy. It is granted however, that when blisters do not stimulate the general system, they will prove serviceable.

recommend their use in the advanced state of the inflammatory fever, unless some particular symptom require their more immediate application.

* Fordyce's Elem. of Practice, p. 163. "If the symptoms of the first stage should encrease with great violence in the second week, particularly delirium, blisters are often applied to the head and back with advantage ; but blistering the patient from head to foot from this time to the end of the disease, exhausts his strength, quickens the pulse, produces petechiæ, renders the system extremely irritable and sometimes produces *subfultus tendinum* and convulsions."

viceable. But certainly it is prudent to defer the use of the remedy, till that period of the disorder occurs, in which it may be safely employed without any hazard at all. This caution is more particularly to be observed, since continued fevers in general are obstinately of a determined duration, and will pursue their course in spite of the application of a blister *. The practitioner will not have acted wisely, if, at the most critical juncture when a vesicatory would prove highly useful and effective, he finds that, in pursuance of his own advice, the most convenient place for its application has been previously occupied, and at that period of the disease too when the utility of the practice was uncertain.

It is proper also to caution against the use of blisters in those stages of fevers, where the system labors under a high degree of mobility, without any fixt pain or topical determination

* Sir John Pringle observes, that he found the solution of a fever was not to be procured by the application of a blister. *Dis. of the Army*, p. 130.—Dr. *Monro*, in his *diseases of the Mil. Hof.* p. 17, note (k), observes, that though he frequently applied a blister early, it had not the effect of stopping the fever in such a manner as Dr. *Lind* mentions.

nation of blood. In such cases the utility of blistering is seldom considerable, though the irritation excited by it is frequently injurious †.

But when the fever is purely nervous, with a weak frequent pulse, with little encrease of heat, and great depression both of mind and body, the early application of a blister cannot be improper. If the fever be a synochus, we may, when the symptoms of the nervous fever begin to appear, have recourse safely to blistering. In the progress of the distemper, although it prove nervous and putrid, the use of vesicatories, when the symptoms of the inflammatory fever have disappeared, is now as universally as justly recommended. We have then nothing to fear from their stimulating powers; and as to their resolvent powers, they are merely conjectural. In putrid fevers there is no just foundation for rejecting the application

† Percival's Essays, tom. I. p. 201. "Whenever nervous fevers are accompanied with little pain, but with a high degree of irritability, which is not unfrequently the case, blisters I think will be found to be prejudicial, by encreasing the spasm, and throwing the system into confusion."

cation of blisters on account of their supposed attenuating effect. The most unquestionable authorities might be adduced in support of this practice*. We would, however, advise against the use of them in those putrid fevers, in which the putrescent tenuity of the blood has proceeded to a very high degree, accompanied with extreme prostration of strength. In such cases, as Dr. Percival has judiciously observed, a copious evacuation of bloody serum has visibly sunk the patient, and the inflammation has sometimes terminated in a fatal gangrene †.

In the advanced state of contagious fevers, when the symptoms of debility prevail with a stupor and a comatose affection, the indication for the use of cantharides becomes evidently strong.

* Sir John Pringle recommends blisters in the last state of his jail fever, which is frequently attended with a high degree of putrefaction. *Dis. of the Army*.—Dr. Monro too advises their use when petechiæ have appeared. *Dis. Mil. Hof.* on the malignant fever.—Riverius observes, *ubi maxima est malignitas, unicum vesicatorium non sufficit, sed plura admovenda sunt.* *Riverii Opera*, p. 541.—Etmuller says, *Si ulla est febris in qua vesicatoria conveniunt, est imprimis petechialis.* *Opera Etmuller.* p. 365.

† Percival's *Essays*, vol. I. p. 204.

strong. In such cases their action as stimulant and antispasmodic is particularly proper. The evacuation of serum, however useful it may be found in the cure of topical affections, is too inconsiderable, except in extreme debility and putrefaction, to operate by weakening the general system. At the same time a morbid lethargy should be cautiously distinguished from a salutary propensity for sleep; from which the patient is easily wakened, and finds himself sensibly refreshed. This sleep is frequently attendant on the favorable crisis of a fever. It is a critical symptom, easily discoverable by a greater strength, slowness, regularity and softness of the pulse; by a decrease of delirium; by a moistness and cleanness of the tongue; by longings for particular kinds of aliment with real returns of appetite*; by a warm gentle universal moisture upon the surface; and by the urine becoming gradually paler, depositing at the bottom of the glass a light, incoherent and uncircumscribed sediment †. A sleep attended with such happy
signs

* Prosper Alpin. de presag. vit. et mort. egrot. p. 268.

† The appearance of the urine in fevers is so very various that one can scarce speak with certainty upon that subject.

signs of returning health, ought not to be disturbed by the officious practitioner, who repeatedly teasing his patient with needless blisters, is at once both ignorantly cruel and abusive of his art.

Besides the two species of phrenetic delirium which I have explained when speaking of the abuse of the lancet, and the low delirium indicating depression of the vital power, there is a fourth species which deserves to be cautiously distinguished. It is termed by Dr. Cullen the Maniacal delirium of fevers *. It is a prognostic

Dr. Gregory observes, when treating on the nervous fever, that "no conclusions can be drawn from the state of the urine, which often in the beginning lets fall a natural sediment, and often, after the fever is removed, has no sediment for many days." *Elem. of Practice*, § 82.—Sir John Pringle observes, that towards the end of the jail fever, upon a favorable crisis, the urine becomes thick, but does not always deposite a sediment. *Dis. of the Army*, p. 292.—Dr. Cullen has also observed the same appearance to occur in fact, but has asserted in his Clinical lectures that the urine, upon a favorable crisis, has, according to his observation, generally put on the appearance above-mentioned.

* This is the term that Dr. Cullen has applied to this species of delirium, which I am going to describe. It very frequently occurs in fevers; its symptoms have often been accurately enumerated, but no name has been given to them.

noftic of a moft dangerous nature, appearing generally in the advanced ftage, and accompanied with fymptoms of weaknefs and irritability. It is eafily diftinguifhed from every other kind of delirium, except the phrenetic which arifes from a topical determination of blood to the head and an inflammation of the brain, when at the fame time the general fyftem is weak and depressed. With this delirium, ferious however as the confequences may be, it is very apt to be confounded. For the patient, previously complaining of a fixt pain in the head, becomes furious and ungovernable, with rednefs of the face, fuffufion of the eyes, and other marks of topical determination to the head. Yet this delirium, as diffection clearly proves, is not followed with inflammation of the brain *. It is in general of a more tranfitory

A a nature

The term Phrenetic fhould be confined to that fpecies of delirium in fevers, which precedes or accompanies an inflammation of the brain. Hence the neceffity of the term *maniacal*.

* Cullen's Clinical Lectures.

Dr. Gregory too is of the fame opinion. When, fpeaking of the combination of fymptoms which conftitute phrenfy, he obferves, that "inflammation of the brain, fuppuration, effufion, &c. are found on diffection, but fometimes nothing preternatural in the head." *Elem. of Practice*, § 251.

nature than the phrenetic delirium *, which is a circumstance deserving the strictest attention. In its progress, it degenerates into a delirium of the low kind, denoting a most dangerous collapse of the brain. It is frequently relieved by the application of a blister to the head, which in this case is far preferable to one applied to any other part of the body †.

In the last place, I must caution against the neglect of blisters in fevers, where topical determination and inflammation supervene, whether accompanied with symptoms of a strong action of the vessels, or with those denoting a still more dangerous state from the excess of debility. For whether the determination be to the brain ‡, the throat, the lungs or the abdominal viscera ||, the early application of a blister as near as possible to the part affected, is, after proper evacuation by general or topical

* In the phrenetic delirium, the inflammation of the brain is either present, or soon comes on if the proper means of cure are neglected.

† Greg. Elem. of Practice, p. 127.

‡ Pringle's Observations, p. 316.

|| The symptoms discovering such determinations to those particular parts have been before enumerated.

cal bleeding, a laudable established method of practice *. The irritation arising from the local affection of an internal organ, is usually so great in itself, that the transitory stimulus of a blister is trifling and imperceptible in its effects upon the general system. On the other hand, the relief obtained from the operation of the remedy will diminish the symptoms of irritation arising from the topical disease, as heat, pain, anxiety, quickness of pulse, &c. For the antispasmodic power of cantharides in those cases is singularly efficacious, as well in the removal of the local spasm of inflammations, as of the cutaneous constriction of the surface. An external inflammation, thus artificially excited in imitation of a salutary effort of nature, will tend to lessen the internal one. The evacuation too, however inconsiderable with respect to the general mass of the circulating fluids, is important in many cases of topical inflammation. When the blister is applied to the head in local affections of the brain or of its membranes, the evacuation from the external

A a 2 vessels

* Physicians seem perfectly agreed with regard to this part of the practice. There is one or two exceptions to be made in some particular inflammations of the abdominal viscera, which will be mentioned when we speak of the abuse of blisters in topical inflammations.

vessels has considerable effect upon the internal ones, which, as anatomy evidently teaches, communicate through the bones of the head with the external by innumerable inosculating branches *. A knowledge of the connection of the brain with its membranes by means of blood-vessels, will serve to explain the effects of the evacuation upon the brain itself, in lessening the congestion of blood in that organ. The same argument holds still more forcibly in favor of the evacuating power of cantharides in the inflammation of the throat, where the communication of blood-vessels, between the internal and external parts, is more considerable. This reasoning too is in some measure just, with respect to the use of blisters in the inflammations of the breast and of the abdomen. The pleura and peritoneum form the connecting medium between the contained and the containing parts of each cavity. Hence may be derived the effect of the topical evacuation, considered merely as an evacuation from communicating vessels, which effect is greatest when the membranes lining those cavities are themselves inflamed.

In

* *Monro's Lectures on Anatomy.*

In all cases it is adviseable to remove the blister as soon as it has produced an effusion of serum under the cuticle. For this purpose it will in general suffice if it remain upon the part twelve or sixteen hours. If it be permitted to remain thirty or forty hours, which is the custom with some practitioners, the cantharides are much more apt to be absorbed into the mass of blood, and when separated from it by the kidneys, to irritate the neck of the bladder and to excite the painful sensation of strangury*. This symptom ought always to be cautiously guarded against by the free use of aqueous mucilaginous fluids. If it happen to occur, it may also be removed by the same means. The blister, if there should be strangury during its operation, should be immediately taken off. In some constitutions the Spanish flies will, in spite of the utmost caution, produce this disagreeable symptom. In general, however, the prudent practitioner will not be disturbed with its occurrence; for strangury, I fear, is often the pernicious consequence of inattention.—In all cases of topical affection, it has been said that the blister should be applied as near as possible to the

* Vid. Percival's Essays, p. 196, where it is clearly proved that the strangury arises from the absorption of the flies.

the part affected, whether that part be the head, the breast or the abdomen. The head is more insensible to the stimulus of cantharides than most other parts of the human body, and therefore very convenient for the application of a blister, when no particular circumstance of the fever determines our choice more especially to any other part. If upon shaving the head, the cuticle through carelessness should be cut with the razor, every small wound should be covered with some common plaster; otherwise the cantharides will be absorbed and strangury induced. The vesicatory, when applied to the ancles, is apt to operate slowly and in an imperfect manner, especially if the part be not cautiously kept warm. The arms and thighs are sufficiently commodious for the general purposes of blistering. The back has no peculiar advantage over any other part; but on the contrary is sometimes found, when blistered, to disturb the patient's rest by rendering him uneasy in a recumbent posture.—Before the plaster be applied, it is proper to interpose a piece of fine muslin between the skin and the Spanish flies, in order to facilitate the removal of it after its operation. This caution is particularly proper in all those cases, where we are anxious to avoid the slightest degree

gree of unnecessary irritation; for irritation, however induced, is not unfrequently experienced to be of pernicious consequence in fevers. In some instances indeed, where the cuticle has been carelessly removed with the blister, the subsequent pain from the application of any common plaster has been so exquisitely acute, as dangerously to irritate the system, to throw it into various irregular commotions and to bring on an unexpected train of alarming symptoms*.

After having thus treated on the general effects of blistering and the particular use and abuse of it in fevers, it is intended to make only a few remarks concerning that remedy on the subjects of inflammations, febrile eruptions, hemorrhages and chronic diseases.

Relative to the abuse and neglect of blisters in Primary Inflammations, we have scarce any thing to add to the observations already made on the symptomatic inflammations in fevers. It may however be justly repeated that the abuse of medicine, from the neglect of the application of them, is much more serious in fact than one would naturally have expected.

Blisters

* Dissert. Inaug. de febribus continuis medendis.

Blisters are almost universally useful in the phrensy, in the inflammation of the eyes, in the sore throat, in the pleurisy and peripneumony, and in all other visceral or internal membranous inflammations of the breast or abdomen *, whether phlegmonic or erysipelatous; except in the inflammations of the kidneys, the bladder and the womb, in which indeed they are properly avoided on account of the hazard of their exciting strangury. — In the acute rheumatism while the inflammatory symptoms subsist, and the pain is continually moving from one part to another, we in general put the patient to unnecessary trouble if we have immediate recourse to blistering †. But after the inflammatory disposition of the habit, which is considered as a very principal support of the disease, is abated by blood-letting, and the pain is become fixt in

* In all these cases blisters are recommended by the most able practitioners, and those who have had the greatest opportunity of observing their efficacy. Sir John Pringle strongly recommends their use in those disorders. In the peripneumony he applies them immediately after the first bleeding, and sometimes even just before the operation was performed. *Dis. of the Army*, p. 142.

Fothergill on the Ulcerous Sore Throat, p. 60.

† *Monro Dis. Mil. Hof.* p. 150. “But it ought to be noticed that if volatile liniments or blisters are used too soon, they will sometimes occasion violent inflammation or pain.”

in any particular joint or muscle, the application of a blister on the part affected generally procures relief.—In the regular gout affecting an extremity, practitioners have experimentally learned the danger of the topical application of a blister. In such cases, it has given rise to anomalous attacks of the most dangerous kind. Blisters as well as many other local applications, must in this complaint give place to the safer virtue of a warm flannel*. But in the irregular gout, when the inflammation is fixt upon some internal organ, a vesicatory is a safe and

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effi-

* So nice is the practice in this particular, that not only a blister is dangerous, but I have known a patient who labored under a severe fit of the regular gout, faint fifteen times successively in consequence of imprudently putting his feet into warm water. It was with difficulty his life was preserved. — Boerhaave, in Aphor. 1273, particularly cautions against all imprudent topical applications in the gout. *Tum enim tetenta materia apoplexias, paralyse, deliria, debilitates, sopores, tremores, convulsiones universales, si in cerebrum introivit; asthma, tussim, suffocationem, si in pulmones; pleuritidem sævam convulsivam, si in intercostalia & pleuram; nauseas, anxietates, vomitus, ructus, tormina, spasmos viscerum, si in viscera abdominalia; & ita incredibile quot morbos creat, sæpe subito lethales. — Contingit id damni — ex omni remedio debilitante, evacuante, rursus revellente, suffocante; hinc missio sanguinis, purgatio sursum, deorsumve, emplastra, cataplasmata modo dicta, &c.*

efficacious remedy *. It may either be applied on the part affected, or on an extremity to induce if possible a regular fit †.

In Eruptive Disorders, the attendant fever being in general either inflammatory, nervous or putrid, or variously formed from different combinations of those, the abuse of blisters may upon the whole be easily ascertained from the general observations already made, when we were pointing out their abuse in fevers. If symptoms, denoting excess of stimulant power, prevail without any local affection except what is considered as eruptive, the success of the remedy is uncertain. If a local inflammation of some

* Vid. Van. Swieten's Comment. in Aphor. 1281.

† "In every case where the Viscera are attacked, all endeavors should be used to determine the disease to the extremities by frictions, pediluvia, acrid cataplasms, blisters, &c. If it seize any of the viscera, along with fever and the symptoms of topical inflammation, it should be treated like any other inflammatory fever affecting the same part, while the above-named external applications are used to determine the disease to the feet." Greg. Elem. of Practice, § 404.— Dr. Cullen likewise cautions against the application of a blister to the feet, if there be any inflammatory symptoms remaining there, for in such cases he has observed the effects of them to be injurious by taking off the inflammation. Once a spasmodic asthma ensued.

some internal organ should supervene in consequence of the excess of reaction and a topical determination, blisters, after proper evacuations, may be safely and efficaciously employed *. Or if, in the advanced stage of an eruptive disorder, a local inflammation should occur, proceeding from a partial determination of blood, attended with weakness and irritability of the general system, the same practice may be happily adopted. In the progress of those disorders too, where the symptoms of debility occur without any internal topical inflammation, vesicatories become a necessary remedy, especially if stupor and lethargy prevail. But if along with such febrile weakness, symptoms of the excess of irritability should prevail instead of the comatose affection, the application of a blister should be considered as a dubious practice. For though it will sometimes undoubtedly relieve, it will also be found to encrease the disease in consequence of irritation,

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* Exanthematic disorders, when the fever is of the inflammatory kind, are frequently attended with a topical inflammation of some internal organ, as the brain, the lungs or abdominal viscera. This observation holds in the erysipelas, the plague, the small-pox, the measles, the miliary and scarlet fevers, &c. In all such cases the application of a blister is proper.

tion, which is most commonly excited during such a mobile state of the nervous system. — If, when the eruption of the measles has disappeared, the inflammatory disposition of the habit should remain, and endanger an inflammation of the lungs, tubercles and consumption, blisters are often applied with success. — If the miliary eruption suddenly retrocede, and the patient immediately find himself greatly sunk and oppressed with sickness and anxiety, the operation of a blister, provided no particular contraindication occur, will generally be productive of salutary effects. — If, in the small-pox, the pustules, instead of being of a good kind, with a proper degree of inflammation and a favourable tendency to suppuration, appear small, pale, and depressed, the prudent use of a blister, besides its action as antispasmodic, excites sometimes the languid efforts of nature, and produces a happy change in the appearance of the disease. If the inflammation of the face arise not to a proper height, and that of the hands and feet follow not in regular succession, but the pustules on the extremities appear pale and shrunk, the application of blisters to the hands or feet is a practice deservedly recommended.

With

In Hemorrhages, practitioners have generally been too much afraid of the stimulus of cantharides, to have frequent recourse to blistering. Experience however of its utility in topical inflammations, having removed all needless scruples and timidity concerning its use, has encouraged them at last to make trial of this remedy in hemorrhages. The experiment has been repeatedly followed with success as well in the hemorrhage of the nose as in the vomiting and spitting of blood. In the latter, since there always occurs, besides a topical congestion of blood in the part, some degree of inflammation, which is liable to form tubercles and to produce an ulceration of the lungs, blisters are found both safe and useful, lessening rather than causing irritation *. In uterine floodings the use of them is dubious, because,

* "In nasal hæmorrhages, blisters applied to the back have been serviceable; and may we not from analogy conclude that they would be equally useful in hæmoptoes?" Percival's Essays, vol. I. p. 233.

Dr. Vandouvrán, Professor of the Practice of Medicine at Leyden, informed me that he had very often applied blisters in the nasal hæmorrhage with success.—Dr. Cullen from his own experience is clearly of opinion, that they are useful in hæmoptoes

because, if strangury be excited, the irritation may be communicated to the womb and encrease the hemorrhage.

