

Domestic medicine : or, the family physician ... : being an attempt to render the medical art more generally useful, by showing people what is in their own power, both with respect to the prevention and cure of diseases ... with notes and large additions / By William Buchan ... with notes and large additions, by a medical gentleman.

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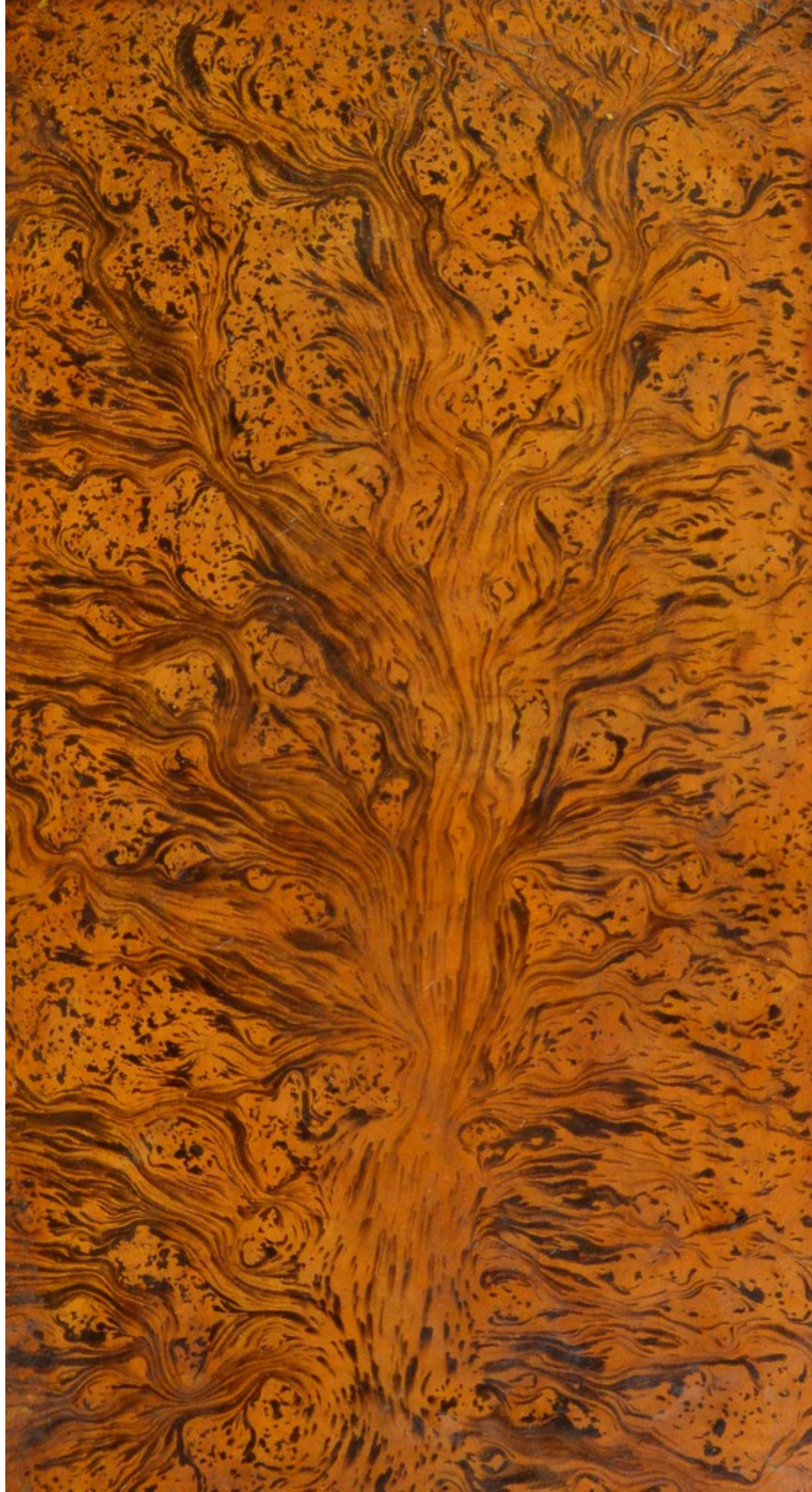
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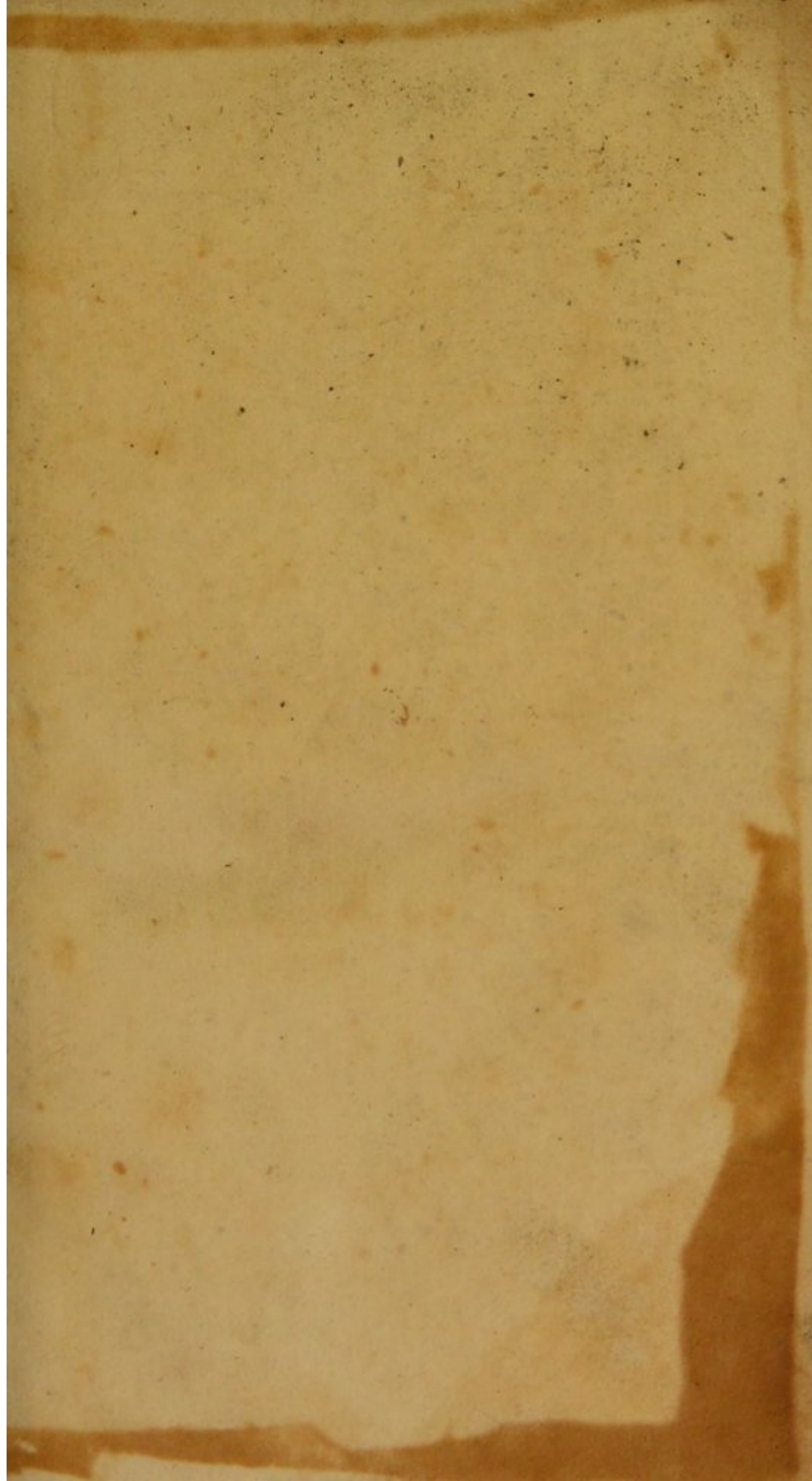