With respect to Chronic Disorders, I shall add a few observations upon the practice of blistering in the Comatose and the Spasmodic. The apoplexy and palsy frequently arise from sanguine congestion in the vessels of the brain without rupture, or from sanguine or serous effusion in consequence of the rupture or dilatation of the vessels. They may also arise, or when once induced, subsist from collapse and debility of the nervous system. Convulsions and epileptic fits often occur from similar causes. For similar topical affections or collapse of the brain, are, when in a certain degree and under peculiar modifications, found in fact capable of creating in predisposed habits, that state of irritability, which is productive of irregular contractions of the muscles, both of the convulsive and epileptic kind. To distinguish whether the effusion and congestion in the brain be

hæmoptoes and vomiting of blood as well as in the nasal hemorrhage. — Dr. Gregory formerly maintained the same opinion. Blisters in these disorders determine from the part affected by the evacuation; and evidently prove powerfully antispasmodic.

be ferous or sanguine, (a distinction sometimes of the greatest importance) we must have recourse to the temperament and general state of the system. In one case, we may discover the real signs of plethora; in the other, a debilitated phlegmatic habit of body, with the presence perhaps of some evident hydropic symptoms.—It is however observable, that an encreased impetus of circulation in the brain, connected with general plethora of the constitution, may create ferous effusion by dilatation of the vessels, which cannot be distinguished from sanguine effusion. But this latter distinction is very immaterial, as plethora is equally prevalent in both, and the method of treatment in every respect exactly the same.—In all these cases of comatose and spasmodic disorders induced by the causes above-mentioned, the application of a blister to the head, after necessary blood-letting, is an useful practice*. When the complaint requires it, the evacuation may
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* Vid. Boerhaave's Aphor. 1025, 1034, 1044, 1069, 1081, 1083, 1084.—Van Swieten Com. in Aphor. supradict.

Dr. Cullen and other eminent physicians strongly recommend the use of blisters in these cases, even when the disorders have evidently arisen from plethora. They are useful on the same principle as in the inflammation of the brain.

for some time be advantageously continued. Blistering upon the head is particularly adapted to the cure of that species of the epilepsy, in which there is a local determination of blood to the brain, while the general system is under a state of debility.—In the convulsive asthma*, in the hooping cough, and in the colic, all of which are evidently spasmodic disorders, vesicatories are applied often with great advantage,

* Sauvages Nosol. Method. tom. I p. 663. Hora circitur secunda matutina, pectus constringi, diaphragma sursum trahi, rigescere videtur, non nisi cum labore deprimitur, aut multo major est difficultas costas elevandi pectusque dilatandi, ad quod concurrere opus est musculos lumborum & scapularum; æger e lecto surgere cogitur, inspiratio difficilis est, multo magis quam expiratio, quæ adeo lenta & tarda; asthmaticus vix potest tussire, expuere, nares emungere, aut loqui; stertor vel raucitas in expiratione apparet; alterutri lateri difficiliter incumbit, & dein ex eodem pulmonis latere sputa procedunt; flatulentia stomachi crescit, & inspirationi partim obstat; si accessus sit intensus, vomitio biliosa concurret; frigida appetuntur; calida ut vinum flatulentiam augment; sæpius accessus invadit vacuo ventriculo post catharsim, jejuniumve; si vero stomacho bene pasto accidat, diutius durat, & intensior est. Asthmaticus incalescit ad sudorem usque cum pulsu celeri, licet inæquali; febricula illa a lacte intenditur; surgens e lecto alvum pluries dejicit cum flatibus.—In the treatment of the disorder, the application of blisters between the shoulders and upon the ancles is recommended by Floyer and others.

a fact strongly in favor of their antispasmodic power.

But it is not necessary, by way of preventing the abuse of medicine from the neglect of blisters, to enumerate every complaint in which this remedy may be serviceable. The opinion here embraced of their importance in practice and of their mode of operation, has, it is hoped, been rendered sufficiently clear. But though much may be urged in favor of blisters, it is not meant to recommend them on every trivial occasion. The use however of a serious remedy is requisite in a serious disease. One would wish likewise such a remedy to be employed at that critical period of a complaint, when it will be experienced the most efficacious. A needless severity of practice is as justly to be condemned as a dangerous timidity.

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as a dangerous tendency.

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SECTION V.

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STIMULANTS.

THIS CLASS of remedies is no less extensive than important. It comprehends in part several other classes, which, though distinguished by a peculiar mode of action, are however possessed of a stimulant power. The abuse of many stimulating remedies has been already treated of under the title of sudorifics, purgatives, emetics, and blisters. The consequences of the neglect and imprudent use of them have been shewn. At present, therefore, we shall confine ourselves chiefly to those remedies which may be more especially referred to the head of stimulants. We mean however to comprehend under this class some

few particulars, which indeed may belong more properly to other classes, but which, if not here considered, must have been omitted. It is intended only to speak of those remedies that are in general use, and by some but imperfectly understood. Passing by therefore numberless stimulants, (many of which, though frequently employed, are of little utility) we shall advance some observations on the abuse of Heat, warm Fomentations, Wine, Volatile Alkali, the Stimulating Regimen, Balsams and Expecto-
rants, some general Stimulants, Mercury, and Exercise. For in treating separately of these articles, it would be an endless task to trace them through the variety of disorders in which they may be imprudently employed.

But before I enter into particulars, I shall make a few remarks on the general effects of stimulants *. Many of them are such remedies as tend to excite the animal energy, and consequently the action of muscular fibres. They encrease the heat of the body, the circulation
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* Cullen's Institut. of Med. p. 64. "Whatever can excite the contraction of muscular fibres is called a *stimulus*; and in general the means of exciting contraction are called *stimulant powers*."

of the blood, the strength and quickness of the pulse. They act in support of the tone of the system. They promote several secretions, but particularly the secretion of the perspirable matter, and enable the constitution to eliminate from the blood those putrescent particles, which in many complaints are retained in consequence of debility and of spasm. The circulation through the brain being more vigorous, the tone of the mind is frequently no less supported than the tone of the body. The spirits are exhilarated, and despondency mitigated or happily converted into that inattentive state of mental ease, which is found so highly conducive to the recovery of health in numberless disorders. These effects may be obtained from stimulants, though every stimulant is not capable of producing them. We shall therefore descend to the consideration of particulars, each of which is possessed of powers that deserve attention.

I. We shall begin with the article of Heat.

To a certain degree, the stimulus of heat is absolutely requisite for the support of all animal as well as vegetable life. Without it, no plant, no animal could possibly exist. The
world

world would exhibit but a lifeless scene. Providence therefore has, with the utmost wisdom, endowed all animal bodies with the power of generating a certain degree of heat. Different degrees are necessary for different animals. The heat of the human body is generally about 96 or 98 degrees of Fahrenheit's Thermometer. It is no greater in the hottest than in the coldest climates *. For where the atmosphere is so cold as to endanger life, we seek, for the purpose of preserving a proper warmth, the aid of various external means, which nature has liberally bestowed on those nations that are less favored with the benign influence of the sun.

To those external means used in cold climates, we may add the greater efficacy of the internal generating power of the constitution. Native heat is closely connected with the circulation of the blood, though not solely dependent upon it. In proportion therefore to the tone of the system, to the strength of the nerves, and to the vigorous action of the heart and arteries, the attrition between the solids and fluids will be stronger, and consequently the

* Cleghorn on the Dis. of Minorca.

the native heat of the body better supported. In hot climates, the animal fibres are more relaxed, the contractions of the heart and arteries are weaker, and the action and reaction of the solids and fluids less considerable. But where the external atmosphere is cold, the system, in consequence of the greater vigor of its fibres and of the increased force of circulation, is able more powerfully to generate native warmth. These particulars have great influence in fixing the standard of human heat, and in producing that equality in the temperature of the body, which is observable among the inhabitants of the hottest and of the coldest climates.

But though heat is a stimulus, without which there could be no life, yet when applied to excess, it is highly destructive of health. The too free application of external heat to the body, is a very general and powerful cause of diseases.

Excess of external heat diminishes native heat*. It relaxes and weakens the nervous system.

* Pro intensiore medii ambientis calore, quo, non suo, corpus calefcit, caloris nativi imminutio, extinctio, extranei substitutio. Gaub. Inf. Pathol. Med. § 424.

tem. The powers of the mind consequently become depressed, and incapable of being exerted with that ease, strength, constancy and spirit, which are requisite in the conduct of human affairs. The contractions of the heart and arteries grow more languid, and the circulation, a function of such infinite importance to life, is but imperfectly performed. The tone of the stomach and intestines is greatly impaired. Appetite, digestion and nutrition become defective, which are often sure signs of a premature decay of nature. The secretions and excretions are variously disturbed. Some are lessened, while others are morbidly encreased. The skin is relaxed; its excretion is often too copious; its tone is greatly diminished. The lungs are particularly injured; because the heat of the atmosphere in consequence of inspiration is most extensively applied to their substance.—The whole body is at last rendered weak, irritable and highly obnoxious to the action of cold, which, in spite of every precaution, will frequently impair the health of persons whose constitutions are delicate and tender.—To these effects we may also add, that too great heat, suddenly applied, is capable of rarefying the fluids and of producing a temporary plethora of the system, which is powerfully stimulant,

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and frequently dangerous, if not fatal in its consequences*.

Such are the pernicious effects of too much external heat applied to the human body. It

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* Aer calidus—corpora calefacit;—particulas, quibus, constant, in mutuo cohæfione relaxat;—fermentationem, putredinem, ciet ac promovet.—Ex rarefactione augmentum voluminis, et majus quidem in fluidis, quam in solidis; unde plenitudo vaforum & turgor, & multiplex humorum aberratio.—Ob relaxatam cohæfionem debilitas solidorum, spongiosus carniū contextus, articulorum infirmitas, laxum, iners, flexile.—Vis vitalis sensilior quidem & agilior, at robore, tenacitate, hinc duratione minor, facilius in suis motibus turbanda, brevi fervore torpens, deficiens.—Defectus subtiliorum; crassamenti inspissatio, immeabilitas, diathesis atrabilaria, inflammatoria, solidi exsiccatio, vasculorum obstructio, &c.—Atque hinc oriundas febres biliosas, putridas, ardentes, malignas, morbosque acutos, calidos, multivaria functionum generis nervosi læsione stipatos.—Ea, quæ primis viis continentur, sicubi ad fermentandum aut putrescendum prona fuerint, æstuoso aëre tanto citius in hos motus concitantur, ac ructus, inflationes, dolores, spasmos ventriculi, & intestinorum, anxietates, vomitum, choleras, diarrhæas, dysenterias, &c. producant.—Manifestum est calorem vehementer nocere plethoricis, obesis, biliosis, calidis, ficcis, in hæmorrhagias pronis, irritabilibus; cibo animali potuique spirituoso deditis, multisque cacoehymicis; præcipue autem generi nervoso, pulmonibus, primis viis ac systemati bilioso infestum esse, harumque partium functiones multimodis turbare. *Inst. Pathol.* 423, 424, 425.

is of little moment in what manner the application is made, whether by means of fires, stoves, baths or clothes. In each of these ways it may be rendered destructive of health.

To prevent the ill consequences arising from unnecessary heat, it is of the utmost importance to be much exposed to the cool air; to be cautious in avoiding large fires and hot rooms; to be sufficiently, but moderately clothed; and to sleep on a matras in a cool spacious chamber, and so covered as to maintain only a moderate degree of warmth. It is a very general error, to expose the human body too much to the action of heat, with a view to preserve it from the pernicious effects of cold. The influence of cold will be the least considerable upon those who are frequently but prudently exposed to its action, and whose constitutions are not become weak and irritable from an absurd excess in the application of heat. It is a very general error likewise in this country, to lie loaded with bed-cloaths, and consequently much hotter than is consistent with health. Many are accustomed to sweat in the night, but particularly towards morning, when the heat is most copiously collected about the body, and the skin and exhalant vessels are relaxed.

relaxed. Such a habit, which is extremely common, is singularly detrimental to health, and powerful in producing as well as in supporting many chronic disorders.

We should now have proceeded to point out the pernicious consequences of heat, as improperly applied in the treatment of diseases, if we had not already spoken fully on that subject when considering the abuse of sudorifics. The dangerous effects of the excess of heat have been there enumerated. If the reader were not struck with the melancholy scene then presented to his view, it would be in vain to attempt to move him by repetition.

From the flagrant abuse of heat by persons in health as well as by those laboring under disease, what numbers are most materially injured in their constitutions. From this cause, how often do we see the tender bud of infancy, instead of progressively opening and blooming in health towards the perfection of manhood, become pale and withered with disease. One is at a loss to comprehend from what motive so great a part of mankind are persuaded to destroy their health, by thus acting in defiance of

reason and experience. Is it from the influence of opinion, that great distinguishing mark between the rational and brute creation, but that inexhaustible source of error? Or is it from luxury? Were that an object of importance, it ought constantly to be remembered that there can be no true luxury without health. Common sense has long since informed us, that even under disease, we cannot bear too much indulgence with impunity. Heat has frequently been made subservient to the luxuries of mankind; and like most other prostituted blessings, has often been industriously converted into a curse.

II. Some observations shall next be advanced on the abuse of Warm Fomentations, Wine, Volatile Alkali, and the Stimulating Regimen, as used in Fevers strictly so termed; though they will be found applicable in general to all the eruptive, and many other febrile disorders.

Warm Fomentations derive their virtue in a great measure from their heat, and hence being gently stimulant, I have ventured to introduce them here, though I rather consider their chief action as relaxing and antispasmodic. They are a valuable remedy; but from the
combination

combination of the different powers which they possess, they are very apt to be misapplied.

In fevers, when the inflammatory state prevails, with a quick strong pulse and a considerable encrease of heat, warm fomentations are often very injudiciously prescribed. They rarefy the fluids, stimulate the heart and arteries, and aggravate the symptoms of inflammatory fever. In all cases of topical inflammation supervening on a fever, accompanied with plethora and a strong action of the vessels, warm fomentations are on that account a very dubious remedy. For the same reason too, they should be cautiously employed in the beginning of every fever.

But after the inflammatory symptoms, which denote the excess of stimulant power, are removed either by evacuations or by the duration of the fever, warm fomentations can hardly be improper at any other stage of the disease. They are very safely and advantageously employed in the comatose, the phrenetic, the maniacal * and the low delirium of fevers, when the

* Pringle's Observations, p. 135. "And I would likewise recommend for the hospitals, what I have sometimes
since

the symptoms of strong reaction are diminished.

Warm fomentations are particularly indicated in cases of topical determinations to the head and great irritation of the brain and nerves, when at the same time the general system is under a state of debility. In the advanced stage of fevers, attended with a wild aspect, constant watchfulness, tremors, starting of the tendons, convulsions, a weak, frequent, irregular and contracted pulse, &c. fomentations are urgently indicated, and often found of singular use. They are serviceable in removing irritation and all irregular motions of the nerves; in rendering the pulse more slow, regular and full; in procuring sleep, solving spasm, and promoting a favorable degree of perspiration.

Great caution however is requisite in regard to the mode of their application; otherwise a valuable

since in a phrenitis successfully used in my private practice, a fomentation to the feet and lower part of the legs with double flannels wrung out of water, (with a seventh of vinegar) made agreeably warm, and repeated often for an hour or two at a time."

valuable remedy will from negligence be generally experienced ineffectual, if not pernicious. The patient should be moved as little as possible, that he may be neither irritated nor fatigued. The greatest care should be taken to avoid moistening the bed-cloaths; because the water generating cold in consequence of evaporation, would, by checking the discharge of the perspirable matter, add undoubtedly to the danger of the disease. The temperature of the air in the room should be kept moderately warm, in order to avoid the application of cold to the body during the use of the fomentation, which ought to be continued one or two hours to render it efficacious.

Whenever a cordial stimulant is indicated in fevers, Wine, made from the juice of the grape, is the safest and most efficacious. When prudently administered as a remedy, it is frequently productive of the happiest effects. But as it is a powerful means of cure, the danger of its abuse is greater. It is not like many other stimulants, possessed of such weak virtues as to render it a matter of indifference, whether it be given with judgment or not. All the good effects in general which have been ascribed to stimulants, are with the strictest

strictest propriety applicable to this important remedy. Spirits are of a much more inflammatory nature than wine, nor can they be rendered of equal medicinal virtue by any mixture or dilution whatever. When the component parts of wine are thus separated by art, they can never be again united as before. The stimulus of wine applied to the stomach is soon communicated to the brain, the great origin of the nerves. The action of the living solids is excited, and the energy both of body and mind is increased.—Yet if taken in too great quantity, wine will undoubtedly operate as sedative on the nervous system. It will debilitate and exhaust. The spirit, obtained from wine by distillation, is so powerfully sedative, that it is capable of acting on the brain and nerves as a poison, and of inducing collapse, lethargy, apoplexy and death. But we seek not as a remedy in fevers, for the highly sedative powers of wine. We have occasion chiefly for its stimulant and antispasmodic powers, used in such manner as to be rendered most beneficial in promoting the recovery of the febrile patient. The practice is intricate, and merits to be discussed with accuracy.

In the beginning of fevers while the inflammatory symptoms prevail, as indicated by unnatural heat and great strength and frequency of the pulse, wine is sometimes employed, but not without considerable danger. It increases by its stimulus every symptom of the disease, and endangers topical determination, inflammation, and a numerous train of unhappy consequences. Whenever a symptomatic inflammation is attendant on an inflammatory fever, it is scarce necessary to observe, that wine is extremely pernicious. In the inflammations of the brain, of the lungs, or of the abdominal viscera, supervening on an inflammatory fever, wine is therefore to be cautiously avoided.—Or if an increased impetus of the blood in the vessels of the brain occasion delirium, which is not unfrequent in the inflammatory fever, the use of wine is particularly contraindicated, as there is evidently danger of its exciting a phrensy.

In cases even of symptomatic phrensy or peripneumony, &c. prevailing towards the decline of fevers, accompanied with irritability and weakness, the stimulus of wine cannot in

neral be endured with impunity *. Nevertheless we often meet with catarrhal affections, complicated with fevers attended with great debility, which fevers admit of sensible relief from the proper use of wine. In these instances, however, the inflammation is erysipelatous, and no general inflammatory state of the system is prevalent.

When the fever arises from contagion or any other confined noxious effluvia from animal bodies, and is evidently of a nervous malignant sort, without local inflammation; when the mind is humbled and dejected, the countenance pale and depressed, the pulse quick, weak and irregular; we may safely have recourse, even at the beginning of the disorder, to the cordial virtue of wine.—If the fever be a synochus, we ought to abstain from the use of wine, till the inflammatory symptoms be removed and those of debility prevail. We may then prudently

* Speaking of the latter stage of the jail fever, Sir John Pringle observes, “but if the delirium increased upon using wine, if the eyes looked wild, or the voice became quick, there was reason to apprehend a phrenitis; and accordingly I have often observed, that at such times all internal heating medicines aggravated the symptoms, &c.” *Diseases of the Army*, p. 315, 316.

dently endeavor, with this remedy, to support the patient's strength.

Nor does delirium in fevers forbid in every case the use of wine. Although the phrenetic, in which the brain or its membranes are very apt to be inflamed, is generally encreased by the stimulus of wine; yet the low and the maniacal deliriums which have been before explained, are frequently abated or removed by its stimulant and antispasmodic quality. The low delirium, depending on a collapse of the brain, without any local affection or inflammatory symptoms, strongly indicates the use of wine. In the maniacal delirium, its good effects are often very considerable in suddenly composing the anxious mind, tortured with false imaginations, and in lessening the irritation of the nerves that is attendant on debility*. At the same time it is extremely important to distinguish as accurately as possible between the maniacal and the phrenetic deliriums; both often occurring, as was observed, at the decline of dangerous fevers, in which the contagion is highly sedative and the nervous energy depressed. On this distinction the suc-

* Gregory's Clinical Lectures.

cess of the practice depends.—Whenever stupor and lethargic symptoms occur in the progress of a fever, the effect of a diminution of the nervous influence, without topical inflammation, wine is often prescribed with singular efficacy, raising the pulse and exciting the action of the nervous system.

But though there are many cases of fevers, evidently to be relieved by the stimulus of wine, yet every practitioner, even the most knowing, will not unfrequently meet with such combinations of febrile symptoms as are inductive of doubt. Sometimes it may be dubious whether the inflammatory state be so completely removed, that the fever may admit safely and successfully of the use of wine. For a premature use of the remedy is well known often to disappoint the practitioner, and to prejudice the patient against it.—At other times the ambiguity may depend on the complication of peripneumonic symptoms with a contagious fever; and yet wine seem strongly indicated by the great prostration of strength.—Or the symptoms of phrensy, as it frequently happens, may be so ambiguous* that the distinction

* Dr. Vogel defines the Phrenismus,—Vera inflammatio cerebri

distinction between the phrenetic and the maniacal delirium in fevers shall be exceeding difficult, if not impossible to be accurately formed.— Yet in all these and such like cases of uncertainty, it is the practice of the ablest physicians to make a cautious trial of the remedy, which, under their prudent directions, may be done always with safety, and sometimes with success.

The skilful practitioner, in all such critical conjunctures, will first examine most minutely into the present state of the fever, and weigh every circumstance with attention. He will endeavor to distinguish accurately between those symptoms, which indicate the excess of stimulant, of sedative, or of septic powers. With the knowledge of these facts, it is easy for one of a clear comprehensive understanding, to combine his ideas together, to form just comparisons, and to draw from thence rational conclusions. He will be able to judge with much certainty concerning the absence of those symptoms which denote an inflammatory state.

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cerebri aut membranarum ejus; quam ex dolore capitis & vehementi delirio febrili vulgo definiunt, quæ signa vero admodum ambigua. Cullen's Synop. Nosol. Method. p. 145.

After such an examination, he will attentively consider the causes, the nature and the duration of the fever. If it has arisen from cold, he will clearly perceive that the inflammatory disposition is likely to be more prevalent, than if a septic contagion has operated in debilitating the nervous system, and in promoting like a ferment the putrescency of the fluids.—The season of the year and the nature of the epidemic, he will deservedly regard as objects of attention. For he will remember that heat and moisture debilitate and favor the putrefactive process; and that concerning the nature of the epidemic, men reason with force from analogy supported by experience.—The duration of the fever he will consider as a very important fact in determining his judgment. If the fever be in an advanced stage, for instance, towards the end of the second or the beginning of the third week, he will in many cases conclude with much certainty concerning the absence of the inflammatory state.

He will be mindful diligently to attend to the constitution, the habits and the natural cravings of the patient. For if, previous to the invasion of the fever, he were weak, relaxed, and unaccustomed to exercise, we have great reason

reason to expect excess of debility. If he were habituated, when in health, to the free use of wine, it becomes more particularly indicated in disease. Custom is the lawless tyrant of human nature*. Under her dominion, we insensibly degenerate into slaves. From her chains, we can seldom free ourselves at once with impunity. The cravings of instinctive nature, unbiased by opinion, may generally be indulged with safety and advantage. If the patient really feels a natural propensity for wine, wine will very probably be found proper and effective.

The able practitioner, in all such dubious cases, will be very attentive to the effects of the remedy. If, upon a cautious trial of wine, he observe the symptoms are not encreased, he will be encouraged steadily to proceed. If the patient find it agreeable, and feel himself refreshed by its cordial virtue, it is a favorable proof of its efficacy in supporting his strength at so dangerous and critical a juncture. In

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* Dr. Cullen, in his Institutions of Medicine, gives a learned enumeration of those laws which may be established by custom, and observes, that "many of them are with difficulty avoided; that they are often rigidly fixt, have a considerable influence on the action of the brain, and govern the revolutions of the animal system." p. 91.

consequence of the remedy, the pulse becomes fuller and stronger, indicating more vigorous contractions of the heart and arteries. If it were previously slow from collapse and a comatose state of the brain, it is rendered more frequent by the use of wine. If it were frequent from weakness and irritability, it is rendered slower by the same means. For wine, where it is employed with judgment and agrees with the patient, either rouses from stupor, or lessens watchfulness, anxiety, delirium, twitching of the tendons, and all the symptoms of irritation.

The French wines, on these occasions, are justly chosen in preference to those of any other country. The Spanish and Portugal wines are generally more adulterated with the admixture of spirits, which renders them heating, and therefore less adapted to the cure of febrile disorders. Claret or rhenish, of a proper age and of a good sort, are esteemed the most serviceable. The quantity to be taken in the space of twenty-four hours, must be proportioned not only to the symptoms of the disease, but to the patient's age, sex, temperament, habits, and constitution. If the quantity be too small, the effects will be inconsiderable; if it be too great, they

they will be pernicious. Any quantity from half a gill to a quart may, when indicated, be taken in a day with the most evident relief*. Instead of pure wine, it is prudent for the most part to use it in a diluted state. Wine is often given with propriety in the forms of negus, whey, panado, &c. Negus, in which the wine is mixt with cold water, is frequently the most palatable and efficacious form. For cold water is generally admissible where wine is indicated. It will improve the tonic virtue of the remedy, and be serviceable †, except when a catarrh or

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* Pringle's Observations, p. 314.

† Greg Elem. of Practice, § 29. It is there recommended to diminish the increased impetus of the blood, by the proper use of sedatives and the antiphlogistic regimen, and among other things by the "proper application of cold, cold air, cold drink, allowing the patient to throw out his limbs, to be lightly clothed, and to sit out of bed at his pleasure."—When speaking of the nervous fever, Dr. Gregory, Elem. of Pract. § 86, advises the use of cold drink to support the patient's strength.—Cleghorn on the Diseases of Minorca, chap. iii. p. 190, observes, "that it is a noted question among physicians, whether, during the fit, the drink should be warm or cold? The Spaniards generally give crude water, cold from the cistern; and we find by experience that this, if it be not hastily swallowed down in great quantities, is not only safe and innocent in summer fe-

a peripneumony or some other inflammation, is complicated with a fever attended with extreme weakness; in which case, wine is sometimes successfully employed when cold water cannot be admitted with safety.

The Volatile Alkali is deservedly recommended as useful in fevers *. Its transitory stimulus is found safe, and readily diffusible over the whole system. The general observations advanced relative to wine, will be sufficient

vers, but much preferable to warmer liquors, as it quenches thirst more effectually, strengthens at the same time the tone of the vessels, relaxed and enervated by heat, and preventing the tendency of the blood to a putredinous thinness. Hence after each draught the body seems to acquire fresh vigor, whereby it is enabled to perform the concoction of the febrile matter, and discharge it by the proper emunctories. And therefore they are greatly to be blamed who refuse their patients so powerful and agreeable a remedy, in spite of the earnest call of nature, contrary to the advice of the best practitioners. Nevertheless, as there is a manifest hazard of the blood's being coagulated by the sudden application of intense cold, we must beware of giving ice water as the Italians and Sicilians do, unless the patient has been accustomed to it when in health. And if the bowels are inflamed, the safest way is to give the drink luke warm, or a very little colder."

* Observations on the Diseases of the Army, p. 314.

cient to regulate the use of the volatile alkali. Whenever languor and debility are considerable, it may be often prescribed with happy effect. Sir John Pringle and Dr. Monro advise us to alternate its use with that of wine. The opinion of Dr. Huxham, in regard to its septic power of dissolving the blood and promoting putrescency, is unsupported by facts. The volatile alkali is proved to be antiseptic †. In putrid fevers even, it is employed with undoubted advantage.

The Regimen used in fevers is frequently of too Stimulating a nature. While the practice of administering heating sudorifics was so generally adopted, the abuse of the Antiphlogistic regimen was a necessary consequence. This regimen is understood by different physicians, to bear a more limited or a more extended signification. We mean to comprehend under it, the avoiding in general every unnecessary stimulus, which is capable of giving a hurtful irritation to the system. It is of the utmost importance in the treatment of fevers, for preventing the symptoms that denote the excess of stimulant power and the presence of

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† Pringle's Appendix on Septics and Antiseptics, p. 7.

topical determinations. By moderating the reaction, it also diminishes heat, and preserves the strength of the body from being needlessly exhausted. Whenever there occurs an increased action of the heart and arteries, with great heat and a strong hard frequent pulse, (symptoms indicating vigor of the constitution) no practice without the antiphlogistic regimen can possibly be successful.

The stimulus of external impressions is greater in proportion to the pain or uneasiness which it occasions. Whatever gives pain or uneasiness should be cautiously avoided. For this reason, the application of a blister during the excess of stimulant power, is evidently improper. We ought steadily to shun even all the slight causes of irritation. The body should be freed from the pressure of ligatures. There should be no inequalities of the bed to create uneasiness.—Too great light or sound is often singularly injurious, especially when the brain is inflamed, or its vessels too much filled with blood. In such cases, the arteries and veins of the optic and auditory nerves are apt also to be unusually distended. This distention increases the sensibility of those parts. When therefore the brain is topically affected, light and sound
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are capable of giving a dangerous irritation. It is observable, however, that there have been several instances in fevers where the patient has experienced greater irritation from silence and darkness, than from light and noise. In such cases, silence and darkness are offensive and evidently increase the delirium; but the gentle impressions of light and sound become a part of the antiphlogistic regimen.

All the passions of the mind, close attention, and every species of mental exertion, affect the nervous system and give irritation. The mind should be kept as undisturbed as possible, indulged in all its capricious humours, and chagrined by no relation of unhappy events. To acquaint a person in a fever with private or public distresses, but particularly with those in which he himself may be nearly concerned, argues either great inhumanity, or an unfortunate inattention.

Both cold and heat, under different circumstances, act as stimulants on the human body. During the accession of a fever, while the patient feels a chilliness and horror upon him, with an unaccustomed sensibility to the coolness of the air, it is prudent to shun exposure

to cold, lest it increase the symptoms of the cold fit and the spasmodic constriction of the cutaneous vessels.—When the chilliness and horror are abated, and a sense of warmth begins universally to prevail, the stimulus of external heat is cautiously to be avoided. The sick person should be in a spacious chamber; and breathe an air which is pure and temperate. When in bed, he should be but lightly covered. It may sometimes be proper for him to be dressed in his usual manner, to sit up a-while and occasionally to lie down as he finds himself disposed. He should always be permitted, when in bed, to throw out a hand or arm at pleasure, which may be done with the greatest safety, and is very efficacious in moderating the heat of the body. The curtains should be open and a free circulation of air promoted. The room should be regularly ventilated by the frequent admission of fresh air, which in numberless cases will be found a very beneficial practice. At the same time we may, I think, justly condemn that excess in the application of cold, which some practitioners admire. I confess I have never known it successful. Prudent men seem wisely to dread it. A most accurate and learned physician informed

me, that he had often seen that practice attended with unhappy consequences*.

As part of the stimulating regimen in fevers, we must caution against the irritation which is occasioned by muscular motion. The ill effects of it will be in proportion to its degree, and to the general debility of the system. In fevers, attended with great weakness, a recumbent posture is usually found preferable to an erect one. Even the act of speaking should be avoided, because it agitates the organs of respiration, quickens the circulation and fatigues the patient.

With regard to diet, it may be remarked that the action of digestion is always accompanied more or less with a symptomatic fever, which is greater in proportion to the stimulus of the aliment, and to the weakness and irritability of the system. In every fever, whether increased action or debility prevails, stimulating aliment will be found generally hurtful. The food should always be chosen suitable to the
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* Dr. Fordyce, Professor of the Practice of Medicine at London.

tone of the digestive organs *. Animal food is alkalescent, prone to putrefaction, and highly nutritious, in consequence of which qualities it is stimulating and therefore often improper in fevers. We should even avoid in general all kinds of broth, especially those which are strong and nourishing †. Vegetables, such as the farinaceous grains and acescent fruits, afford the best and mildest nourishment. They obviate the putrescent tendency of the fluids, and prove the least stimulating to the general system. They are taken in moderate quantities not only with safety, but with advantage. We should make however one exception to this general rule, which is pointed out to us by the instinctive cravings of the appetite. Nature is a faithful guide, whenever she condescends to give us rules of conduct: Though in fevers she generally loathes animal food, and has the greatest relish for the summer fruits, yet on the contrary she sometimes longs for the first and refuses the latter. Such natural craving of the appetite is often a happy symptom of returning health. It denotes the tone

* Hip. Aphor. 8. Sect i. Ὄκιστον δὲ ἀκμάζει τὸ νόσημα, τότε καὶ τῇ λεπιοτάτῃ διαίτῃ ἀναγκαῖον χρεῖσθαι.

† Observations on the Diseases of the Army, p. 132.

of the digestive organs to be then materially changed from that state, in which they were at a more early period of the disease. Those longings, when directed by the sure guidance of instinct and not arising merely from opinion, may not only be satisfied with impunity, but ought for the most part to be indulged as an admirable means of promoting a more speedy and safe recovery. To contradict them, is generally the effect either of ignorance or tyranny.—Wine or any other fermented liquors are evidently to be avoided when a stimulus is improper. We need only except those cases, where long habit has rendered them necessary for the support of the constitution. In such cases indeed (when not strongly contraindicated) they ought to be taken, but in less quantity than usual and properly diluted. Aqueous fluids, water alone or impregnated with some mild vegetable substances, are the best liquors for the purpose of dilution.

I shall in the last place mention, as an article frequently comprehended under the antiphlogistic regimen when considered in this extensive point of view, the exhibition of a gentle emetic to evacuate the crudities and acrid con-

tents of the stomach, and of an emollient injection or cooling laxative to obviate costiveness and open the body. By such means we shall effectually preserve the alimentary canal from a considerable irritation, which, if communicated to the general system, would be found to increase dangerously the symptoms of the fever.

III. I shall next make a few remarks on the abuse of stimulating Balsams and Expectorants in the Disorders of the Lungs. I refer here in particular to the balsams of capivi and of Peru, to gum ammoniac, squills and the volatile alkali, as used in the inflammation, ulceration or tubercles of the lungs, and in the catarrh, the humid and the spasmodic asthma*. The importance

* Sauvages Nosol. Method. tom. I. p. 661. "Est chronica, periodica respirandi difficultas, asthmatis præcipuum symptoma.—Differt a dyspnæa, quod ista continua sit: ab orthopnæa, quod ista sit acutus morbus.—Asthmatis in genere principium morbificum et proximum est obex periodicè recurrens pulmonum alternæ dilatationi et constrictioni oppositus, circulationi vero sanguinis vix noxius; hunc obicem natura fortioribus respirandi conatibus remove, corrigere; sputum sæpe viscidum tussis interventu expectorare contendens paroxysmos efficit; principii morbifici; et conatum eorum naturæ concursus causam morbi constituit; cum conatus naturæ
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portance of those remedies in such complaints is seldom considerable; but the abuse of them has been singularly prejudicial to the inhabitants of this island. The nature, causes, complication and distinction of those disorders, are subjects well deserving the closest attention. From ignorance in such particulars, arise those gross mistakes in practice, to which it is here alluded.

The balsams, gum ammoniac and the volatile alkaline salt, are too stimulating to be generally employed with safety in the inflammation, ulceration or tubercles of the lungs, in the catarrh or the spasmodic asthma. The squills are not so heating, and therefore are less liable to objections; but they are nauseous, and can seldom be taken in sufficient doses to produce any considerable effect. To order them in the place of an emetic, is injudicious, because we are possessed of other remedies which are better fitted to answer that intention. I have frequently observed that a nausea induced, and

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pacati vel interpolati sunt, nec ita vehementes ut virium vitalium magna jactura ac diversio subsequatur, morbus diuturnus esse potest, non vero acutus; morbus vero diuturnus est potius quam chronicus asthma, cum in genere vix vitæ periculum portendat, saltem asthma vulgare quod ut plurimum cum ægro confenescit."

improperly continued by the use of squills, has greatly harassed and injured patients of weak and irritable constitutions.

Stimulating expectorants tend dangerously to encrease inflammation of the lungs, to induce ulceration, and to aggravate all the symptoms of hectic fever. They are also particularly pernicious in the spasmodic asthma, when connected with plethora.—The humid asthma is the only disease, in which at any period the most eligible of such expectorants may in general be safely admitted.—In the catarrh, much caution and judgment is required to regulate their use in practice. For when symptoms of peripneumonic inflammation are complicated with the catarrh, those medicines are more or less improper in proportion to the degree of their stimulus. But when the catarrh is perfectly pure, or only complicated with the humid asthma, they may be safely employed. At the decline of the peripneumony, when all the inflammatory symptoms are removed, and the lungs are obstructed with phlegm, they are prudently recommended.—They are useful also at the decline of the spasmodic asthma, when we are anxious to promote expectoration.—But

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all heating expectorants in general, and particularly the balsams, are of pernicious effect in tubercles of the lungs or in pulmonary consumption; in which complaints they have been frequently employed and miserably abused. — Whenever a stimulant of this kind is indicated in any of those disorders, squills and the volatile alkali are the safest and most eligible. The gum ammoniac likewise is esteemed by some. The stimulating balsams are for the most part too heating to be safely admitted into general practice*.

IV. We now proceed to consider the abuse of those Remedies, to which by medical writers the term Stimulant is more particularly appropriated †, some of which indeed have already been the subjects of our observations. Under this

* Obs. on the Dis. of the Army, p. 166. note *. “ Having since a former edition of this work, been so often disappointed in the effects of such balsams in this distemper, (*viz.* the pulmonary consumption) I have laid them all aside, and trust chiefly to small but repeated bleedings, (when the patient can bear the loss of blood) to a total vegetable or milk diet, to a seton in the affected side, to country air and riding, and to the free use of acids, when they complain of thirst and hectic heats.

† Vid. Home’s Meth. Mat. Med.

this class is generally comprehended cinnamon, cloves, ginger, peppermint, mustard, horse-raddish, the balsams and the turpentine, guaiac, saffra, sarsaparilla, canella alba, the volatile alkali, snake-root, wine and other generous fermented liquors, &c. I shall not enter here into a detail concerning the uses and abuses of each particular stimulant, (which would be almost an endless task) but content myself with making some general remarks on a few individuals.

I have before mentioned the ill effects of the abuse of stimulants, when used as sudorifics in intermitting and continued fevers, in topical inflammations, in eruptive disorders, &c. Those remedies likewise, when not given with the view to promote sweating, but strictly employed as stimulants, are greatly abused in the same class of feverish complaints*. Relative therefore to febrile disorders, I shall only add a few observations on the abuse of snake-root in fevers, — and of wine, the volatile alkali, and other stimulants in the gout.

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* “It hath been the practice with this view, to give the spices and other such stimulants; but as they generally quicken the pulse, and greatly encrease the symptoms of irritability, I think they ought to be laid aside.” Fordyce’s *Elem. of Practice*, p. 150.

The Snake-root, like many other remedies, might, without the least detriment to the art of medicine, be expunged out of the dispensatory. It is possessed of a dangerous stimulus, and is given in general with much freedom. Though the utility of the remedy is seldom evident, and not to be obtained without that nice discriminating judgment which alone can render it safe, yet the ill effects consequent on its imprudent use are really material. They may easily be ascertained from what has been already advanced on the abuse of wine. But to save my reader and myself such unnecessary trouble, I will venture to affirm, that wherever this stimulant may seem properly indicated in fevers, other stimulants, safer and more efficacious, may always be substituted in its place*.

In the gout, the abuse of stimulants is great. The gout is a disease which, from the uncommon variety of its appearances in almost every part of the human body, requires the most accurate judgment

* Cullen's Lectures on the Mat. Med. "Though I have often seen good effects from this medicine, yet, as they are always very doubtful, as malignancy seldom occurs here, and as I can obtain its good effects from medicines of a less inflammatory nature, and which I can exhibit with greater safety, I have now laid it entirely aside."

judgment to practise in it with safety and success. This assertion cannot but appear self-evident to every one who is acquainted with the histories of the irregular gout, and remembers that it is a disorder capable of producing confusion of thought; loss of memory, vertigo, apoplexy, palsy, asthma, dropsy of the breast, hypochondriac affections, spasmodic pains of the stomach and bowels, and topical inflammations of every internal organ. In this Proteus of disorders, a mistake in practice, though seemingly slight, shall often prove fatal in its consequences.

In the regular inflammatory gout, stimulants, except sometimes when previously rendered habitual, are always to be avoided. When improperly employed, they will be found more or less pernicious in proportion to the degree of their stimulus, to the violence of the disease, to the youth, vigor and irritability of the constitution.