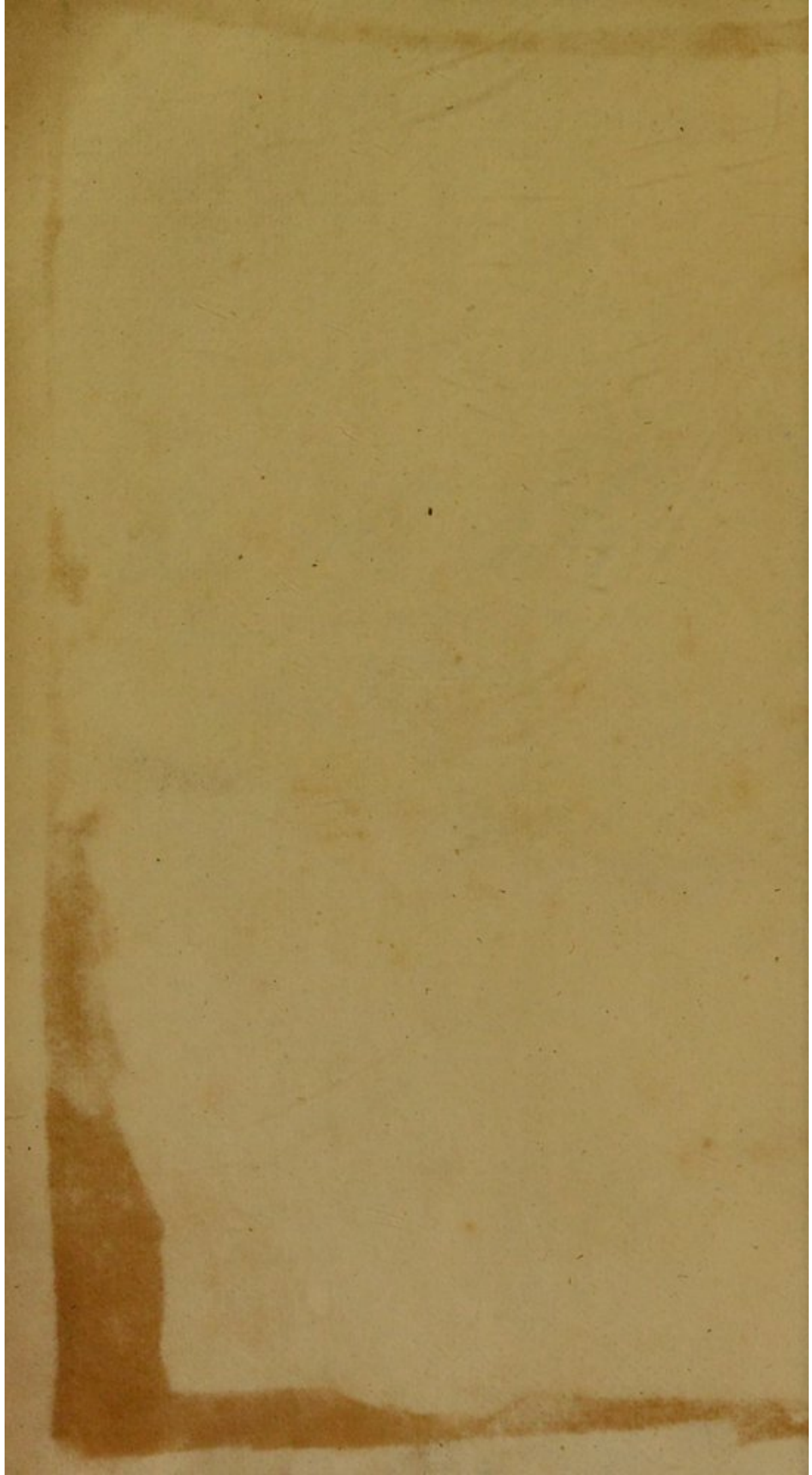
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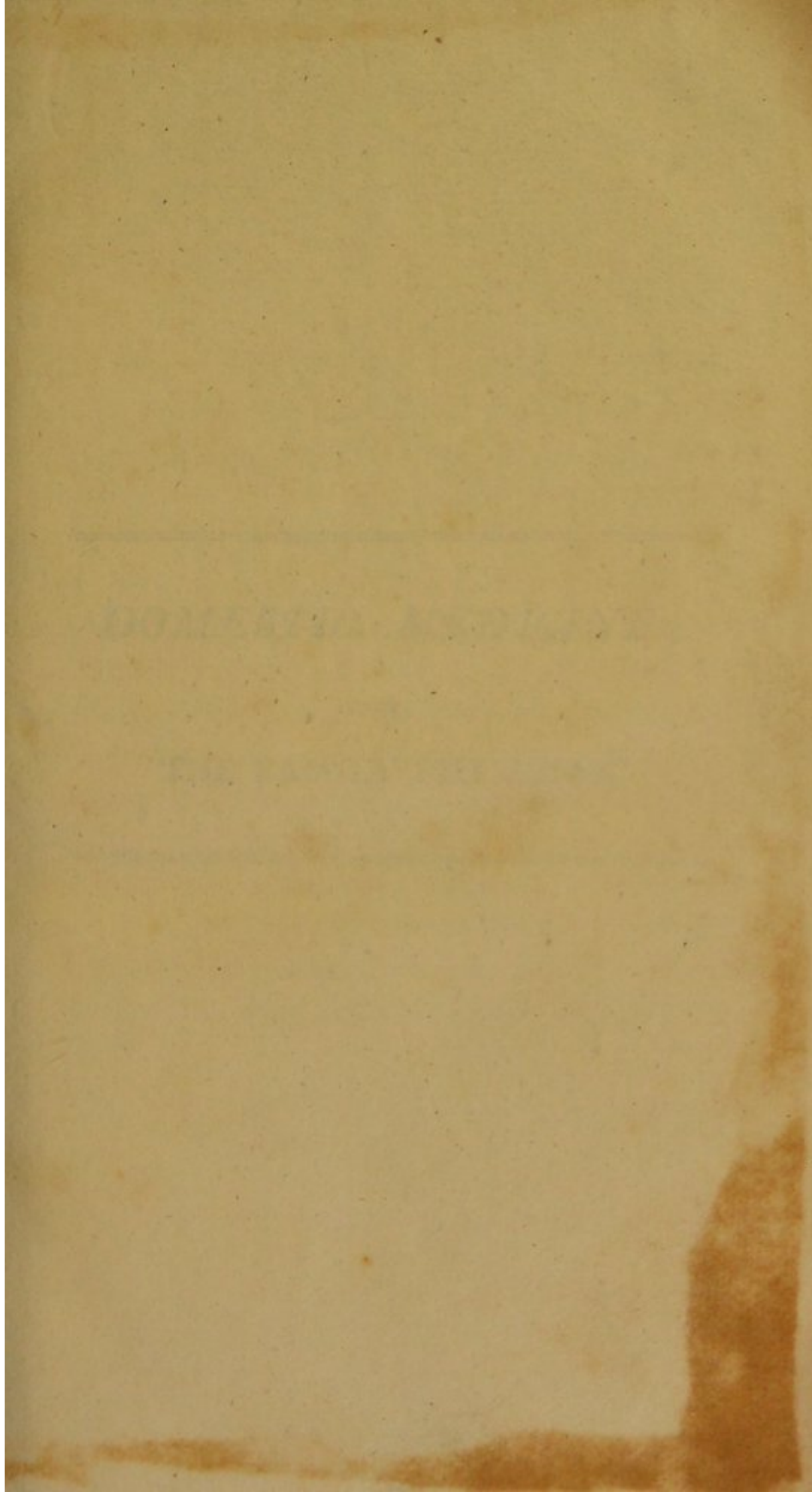