In the misplaced and retroceding gouts *, where

* Dr. Cullen calls that species of the gout *misplaced*, in which the inflammation, without having been previously fixed on an extremity, seizes some internal organ. The

where the inflammation is fixed upon an internal part, as the brain, the lungs, or some of the abdominal viscera, the use of stimulants is attended with the greatest danger. It produces irritation, increases inflammation, and promotes suppuration or gangrene. Yet, without the most accurate discernment, the topical inflammation of several of those organs is sometimes distinguished with difficulty from the spasmodic affection. In both there is a violent pain of the diseased part, and its function is materially impaired. Great anxiety too, a pulse more frequent than natural, and several other symptoms of a fever, will be often attendant on spasm, as well as constant in inflammation. But though the distinction is in some instances nice and intricate, especially at the first attack of an internal organ, yet the method of treatment in those anomalous species of gout is diametrically opposite. For in cases where violent spasm occurs without inflammation, strong stimulants are often indicated, as well to preserve life as to remove a dangerous excess of pain. Stimulating aromatics, volatile alkaline salts, wine or even spirits may be required.

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retroceding gout is where an internal part is affected, when the inflammation has been previously fixt on an extreme part.

red*. But those remedies, if imprudently prescribed in the local inflammation of an internal organ, are possessed of a stimulus capable of producing the most unhappy effects. In such cases, evacuations, particularly by bleeding, are necessary to the cure †; tho', where debility and spasm without inflammation constitute the principal part of the disease, they are often highly dangerous, if not fatal. But if the management of those species of the gout, when distinct, be so extremely difficult; how much greater will be the difficulty of treating them when they are complicated together? — I would further mention the abuse of stimulants, whether refrigerant, sedative, antispasmodic, rubefacient or caustic, as topically applied in the regular gout to the affected part. They have all been used in this case, and sometimes with success; but they have often been productive of internal affections, attended with the most alarming symptoms. Not only the stronger stimulants have caused such unhappy effects, but, as was before hinted, the stimulus even of the topical application of warm water.

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* Gregory's Elem. of the Practice, §. 404.

† Ibid. §. 404.

It remains to say a few words on the abuse of stimulants in the Apoplexy, the Palsy, Convulsions, Epilepsy, and in Weaknesses of the stomach, Hypochondriac Affections, Hysterical Fits and some other chronic Complaints.

It has been observed that the apoplexy may arise from a collapse of the nervous system, or from a serous hydropic effusion, or an effusion of blood from the vessels of the brain or its membranes. In the two first cases, stimulants may be safely admitted. In the last, they cannot be employed without the greatest danger; for they accelerate the motion of the blood and increase the cause of the disease. The indiscriminate use of stimulating applications to the nostrils in the apoplectic fit, ought to be opposed and exploded. Even the spirit of hartshorn is capable of exciting a very pernicious effect. What indeed can be more absurd, than to stimulate the olfactory nerves and to increase that determination of blood to the brain which is already so morbidly great as nearly to have put a final period to life?—In the palsy too, when it is the consequence of the sanguineous apoplexy, or induced by a similar though a slighter cause, the practice of administering

stimulants is unwarrantable and unsuccessful. But when palsy arises from serous effusion unconnected with plethora, or subsists from mere debility and a diminution of the nervous energy, the neglect of stimulants may justly be deemed an abuse of medicine. — The same observations may be applied to epileptic and convulsive diseases, where the abuse of stimulants is equally as frequent and absurd. For when general plethora is attendant, or when there is a topical turgescence in the vessels of the brain accompanied with debility of the general system, the use of stimulants is highly dangerous and improper.—In weaknesses of the stomach, hypochondriac affections, hysterical fits and many other chronic complaints in which debility for the most part prevails, stimulants may commonly be prescribed with safety and advantage. But if in any of those disorders plethora should be present, (which is no unfrequent occurrence) they are capable of giving a dangerous irritation both to the nervous and vascular system.

With regard to the general abuse of such stimulating remedies, one remark may be made, that, whenever they are indicated, the use of them should not be continued too long
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together, but cautiously interrupted by frequent intermissions. The observance of this rule is highly important in the treatment of chronic disorders. For if stimulants be too long employed without intermission, they will not only lose their efficacy when prescribed in a common dose, but, by constantly supporting an unnatural excitement, tend powerfully to wear out the tone of the system, and to augment that very weakness, which the prudent use of them would most undoubtedly have contributed to remove.

V. We shall consider next the abuse of Mercury in Cutaneous and Venereal Diseases; tho' the observations here made will be particularly applicable to the latter. Mercury is a powerful stimulant to the human body. We are scarcely possessed of another, whose action is equally universal. It can be made to operate as emetic, purgative, diuretic, or sudorific. It is found also to have a peculiar tendency to act on the salivary glands and to increase their secretion. Practitioners have attempted differently to explain this fact on chymical or mechanical principles, but upon the whole with very little success. Several of their theories indeed seem ingenious, but none of them are stamped with the lasting impression of truth.

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Mercury is a remedy of the greatest utility. The abuse of it therefore is a subject of importance. A great part of mankind in the present age owe their lives to its virtue. Yet it seems very paradoxical to affirm, (though the fact is strictly true) that considering the late period at which mercury began to be in general use, no animal, vegetable, or mineral substance in the world has made greater destruction of human health *. For though we have a venereal disease, that contributes largely to destroy numbers of the best constitutions in this island, we have also a Mercurial Disease, which, in close alliance with the former, makes its attack along with it, and indeed with lamentable success. It is not meant to inculcate that mercury, as some have imagined, leaves any peculiar taint in the blood; but that, as a stimulant and an evacuant, it has, especially when imprudently employed, a powerful effect in reducing the vigor of constitutions, however strongly founded in respect to the original stamina of life. Chronic Weakness is the mercurial disease which is here alluded to; a disease very frequent in the present age.

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* Duncan's Observations on Mercury, p. 2.

Numerous indeed are the sources of the abuse of mercury. It is often employed without necessity. When necessary, the use of it is sometimes absurdly continued too long, and sometimes injudiciously intermitted before a perfect cure be obtained. In this last instance, the patient after a short time finds his disease returning upon him. The partial cure before made is entirely lost by the intermission of the remedy. Its effects remain only as denoting an injury done to the constitution. The patient therefore is again put on another mercurial course, as defective perhaps as the former. By this means the tone of the whole system is most unhappily destroyed, but especially the tone of the stomach and bowels. The relaxation and irritability of those organs is often so great, that the smallest quantity of mercury introduced into the system, excites purging and runs off by the alimentary canal. This accident embarrasses and retards the cure, besides rendering it uncertain. It is particularly liable to occur when the busy practitioner has frequent recourse to the use of active purgatives, which in this disease are not in general necessary to the cure, though often employed and greatly abused.

In other cases, we find that, instead of the milder preparations of mercury, the most acrid ones are chosen, when even the condition of the patient evidently contraindicated their use. I am a strong advocate in favor of the mercurial unction, which, properly managed, is found to be one of the safest medicines for curing the venereal disorder*. It may with propriety be sometimes aided, especially in robust constitutions, by the internal use of mercury, simply divided by trituration †. It is objected against those two forms of using mercury, that a salivation is more apt to occur than when the acrid preparations are given. But this inconvenience may be avoided by a cautious use of the medicine and a slow introduction of it into the system.—Of the acrid preparations, the calcined mercury, calomel ‡ and the corrosive sublimate, are the most frequently employed. The two first are very certain in their effects; the
last

* Fordyce's Elem. of Practice, p. 361, 364. The Uction is generally employed at St. Thomas's Hospital; and Dr. Huck observed to me, that he found it one of the most useful and efficacious preparations of Mercury.

† Obser. on Mercury, p. 128.

‡ Ibid. p. 135.

last, when successful, operates more quickly in performing a cure, but is less to be depended upon*.—Mercury taken by the mouth is more apt to injure the tone of the stomach and intestines, which, in the treatment of this as well as of every other disorder, should always be considered as a most serious object of attention†. From mistaken notions in this particular arise all those symptoms of indigestion and weakness of the alimentary tube, which I have had but too frequent occasion to mention.

It was formerly thought necessary to excite a salivation in order to perfect the cure of the venereal disease. This error was as pernicious as universal. We now indeed know a different and a better mode of practice, yet nothing is more common than to find some, who, as they have little notion of preserving a constitution while they are curing a disease, salivate the patient without necessity. This antiquated practice is at present favored only by a few, who are perhaps rash by nature, or whom age has rendered obstinate and deaf to every improvement in their art.

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* Fordyce's Elem. of Practice, p. 362.

† Observ. on Merc. p. 126.

It is enough to accumulate in the system as much mercury as will give the sensation of an unusual taste in the mouth, or slightly affect with soreness the gums or salivary glands. This is a sufficient criterion in most cases of its successful operation. The practitioner should even be cautious not to create too great inflammation in the mouth, as it gives pain and proves very disagreeable to the patient without facilitating the cure of the disease. It is only requisite to excite a salivation in those cases, where a sufficient quantity of mercury cannot be introduced into the body without that inconvenience. In other cases, it retards the cure, and causes a needless waste of fluids *. We ought to begin with a small quantity of mercury, and gradually to increase the dose, till we have accumulated in the constitution as much of the medicine as the patient can bear easily without salivation. In proportion to the larger quantity of mercury which can be retained in the system without passing off by the intestines or salivary glands, the disorder, if other circumstances are equal, will be removed in a shorter time, and with greater ease. A course of mercury con-
tinued

* Observ. on Merc. p. 51.

tinued about four or five weeks, exclusive of two or three of the first days, and without any considerable interruption, will in a recent case be generally found sufficient to make a perfect cure. If the complaint be of a long standing, a more continued use of the remedy may be found requisite completely to destroy the contagion. It is not necessary in general to confine the patient to his chamber, nor even to prevent him from going abroad and having the benefit of moderate exercise *. Nor is it proper to excite sweating by the addition of the stimulus of heat to that of mercury. All the ill effects of heat and sudorifics, which have been before enumerated, will follow from this abuse. We ought, however, during the operation of mercury to avoid any unusual application of cold; because it is apt to determine the blood from the surface, and to occasion a diarrhæa or spitting. But it is prudent to maintain only a moderate degree of warmth, so as gently to favor insensible perspiration without injuring the constitution †.

VI. We

* Observ. on Merc. p. 174. † Ibid. p. 171, 172.

VI. We come now to the Abuse and Neglect of Exercise, which is the last stimulant I shall take occasion to mention. But though it be a stimulant, it is widely different from every other stimulant in its effects on the human body, whether we consider those effects as produced on the simple solids, the moving powers, the motion or quality of the fluids.

Exercise increases the flexibility of animal fibres; for flexibility in all bodies is increased by flexion. It gives greater firmness to the solid matter of the body. The nutritious fluid, as applied for the purpose of nutrition, will, in consequence of its thinner parts being separated by muscular motion, become necessarily more condensed. Exercise, by increasing the action of the solids upon the fluids, tends powerfully to give such condensation to the body. The cellular membrane, a substance of so nice a texture, but of such immense extent and importance in the human œconomy, will doubtless be rendered much firmer by muscular motion*.—The tone and vigor of the moving fibres are increased by exercise. The nervous energy becomes greater. Habit is
power-

powerful in giving strength and facility of motion*.—The circulation of the blood, in consequence of the action of the muscles and the pressure made on the arteries and the veins, is evidently accelerated; and along with the circulation, the motion of the lymph in the lymphatic system. But the effect of this pressure is most evident on those veins which are furnished with valves †. It quickens the motion of the blood in its return to the right auricle of the heart; and of the lymph and chyle in its passage through the lymphatic and lacteal vessels into the subclavian vein, in order to be intimately mixed with the blood and perfectly assimilated to its nature. The contractions of the heart and arteries necessarily become stronger and more frequent, which, with the consequent increased force of respiration, accelerate also the pulmonary circulation. This greater impetus of the blood through the whole system causes most effectually a determination to the surface, and produces a free salutary discharge
of

* Inst. of Medicine, § 114. "Within certain bounds, with respect to force, frequency and duration, the contraction of muscles, by being repeated, is performed with more facility and force."

† Haller's Primæ Lineæ, § 63.

of the perspirable matter. — By exercise too, sleep is procured, the appetite is increased, the tone of the stomach is preserved, and digestion admirably promoted. The blood is determined from the internal viscera of the breast and abdomen, which tends to prevent as well as to remove any obstruction and unnatural enlargement of those organs.—The generating powers of heat acting more vigorously in consequence of muscular motion, increase the native heat of the body. This effect of exercise may in some measure be dependent on the greater vigor of the circulation and elasticity of the solids.—Exercise too is powerful in obviating the plethoric fulness of the system, and preventing the dangerous consequences which arise from excess of blood. For plethora is an unnatural load to the body, which tends constantly to exhaust and destroy it. The absorption of the animal oil is considerably promoted, and corpulency and fatness effectually prevented. A state of great corpulency is very unfavorable to health. There is scarce any other state which disposes the constitution to be more frequently or more severely afflicted with diseases*.

These

* Cullen's Lectures on the Inst. of Medicine.—Vid. Gaub. Inst. Pathol. § 502, 503, 504, 505, 506, 507, 508.

These are a few of the principal salutary effects of moderate exercise on the human constitution. — Walking is admirably fitted for producing every beneficial change in the œconomy which has been enumerated. It is a natural and wholesome exercise †. — But where the constitution is so much debilitated as to be unable to bear walking without too great fatigue, or where the peculiar nature of a disease renders it less proper, sailing or travelling in a carriage may often be substituted in its place with advantage. These exercises are well adapted to cases of great weakness. They evidently create appetite, accelerate the circulation of the blood, determine to the surface, and promote perspiration. But where the system is vigorous, they are generally found, when used as a remedy, to be insufficient either for restoring or preserving health. Exercise in a phaeton, or in any other carriage where the patient drives himself, is, in all complaints in which the mind is dejected and apprehensive, particularly proper, because the attention is somewhat engaged, and there is less

† Walking determines the blood in particular to the lower extremities, which in some diseases is productive of salutary consequences.

less opportunity of making the malady the subject of meditation.—Exercise on horseback, which is accompanied with considerable muscular motion, is extremely beneficial, and, where it can be used, far superior to the two last mentioned species, for the purpose of giving vigor to the constitution. It is well fitted both for the preservation of health and for the removal of many chronic disorders, especially of those that are attended with a general weakness of the body and the hypochondriac affection. For the patient, from his dejection of spirits, is apt in these complaints to fall into a state of inactivity, which is the most certain method of continuing and increasing them. But the good effects of every different kind of exercise are in all cases the most evident, when the exercise is pursued with alacrity and pleasure. It is a happy circumstance in life, that exercise is often necessary to the performance of business, in which it nearly concerns us to be active. Those exercises, whether attendant on business or amusement, are the most salutary, which are moderate but sufficiently continued; and during the course of which, the person is in natural wholesome postures and breathes a cool pure air. When a patient, of a weak constitution, has been accustomed

customed for some time to gentle exercises, he should, as he gains strength, proceed gradually to make use of those in which greater muscular motion is required *. From the neglect of this caution, many continue in a state of weakness, which, without much difficulty, might at first have been easily removed †. Numbers, conscious of a sense of debility, refrain imprudently from those exercises, which would tend most successfully to restore them to a state of health.

At the same time it well deserves remark, that excess of muscular motion is very pernicious to the constitution. The laborious part of mankind are very apt to run into this error, either from their imprudence, or from the nature of their occupations. Excessive labor debilitates and exhausts the system. In consequence of the rarefaction and increased force of the fluids, it is capable of inducing (especially if any part of the body be weaker than natural)

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* Vid. Boerhaave's Aphor. 28; and Van Swieten's Com.

† When a person first begins to use exercise, he finds himself sometimes fatigued and disordered; but by persevering in the use of it, such effects soon disappear as the constitution recovers its strength and tone.

extravasation of blood, inflammation, rupture of vessels, hemorrhages and numberless other complaints. It excites an unnatural degree of heat, and causes an evacuation of too large a quantity of the fluids, particularly of the ferous kind. It vitiates the nature and qualities of the blood, and greatly disturbs the different secretions. The fat is quickly absorbed and expelled from the body, which therefore appears emaciated. The nutritious fluid is too much wasted, and not properly applied for the nutrition of the simple solids. Hence a defect in the process of nutrition.—Excess of muscular motion is also very apt to give a morbid rigidity to the animal fibres, and to bring on prematurely the effects of old age. It is indeed an observation well founded in fact, that people who use hard labor, especially in their youth, shorten considerably their days, and end them at a period of time, which, with moderate labor, they might in all probability have long survived in health*.

But that error from the excess of muscular motion is frequently the effect of necessity or ignorance. The error of conduct is not less injurious

* Vid. Gaub. Inst. Pathol, § 509, 510, 511, 512.

injurious to health, which arises from the neglect of that salutary degree of exercise or gentle labor, which the laws of the human œconomy have rendered indispensable for preserving it in a state of vigor. An undoubted fact it is, that, from the neglect of exercise, the tone and strength of the whole machine is destroyed and a morbid irritability is induced, with all the unhappy train of symptoms which accompany chronic weakness. The tone of the stomach and bowels is particularly injured, the appetite is impaired, and the proper secretion of the bile and other digestive fluids is impeded. From this cause arise various disorders of the stomach and intestines, with a defect of nutrition. The solids become weak and relaxed. The action of the heart and arteries, and the circulation of the blood grow languid and imperfect. The secretions and excretions are diminished. Plethora and corpulency sometimes occur, which are not unfrequently followed with a diminution of the nervous energy, a general relaxation of the body, and an unhappy train of consequent affections. Of all the glandular bodies, the liver and spleen are the most subject to obstructions from the neglect of muscular motion. In a word, the want of exer-

cise is followed with the reverse of all those salutary effects, which are so justly ascribed to moderate exercise *. Hence men often render them-

* *Haud lætior est illorum sanitas, qui in opposito errore versantur. Nimia quies & potentias motrices, & quæ movendæ sunt, partes in torporem conjicit. Vis musculosa defuetudine contractionis, congesto pingui, languore influxus vitalis, minuitur, suffocatur; articuli, rigescentibus per otium ligamentis, axungia coeunte (222), aptitudinem ad motum amittunt; antagonistæ magis renituntur. Ita neglectus animalis motus demum impotentiam parit.*

Plus tamen damni et humorum circuitus ob hanc causam patitur; ut qui solis commissus vitæ viribus, extraneis destitutus suppetiis, (507) per vascula minora primum, dein per universum systema languescit: Unde humorum stagnatio, accumulatio, inviscatio, caloris nativi imminutio, secretionum ac excretionum impedimenta, & quæ ex his oriuntur, mala quam plurima. Ex hoc fonte igitur polychymia (385), plethora (387, obesitas (394), profluunt, quæ sarcinis corpus gravant firmarum partium mole ac vi majoribus. Plenitudini cito succedit cacochymia iners, glutinosa (283), aquosa (287), frigida, universum corpus inundans, qua laxum, molle, flexile (160, 162), solidis inducitur, vis vitalis torpet (196, 198), vigor nerveus perit, colluvies serosa, leucophlegmatia, hydrops varius, pigritia ad motus, sensuum hebetatio, *απαισθησία*, omnium functionum suffocatio tandem nascitur,

Præ ceteris pessime afficiuntur, quæ abdomine continentur, organa primæ digestionis; maxime si etiam prono corpore sedenti comprimantur, atque alimenti copia & qualitas haud respondeat vitæ desidi. Namque respiratione vegeta, motu
externo,

themselves unfit for truly enjoying those pleasures of life, by which the Author of nature intended to promote their happiness, and to excite them to industry and activity. They also make themselves disqualified to act vigorously and successfully in their respective stations of life, in which it was even their duty to have been more prudently attentive to the preservation of their health. They not only injure themselves, but unhappily entail on their posterity the sad effects of their indolence. But if men will not be active to preserve their own health and do justice

externo, succussione, non adjuta in opere suo tardant, alimentum imperfecte coquant, lente propellunt, mora longiore corrumpi sinunt, utile haud satis emulgent, nec depurant, faeces accumulunt: Unde omne genus vitiorum chyli (323 ad 332), ructus, flatus, spasmus, anxietas, alvus tarda & tumens, anorexia, universae officinae infirmitas, menstruorum inertia, degeneratio varia, mesenterii vasculorum obstructio, aliaque innumera mala nascuntur. Ingens praeterea succorum multitudo, qua viscera illa perfunduntur, solis eorum viribus, extranea ope destitutis, haud satis promoveri potest: languet ergo circuitus; fit humorum congestio, stagnatio; sanguis tarde redux, rarius pulmonum aere animatus, nec vigore cordis incitatus, in vappam abit, infarcit venae portarum systema, splenem, hepar, cetera. Nec mirum adeo bilem denique vitari, (372) cacochymiam, scorbutum, cachexiam, icterum, hydropem, malum hypochondriacum, & alios id genus morbos inde produci. Gaub. Pathol. Instit. § 513, 514, 515.

justice to themselves, it will be in vain to attempt to convince them of their error, by reminding them of the injuries done to their posterity. The neglect of exercise is particularly hurtful to children; in consequence of which the tone and vigor of their constitutions is often miserably destroyed. Often too women at the most critical periods of their lives, from certain erroneous notions which they have ignorantly embraced, injure materially their health by leading too sedentary a life. By this means they render that weakness real and great, which before was in fact much less than it appeared to the patient through the deceitful medium of the imagination.

The exercise of the mind ought not to be neglected. From want of culture, the mind loses its tone and energy. By exercise, it becomes stronger, more active and clearer in its judgments. The moderate use of our mental faculties not only heightens their own powers, but has also a very salutary effect on the nervous system. It stimulates, invigorates, gives appetite, promotes perspiration, and facilitates the performance of different functions of the œconomy. But violent mental exertion, on the contrary, is very detrimental to health.

We

We may therefore conclude with observing, that the fixt laws of Nature cannot be violated with safety. She has so framed our constitutions, as absolutely to forbid us to be inactive. If we dare refuse to comply with her injunctions, we shall certainly inflict the severest punishment on ourselves. If we wish for a perfect state of ease, we ignorantly wish for a perfect state of insipidity or unhappiness. That man pursues at least one fair means of enjoying the blessings of life, who improves the powers both of body and mind, and preserves them in vigor, by a moderate exercise of both *.

* Fordyce's Elem. of Practice, p. 123.

S E C -

We may therefore conclude with observing that the law of Nature cannot be violated with safety. She has to punish our contrivances, as absolutely to forbid us to be inactive. If we have refuse to comply with her injunctions we shall certainly inflict the severest punishment on ourselves. If we wish for a perfect state of ease, we ignorantly wish for a perfect state of indolence or inactivity. That man pursues at least one fair means of enjoying the picture of life, who improves the powers both of body and mind, and preserves them in vigor by a moderate exercise of both.

• Seneca's Epist. de Providentia, p. 122.

ST C

SECTION VI.

O F

S E D A T I V E S.

SE D A T I V E S are such medicines as tend to diminish the animal energy, and consequently the action of muscular fibres*. They constitute a class of very powerful remedies, the abuse of which is capable of producing the most pernicious effects. Hence the necessity of a cautious attention to the mode of their operation, and to those conditions of the system which require or contraindicate their use. Many of the remedies, which have been before treated of, are truly sedative in their effects, but the consideration of the abuse of those shall not be here resumed. I mean to speak of the abuse of such remedies only as are more particularly

* "The means of diminishing the mobility and vigor of muscular fibres are called sedative powers." Cull. Inst. of Med. p. 64.—Elem. of Therapeutics, p. 265.

cularly comprehended under the term Sedative. Nor even with this limitation shall we find that word correctly applied. There are very few, if any substances, whose action is purely sedative.—Previous to their sedative operation, several individuals of this class have frequently a stimulant effect on the system; in consequence of which they are apt to increase the action of the heart and arteries. Wine, spirits, opium, &c. are evidently possessed of this power. They are capable of exhilarating the mind, of quickening the circulation of the blood, of promoting the cutaneous excretion, and increasing the heat of the body and the rarefaction of the fluids. After their stimulant effect, these remedies, if given in a sufficient dose, operate as sedative. Their sedative power discovers itself by weakening the action of the nervous system, and consequently of the heart and muscular fibres in general. During their operation, the sensibility of the nerves is diminished, but particularly of those that are distributed on the part to which the sedative is applied. A general sense of heaviness and debility is at length brought on, and is frequently followed by sleep*. If the dose be large enough, the

* Such is the effect of powerful sedatives.

the sleep induced will terminate in lethargy and death*.

The combination of such opposite powers has rendered it extremely difficult to ascertain with correctness the proper use and real effects of these remedies. From this cause a great diversity of opinions has arisen, not only in regard to the general theory of their action, but concerning even the propriety of their administration in numbers of diseases. Their stimu-

L 1 2 Iant

* Lect. on the Mat. Med. p. 331, 332. "The effects of opium are these. First a frequency of pulse, after which the body is sensibly warmed, generally with a redness and flushing of the countenance. While these effects proceed, a serenity of mind ensues, and a lively imagination, which, when it occurs, is almost constantly of the cheerful and pleasurable kind. To these, in particular persons, often succeed chagrin, irritability and irascibility. By the time that these become remarkable, the senses appear imperfect, &c. The imperfection of the senses proceeds to a total want of sensibility, which ends in stupor and appearance of sleep. Under this, the pulse is pretty constantly full and frequent, though varying in different persons. During the sleep a sweat takes place while the other secretions are sensibly diminished. After this the person is awaked, and if no other stimulus takes place, he is attended with a sense of coldness and weakness. Such is the series of phenomena, which plainly points out a mixture of stimulant and sedative."

lant effects have often passed unnoticed, and have been by some questioned or denied.

Under this class are comprehended, not only sedatives of a mild nature, but many active narcotic medicines, such as opium, hemlock, henbane, nightshade, &c. Few of these however are in general use as sedatives. I shall therefore confine myself to speak only of the abuse of Tea, Coffee, Tobacco and Opium.

We shall begin with the abuse of Tea and Coffee, which shall be considered together. Some of my readers may perhaps be rather surprised to find those two vegetable matters, which they have been accustomed to think perfectly harmless, classed among such active poisonous remedies. But mild as they may be thought, it had been far better for mankind if the use of them had never been known. Though they are possessed of a sedative power, which is small in comparison with that of many other substances; yet in consequence of the frequency of their use, they have proved upon the whole far more pernicious in their effects, than many strong deleterious sedatives, the use of which in practice has been confined to a few particular cases.

Tea

Tea and coffee, especially when taken too freely, are hurtful to the nervous system *. They are in fact found capable of producing indigestion, acidity, heartburn, spasmodic pains of the alimentary canal, watchfulness, tremors of the hands, feebleness, irritability and dejection of spirits. The heat of the water, in consequence of its relaxing quality, adds undoubtedly to their ill effects; but these effects cannot be justly attributed to the warm water alone †.

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* Percival's Essays, vol. I. p. 129. "Tea, when received into the stomach, is highly debilitating and relaxant, and the immoderate use of it is attended with the most pernicious effects."

"In delicate habits, coffee often occasions watchfulness, tremors, and many of those complaints which are denominated nervous. It has even been suspected of producing palsies, and from my own observations I should apprehend not entirely without foundation. Stare affirms, that he became paralytic by the too liberal use of coffee, and that his disorder was removed by abstinence from that liquor." Ibid. Vol. II. p. 128.

† Speaking of tea and coffee, Dr. Cullen observes, that "The weakening the tone of the stomach by frequent use, weakening the system in consequence, inducing tremors and spasmodic affections, are the effects of the tea itself, though in some measure also of the warm water. This applies to tea chiefly.

Although on particular occasions tea and coffee, in consequence of their sedative power, be found to relieve the symptoms of head-ach, spasms, indigestion, &c. yet, like spirits rendered habitual, they only palliate for a moment those morbid affections, which they at first induce and afterwards continue to support. In this effect, the action of these vegetables bears some resemblance to that of emetics, purgatives, blood-letting, &c. all which tend to relieve the very disorders they have occasioned.

The general consent of the most able and experienced physicians may be alleged in proof of the pernicious sedative action of tea* and coffee.

The

chiefly. I have a stomach very sensible, which I have found to be hurt by tea, which I attributed to warm water; but, having used some indigenous plants with the same heat of water, I found no harm ensue, and this I have repeated above fifty times.—Many others I know who have had the same experience. The same effects are not so remarkable in coffee, but still experience shews them to be of the same nature.” *Lect. on Mat. Med. p. 358.*

* *Vid. Percival's Essays, Medical and Experimental, vol. I. p. 135.* “An ingenious Physician, who has done me the honour to adopt my sentiments, and to quote my arguments against the use of tea, in his *Inaugural Dissertation*, published at Leyden, 1769, has confirmed my testimony by the following

The fact indeed can hardly be disputed. I have often been myself a witness of the ill effects here

lowing experiments. "He injected into the cavity of the abdomen, and into the cellular membrane of a frog, about three drachms of a highly scented, and pellucid liquor, which exhibited no signs of astringency, nor had any oil floating on its surface, distilled from half a pound of fine hyson tea. In twenty minutes the hinder extremities of the frog were strongly affected, and continued so four hours, whilst the animal remained in a torpid, insensible state upwards of nine hours, and then recovered by degrees its former vigour. He made the same experiment with the *residuum*, left after distillation, which produced no sensible effect."

"He applied to the ischiadic nerves of a frog, when laid bare by dissection, and to the cavity of the *abdomen*, the same scented, distilled liquor mentioned above. In half an hour the hinder extremities became totally paralytic, and about an hour afterwards the frog died. The *residuum*, after distillation, was applied to another frog under the same circumstances, but seemed to produce rather an astringent, and stimulating, than narcotic effect. He prepared an extract from this *residuum*, which being dissolved in water, and used in a similar manner, had no visible operation."

"These experiments demonstrate, that the pernicious effects of tea depend on its more volatile parts, which are dissipated in a great degree by long keeping, by hasty drying, or by reducing it to the form of an extract. I have seen and tasted of such an extract, made in the East-Indies, which though bitter and astringent, was by no means unpalatable. A preparation of this kind, dissolved in hot water, would be a good substitute for the leaves of the tea plant."

here mentioned. I have seen a strong infusion of tea repeatedly produce indigestion, tremors, and dejection of mind, when warm water has had no such effect. In many nervous disorders where the system is weak and irritable, these sedatives are particularly injurious. Though there are some constitutions so robust, as not sensibly to feel the effects of their sedative quality; yet the same argument might be alleged with equal ingenuity in favor of the habitual use of opium, spirits, and many other remedies possessed undoubtedly of noxious powers.

An unlimited abuse of Tobacco has very universally prevailed among mankind, in spite of the acrid burning taste and strong disagreeable smell which it possesses *. Tobacco, although in its first operation it is stimulant, is afterwards found frequently to act as a powerful sedative on the brain and nerves. In consequence of these qualities, it excites, when taken into the stomach, vomiting and purging, and greatly disorders the nervous system. — Made into an ointment and rubbed on some parts of the skin, it has been productive of

* Lewis's Mat. Med. p. 390.

of indigestion, sickness, giddiness, head-ach, dejection of spirits, and want of rest.—Employed in the form of snuff, tobacco stimulates the olfactory nerves, and increases the secretion of mucus from the nasal membrane. If the person be unaccustomed to its use, it occasions sneezing; but afterwards acting as sedative on the nervous system, it often produces loss of appetite, vertigo, stupor, sickness and vomiting.—If the leaves of tobacco be chewed, or if the smoke of it be applied to the nerves of the mouth, the effects are similar to those which are excited by the powder employed as snuff; with this difference chiefly, that there is a copious discharge of saliva, instead of an increased secretion of mucus from the nostrils.—From these facts it appears that tobacco, in whatever manner it is used, proves itself to be possessed of deleterious narcotic powers, fitted to destroy the functions of the nervous system*.

Sir John Pringle, whose judgment and accuracy of observation is confessedly great, informed a physician, an intimate friend of mine, who was much addicted to the use of snuff, that, during the course of a long and extensive practice, he had frequently found the sedative quality of

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tobacco

* Lect. on the Mat. Med. p. 355.

tobacco highly injurious to health. He has had the strongest reasons to believe, that it has produced weakness of the nerves, tremors of the hands, loss of memory, and sometimes even slight paralytic affections. On several occasions, I think, I have found these observations strictly true. Tremors of the hands in particular seem to be a very common effect of the liberal use of tobacco.

We may observe too, that, in spite of all precaution, part of the plant, when chewed in the mouth or used as snuff, will in all probability pass into the stomach, where its operation will be powerful in destroying the tone of that organ, in disturbing digestion, and of course weakening the whole system. The use of tobacco therefore is particularly contraindicated in the disorders of the stomach and bowels.

Under this article, I would just hint at the well-known fallacious argument, which some advance with obstinacy in defence of a habit they are resolved to continue. But we may observe, that, although a few constitutions are able to bear, with apparent impunity, the sedative powers of tobacco, yet this fact, as
was

was intimated in regard to the habitual use of tea, spirits, bleeding, &c. affords but a weak proof in favor of its general use.

Opium is undoubtedly the most important sedative yet known to the practitioners of medicine. It is a remedy no less powerful in its operation than general in its use, and therefore daily productive of much good or evil, according to the propriety or impropriety of its administration.

I have said it is frequently stimulant in its first operation, but afterwards proves sedative. The remarks which have been made on the general effects of sedative medicines, are all applicable to opium. By the use of it, we are able to cure or palliate an infinity of disorders. Opium is a sovereign remedy for removing irritation and all inordinate motions of the nervous system, as well as for mitigating the agonies of excruciating pain. Without opium, or some other remedy of similar virtues, the art of medicine would be extremely defective.

Yet, valuable as it is, no remedy has been more universally abused. It is frequently

given without Necessity. A habit by this means is established, which is extremely pernicious to health. The Turks are amazingly addicted to the use of opium. They find its temporary stimulant effects, cordial and refreshing; giving new life and vigor, and in consequence of habit, becoming necessary to support their strength. Numbers among ourselves, having unhappily fallen into the same absurdity of conduct, have experienced the same effects, resulting from the compound action of the stimulant and sedative power of opium. I know several persons, who have rendered the cordial virtue of opium habitual, and in some measure necessary for the temporary support of their strength. Those who have accustomed themselves to the use of opium in the place of a dram, are obliged considerably to increase their dose, if they would obtain from it any evident sedative effect. Many have fallen at first into this pernicious habit from the needless, yet too frequent practice, of taking opium as a medicine on account of some trivial complaint, which did not require such serious treatment. In this case, however, the practitioner is more generally in fault than the patient; because the latter having been improperly advised to begin the practice, imagines himself

himself often obliged to persevere in it. By this means the force of the habit is increased, and the patient is led on ignorantly to continue the abuse of opium.

Such a prostitution of so valuable a remedy is often followed with the most serious effects. The continued use of opium tends to destroy the tone of the nervous system; to induce debility, tremors, spasms, morbid irritability, hysterics, the hypochondriac affection, and all the numerous symptoms referable to chronic weakness*. Yet notwithstanding these pernicious effects, opium affords almost instant temporary relief to those very morbid symptoms, which it has occasioned and is able to increase. This circumstance, in spite of experience, confirms many in an erroneous practice. Opium, like all other active remedies, should only be employed in cases, where, to avoid a greater evil, we would cheerfully submit to undergo a lesser one.

I proceed to the Neglect or Imprudent Use of opium in disorders; and hope it will appear that I am much more desirous in this, as in every other

* Lect. on Mat. Med. p. 331.

other instance, to ascertain those changes of the system, which really take place in consequence of the action of a remedy, than curious to know how they are effected.

Before I enter into particulars, I would observe in general, that opium, if given in too small a dose, is very apt to disappoint us in its operation, acting often rather as stimulant than sedative, increasing instead of diminishing irritation, and promoting watchfulness and anxiety instead of procuring sleep and ease.— If taken in too large a dose, the consequences are still worse. For though it may operate as sedative, yet its effects are too considerable, causing a sense of great weakness and oppression. In this situation, the patient, especially if he be nervous and apprehensive, is apt to be alarmed, to pass a restless night, to sweat profusely, to feel faint and dejected, and, tho' he obtain some sleep, to wake in the morning affected with tremors, giddiness, anxiety and sickness. The proper dose must be regulated not only by the nature of the complaint, but by the patient's age, sex, temperament and habit of body. One drop of laudanum, given to an infant of two or three months old, is as considerable in its effects as twenty drops of lau-

laudanum or a grain of opium to an adult who is not accustomed to its use.

After this general remark, we begin with the consideration of the abuse and neglect of opium in Fevers.

Opium has very often been prescribed in these disorders, where it ought to have been cautiously avoided; and as often neglected, through a needless timidity, where the use of it was evidently indicated. I shall point out those symptoms and combinations of fevers, which regulate the practice with regard to opium, and contraindicate or require its sedative power.

In consequence of its stimulating quality, opium is to be employed with caution in all inflammatory diseases, especially where the inflammatory state is strongly prevalent. In the inflammatory fever and in the beginning of the synochus, when the action of the vascular system is strong and the impetus of the blood and the heat of the body are increased, it is the established opinion of the most experienced physicians, that we should in general avoid the exhibition of opium.

If

If topical determination and inflammation should supervene on a fever, or if delirium, connected with plethora, should arise from an increased force of the blood in the vessels of the brain, opium is undoubtedly improper. At the same time it is believed, that the prejudices against the use of opium in inflammatory diseases have been carried to a length hardly justifiable by experience *. For there are many disorders in which the inflammatory state of the habit prevails, and yet where opium is given with evident advantage. I shall afterwards have occasion to give instances of this nature in the small-pox, the measles, the catarrh, the rheumatism, &c.

Just before the paroxysm of an intermittent, or rather at the beginning of the cold or of the hot fit, an opiate, after the removal of plethora by bleeding, is very properly prescribed. It moderates the symptoms of the whole paroxysm, shortens its duration, determines to the surface, solves cutaneous spasm, and promotes a warm, gentle, universal sweat, which is in general as much the natural crisis of the disease, as a profuse one is the pernicious effect of the hot

* Gregory's Lect. on the Practice.

hot regimen. Notwithstanding some inflammatory symptoms should continue, we do not scruple in this case to exhibit opium.

Tho' it be the present established practice to avoid opium in continued fevers, while any inflammatory symptoms remain; yet when these are removed, there are many stages of continued fevers which admit of very evident relief from the stimulant, sedative, and antispasmodic powers of opium. The use of it in such complaints should be regulated in some measure by those principles, which have been advanced relative to the use of wine*. Yet it must be confessed that the proper management of opium is more nice and intricate. We cannot so successfully divide the doses of opium as we can those of wine, though we are often tempted in ambiguous cases to make trial of the remedy in that way, when we dare not venture to prescribe it in a full dose.

We have said that debility often disposes to irritability. This fact is particularly true in regard to febrile disorders. In nervous and putrid fevers we very often meet with the

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* Lect. on Mat. Med.

complication of irritability and great prostration of strength. In such cases, opium is frequently indicated, and, on account of its united powers, it is often singularly proper and efficacious, not only as stimulant for obviating debility, but as antispasmodic for removing the constriction of the extreme vessels, and as sedative for lessening the symptoms of irritability. If the nervous system labor under a high degree of irritation not of an inflammatory nature, opium is one of our principal remedies. In fevers in which there is starting of the tendons, anxiety, watchfulness, low delirium, convulsive or spasmodic affections, and other symptoms of irritability, but unattended with any topical inflammation, opium is employed with great success. In the maniacal delirium, which should be accurately distinguished from the phrenetic, opium is highly serviceable. In this case, the remedy, in order to obtain its most beneficial operation, should be given in large doses*. How little to be commended is that practice, which at such critical periods of so dangerous a disease, neglects the most powerful means of cure, and substitutes

* Cullen's and Gregory's Clinical Lectures.

substitutes in their place small doses of camphor, valerian, saffron, contrayerva, snake-root, or any other selected from such a rude heap (I had almost said) of useless medicines.