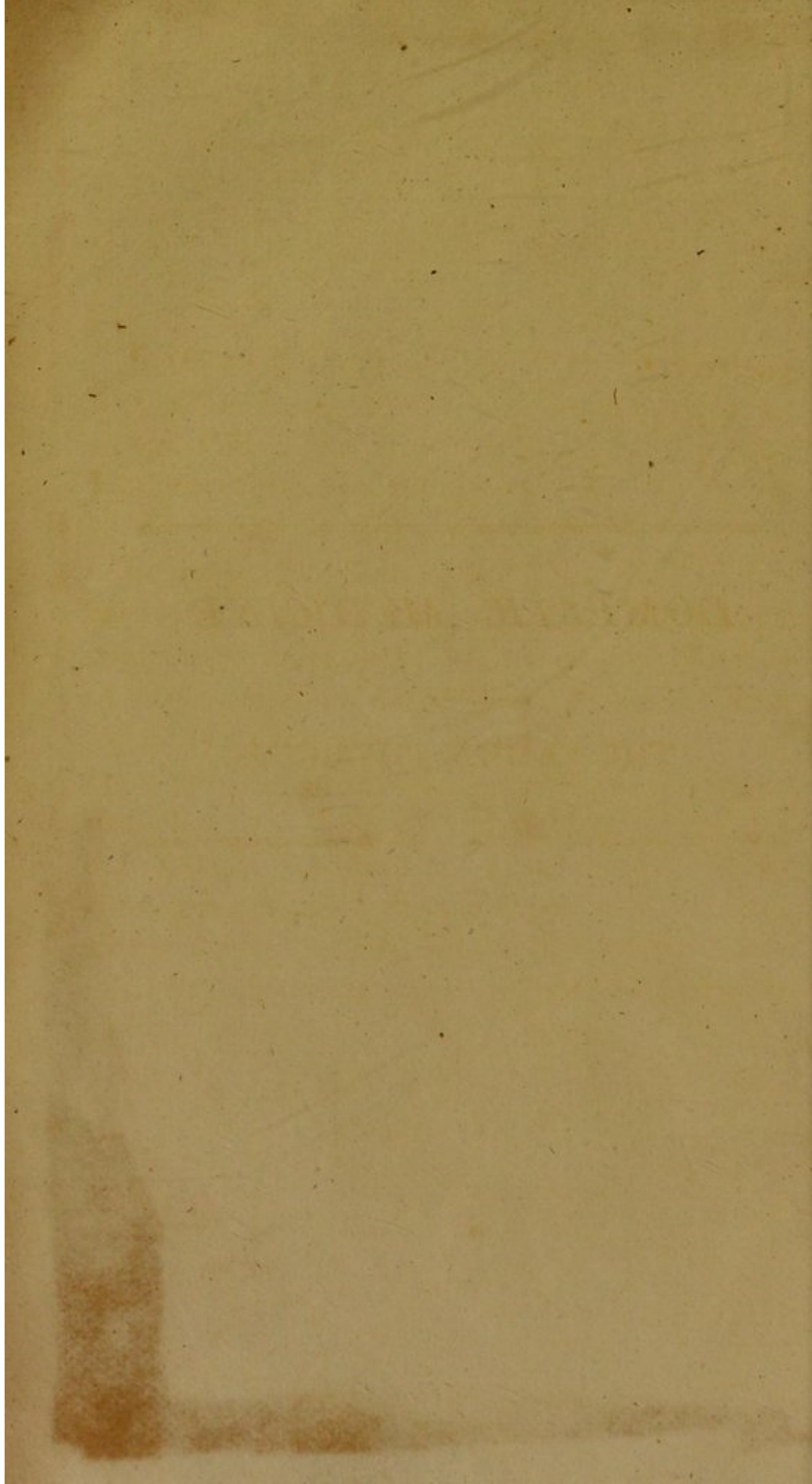
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In some Editions of this Work, a very long
List of Medicines, Simple and Compound, is in-
serted, said to be proper to be kept in private
Families, for occasional use.

DOMESTIC MEDICINE;

OR,

THE FAMILY PHYSICIAN.

IN some Editions of this Work, a very long List of Medicines, Simple and Compound, is annexed, said to be proper to be kept in private Families, for occasional use.

IN the present Edition this List is omitted, because it may not be without danger to intrust any considerable quantity of Medicines into the hands of persons who are not competent judges of their nature and properties: And besides, before any great portion of them can be used, they may be in such a state of decay, as to render them not only useless, but highly injurious.—The Medicines recommended in the Work may be had, when wanted, at any Laboratory or Apothecary's Shop, in a fresh state, and may be used with safety.

EDINBURGH, *April 8.* 1802.

DOMESTIC MEDICINE;

OR,

THE FAMILY PHYSICIAN;

BEING

AN ATTEMPT TO RENDER THE MEDICAL ART MORE
GENERALLY USEFUL,

BY

SHEWING PEOPLE WHAT IS IN THEIR OWN POWER, BOTH WITH
RESPECT TO THE PREVENTION AND CURE
OF DISEASES.

CHIEFLY CALCULATED

TO RECOMMEND A PROPER ATTENTION TO
REGIMEN & SIMPLE MEDICINES.

By WILLIAM BUCHAN, M. D.

WITH NOTES AND LARGE ADDITIONS,
BY A MEDICAL GENTLEMAN.

Sed valetudo sustentatur notitia sui corporis; et observatione, quæ
res aut prodesse soleant, aut obesse; et continentia in victu omni at-
que cultu, corporis tuendi causa; et prætermittendis voluptatibus;
postremo, arte eorum quorum ad scientiam hæc pertinent.