Opium, by moderately exciting the action of the heart and arteries, tends to promote perspiration and to solve the spasmodic constriction of the extreme vessels with greater safety than any stimulant which is less antispasmodic. It is found by experience, that in the latter stages of fevers without inflammatory symptoms, opium may with propriety be used with more freedom than was formerly imagined. Nothing indeed has proved a greater hinderance to the advancement of medical science, than general rules admitted as true, but unsupported by facts. In many compound remedies called alexipharmic, that were so much in use among the ancients, opium was the chief ingredient on the action of which the efficacy of the whole principally depended. But we can hardly suppose it probable that those alexipharmics, notwithstanding the imprudent admixture of inflammatory stimulants, were never employed with beneficial effects. Experience contradicts such a supposition.

I would further observe, that, in epidemic fevers of an infectious malignant nature as well as in the plague itself, in which it is prudent on account of their uncommon violence to attempt the cure by sudorifics, opium is one of the safest and most effective for the purpose of fulfilling that indication. The medicine, it is thought, would be improved, if given in conjunction with neutral salts and emetics, as in the useful composition of Dover's powder. Such an addition, which is perfectly safe, seems to diminish the sedative power of opium, but to increase its antispasmodic power, by determining the blood more copiously to the surface and promoting the cuticular discharge.

Whenever a symptomatic diarrhæa occurs in fevers, which is not critical nor attended with any relief of the symptoms, opium, when the stomach or intestines are not affected with inflammation, may be properly prescribed, particularly in the advanced stages of the disease, when the constitution is greatly debilitated and apt to sink under the evacuation.—If an inflammatory tumor, tending to suppuration, appear in the lymphatic glands or in any other external part of the body, opium may be required to mitigate the pain, which, when attendant

tendant on such inflammations, is capable of giving a dangerous irritation to the nervous and vascular systems. Such inflammations are sometimes critical in fevers; and opium greatly facilitates their progress to suppuration. — If catarrhal symptoms be complicated with a fever, if the lungs be irritable and the cough severe, without a peripneumony or any considerable hardness of the pulse, opium is often extremely serviceable, in lessening the irritability of the lungs and easing the cough. — When a favorable crisis has taken place, and the patient is convalescent, but oppressed with symptoms of irritability, anxiety, and watchfulness, opium acts as a strengthener, procures sleep, and hastens the recovery*. To avoid inducing a habit, we ought to omit the use of opium as soon as we prudently can, though we shall frequently see the patient solicitous to continue a remedy which he has found so truly cordial and refreshing.

In Topical Inflammations, the use of opium is generally prohibited. Physicians are agreed that its operation in such disorders has often aggravated the symptoms of inflammation, and been followed with pernicious effects.

* Pringle's Obser. p. 132.

fects. This observation, as far as is yet ascertained by experience, seems well grounded. The stimulus of opium, by accelerating the circulation of the blood, tends to increase inflammation. Its sedative power, if obtained to such a degree as greatly to diminish the reaction of the heart and arteries in general, and of the arteries in particular of the inflamed part, might too much interrupt those salutary efforts of nature, which, founded on a law of the constitution, cannot with safety be thus suddenly checked by art. In the natural cure of disorders, nature resembles a wise experienced ruler, who will with pleasure admit of friendly aid, but cannot bear to be insolently controuled. In the inflammation of the brain, of the lungs, of the alimentary canal, &c. opium cannot in general be employed without manifest danger. In consequence only of its antispasmodic and sudorific powers, is that danger rendered less.

Such is the general state of facts with regard to the use and abuse of opium in this order of diseases. There are however particular cases of inflammation, where opium is found serviceable, and the neglect of it justly considered as the effect of ignorance and an abuse of medicine.

dicine. Some of these I shall endeavour to point out.

In external inflammations, tending to suppuration, violence of pain, as in the inflammatory tumors attendant on fevers, indicates frequently the use of opium. Its complicated operation will promote suppuration and mitigate the pain. But where we wish to avoid suppuration, the success of the remedy is somewhat dubious. In disorders arising from the inflammation of an internal organ, suppuration is often as fatal as gangrene and effusions of blood into the cellular membrane.

In the inflammation of the eye, nothing can indicate the use of opium except violent pain and want of sleep. After proper evacuations, those symptoms indeed require sometimes the soporific virtue of opium, to prevent consequences which might otherwise prove dangerous and alarming. This inflammation very rarely terminates in suppuration; therefore we need less regard the suppuratory effects of opium. By this means the constitution is preserved, and sleep, which is very serviceable to an inflamed eye, is procured. But we ought
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in this, as in all other complaints, to continue the use of opium no longer than is absolutely necessary.

In the ulcerous fore throat, the fever is of the nervous and putrid kind. Though the topical inflammation hardly ever requires the exhibition of opium, yet the attendant febrile symptoms may sometimes render it proper. The method of giving it at such conjunctures, may easily be ascertained from the observations made on its use in fevers. Whether or no is the antispasmodic power of opium indicated in the croup, when spasm supervenes on inflammation and threatens suffocation?

In the pleurisy and inflammation of the lungs, opiates cannot be admitted till towards the decline of the disease. But when the symptoms of inflammation are much abated, and the patient, having been weakened by the disease and the repeated losses of blood, finds himself restless at night, and troubled with a sense of irritation in his throat, along with frequent coughing and a difficult expectoration of a thin acrid matter, opiates are administered with the greatest advantage. They
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mitigate the anxiety, ease the cough, procure sleep, and, in consequence of causing a temporary diminution of the irritability of the lungs, favor a free copious expectoration of viscid phlegm.—On the same principle may be explained the great utility of opium in the catarrh; in which disorder, after the removal of plethora, it ought, when indicated, to be prescribed with freedom.

In the inflammation of the kidney, not complicated with calculous concretions in that organ, opium is pernicious. But when the irritation of a stone tends to excite and support the inflammation, no remedy is more proper than opium to diminish that irritation and consequently its effects. In the first case, copious bleeding is required. In the second, we may be more sparing of the vital fluid. The distinction therefore of this disorder, as produced by different causes, is sometimes very important. This distinction will be best founded on a consideration of the hereditary temperament of the patient, the previous state of the kidneys relative to calculous affections, and the manner in which the inflammation began. For the stone is an hereditary disease. The melancholic temperament, especially at the decline

of life, is very subject to calculous complaints. If the person has been formerly afflicted with symptoms of the stone, we may justly conclude that calculous concretions in the kidneys have contributed greatly towards the production of the inflammation. The pain, which occurs when this last mentioned cause excites the disorder, begins at first and usually continues some time unattended with fever. But in the original inflammation of the kidneys, the fever is inseparable from the very first attack of the disease.

In the inflammation of the womb, opium very often is imprudently employed; but its effects are always injurious. Difficult labors, and the unfortunate errors so frequently committed in the practice of midwifery, are, as we have observed, the most common causes of this inflammation. Pains in the region of the womb often occur after delivery, the effect either of inflammation or of spasm. A proper distinction being made, the practitioner should remember that though the inflammatory pains are increased, the spasmodic pains are greatly relieved by the use of opium.

In the gout, the abuse of opium has been singularly great. In the beginning or near the height of the regular inflammatory species of the disease, opium cannot be admitted with safety. But towards the decline of the fit, when the inflammatory symptoms have almost entirely disappeared, opium is highly serviceable in abating pain, procuring rest, and shortening the duration of the disease*. — In the misplaced and retroceding gout, where there is an inflammation of the viscera, opium is highly dangerous. But in the irregular gout, attended with a spasmodic affection of some internal organ, as of the lungs, the stomach, the intestines, &c. opium is a remedy, by the efficacy of which we are frequently able to effect the most salutary changes in the state of the disease. But in such cases we should be extremely cautious not to mistake inflammation for spasm, as the error will be highly dangerous.

We pass from inflammations to the abuse of opium in Eruptive Disorders. The fever, which accompanies the eruption, demands the

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* Lect. on Mat. Med. p. 335.—Greg. Elem. of Practice, p. 198, where we find recommended “the cautious use of anodynes in the decline of the paroxysm.”

closest attention. For by the nature and symptoms of the fever, a prudent physician will, though not wholly, yet principally regulate the conduct of his practice. This observation is strictly true with regard to the use of opium.

In the plague, the thrush, and the miliary eruption, where there is a nervous fever or a synochus, opium is employed in the same manner as in those particular fevers.—This remark also is in a great measure just, with regard to the measles and small-pox. In these two eruptive disorders, which are the most perfect examples of their kind, we have recourse to opium with great freedom, even when strong signs of the inflammatory state yet remain in the constitution. After necessary evacuations, opium is found very serviceable in the measles, by facilitating the progress of the eruption, by diminishing the irritability of the lungs, and easing the cough and other catarrhal symptoms *. This practice was successfully adopted by the great Sydenham †. In the small-pox opium

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* Greg. Elem. of Pract. p 88.

† Sydenham Op. sect. iv. cap. 5, p. 198. “Et præ reliquis diacodium omni nocte ab ipso morbi insultu per totum ejus decursum exhibendum curavi.”

is still more particularly indicated, not only as useful for obviating certain symptoms of the fever, but for promoting the due maturation of the pustules, for procuring sleep, and lessening the irritability and foreness of the surface, which are the unavoidable consequences of so many cutaneous inflammations tending to supuration †. I do not recommend the use of opium in the eruptive fever of the small-pox. But about the sixth day of the disease, reckoning from the first attack, we may with the greatest safety and success exhibit this admirable remedy. We should remember that a small dose of opium will be very inefficacious; but that too large a one will stupify the patient and impede the favorable progress of the disease.

In Hemorrhages, as opium through inattention may often be abused, so with caution it may often be advantageously employed.

In the spitting of blood, when the system is plethoric, when the hemorrhage is free and copious, when the lungs are not obstructed with tubercles nor injured by any narrowness in the conformation of the chest, and when a morbid

† Greg. Elem. of Pract. p. 77.

morbid determination of blood to the lungs takes place, opium is a very doubtful remedy. In such circumstances it is hardly to be prescribed with safety, and much less with success. But when plethora is considerably removed, when the topical determination to the breast is diminished, when the blood is expectorated in small quantity mixt with phlegm or purulent matter, when the lungs are obstructed with tubercles which are most frequently of the scrophulous kind, and when the patient is troubled with a constant sense of tickling in his throat, and a painful irritating cough, opium undoubtedly is a proper and necessary medicine *. In such cases, it will often procure rest, quiet the cough, lessen the pain and irritation of the lungs, facilitate expectoration, diminish the hemorrhage, and favor the healing of the ruptured vessels.—In pulmonary consumptions too, the utility of opium may easily be ascertained from what has been observed in regard to the treatment of the spitting of blood. Want of rest and constant coughing are for the most part relieved by opium.

* Dr. Gregory, in his Lectures on the Practice of Medicine, recommended, in this species of the disease, the use of opium.

opium †. Where it agrees with the constitution it is often productive of good effects, either by promoting a cure, or by palliating the symptoms, giving ease, and smoothing the avenues of death.

In the hemorrhoids, particularly when they may be considered as a passive hemorrhage and the effect of costiveness, great pain requires and is relieved by opium.—In that species too of the hemorrhoids, complicated with a descent of the rectum, where the frequency of alvine dejection augments the complaint, opium may be necessary not only to obviate spasm and to procure ease, but sometimes to diminish the number of stools and to preserve a regular state of the body, which is very conducive to the cure. When pain and costiveness are united, and the practitioner finds it expedient to obviate at the same time both those symptoms, opium and a purgative medicine may with great propriety be exhibited together. For the sedative will only retard and moderate the effects of the purgative, but by no means prevent its operation.

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† Greg. Elem. of Pract. § 337.—Monro on the Diseases of Military Hospitals, p. 135.

In the uterine hemorrhage, when it occurs unconnected with a state of pregnancy, accompanied with great pain and a continual discharge, opium after the removal of plethora is often highly serviceable. — If the menses flow in unusual quantity with excessive pain, which is no uncommon occurrence, particularly at the period of life when nature begins no longer to require the regular returns of that evacuation, opium is a very efficacious remedy. When plethora is absent, we may in such cases prescribe it with success.

If flooding should occur during pregnancy, opium sometimes is strongly indicated. But before the practitioner can proceed in the cure of this or any other complaint with a prospect of success, he ought to have cautiously considered its causes. If he be ignorant of these, he will as often injure as relieve his patient by the use of opium. For if plethora have occasioned a flooding during pregnancy, opium will increase the evacuation. If an external injury be the cause, opium is often improper on account of the inflammation that may occur. If debility and relaxation without spasm have rendered the patient subject to the hemorrhage, opium, provided there be no considerable

siderable pain, is not sufficiently indicated. But if the passions of the mind have had a principal share in producing the complaint, or if, whatever be its causes, the disorder is without plethora or any inflammatory state, and attended with a spasmodic affection and severe pain in the region of the womb, opium will often be advantageously prescribed*.

If floodings be connected with labor or with a miscarriage, and the pains be moderate, that practitioner may be thought too officious, who by the use of opium interrupts the progress of nature. But if the flooding be great, if the pain (as I have found it in such cases) be very excruciating, and there be no suspicion of an inflammatory affection, opium is employed in considerable doses with very happy effect. It acts as astringent, anodyne and antispasmodic; it lessens the discharge, promotes the expulsion of the fetus, and mitigates the violence both of pain and spasm. We should however be cautious in the treatment of these complaints, which are among the most dangerous and intricate in the practice of medicine, not to use

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* Dr. Young's Lect. on Midwifery.—Dr. Mackenzie's Lect. on Midwifery.—Lect. on Mat. Med. p. 348, 349.

opium or any other remedy to the neglect of the more serious and important assistance from the art of midwifery, which the symptoms of the case often indicate as necessary, and experience proves to be highly useful.

We come now to give an example or two of the abuse of opium in Nervous disorders.

In weaknesses of the stomach and in hypochondriac affections, opium should be employed with great reserve. Spasmodic pains however of the alimentary canal, so very common and troublesome in those disorders, are best relieved by opium. Frequent vomiting and great watchfulness may also require occasionally the same medicine.

In the chlorosis, opium is sometimes proper on the same account as in weaknesses of the stomach. It is indicated likewise for the purpose of lessening the severity of pain in the region of the womb, which arises in this case from the distention and spasmodic contraction of the uterine vessels. This pain, which is often a favorable symptom denoting a salutary effort of nature, admits of relief from
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the use of opium. If the menses flow with pain and difficulty in consequence of a spasmodic affection of the uterus, opium tends to give ease, and to promote the natural evacuation. If spasmodic pains of the womb precede the true labor-pains for any length of time, or continue to recur after delivery, they may often be mitigated or removed by opium. Spasm however must in this case be cautiously distinguished from inflammation.

In the epilepsy, in the locked-jaw, in convulsions or in the tetany, opium is often employed with singular advantage. In these cases, we are frequently necessitated to use it in very large doses, otherwise we lose its beneficial effect. A child three months old, afflicted with convulsions, may safely take three or four drops of liquid laudanum in a day *. To an adult in the locked-jaw or in the tetany, four grains of opium or eighty drops of laudanum, or even a considerably greater quantity, may be given in the space of twenty hours †. A common dose

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* Dr. Hunter, Professor of Anatomy.—Dr. Young's Lect. on Midwifery.

† Dr. Hillary in his Observations on the Diseases peculiar to the West-India Islands, &c. recommends from gr. vi.

of opium, while the system labors under such a morbid state of excitement, is perfectly useless.— In cases of the habitual attacks of the epilepsy or of partial convulsions, more moderate doses will suffice. But in these, as in many other nervous disorders, if we find upon trial that the complaint is not relieved, it is absurd to continue the use of opium; for if it be unnecessarily employed, it will, as I have before observed, weaken the constitution, increase irritability, and favor the more frequent recurrence of the fits.

In the spasmodic asthma, which is a nervous disorder accompanied with great irritability of the lungs, opium, while plethora subsists, is prescribed with danger; but when plethora is absent, it is an useful remedy. During the time of its operation, it diminishes the irritability and spasmodic contraction of the air-vessels; mitigates the cough; lessens the pain, anxiety and difficulty of breathing; shortens the

to gr. xx. of Extract. Thebaic. to be given in the space of twenty-four hours according to the exigency of the case. He never found that such large doses of opium produced any stupor or great disposition to sleep. P. 232, 233.

the duration and facilitates the cure of the asthmatic fit.

In the colic, attended with obstinate constipation, vomiting may sometimes be mitigated or removed by opiates. For this purpose, we exhibit the opium a little before the purgative, or in conjunction with it*. It is worth observing too, that as there is always a spasmodic constriction of the intestines in this disorder, opium, when there is no vomiting, is often administered with propriety as sedative and antispasmodic †. I need not repeat, that colic pains, when they occur as a symptom of debility in the alimentary canal without costiveness, are relieved most successfully by the same remedy.

In the cholera and diarrhæa, opium is often of great use, in removing sickness, easing spasmodic pains, diminishing the increased peristaltic motion of the intestines, and lessening the quantity of the evacuation. In consequence of this last effect opium will often be found beneficial,

* Hillary's Observ. on the Dis. of the West-India Islands, &c. p. 192.

† Ibid. p. 191.

ficial, in preserving the strength of the system; and in warding off the dangerous excess of debility that frequently occurs in those disorders. I have already taken notice of the abuse of purgatives in the diarrhæa, which are so often prescribed on trivial occasions without even the smallest colorable appearance of an indication for their use. But opiates on the contrary may, both in the cholera and diarrhæa, be given with more freedom and success than has generally been imagined, especially when spasmodic pains and great evacuation occur. Yet it deserves remarking, that if a diarrhæa be critical, the consequence of a salutary effort of nature to free the constitution of something morbid, whether acrimonious or superfluous, opium by checking the discharge is hurtful to the constitution.

In maniacal disorders, though arising from different causes, large doses of opium during the height of a paroxysm are often requisite. Without these we should in vain attempt to calm the storm produced by so great an excitement. Astonishing it truly is to observe, how small an effect is produced even by a very considerable quantity of this most powerful sedative. For doses which indeed

deed at other times would dangerously disturb the functions of the œconomy and particularly those of the nervous system, shall during the violence of a fit of madness be scarce productive of the smallest change. But as so great an excitement powerfully exhausts the system, we ought to use every prudent means either to remove it at once, or to moderate its excess and shorten its continuance. Opium therefore is strongly indicated, and found of singular utility in the cure of madness; a disease in which it is believed there is the greatest room for real improvements in practice. But improvements will only be made in proportion as the treatment of the complaint shall be undertaken, in an extensive manner, by the united power of parts, industry, and medical erudition.

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SECTION VII.

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T O N I C S.

TONICS act by increasing the tone * and vigor of the system. Several of the individuals, of which this class of remedies consists, have been already mentioned under the head of stimulants; and many are not sufficiently important to require a separate consideration. In this section, it is intended only to treat in general of the abuse of Cold Bathing, of Metallic Tonics, of Bitters and Astringents, but in particular of the Peruvian Bark.

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Tonics

* "In living and healthy animals, the muscular fibres have a constant tendency to contract; and this tendency we call their tone or tonic power. Cullen's Inst. of Med. p. 68.

Tonics increase the firmness and cohesion of the simple solids, as well as the tone and energy of the moving fibres. All tonics of a vegetable nature, and many from the mineral kingdom, are antiseptic, tending to prevent or to correct the putrefaction of animal substances. Astringents, applied to the tongue, occasion a constriction of its vessels, which is a strong proof of their tonic power. The bark of the oak and some other individuals of this class, are capable of producing an evident condensation in dead animal fibres; a quality of such great importance in the art of tanning*.