CIC. DE OFFIC.



EDINBURGH:

PRINTED BY J. PILLANS & SONS, NORTH COLLEGE-STREET.

1802.

DOMESTIC MEDICINE;

THE FAMILY PHYSICIAN;

OR, A GUIDE TO THE MEDICAL ART, MORE
EASILY AND USEFULLY.

SHUNTING PEOPLE FROM THEIR OWN FOLLY, AND WITH
RESPECT TO THE TREATMENT AND CURE.

ENTERED IN STATIONERS HALL.

ADVERTISEMENT

BY THE PUBLISHER.

TO say any thing of the merit of the Original Work, which has so long been sanctioned by the approbation of the Public, and which, since its first appearance in 1769, has undergone no less than *sixteen* new editions, (the last so lately as 1798), the Publisher flatters himself is *now* unnecessary, and, in his opinion, would be impertinent. He has therefore to state the claims of the *present edition only* to public favour.

When the Publisher, on the expiry of the Copy-right of the Original Work, which took place in 1798, had come to a resolution of presenting the Public with a new edition, he at the same time determined, that no pains or expence should be spared to render that edition in some measure worthy of its approbation. For this purpose he engaged a Medical Gentleman, on whose honour and abilities he could perfectly depend, to make such additions and corrections as, in his opinion, the Work would admit. These have partly been thrown to the bottom of the page, in the form of notes ; partly, where the subject was entirely new, retained in the body of the Work, as text. Beside a variety of additional observations on many of those contained

tained in the former Work, a number of subjects, entirely new, are here introduced ; with a complete Treatise on Lues Venerea and Gonorrhœa Virulenta, under all their various forms: likewise *Dissertations*, on *Suspended Animation* from drowning, hanging, suffocation, from noxious vapours, cold, profuse bleeding, &c. on *Blood-letting*, *Inflammation*, *Dislocations*, *Fractures*, &c. the use of the *Cold Bath*, the *different Mineral Waters*, with *some Observations* on *Diet*, chiefly with a view to œconomy therein, in the present scarcity of provisions, and some advice to the lower classes on that subject. Throughout the *whole*, the *Original* is preserved *entire and unmutilated*, as well out of respect to the Work itself, as from a due deference in this matter to the opinion of the Public.

Upon the whole, the Publisher's endeavour in this new edition, has been, to render the Work more extensively useful, by embracing a great variety of subjects, as well as more generally safe, by pointing out such errors and deficiencies in the former Work, as were likely to be of worst consequence, and which, in a greater or smaller degree, must ever attach to all human performances. How far he has succeeded, does not belong to him, but to the Public, to decide, to whose arbitration he chearfully submits.

AUTHOR'S ADVERTISEMENT.

IT is astonishing, after Medicine has been so long cultivated as a liberal art, that philosophers and men of sense should still question whether it be more beneficial or hurtful to mankind. This doubt could never take its rise from the nature of medicine, but from the manner in which it has been conducted.

All ages and nations have agreed in thinking that the sick ought to be treated in a manner different from those in health. Indeed the very appetites of the sick shew the necessity of, at least, a different regimen. So far medicine is evidently founded in nature, and is quite consistent with reason and common sense.

Had physicians been more attentive to *regimen*, and less solicitous in hunting after wonderful medicines, and concealing their pretended virtues from the rest of mankind, the medical art would never have become an object of ridicule. The affectation of mystery may, for a while, draw the admiration of the multitude, but will never secure the esteem of men of sense; and it will always occasion suspicions in the minds of the more enlightened part of mankind.

Every attempt, therefore, to monopolise or conceal any thing that relates to the preservation of health or the cure of diseases, must not only be injurious to the interests of society, but likewise to the medical art: If medicine be a rational science, and founded in nature, it will never lose its reputation by being exposed to public view. If it be not able to bear the light, it is high time that it were exploded.

Secrecy, in any art, lays a foundation for imposition. Had physicians never affected mystery, quacks and quackery could never have existed. Now that they have over-run all Europe, and disgraced both nature and the medical profession, there is no other method of discrediting them with the people, but a total reverse of behaviour in the

Faculty

Faculty. Let us therefore act with candour, openness, and ingenuity, and mankind will soon learn to dread every thing in medicine that has the smallest appearance of secrecy or disguise.

The affectation of mystery not only renders the medical art more liable to be abused, but likewise retards its progress. No art ever arrived at any considerable degree of improvement, so long as it was kept in the hands of a few who practised it as a trade. The interested views of a trade will always obstruct the progress of a science. Other arts have been diffused among the people, have become the objects of general attention, and have been improved accordingly. Medicine still continues a mystery. Even the philosopher is not ashamed that he is ignorant of the causes and cure of diseases. Hence it is, that while other branches of science have arrived at a high degree of perfection, the healing art is still involved in doubt and uncertainty.

Those who follow the beaten tract of a teacher, seldom make any useful discoveries. Accordingly we find, that most of the real improvements in medicine have either been the effect of chance, or have been made by persons not bred to physic. Men who think and reason for themselves, who are not fettered by theories, nor warped by hypotheses, bid the fairest for improving any art.

As all men are liable to disease, and equally interested in every thing relating to health, it is certainly the duty of physicians to shew them what is in their own power, both with respect to the cure of the one, and the preservation of the other. Did men take every method to avoid diseases, they would seldom need the physician; and would they do what is in their own power when sick, there would be little occasion for medicine. It is hard to say if more lives are not lost by people trusting to medicine, and neglecting their own endeavours, than all that are saved by the help of physic.

We do not mean that all men are to be made physicians. This, according to the present acceptation of the word, would be an attempt as ridiculous as it is impossible. We only mean that they should be taught the importance of due *care* for the preservation of health, and of a proper
regimen

regimen in diseases. These they are certainly capable of understanding, and all the rest is of small account.

We are happy to find, that some of the most eminent physicians now begin to entertain more liberal ideas with regard to physic. Van Swieten *, Rosen †, Tissot, and some others, have written with a view of diffusing some knowledge of medicine among the people. Their performances have met with that applause from the public, which it is always ready to bestow on works of real utility. Had Tissot's plan been more extensive, the following pages would probably never have been made public. He confines himself solely to the acute diseases. We have likewise treated the chronic; both because they are very frequent in this country, and because the cure of them chiefly depends on a proper regimen.

Dr Tissot has also treated the prophylaxis, or preventive part of medicine, less minutely than seems necessary. A very slight inquiry into the causes of popular maladies is sufficient to shew that many of them might, by due care, be prevented. For this reason, a considerable number of the following pages are employed in pointing out the most common causes of popular diseases, and the means of avoiding them.

The first part of the prophylaxis is calculated to shew the importance of proper nursing ‡. The observations were made in a situation where the author had the greatest opportunities of seeing the effects both of the right and wrong management of children, and of being fully convinced that the latter is the principal cause of their great mortality.

Peculiar attention is paid to the diseases of mechanics. That useful set of people, upon whom the riches and prosperity of Britain depend, can never be too much regarded. Their valuable lives are frequently lost for want of due
attention

* Physician to their Imperial Majesties.

† First physician of the kingdom of Sweden.