If a tonic act upon the external surface, as for instance the cold bath, the effects of it are readily propagated to the most interior parts. If the peruvian bark be taken into the stomach, we have great reason to believe, that its action on that most important organ may, by consent of parts, be easily communicated over the whole system. Tonics increase the tone of the stomach and bowels; they give appetite, moderate the process of fermentation, prevent

* Elem. of Therapeutics, p. 223, 231.

prevent morbid acidities, promote digestion, assimilation and nutrition. If costiveness arise from weakness of the alimentary canal, tonics tend to remove it. If a diarrhæa occur from irritability and relaxation, they check the discharge by directly obviating the cause. If colic pains, loss of appetite, frequent vomiting, palpitations of the heart, dejection of spirits, obstruction of the menses, defective perspiration, &c. are the consequences of weakness and mobility, no remedies are so well adapted for the removal of those morbid affections. In all cases in which evacuants are to be avoided, tonics may generally be employed with advantage. Hence the danger and fallacy of that doctrine, which persuades the practitioner to consider evacuations of one kind or another to be for the most part proper in the treatment of disorders.

Yet valuable as tonic remedies are, the Unnecessary Use of them is both dangerous and absurd. The art of medicine can add nothing to perfect health. From the frequent and needless use of them, tonics lose their efficacy and are found much less serviceable when really required. But this is by no means

the worst consequence of the abuse. They tend to bring on a rigidity of the animal fibres. Bitters too in particular and the peruvian bark, if imprudently taken for a long time without intermission, have been found in fact to have impaired or even destroyed that tone of the system, which the prudent administration of them so greatly increases and supports*.

Having made these few observations on tonics in general, I shall descend to particulars; but in order to render this interesting subject somewhat limited and free from endless restrictions, I shall single out by way of an example the Peruvian Bark, a tonic which is the most important and the most efficacious. In regard however to the treatment of those morbid states of the body, where any other tonic is very liable to be improperly employed or neglected, we shall not intentionally omit any observation that may prove in the least useful; unless, being evident, it follows of course from what shall have been previously advanced.

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* Dr. Cullen's Lectures on the Practice.—Lectures on the Mat. Med. p. 280, 281.

In Fevers, the peruvian bark is frequently abused. For as it increases the tone of the system, it is found injurious in all those stages of fevers, where the tone is already too great. In general, therefore, we cautiously avoid the use of it in the inflammatory fever, in the hot fit of an intermittent, in topical inflammations, and wherever the action of the heart and arteries is morbidly increased. — At the same time we may observe that this valuable remedy is often neglected in those stages of febrile affections, in which the use of it is highly necessary; and that when it is given, the mode of its administration is frequently so injudicious as to disappoint not only the practitioner, but his injured patient, who perhaps feels himself at last dissatisfied (if not disgusted) with the only medicine, which, prudently managed, might have radically removed his complaint.

In the Intermitting Fever, some physicians are of opinion the bark ought to be called a specific. Though in this case we would avoid the use of that term, yet we may undoubtedly advance from experience, that it is a sovereign remedy in all such fevers. It is a happy circumstance for mankind, and a strong proof of the great efficacy of this medicine, that so
common

common and obstinate a disorder as the intermitting, is often so quickly, so easily, and so successfully removed by the peruvian bark.

If we take a slight view of the causes and nature of the intermitting fever, the operation and effects of this remedy will appear more evident. Contagion and the vapors arising from low marshy countries, are the principal remote causes of this disorder. Their powerful action is frequently aided by other remote causes, such as exposure to cold, errors in diet, excess of venery, nocturnal watchings, immoderate exercise either of the mind or of the body, considerable evacuations, the neglect of habitual exercise, the depressing passions of the mind, &c. All these remote causes evidently act by inducing debility. But debility succeeded by a spasmodic constriction of the extreme vessels, may, it is conjectured, lay the foundation of the ensuing paroxysm. The great Boerhaave seems to have been somewhat of this opinion, when he affirms, that in part the proximate cause of intermittents is an *INERTIA LIQUIDI NERVOSI*, which implies a debility of the nervous system*. In
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* Van Swieten fully explains the meaning of this passage. He not only proves clearly the presence of debility, but
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confirmation of this important doctrine, we may observe that the intermittent fever begins with the most manifest symptoms of debility, such as languor, lassitude, coldness, tremor, a weak frequent pulse, &c. all which are evidently the effects of a sedative cause. — By the paleness and dryness of the surface during the cold fit of the fever, a spasmodic stricture of the extreme vessels is most clearly proved to have taken place. To obviate such cutaneous constriction, and to resist the operation of a sedative cause, an effort is made in the system, which is termed its reaction. The native heat of the body, and the strength and frequency of the contractions of the heart and arteries, are increased. The vigor of the reaction, considered exclusive of the cause of the disease, is greater in proportion to the irritability and strength of the constitution. That effort of nature, inexplicable to us, takes its rise from one of the most noble and fundamental laws

likewise evidently hints at the spasmodic constriction of the vessels. *Per illam autem viscositatem, sive lentorem, liquidi arteriosi non intelligitur adeo crassities aucta & major co-hæsiō molecularum sanguinis inter se, sed qualiscunque demum ad expeditum per vasa motum ineptitudo; sive fluidi movendi, sive vasorum continentium, vel virium moventium vitio hoc contingat.* Comment. in Aphor. 755.

laws for the preservation of animal bodies *. In consequence of the reaction, a full determination is made to the surface, the constriction of the cutaneous vessels is overcome, perspiration is rendered free, and the paroxysm is terminated by a warm universal moisture upon the skin. Whether we may consider those two states of debility and spasm, as the proximate cause of intermitting fevers, I will not presume to determine †. But certain it is, that they occur in such fevers; that reaction seems to follow them as an effect; and that all the three states of debility, spasm, and reaction, taken together, are useful as well in the explanation of the symptoms of intermittents, as of the operation of those remedies which are the most conducive to their cure ‡.

After

* Cullen's Instit. of Med. p. 85.

† Nato autem frigore, contractis arteriis, augetur obstaculum sanguini per illas movendo, simulque per venas rediens sanguis cor irritat quidem, sed ob dictas rationes ex corde per arterias libere pelli nequit. Patet ergo, satis probabilem esse illam opinionem, quæ primum paroxysmi febris intermittentis initium, atque ejus causam proximam, statuit inertiam liquidi nervosi, quam brevi sequetur vel et comitabitur illa liquidi arteriosi viscositas, id est, impedimentum liberi ejus motus per vasa, uti modo dictum fuit. Comment. in Aph. 755.

‡ Cullen's Lectures on the Practice.—Gregory's Elem.

After these few remarks on the out-lines of the doctrine of intermittent fevers, I would observe that the bark, by obviating debility and spasm, prevents the recurrence of paroxysms. By this means the cause is removed, and the disease successfully cured. That the bark possesses such tonic powers is indisputable. It is an equally undoubted truth, as the Baron Van Swieten clearly shews, that intermittents are disorders of the nervous system*. Had the great commentator been consistent with himself in supporting that doctrine which he seems to have understood, and not fallen so frequently into his old mistakes concerning lentor, obstruction, and such like hypothetical notions, his observations on fevers, which form part of an excellent performance, would have been more valuable and instructive. Theories in medicine should always be embraced with the greatest caution, and founded ultimately on facts.

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In

of Practice, p. 29. "During the different stages of the paroxysm, there is a greater or less degree of nervous power, of spasmodic stricture, and of increased motion of the blood."

* Vid. Swieten's Comment. in Aphor. 755.

In the cure of intermittents, the bark is the most efficacious in substance. No menstruum, no chymical process, yet known, can extract its virtues so perfectly as the animal fluids and the process of digestion. This remedy too should generally be prescribed in large quantity. From ignorance of this particular, it is often given without success, when otherwise it might undoubtedly have been rendered effective. Five or six drams taken during an intermission, will generally be found necessary to prevent the recurrence of the disorder. In obstinate cases, twelve drams, or even two ounces, may be required. We ought to continue the use of the bark in a proper quantity during the intermissions, till we have completely obtained a cure†.

Some

† Vid. Fordyce's Elem. of Practice, p. 180. "As great a quantity is to be given at a time, as the patient's stomach will bear, and the intervals between the doses are to be as long as possible. The bark is to be omitted during the time the subsequent paroxysm should have continued, and is then to be repeated in the same quantity and manner, especially if any symptom of the fit should have recurred; provided always that the paroxysm has been greatly lessened. The same measures are to be pursued in the third period: afterwards the medicine is to be omitted for four or five days and then returned to for 24 hours; and this is to be practised

twice

Some practitioners advise us to begin with administering the medicine as soon as the febrile paroxysm is ended, and the intermission fairly begun. Others recommend the practice of giving a dram of the bark every hour for the last six, eight, or ten hours of the intermission. Each mode of exhibition has its advantage. Sometimes in the tertian, but always in the quotidian, the first method is preferable, and is found by experience the most convenient and successful. For few patients will be prevailed upon to swallow in so short a time as six or eight hours, as many doses of so ungrateful a medicine; and, were they willing, their stomachs would frequently nauseate and reject them. On the other hand, in the quartan, and sometimes in the tertian, a medium may be fixed upon between the two opinions; and six, eight, or ten drams of the bark taken during the space of the last twelve, sixteen or twenty hours. By following this plan, we shall probably practise with the most success. At the same time it is granted, that, if the patient can with

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sufficient

twice or thrice, (at longer intervals each time.)—Cleghorn observes that if the sick “were obliged to remain in the island, the best chance they had of escaping a relapse, was to take a dose of the cortex every morning and evening for several weeks, &c.” On the Dis. of Minorca, p. 231.

sufficient ease take, in the manner above-mentioned, a dose of the bark every hour just before the attack of the subsequent fit, the force of its action will be more powerful as it will be more concentrated.

When we prescribe the bark in substance, it may be given in the form of a bolus, wrapt up in wafer, which is a most convenient method for concealing the taste of the medicine. Where that mode of employing the bark is not convenient, the powder may be properly taken in other forms. It is sometimes adviseable, on these occasions, to use the bark in conjunction with mild stimulants and aromatics, which, by gently exciting the muscular action of the stomach, tend to prevent the remedy from inducing a sense of uneasiness and oppression*. If the patient cannot take the bark in substance, we may use the cold infusion, the decoction, or the extract, and in as considerable doses as the stomach can bear. The cold infusion of the bark is more agreeable and efficacious than the decoction †; and the decoction is generally preferable to the extract, which last is often so ill prepared as not to be depended upon.

The

* Percival's Essays, vol. I. p. 111.

† Ibid. vol. I. p. 71.

The substance of the bark remaining after those preparations have been made from it, has been found by experience to be possessed of virtues which are sufficient to cure an intermit- tent. This affords a convincing proof that the bark is more effectual in substance than in any other form*.

Where the bark has been injudiciously order- ed in too small a quantity at first, and conti- nued so as to become habitual and to lose its efficacy, it is proper to intermit the remedy for some time; after which we may return to the use of it in a sufficient dose with success.

Though the bark undoubtedly is in general the most powerful medicine employed in the cure of intermittents, yet there have been seve- ral cases recorded, where, the bark having failed, bitters and astringents have been happily substituted in its place. Gentian, chamomile, galls †, alum, &c. have been used with good effect.

* Gregory's Lectures on the Practice.—Percival's Es- says, p. 90.

† "The Academy ordered Lemery, Geoffroy, and other members, to make trial of it; and their report was, that galls did cure intermittents, though not so constantly as the bark." Lect on the Mat. Med. p. 290.

effect *. They should be given in large doses. Of gentian or chamomile, an ounce has been frequently taken during the intermission of the distemper. These remedies also act as tonics, and evidently tend to confirm the doctrine we have advanced concerning the nature and proximate cause of an intermitting fever. In general, however, they are by no means so useful as the peruvian bark. Bitters are more apt than the bark to produce purging; under which circumstance the action of all tonic remedies will be most materially impaired. We prevent or remove this disagreeable symptom by the proper use of opium.

In Remitting Fevers, both in those of this climate and in the more malignant of hot countries, the bark is found the most efficacious remedy †. The causes of these disorders, and the operation of the bark in producing a cure, may be explained upon principles similar to those already advanced on the subject of intermittents. In the ardent, the bilious, or the yellow

* Percival's Essays, vol. I. p. 71. — Monro Dis. Mil. Hosp. p. 200.

† Hi motus, et hæc certamina tanta,
Pulveris exigui jactu compressa, quiescunt.

VIRGIL. Georg. iv.

yellow remittent fever, the danger is frequently so great, that there is not a moment to be lost*. The weak trifling practice of a timid man may sometimes be considered as justly chargeable with the patient's death. We are often necessitated in dangerous cases to seize almost the first remission, and to administer the bark in as large quantity as the stomach can bear. The first favorable remission being carelessly overlooked, we shall frequently in vain expect another †. The unhappy termination of the disease will in such case cast a severe reflection on the practitioner's want of judgment. In cold climates, the remittents are seldom of that malignant putrid kind ‡, and therefore do not in general require such very minute attention. In a short time, they often change into the form of a regular intermittent, in which the bark may be more commodiously and successfully administered. Bitters in these remittent fevers are occasionally pre-

* "Nor are we to hesitate in giving the bark, upon account of the crudity and redness of the urine, which I have frequently observed to become paler, turn cloudy and let fall a sediment by the use of this medicine." Cleghorn on the Diseases of Minorca, p. 220.

† Ibid. p. 206.

‡ Observations on the Dis. of the Army, p. 199.

prescribed as tonics and antiseptics, but will very rarely supersede the use of the peruvian bark.

The prejudices, which have sometimes prevailed against the bark in remitting and intermitting disorders, are of such a nature, that they do not deserve a serious confutation. For since the happy discovery of this noble remedy, the ill consequences of those fevers have been less frequent as well as less considerable; and where they have occurred, they have generally been owing to the neglect or mismanagement of the bark *. In the present times, those disorders more rarely leave such extreme relaxation of the system or fatal obstructions of the viscera.

Having

* “For the visceral obstructions, which succeeded to these fevers, were not to be imputed to the bark, but to a long continuance of the disease, and to frequent relapses; against which there was no security, unless the patient took an ounce of the powder every ten or twelve days throughout the autumn.” *Observations on the Dis. of the Army*, p. 209.

Contrary to the opinion of Baglivi, Hoffman, and others, Mr. Cleghorn found the bark of the greatest use in tertian fevers, even “while the first passages were full of vitious humors, and the bowels were inflamed or affected with inveterate obstructions.” *Diseases of Minorca*, p. 221.

Having considered the use of the bark in intermittents and remittents, we go on to point out the use of it in Continued Fevers.—These disorders arise chiefly from cold, from contagion, or from some other noxious effluvia of animal bodies. The vapors, exhaled from stagnating waters and low marshy countries, may increase their malignity, though it is acknowledged that such vapors have a particular tendency in general to induce fevers of an intermitting or remitting nature. The other common remote causes, which I have enumerated in this section, are equally powerful in producing the continued fever. During the presence of a contagious epidemic distemper, they ought as much as possible to be avoided. It is also absurd for people needlessly to expose themselves to the action of contagion, or of any other putrid effluvia from animal bodies *. They who are discharging the necessary duties of humanity to their fellow-creatures in distress, and who are therefore unavoidably exposed to the infectious vapor, should be particularly anxious to shun every other remote

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cause

* Putrid effluvia, of a very malignant nature, are often generated in camps, hospitals, jails, or wherever men are crowded together in dirty, confined, and unventilated places.

cause that may render the body weaker and more subject to be affected with the disease.

All the remote causes of nervous and putrid fevers are evidently sedative in their effects on the human body. These fevers too begin with languor, lassitude, chilliness, a weaker and more frequent pulse than natural, which symptoms are followed by cutaneous spasm and an obstruction of perspiration. The reaction of the heart and arteries is soon after produced*. If the patient is of a robust and irritable habit, the reaction will probably be strong, denoted by a full quick pulse and a great increase of heat. In this case, the disorder proves a synchus, beginning with an inflammatory but ending in a nervous fever. If the patient be of a weak delicate constitution, the reaction is less
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* Greg. Elem. of Practice, p. 29. "The proximate causes of the different genera of intermittents, remittents, and some continued fevers, seem to be analogous in some degree, from the similarity of their symptoms, of their predisponent and occasional causes, from their changing into one another and being cured by the same remedies. There seems likewise to be some analogy between the proximate causes of intermittents, and some diseases where the nervous system is much affected."

considerable, the contractions of the heart frequent and feeble, the heat moderate, and the fever properly denominated a nervous one. These are dangerous distempers, and sometimes as fatal even as the plague. For in moist and warm countries, the contagion is often highly septic, and, acting as an assimilating ferment, produces a very great degree of putrefaction in the animal fluids.

During the inflammatory stage of continued fevers, the tonic effects of the bark are evidently pernicious. But when the vigor of the reaction is abated, when the inflammatory state is removed, and when the symptoms of debility are prevalent either alone or in conjunction with those of putrescency, the bark becomes a necessary medicine *. Its tonic and antiseptic virtues are then most urgently required, to obviate debility or to correct putrefaction. In putrid fevers, when putrid excretions, a dissolved state of the blood, hemorrhages or petechial spots occur, no practitioner can be supposed ignorant of the necessity of administering the

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bark.

* Dr. De Hain and Dr. Hasenohrl were among the first who used the bark in large quantity in malignant fevers. Their practice has been followed with success.

bark †. But when symptoms of great depression of the vital powers prevail without those of putrescency, nothing is more common than to find the bark neglected, or prescribed in such small quantities as to have no sensible effect *. Huxham, and some other practitioners, seem evidently to have fallen into this error.

But in the very beginning of a contagious fever, if the reaction be moderate without topical inflammation, and if remissions occur naturally, or be happily obtained by a judicious use of emetic tartar or James's powder, the peruvian bark, taken if necessary in considerable doses, is excellently adapted for strengthening the nervous system, and stopping the progress of the disease.—Or if such evident remissions occur towards the decline of a continued fever, and especially if a cold fit precede the exacerbation, the free use of the bark, where it agrees with the stomach, is undoubtedly indicated ‡. In this case the remedy will
tend

† Dr. Monro in his observations on the malignant fever strongly recommends the bark, from the use of which he has often experienced good effects.

* Gregory's Clinical Lectures.

‡ Fordyce's Elem. of Practice, p. 150. "Irritability arising

tend to obviate the return of the paroxysms, to hasten the patient's recovery, and to prevent a relapse.—The bark is useful likewise to remove debility in the advanced stage of fevers, when they are not attended with much putrescency or any remarkable remissions. In such cases four drams in twenty-four hours will, if the stomach can bear it, be a proper quantity of the medicine. But if that quantity occasion sickness, we must diminish the doses accordingly, and adapt them with judgment to the circumstances of the disease. It is adviseable, particularly when the stomach seems disordered, to begin with small doses at first and gradually to increase them. In such critical junctures, the physician should be active and observing; he should be minutely attentive to seize the happy moments of relief; and, if his patient unfortunately cannot reap all the advantages which may usually be obtained from medicine, he will at least give him that assistance, which, considering the morbid delicacy of his constitution, is best suited to the removal of his complaint.

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arising towards the end is to be taken off—by cortex peruvianus, if there are remarkable remissions or a general freedom in the secretory organs.”

I pass on to the abuse of the bark in Topical Inflammations. It is obvious at first sight that a remedy, so powerfully tonic, cannot be employed without the greatest impropriety in disorders, where the inflammatory state prevails, and where the action of the arterial system is morbidly increased. In the topical phlegmonic inflammation, in the phrensy, in the peripneumony, in the pleurisy, &c. the use of the bark can in general have no place. Yet there are exceptions and restrictions to this general rule, some of which I shall endeavor to point out.

When an external inflammation is suppurating, the bark is serviceable in promoting the cure. If there be a common ulcer, or one even of the scrophulous kind, the bark often produces a favorable inflammation on its surface, a discharge of good matter, and an evident disposition to heal. If an external inflammation terminate in a gangrene of the part, the bark is a remedy of the first importance. It must be given in doses as large and as frequently repeated as the stomach can bear. By increasing the tone of the vascular and nervous systems, it favors the rise and progress of inflam-

inflammation round the mortified part, and promotes its separation with much success.

If an inflammation of the coats of the eye or of the eye-lid subsists from topical laxity attended with general debility of the system, and there be no signs of greater impetus of the blood in the vessels of the part affected, bark, bitters, steel mineral waters, cold bathing, frequent gentle exercise in the cool air, a mild restorative diet, collyriums of white vitriol and of the sugar of lead or the extract of Goulard, afford the best means of cure *. If the inflammation proceed from a scrophulous cause, the same treatment is well adapted to the nature of the complaint. How much superior is such a practice to the absurd method of confining the patient to his room, of forbidding moderate exercise in the open air, and prescribing the use of habitual purgatives, along with general blood-letting, till the tone of the system be destroyed, and universal relaxation induced. This unhappy state is indicated by weakness of the stomach, indigestion, loss of appetite, paleness, emaciation and the common marks of a ruined constitution.—If the inflammation

* Gregory's Elem. of Practice, p. 132.

mation of the eye be periodical, and accompanied with an intermitting fever, we necessarily have recourse to the peruvian bark, as the principal means of relief. In such cases it will often remove the cause and obviate the return of the complaint*.

Since the discovery of the ulcerous erysipelatous sore throat, the pure inflammatory one has often been mistaken for it, and consequently the bark has often been imprudently prescribed. In the erysipelatous sore throat, which likewise is often mistaken for the inflammatory, a very essential part of the cure consists in the proper use of the bark, bitters, mineral acids, and other antiseptics, taken as internal remedies or applied topically to the inflamed part. The fever is well known to be of the putrid malignant kind, and attended with the greatest prostration of strength. If inflammatory symptoms prevail at the beginning of the disease, the bark is not to be exhibited internally, till those be removed. Afterwards it may be given with the greatest success.

* Sauvages Nosol. Method. de Ophthalmia febricosa.
"Dolor atrox oculi, periodicus, cum lachrymatione, siti urgente, pulsu celeri ac forti & urinis intense rubris ac turbidis, sine rubore, ope kinkinæ sanatus." vol. II. p. 71.

success. Children often cannot be prevailed upon to take it in sufficient quantity; a circumstance much to be regretted. "We are often reduced to the most distressing perplexity from the difficulty of persuading, or the danger and impossibility of forcing them to use those means which are necessary for their relief*." But in all cases, where it can be done with sufficient ease and safety, the bark should not only be taken into the stomach, but copiously used in glisters, gargles, and injections into the throat. The powder in any form for internal use, is to be considered as preferable to every other preparation of the bark.

If, after the inflammation of the liver, the symptoms of suppuration occur, the bark is an excellent remedy †. Such an unfortunate termination is discoverable by the absence of fixt pain; by a sense of uneasiness, which the patient feels when laid on the left side; by a pain in the right shoulder, with a difficulty of breathing; by great debility, sickness, want of appetite and disturbed sleep; by a fre-

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* Percival's Essays, vol I. p. 377.

† Fordyce's Elem. of Pract. p. 260.

quent pulse, irregular shiverings, and sometimes even an evident fluctuation of the matter. The bark in such cases tends to moderate the febrile symptoms, to promote a favorable supuration, and to heal the abscess.

In the inflammation of the womb, which I have before mentioned as being often dangerous, the bark, when a mortification has begun, is the most efficacious remedy. It should be given in as large quantity as the stomach can bear, and not trifled with in those small doses in which it is too frequently used. Six drams or an ounce may be taken by the mouth in the space of twenty-four hours.

In the acute inflammatory rheumatism, the bark, in consequence of its tendency to increase the tone of the arterial system, is generally esteemed of pernicious effect. But there are many cases of chronic rheumatism, which are attended with great weakness and irritability of the nervous system. In such constitutions the disorder seems probably to subsist, from a want of tone in the vessels of the part affected. The pulse is often weak and small, without any perceptible hardness, and the rheumatic joint
feels

feels cold and dry, when the rest of the body is warm and moist. In such cases, which are frequently complicated with weakness of the alimentary canal and hypochondriac symptoms, the bark is a well-chosen remedy, and employed with success. Bitters, cool air, gentle exercise on horseback, cold bathing*, frictions and warm clothing, are also curative means found by experience to be highly serviceable in the same complaint. Those remedies all tend to increase the tone of the system in general, and to obviate the topical debility of the affected part.—In the rheumatism, when the pain returns periodically, the bark is often employed with singular success †.

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* Observations on the Dis. of the Army, p. 160. "After the patient has continued some time in this course, his recovery will be quickened by the use of the cold bath or the bark; and to those who can afford it, riding is a specific remedy."—Monro's Dis. of Mil. Hosp. p. 147. "Sometimes the cold bath removed pains which had not yielded to internal medicines."

† Sauvages Nosol. Method. vol. II. p. 32. de Rheumatismo Febricoso. "Cura Mortonii in vehementi paroxysmo, ubi deliquium animi imminabat, fuit 1° phlebotomia larga: 2° post sex horas vomitorium: 3° kinkina cum laudano."

In the regular gout where the inflammation of the extremity runs high, and in the anomalous gout where a topical inflammation of some internal organ is produced, the bark is obviously improper. But in that species of the gout in which the system is debilitated, and the disease by time become irregular, producing spasmodic affections of internal parts without inflammation, a cautious use of the bark is undoubtedly to be advised. The remedy however should not be exhibited in too large a quantity, nor the use of it continued too long together without proper intermissions *.— The same remarks are applicable to bitters, the tonic power of which may sometimes be required in the gout.— The preparations of steel may for the same purpose be safely and freely employed.—I speak here with some reserve on the use of bitters and the peruvian bark; for it is meant to recommend only the prudent exhibition of them, with a view to support the vigor of the whole system, and particularly of the alimentary tube. We should at the same time be cautious to avoid the too liberal and long uninterrupted use of those medicines. Such injudicious practice has however been too common

* Gregory's Elem. of Pract. p. 198.

mon. The Duke of Portland's powder consists chiefly of bitters. That remedy was thought to be a specific in the gout. Taken with a steady perseverance for a considerable length of time, it has indeed prevented the returns of the disease, but at the expence of irrecoverably destroying the tone of the whole system. Accordingly it has been found by experience, that the patients who were thus freed from the gout by the Duke of Portland's powder, have been frequently carried off soon after by a sudden death. Dr. Cullen mentions twelve or fourteen cases, in all of which, after such treatment, the patients died in about the space of one or two years of an apoplexy or some other mortal disease *. Facts of this nature should be a warning to those persons, who seem obstinately fond in this complaint of quacking with themselves, though not without an evident hazard of their lives. Even tansy-tea, of which some gentlemen have been so lavish of their praise, may, if

* Lect. on Mat. Med. p. 281. " I may venture to say, that ninety of a hundred who have taken this remedy, in a year or two after have been carried off by apoplexy, or some other mortal disease. In Scotland, only 12 or 14 persons have taken this powder, and all have done it with the consequences I mention."

if improperly used, prove at last productive of unhappy effects.

In Eruptive Diseases, the bark is often imprudently neglected, as well as injudiciously employed.

The erysipelas is frequently to be considered rather as a local inflammation of the teguments, than as an eruptive disorder. Whether or no it should be at all distinguished by this latter appellation, is matter of doubt. For the slightest comparison between the erysipelas and the small-pox will clearly prove that they cannot be comprehended under the same natural order of diseases. The erysipelas wants many of the most essential circumstances to characterize it an eruptive distemper. Sometimes the inflammation is not preceded by a fever, and when a fever does precede it, the time of the appearance of the inflammation is very irregular.— If the erysipelas occur as a local inflammation, attended with increased action of the vascular system and an inflammatory fever, bleeding is necessary, and the bark is pernicious. But if in this case the erysipelas should afterwards tend to suppuration or gangrene, the bark will often be
useful.

useful.—When the erysipelas appears under that form in which it is frequently considered as an eruptive complaint, blood-letting, if the attendant fever be inflammatory and the pulse strong and hard, is found, when cautiously used, to be undoubtedly serviceable. I need not say that the bark in this disease would be hurtful. But if the erysipelas supervene on a nervous fever or towards the decline of a synochus, if the depression of strength be great, if the pulse be weak and frequent, if the system be irritable and the mind dejected, bark, blisters, and stimulants are necessary remedies to support the tone of the system, to remove irritability, and to obviate the putrescency of the fluids*. In this case, blood-letting, especially in large cities where the air is impure, and where the constitution of the inhabitants is weaker and tends more towards putrefaction, has undoubtedly rendered the disease often fatal, when, by the contrary practice, it might have been happily removed.

In the plague, the miliary fever, the nettle-rash, the thrush, and some other eruptive disorders, in which the attendant fever is of the nervous kind or a synochus, the use of the
bark

* Gregory's Elem. of Practice, p. 100.

bark is regulated by those general fundamental principles, which have been advanced relative to its use in fevers. In such eruptive complaints, it is often extremely beneficial. Sometimes it is indicated to stop the return of paroxysms, when the fever evidently puts on a remittent or an intermittent form. Sometimes irritability and prostration of strength require its tonic virtue. At other times, symptoms of putrescency of the fluids render it indispensably necessary. — In the small-pox, especially when of the confluent kind, the bark is often well fitted to answer similar indications*. For debility and putrefaction often occur in the highest degree. During the inflammatory state of the disease, the bark is very improperly administered as a medicine. But in the second and third stages, no remedy is more efficacious in diminishing the symptoms of the fever, in promoting suppuration, in obviating putrefaction, and in supporting the tone of the system, along with a necessary degree of cutaneous inflammation.

In

* “The malignant kind required the use of acids and the bark, which last could often only be administered by way of clyster, as the sick could not swallow it: In short, we treated the patients much in the same way as in the malignant fever, allowance being made for the present circumstances.” Monro’s *Dis. of the Mil. Hosp.* p. 244.

In active hemorrhages, the bark is improper. Of the great utility of that remedy in the symptomatic hemorrhages attendant on putrid disorders, I have already spoken. It remains only to observe here, that in the uterine hemorrhage, not connected with plethora, but arising from relaxation of the general system and particularly of the uterine vessels, the bark, bitters, alum, steel-mineral waters, cool air, and cold bathing, are highly serviceable. In this complaint, bleeding and other evacuations are often pernicious, as they weaken the system and increase the tenuity of the blood.—By the use of the bark, astringents, and cool air, we sometimes prevent in pregnant women floodings and abortion, when they proceed from weakness and relaxation. With this view too, those strengthening remedies are often employed with great advantage during the intervals of pregnancy, to which in general may be added in such cases moderate exercise and cold bathing, adapted prudently to the patient's strength and to the nature of the complaint.

I proceed to speak of the abuse of the bark and other strengtheners in some Chronic Disorders. In consequence of the neglect and im-

prudent use of these remedies in such complaints, we need not hesitate to affirm that many constitutions are most materially injured.

In the palsy, the syncope, convulsions, epilepsy, palpitation of the heart, immoderate discharges of urine, hysteric fits, &c. when these disorders are accompanied with weakness and relaxation, the bark and other strengthening remedies are useful. They tend to remove such complaints in consequence of their power of increasing the tone of the system. The practitioner will make a judicious choice of those tonics which are peculiarly indicated. In the epileptic fits, the metallic preparation *, formed by the union of copper with the ammoniacal salt †, has of late been found in some cases of great service ‡.—If epilepsy, hysteric, syncope, &c. be

* Cuprum ammoniacale.

† Les alkalis fixes & volatils dissolvent facilement le cuivre, ou directement ou encore mieux lorsqu'il a d'abord été dissous par un acide. Dict. de Chymie.

‡ Gregory's, Clinical Lectures.

“ This preparation is to be considered as a combination of copper with an ammoniacal salt. This preparation may be obtained in chrystals in the following manner, &c. It has all the advantages of the other preparations of Boyle, and never

be strictly periodical, the bark sometimes is singularly efficacious †.

In the spasmodic asthma and in the hooping cough, when plethora does not prevail, the bark is often useful. Given in the first, it diminishes the irritability of the lungs, promotes the natural crisis by expectoration, and procures a longer intermission. In the hooping cough it tends to mitigate the violence and to shorten the duration of the disease. Other tonics, with change of air, may sometimes be found requisite.—If, after the removal of a dysentery, the bowels be considerably relaxed and a diarrhæa remain, we most successfully attempt the cure by the use of tonics and astringents.—In the rickets

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and

never has any of the copper united with the muriatic acid. Wherever copper is introduced in this form, it acts as an astringent, and destroys the mobility of the nervous power. It is also antispasmodic, and has been prescribed in the epilepsy, as I myself have sometimes observed, with appearance of success; where its action would seem to depend on giving a tension to the system, and destroying that irritability on which epilepsy seems to depend." Lect. on the Mat. Med. p. 186.

† Vid. Sauvages Nosol. Method. de epilepsia febricosa, tom. I. p. 584.—De hysteria febricosa, tom. I. p. 590.—De syncope febricosa, tom. I. p. 813.

and in scrophulous complaints, attended with great relaxation of the general habit, the good effects of the bark, of steel-mineral waters, and of cold bathing, are sufficiently ascertained. The internal use of sea-water in scrophulous cases of that nature, should be cautiously avoided; for sea-water, in consequence of its purgative quality, is capable of powerfully debilitating the system and of increasing the disorder.

In weakneses of the stomach and in hypochondriac affections, occurring in relaxed constitutions, tonics are undoubtedly requisite, such as bark, bitters, and cold bathing. But if in those complaints there be a rigidity of the fibres, these remedies are often greatly abused. For though in such cases want of appetite, acidity, indigestion, flatulency, pains of the stomach and bowels, costiveness, and dejection of spirits with false imagination, may occur, these symptoms will hardly be relieved by medicines which increase the cause of them. Yet in those species of the hypochondriac complaint and weakness of the stomach where the animal fibres are too rigid, we frequently see the bark, the cold bath, and several other tonics injudiciously prescribed. At the same time it is readily acknowledged, that,
when

when in such diseases a relaxation of the animal fibres takes place, those remedies are highly serviceable. The practitioner therefore should be able accurately to distinguish the relaxed from the rigid fibre*. For on that distinction rests materially the success of his practice. The melancholic temperament with black hair and a dark complexion, is most subject to rigidity †. The sanguine temperament is much disposed to become relaxed and irritable. But it is no uncommon thing to find the melancholic temperament relaxed, and the sanguine temperament too rigid. When rigidity is a cause of the disease, warm bathing and relaxants have the best effect. Hence the great utility of
 Bath

* Vid Aphor. 27, 34.—Van Swieten Comment.

† Lect. on the Mat. Med. p. 18. “*Melancholic habit.* Here greater rigidity of solids occurs, discoverable by the hardness and crispature of the hair; small proportion of the fluids, hence dryness and leanness; smaller arteries, hence pale colour; venous plethora, hence turgency of these, and lividity; sensibility, frequently exquisite, but with great accuracy; moderate irritability, with remarkable tenacity of impressions; steadiness in action and slowness of motion, with great strength; for excess of this constitution in maniacs gives the most extraordinary instance of human strength I know. This temperament is most distinctly marked in old age and in males, &c”.

Bath and Buxton waters, employed internally and externally in this species of the hypochondriac affection, though frequently those waters are injurious, where the disorder arises from a morbid relaxation of the system. This remark is well founded on facts, the knowledge of which is of great importance to the successful treatment of those complaints †.

Here I shall conclude these observations; not because the subject is exhausted, but because I have given, all that I intended, some examples of the abuse of medicine. There yet remain many distinct classes of remedies, the abuse of which could not have been included within the narrow limits of this treatise.

I have avoided (with perhaps too much caution) that part of the abuse of medicine, arising from inability to ascertain and distinguish the different species of disorders, which are not only so numerous in themselves, but often at their beginning so imperfectly formed, and even in their progress attended with such similar combination of symptoms, that the distinction of them

† Cullen's Clinical Lectures.—Gregory's Lectures on the Practice.

them is rendered truly difficult. In all ambiguous cases, it will be by no means easy for any one to form proper indications and to ascertain the best methods of cure, if his understanding be not clear and comprehensive, and able both judiciously to acquire and accurately to retain the just principles of his art. The learned Dr. Percival has well observed, “that without the
 “concurring assistance of our judgment and
 “understanding, neither reading nor practice
 “will be found of any other avail, than to
 “perplex us with uncertainty, and to lead us
 “into error*.”

I have likewise omitted the abuse of Surgery and of Midwifery †. Indeed one hardly dare discuss

* Percival's Essays, vol. I. p. 43.
 “An undistinguishing credulity is in no science so absurd and dangerous as in physic. Here every fact which is advanced should be examined with accuracy, and admitted with caution. The histories of diseases are frequently the records of falsehood, at least they contain such a mixture of error and truth, as requires the exertion of reason, and an extensive knowledge of the animal œconomy, to separate one from the other.” Ibid. p. 44.

† Boerhaave in his Aphorisms on the Practice of Medicine includes the practice of midwifery and of surgery. That great man taught and recommended to others an universal know-

discuss those subjects freely. So numerous and unfortunate are the errors of practice which have arisen from ignorance, rashness and timidity, that we should find an ample field for censure †. The facts, here alluded to, are committed in open day and in common life, but they are often artfully concealed, and considered

as knowledge in the art of medicine. He knew and was aware of the great complications of disorders which occur. He knew too how difficult it was to practice with success in any one branch of medicine without a competent knowledge of the others. His Commentator, the Baron Van Swieten, proves fully the justness of the observation.

† Vid. Dr. Burton's Essay on Midwifery, p. 10. "As the preservation of our species so much depended upon the perfect understanding of this branch, both in bringing children alive into the world, and in preserving the lives of the mothers; and as the frequency of the (almost innumerable) evils which daily beset the women and their infants during labor, by the ignorance and mismanagement of the female midwives, first put men upon applying their study and assistance; so they yet cry aloud for our further aid, because the same reasons (I am sorry to say it) are still subsisting; for many of the male practitioners are no less inexcusable than the women.—These sort of men consider midwifery rather as an art only, than a science; whereas it may be properly said to be composed of both: Of the first, as to the manner of operation; of the last, as the mothers are subject to so many disorders and complaints, that frequently attend their pregnancy and lying in, which call out for *medical skill*, rather than *manual operation*."

as the result of experience, of wisdom, and of beneficence. *Art could do no more*, is language too often used to conceal the greatest abuses of the profession, even in those cases where, by the judicious practitioner, life might easily have been preserved.

These and many other abuses might have been introduced among the observations made on this copious and interesting subject; a subject indeed well deserving to be discussed by an abler pen.

It is obvious that there are two principal sources of the abuse of medicine. One arises from ignorance, either in consequence of neglect or from the want of common understanding. The other is inseparable from the limitation of the powers of the human mind. The first, strictly speaking, has been the chief or rather the sole object of these observations.—Time and industry have greatly diminished the force of that current of evil, which took its rise from the limited capacity of the human understanding. The bad effects, which sprung from that source, were doubtless unavoidable. Mankind have never yet been known to exist without a practice of physic of

one fort or another. If they had not a regular faculty, they had quacks, medical priests, or Æsculapian gods. Since indeed nature of herself is capable of successfully removing such a variety of disorders, many physicians in extensive practice, who were often consulted in favorable cases, must, though they were defective in point of medical knowledge, have acquired a very considerable reputation. We may therefore think ourselves happy that we have got over the rude state of medicine, and wisely established the practice of this most noble art upon the firmest basis.

It is the first source of error which we should principally labor to avoid. When such serious objects as health and life are at stake, every man, for his own private advantage, as well as for the public good, should abandon all the secondary considerations of interest; he should be cautious to avoid a servile prostitution of praise; but laudably ambitious to encourage men of genius and medical erudition. By this means, worth and industry would be justly rewarded; the science of medicine cultivated to the greatest advantage; improvements quickly made; and diseases most successfully treated. We ought to observe in
justice

justice to the present age, that the study of medicine was never pursued on so noble and enlarged a plan. Our own island is indisputably adorned with the greatest seminary of medical learning, that is recorded in the annals of time. The active and liberal spirit of inquiry, which now prevails through the literary world, affords the most pleasing prospect, that the science of medicine, as well as every other branch of knowledge, will necessarily make a rapid progress towards perfection.

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