‡ Most of the observations contained in the first chapter were made in the Foundling Hospital at Ackworth, and communicated to the public several years ago, in a pamphlet addressed to the governors of that hospital.

attention to circumstances, which, both to themselves and others, may often appear trifling.

We have likewise endeavoured to point out the bad effects of luxury, indolence, &c. All men acknowledge health to be the chief blessing of life ; but few shew a proper concern for the preservation of it. There is hardly any pleasure or profit for which people will not hazard their health ; and it is often bartered for the most sordid enjoyments. Few things, however, are more in their own power. Most men may enjoy health if they will. Even those who have had the misfortune to be naturally of a weak constitution, have often, by proper care, arrived at an extreme old age, and enjoyed good health to the very last ; while such as were naturally robust, by trusting too much to their strength of constitution, and despising care, have either died young, or dragged out a life of pain and misery.

In the treatment of diseases, we have been chiefly attentive to diet, drink, air, and the other parts of regimen. Regimen seems to have been the chief, if not the only medicine of the more early ages, and, to say the truth, it is the most valuable part of medicine still. But regimen and domestic medicines are despised, while foreign regions are ransacked for things of less value, and every ore which the earth affords is tortured to extract poisons, and arm the daring empyric for the destruction of his fellow-men.

We have indeed ventured to recommend some simple medicines in almost every disease ; but even these should only be administered by people of better understanding. We would have the ignorant omit them altogether, and attend solely to the directions relating to diet and the other parts of regimen.

The laudable disposition which so universally prevails among the better sort of people in the country, of assisting their poor neighbours in distress, suggested the first hint of this attempt. It never was, and, in all probability, never will be, in the power of one half of mankind to obtain the assistance of physicians. What must they do? To trust themselves in the hands of quacks, or blunder on in the track which their rude forefathers pointed out, are perhaps equally dangerous. The ignorant rustic puts little confidence

confidence in any endeavours of his own. All his hopes of a cure are placed in something which he does not understand; something mysterious, and quite above his capacity, as herbs gathered under the influence of some planet, charms, the nostrums of quacks and conjurers, &c. Such are the ridiculous and destructive prejudices which prevail among the inhabitants of this country, even in this enlightened age; and such is their entire ignorance of medicine, that they become the easy dupes of every pretender to it.

We make no doubt but the ladies, gentlemen, and clergy, who reside in the country, will readily concur with us in endeavouring to root out such pernicious and destructive prejudices. Their example will have great weight with their dependents and inferiors; and their advice will be often listened to with more attention than that of a physician. They will teach the poor the importance of a proper regimen, both in health and sickness; the danger of trusting their lives in the hands of quacks and conjurers, and the folly of their own superstitious notions. By this means they may prevent much evil, do some good, and prove real blessings to those among whom they reside.

Nothing is farther from the design of the following pages, than to induce ignorant persons to tamper with dangerous medicines, or trust to their own skill, where better assistance can be obtained. But where something must be done, and no medical assistance can be had, it is certainly better to direct people what they ought to do, than to leave them to blunder on in the dark.

There is no doubt but the more mercenary part of the Faculty, whose ideas of medicine never rise above the sordid views of a trade, will do all in their power to discredit every attempt of this kind with the public. With such as are able to see through the disguise, their censure will pass for applause; and with the less enlightened, it will be little regarded. With us it can have no weight, so long as we are conscious that we have the good of mankind at heart; and that, however imperfect the execution may be, the design has been approved by many whose names do honour to the medical profession.

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PART I.
OF PREVENTING DISEASES.

CHAP. I.
OF CHILDREN.

TO avoid diseases, it is necessary we should know their causes. These indeed are numerous ; but we shall endeavour to point out such only as have the most general influence, as too great minuteness in this respect would tend rather to perplex than instruct the generality of readers.

The better to trace diseases from their original causes, we shall take a view of the common treatment of mankind in the state of infancy. In this period of our lives, the foundations of a good or bad constitution are generally laid ; it is therefore of importance, that parents be well acquainted with the various causes which may produce diseases in their offspring. It must be owing either to the ignorance or carelessness of parents, that so many of the human species perish in infancy. This, we presume, will appear from the following observations.

The annual registers of the dead shew, that at least one half of the children born in Great Britain die under twelve years of age. To those who do not reflect, this appears to be a natural evil, and therefore they think it their duty to submit to it. But whoever accurately examines the matter, will find that it is an evil of our own making, and, in a great measure, owing to mismanagement. Were the death of infants a natural evil, other animals should be as liable to die young as man; but that we see is not the case.

It may seem strange, that man, notwithstanding his superior reason, should fall so far short of other animals in the management of his young: But our surprise will soon cease, if we consider, that brutes, guided by instinct, never err in this respect; while man, trusting solely to art, is seldom right. Were a catalogue of those children who perish annually by art alone exhibited to public view, it would astonish most people.

When parents are above taking care of their children, others must be employed for that purpose: These will always endeavour to recommend themselves by the appearance of extraordinary skill and address. By this means so many unnecessary and destructive articles have been introduced into the diet, clothing, &c. of children, that it is no wonder so many of them perish.

Nothing can be more preposterous than for a mother to think it below her to take care of her own child, or to be so ignorant as not to know what is proper to be done for it. If we search nature throughout, we cannot find a parallel to this. Every other creature is the nurse of its own young, and they thrive accordingly. Were the young of brutes to be brought up by proxy, they would share the same fate with those of the human species.

We mean not to impose it as a task upon every mother

mother to suckle her own child. This, whatever speculative writers may say to the contrary, is in many cases impracticable, and would inevitably prove destructive both to the mother and child. Women of delicate constitutions, subject to low spirits, hysteric fits, or other nervous disorders, make very bad nurses: But these complaints are now so common, that it is rare to find a woman of fashion free from them; for which cause few women of better station, suppose them willing, are really able to suckle their own children.

Did mankind live as nature directs, almost every mother would be in a condition to give suck: But, whoever considers how far we have deviated from her dictates, will not be surprised to find many of them unable to perform that necessary office. Mothers who do not eat enough of solid food, nor enjoy the benefit of free air and exercise, can neither have wholesome humours themselves, nor afford proper nourishment to an infant. Children who are suckled by delicate women, either die young, or are weak and sickly all their lives. Nor is this at all to be wondered at. If children suck in nervous diseases with their mother's milk, what have we to expect?

When we say, that every mother is not able to suckle her own child, we would not be understood as discouraging that practice. Every mother who can, ought certainly to perform that tender office*. But suppose it to be out of her power, she may, nevertheless, be of great service to her child. The business of nursing is by no means confined to

A 2

giving

* Nor would the advantages attending this practice be confined to individuals; they would extend to society at large, who lose many that would have been useful members, by that inhuman practice among the lower classes, of giving away, to those who are either unfit or have not time to discharge the office faithfully, their own children to nurse, that they may get a little money by taking in those of other people.

giving suck. To a woman who abounds with milk, this is the easiest part of it. Numberless other offices are necessary for a child, which the mother at least ought to see done. A mother, who abandons the fruit of her womb, as soon as it is born, to the sole care of an hireling, hardly deserves that name. A child, by being brought up under the mother's eye, not only secures her affection, but may reap all the advantages of a mother's care, though it be suckled by another. How can a mother be better employed, than in superintending the nursery? This is at once the most delightful and important office! yet the most trivial business or insipid amusements are often preferred to it: A strong proof both of the bad taste and wrong education of modern females.

It is much to be regretted, that more pains is not bestowed in teaching the proper management of children to those whom nature has designed for mothers. This, instead of being made the principal, is seldom considered as any part of female education. Is it any wonder, when females, so educated, come to be mothers, that they should be quite ignorant of the duties belonging to that station? However strange it may seem, it is certainly true, that many mothers, and those of fashion too, are as ignorant, when they have brought a child into the world, of what is proper to be done for it, as the infant itself. Indeed, the most ignorant part of the sex are generally reckoned most knowing in the business of nursing. Hence, sensible people become the dupes of ignorance and superstition; and the nursing of children, instead of being conducted by reason, is the result of whim and caprice.

One great design of females, no doubt, is to propagate the species. But to bring forth a child, is the least part of that important business. Were the

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the care of a parent to stop here, the whole human race would soon be extinct. Nature has made it necessary, that a child should depend on its parents during the state of infancy; and those parents who neglect the proper care of their offspring, not only violate one of the first and strongest principles of nature, but actually endeavour to extinguish the human race. An infant may be as certainly murdered by neglect, as by any act of violence whatever; and for one child that loses its life by the latter, a thousand perish by the former, without being regarded.

Were the time that is generally spent by females in acquiring useless knowledge, employed in learning how to bring up their children; how to dress them so as not to hurt, cramp, or confine their motions; how to feed them with wholesome and nourishing food; how to exercise their tender bodies, so as best to promote their growth and strength: Were these the objects of female instruction, mankind would derive the greatest advantages from it. But, while the education of females implies little more than what relates to dress and public show, we have nothing to expect from them but ignorance, even in the most important concerns. But ignorance can be no excuse, where people have it in their power to be better informed; and, if children perish by the negligence of mothers, the mothers must be accountable.

Did mothers know their importance, and lay it to heart, they would embrace every opportunity of informing themselves of the duties which they owe to their infant offspring. It belongs to them, not only to form the body, but also to give the mind its most early cast. They have it very much in their power to make men healthy or valetudinary, useful in life, or the bane of society.

But the mother is not the only person concerned

in the management of children. The father has an equal interest in their welfare, and ought to assist in every thing that respects either the improvement of the body or mind.

It is a pity that men pay so little regard to this matter. Their neglect is one reason why females know so little of it. Women will ever be desirous to excel in such accomplishments as recommend them to the other sex. But men generally keep at such a distance from even the smallest acquaintance with the affairs of the nursery, that many would esteem it an affront, were they supposed to know any thing of it. Not so, however, with the kennel or the stables: A gentleman of the first rank is not ashamed to give directions concerning the management of his dogs or horses; but would blush were he to be surpris'd in performing the same office for that being who derived its existence from himself, who is the heir of his fortunes, and the future hope of his country. Few fathers indeed run any hazard of being surpris'd in this situation; yet, certain it is, that man needs culture more than any other creature, and that both his body and mind are capable of the greatest improvement. Nature has left so much in the power of parents, that children are, in a great measure, what they please to make them.

Physicians themselves have not been sufficiently attentive to the management of children: That has been generally considered as the sole province of old women, while men of the first rank in physic have even refused to visit infants when sick. Such conduct in the Faculty has not only caused this branch of Medicine to be neglected, but has also encouraged the other sex to assume an absolute title to prescribe for children in the most dangerous diseases. The consequence is, that a physician is seldom called till the good women have exhausted
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all their skill ; when his attendance can only serve to divide the blame, and appease the disconsolate parents.

We would have nurses do all in their power to prevent diseases ; but, when a child is taken ill, some person of skill should immediately be consulted. The diseases of children are generally acute, and the least delay is dangerous.

Were physicians more attentive to the diseases of children, they would not only be better qualified to treat them properly when sick, but likewise to give useful directions for their management when well. The diseases of children are by no means such a difficult study as many imagine. It is true, children cannot tell their complaints ; but the causes of them may be pretty certainly discovered, by putting proper questions to the nurses and such as are about them. Besides, the diseases of infants, being less complicated, are easier cured than those of adults.

It is really astonishing, that so little attention should in general be paid to the preservation of infant-lives ! What labour and expence are daily bestowed to prop an old rotten carcase for a few years, while thousands of those who might be useful in life perish without being regarded, and prove no better than an untimely birth ! Mankind are apt to value things, not according to their future, but their present utility. This is of all others the most erroneous method of estimation ; yet, upon no other principle is it possible to account for the general indifference with respect to the death of infants.

OF DISEASED PARENTS.

DISEASED parents cannot beget healthy children. It would be as reasonable to expect a rich crop

from a barren soil, as that strong and healthy children should be born of delicate parents, worn out with intemperance or disease.

An ingenious writer observes *, that on the constitution of mothers depends originally that of their offspring. No one who believes this will be surprised, on a view of the female world, to find diseases and death so frequent among children. A delicate female brought up within doors, an utter stranger to exercise and open air, who lives on tea and other fops, may bring a child into the world, but it will hardly be fit to live. The first blast of a disease will nip the tender plant in the bud: Or, should it struggle through a few years existence, its feeble frame, shook with convulsions from every trivial cause, would be unable to sustain the common functions of life, and prove a burden to society.

If, to the delicacy of mothers, we add the irregular lives of fathers, we shall see further cause to believe, that children are often hurt by the constitution of their parents. A sickly frame may be originally induced by hardships or intemperance, but chiefly by the latter. It is impossible that a course of vice should not spoil the best constitution: And did the evil terminate here, it would be a just punishment for the folly of the sufferer; but when once a distemper is contracted and rivetted in the habit, it is entailed on all posterity. What a dreadful inheritance is the gout, or the king's evil, to transmit to our offspring! How happy had it been for the heir of many a great estate had he been born a beggar, rather than to inherit his father's fortunes at the expence of likewise inheriting his diseases!

No person who labours under any incurable malady

* Rousseau.

lady ought to marry, as he thereby both shortens his own life and transmits misery to others: But when both parties are deeply tainted with the scrophula, the scurvy, or the like, the effects must be still worse. Such will either have no issue at all, or those whom they have must be miserable indeed. Want of attention to these things, in forming connections for life, has rooted out more families than the plague, famine, or the sword; and while these connections are formed from mercenary views, that must be the case.

In our matrimonial contracts, it is amazing so little regard is had to the health and form of the object. Our sportsmen know, that the generous courser cannot be bred out of the foundered jade, nor the sagacious spaniel out of the snarling cur. This is settled upon immutable laws. The man who marries a woman of a sickly constitution, and descended of unhealthy parents, whatever his views may be, cannot be said to act a prudent part. A puny scrophulous woman may prove fertile; should this be the case, the family must become an infirmary: What prospect of happiness the father of such a family has, we shall leave any one to judge.

The Jews, by the positive direction of the Almighty, were forbid to have any manner of commerce with the diseased; and indeed to this all wise legislators ought to have a special regard. In some states, the marriage of diseased people has actually been prohibited. This is an evil of a complicated kind, a natural deformity, and political mischief; and therefore requires a public consideration.

Such children as have the misfortune to be born of diseased parents, will require to be nursed with greater care than others. This is the only way to make amends for the defects of constitution; and it will often go a great length. A healthy nurse, wholesome air, and enough of exercise, will do wonders.

ders. But, when these are neglected, little is to be expected from any other quarter. The defects of constitution cannot be supplied by medicine.

Those who inherit any family-disease ought to be very circumspect in their manner of living. They should consider well the nature of such disease, and guard against it by a proper regimen. It is certain, that family-diseases have often, by proper care, been kept off for one generation: and there is great reason to believe, that, by persisting in the same course, such diseases might at length be wholly eradicated. This is a subject very little regarded, though of the last importance. Family-constitutions are as capable of improvement as family-estates; and the libertine who impairs the one, does greater injury to his posterity, than the prodigal who squanders away the other.

OF THE CLOTHING OF CHILDREN.

THE clothing of an infant is so simple a matter, that it is surprising how any person should err in it; yet many children lose their lives, and others are deformed, by errors of this kind.

Nature knows no other use of clothes to an infant, but to keep it warm. All that is necessary for this purpose is to wrap it in a soft loose covering. Were a mother left to the dictates of nature and reason, this is certainly the method that she would follow. But the business of dressing an infant has long been out of the hands of mothers, and has at last become a secret which none but adepts pretend to understand.

From the most early ages it has been thought necessary, that a woman in labour should have some person to attend her. This in time became a business; and, as in all others, those who were employed
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in it strove to outdo one another in the different branches of their profession. The dressing of a child came of course to be considered as the midwife's province, who no doubt imagined, that the more dexterity she could shew in this article, the more her skill would be admired. Her attempts might be seconded by the vanity of parents, who, wanting to make a shew of the infant as soon as it was born, were ambitious to have as much finery heaped upon it as possible. Thus it came to be thought as necessary for a midwife to excel in bracing and dressing an infant, as for a surgeon to be expert in applying bandages to a broken limb; and the poor child, as soon as it came into the world, had as many rollers and wrappers applied to its body, as if every bone had been fractured in the birth; while these were often so tight, as not only to gall and wound its tender frame, but even to obstruct the motion of the heart, lungs, and other organs necessary for life.

In several parts of Britain, the practice of rolling children with so many bandages is now, in some measure, laid aside; but it would still be a difficult task to persuade the generality of women, that the shape of a child does not entirely depend on the midwife's care. So far, however, are all their endeavours to mend the shape of children from being successful, that they constantly operate the contrary way, and mankind become deformed just in proportion to the means used to prevent deformity. How little deformity of body is to be found among uncivilised nations! So little indeed, that it is vulgarly believed they put all their deformed children to death. The truth is, they hardly know such a thing as a deformed child. Neither should we, if we followed their example. Savage nations never think of manacling their children. They allow them the full use of every organ, carry them abroad in
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the open air, wash their bodies daily in cold water, &c. By this management, their children become so strong and hardy, that, by the time our puny infants get out of the nurse's arms, theirs are able to shift for themselves.

Among brute animals, no art is necessary to procure a fine shape. Though many of them be extremely delicate when they come into the world, yet we never find them grow crooked for want of swaddling-bands. Is nature less generous to the human kind? No; but we take the business out of Nature's hands.

Not only the analogy of other animals, but the very feelings of infants, tell us, that they ought to be kept easy, and free from all pressure. They cannot indeed speak their complaints; but they can shew signs of pain; and this they never fail to do, by crying, when pinched by their clothes. No sooner are they freed from their bracings, than they seem pleased and happy; yet, strange infatuation! the moment they hold their peace, they are again committed to their chains.

If we consider the body of an infant as a bundle of soft pipes, replenished with fluids in continual motion, the danger of pressure will appear in the strongest light. Nature, in order to make way for the growth of children, has formed their bodies soft and flexible; and, lest they should receive any injury from pressure in the womb, has surrounded the *fœtus* every way with fluids. This shews the care which nature takes to prevent all unequal pressure on the bodies of infants, and to defend them against every thing that might in the least cramp or confine their motions.

Even the bones of an infant are so soft and cartilaginous, that they readily yield to the slightest pressure, and easily take on a bad shape, which can never after be remedied. Hence it is, that so many people

people appear with high shoulders, crooked spines, and flat breasts, who were born with as good a shape as others, but had the misfortune to be squeezed into monsters by the application of stays and bandages.

Pressure, by obstructing the circulation, prevents the equal distribution of nourishment to the different parts of the body, by which means the growth becomes unequal. One part of the body grows too large, while another remains too small; and thus in time the whole frame becomes disproportioned and misshapen. To this we must add, that when a child is cramped in its clothes, it naturally shrinks from the parts affected, and by putting its body into unnatural postures, it becomes deformed by habit.

Deformity of body may proceed from weakness or diseases; but, in general, it is the effect of improper clothing. Nine tenths, at least, of the deformity amongst mankind, must be imputed to this cause. A deformed body is not only disagreeable to the eye, but injurious to the health. By a bad figure, both the animal and vital functions must be impeded, and of course health impaired. Hence, few people remarkably misshapen are strong and healthy.

The new motions which commence at the birth, as the circulation of the whole of the blood through the lungs, respiration, the peristaltic motion, &c. afford another strong argument for keeping the body of an infant free from all pressure. These organs, not having been accustomed to move, are easily stopped; but when that happens, death must ensue. Hardly any method could be devised more effectually to stop these motions, than bracing the body too tight with * rollers, &c. Were these to be applied

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* This is by no means inveighing against a thing that does not happen. In many parts of Britain at this day, a roller, five or six feet in length, is applied round the child's body as soon as it is born.

in the same manner to the body of an adult for an equal length of time, they could hardly fail to hurt the digestion, and make him sick. How much more hurtful they must be to tender infants, we shall leave to any one to judge.

Whoever considers these things will not be surprised that so many children die of convulsions soon after the birth. These fits are generally attributed to some inward cause; but, in fact, they oftener proceed from our own imprudent conduct. I have known a child seized with convulsion-fits, soon after the midwife had done swaddling it; but, upon taking off the rollers and bandages, it was immediately relieved, and never had any convulsion-fits afterwards. Numerous examples of this sort might be brought, were they necessary.

It would be safer to fix on the clothes of an infant with strings than pins, as these often gall and irritate their tender skins, and occasion convulsions. Instances have been known, where pins were found sticking above half an inch into the body of a child after it had died of convulsion-fits, which, in all probability, proceeded from that cause.

Children are not only hurt by the tightness of their clothes, but also by the quantity. Every child has some degree of fever after the birth; and, if it be loaded with too many clothes, the fever must be increased. But that is not all; the child is generally laid in bed with the mother, who is likewise feverish; to which we may add the heat of the lying-in bed-chamber, and the wines, and other heating things, too often given to children immediately after the birth. When all these are combined, which does not seldom happen, they must increase the fever to such a degree as will endanger the life of the infant.

The danger of keeping infants too hot, will further appear, if we consider, that, after being for
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some time in the situation mentioned above, they are often sent into the country to be nursed in a cold house *. Is it any wonder, if a child, from such a transition, catches a mortal cold, or contracts some other fatal disease? When an infant is kept too hot, its lungs not being sufficiently expanded, are apt to remain weak and flaccid for life; from whence proceed coughs, consumptions, and other diseases of the breast.

It would answer little purpose to specify the particular pieces of dress proper for an infant. These ever will vary in different places, according to custom and the humour of parents. The great rule to be observed is, *That a child have no more clothes than are necessary to keep it warm, and that they be quite easy for its body.*

Stays are the very bane of children. A volume would not suffice to point out all the ill effects of this useless piece of dress. The madness in favour of stays seems, however, to have been at a height; and it is to be hoped the world will, in time, become wise enough to know, that the human shape does not solely depend upon whale-bone and bend-leather †.

We shall only add, with respect to the clothes of children, that they ought to be kept very clean. Children perspire more than adults; and, if their clothes be not frequently changed, they become very hurtful. Dirty clothes not only gall and fret the tender skins of infants, but likewise occasion ill smells; and, what is worse, tend to produce vermin and cutaneous diseases.

Cleanliness is not only agreeable to the eye, but tends greatly to preserve the health of children. It promotes the perspiration; and, by that means, frees

* Cadogan.

† Stays made of bend-leather are worn by all the women of lower station in many parts of England.

frees the body from superfluous humours, which, if retained, could not fail to occasion diseases. A nurse can have no excuse for allowing a child to be dirty. Poverty may oblige her to give it coarse clothes; but if she does not keep them clean, it must be her own fault.

OF THE FOOD OF CHILDREN.

NATURE not only points out the food proper for an infant, but actually prepares it. This, however, is not sufficient to prevent some who think themselves wiser than nature, from attempting to bring up their children without her provision. Nothing can show the disposition which mankind have to depart from nature, more than their endeavouring to bring up children without the breast. The mother's milk, or that of a healthy nurse, is unquestionably the best food for an infant. Neither art nor nature can afford a proper substitute for it. A child may seem to thrive for a few months without the breast; but, when teething, the small-pox, and other diseases incident to childhood, come on, it generally falls a victim: An evident proof, that its food is unwholesome, and its humours bad.

A child soon after the birth shows an inclination to suck; and there seems to be no reason why it should not be gratified. It is true, the mother's milk does not always come immediately after the birth; but is not this the way to bring it? The first milk that the child can squeeze out of the breast, answers the purpose of cleansing better than all the drugs in the apothecary's shop, and at the same time prevents inflammations of the breast, fevers, and other diseases incident to mothers.

It is strange how people came to think that the first thing given to a child should be drugs. This
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is beginning with medicine by times, and no wonder that they generally end with it. It sometimes happens, that a child does not pass the *meconium* so soon as could be wished. This has induced physicians in such cases to give something of an opening nature to cleanse the first passages. Midwives have improved upon this hint, and never fail to give syrups, oils, &c. whether they be necessary or not. Cramming an infant with such indigestible stuff as soon as it is born, can hardly fail to make it sick, and is more likely to occasion diseases, than to prevent them. Children are seldom long after the birth without having passage both by stool and urine; though these evacuations may be wanting for some time without any danger.

Were a child permitted to suck its mother as soon as it shows an inclination for the breast, it would need no other physic; but if it must have something before it be allowed the breast, let it be a little simple water-pap, to which may be added an equal quantity of new milk. If this be given without any wines, or spices, it will neither heat the blood, load the stomach, nor occasion gripes.

Upon the first sight of an infant, almost every person is struck with the idea of its being weak, feeble, and wanting support. This naturally suggests the need of cordials. Accordingly, we find wines universally mixed with the first food of children. Nothing can be more fallacious than this way of reasoning, or more hurtful to infants than the conduct founded upon it. Children need very little food for some time after the birth; and what they receive should be thin, weak, light, and of a cooling quality. A very small quantity of wine is sufficient to heat and inflame the blood of an infant; but every person, conversant in these matters, must know, that most of the diseases of infants

proceed from the heat of their humours, as the thrush, &c.

If the mother or nurse has enough of milk, the child will need little or no other food before the third or fourth month. It will then be proper to give it, once or twice a-day, a little of some food that is easy of digestion; as water-pap, milk-pottage, weak broth with bread in it, or the like. This will ease the mother; it will accustom the child by degrees to take food, and render the weaning both less difficult and dangerous. All great and sudden transitions are to be avoided in nursing. For this purpose, the food of children ought to be simple, as nearly as possible resembling the properties of milk. Indeed milk itself should make a principal part of their food, not only before they be weaned, but for a long time after.

Next to milk, we would recommend good light bread. Bread may be given to a child as soon as it shows an inclination to chew, and it may at all times be allowed as much as it pleases. The very chewing of bread will help to cut the teeth, and promote the discharge of *saliva*, while, by mixing with the nurse's milk in the stomach, it will afford an excellent nourishment. Children show an early inclination to chew whatever is put into their hands. Parents observe the inclination, but generally mistake the object. Instead of giving the child something which may at once exercise its gums and afford it nourishment, they commonly put into its hand a piece of hard metal, or impenetrable coral. A crust of bread is the best gum-stick. It not only answers the purpose better than any thing else, but has the additional properties mentioned above, of nourishing the child, and carrying the *saliva* down to the stomach, which is too valuable a liquor to be lost.

Bread, besides being used dry, may be many
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ways prepared into food for children. One of the best methods of preparing it, is to boil it in water, afterwards pouring the water off, and mixing with the bread a proper quantity of new milk unboiled. Milk is both more wholesome and nourishing this way than boiled, and is less apt to occasion costiveness. For a child farther advanced, bread may be mixed in veal or chicken broth, made into puddings, or the like. Bread is a proper food for children at all times, provided it be plain, made of wholesome grain, and well fermented; but when enriched with fruits, sugars, or such things, it becomes very unwholesome.

It is soon enough to allow children animal food when they have got teeth to eat it. They should never taste it till after they are weaned, and even then they ought to use it very sparingly. Indeed, when children live wholly on vegetable food, it is apt to sour on their stomachs; on the other hand, too much flesh heats the blood, and occasions fevers and other inflammatory diseases. This plainly points out a proper mixture of animal and vegetable food as most fit for children.

Few things are more hurtful to children, than the common method of sweetening their food. It not only makes them grow fat and bloated, but entices them to take more food than they ought to do. It is pretty certain, if children's food were quite plain, that they would never take more than enough. Thus the excesses of children are entirely owing to nurses. If a child be gorged with food at all hours, and enticed to take it, by making it sweet and agreeable to the palate, is it any wonder if such a child comes in time to crave more food than it ought to have?

Children may be hurt by too little as well as too much food. After a child is weaned, it ought to be fed four or five times a-day; but should never

be accustomed to eat in the night; neither should it have too much at one time. Some lay it down as a rule, that no child ought to be fed above three times in twenty-four hours; whereas most adults eat four times in the same space. The food of children is generally lighter than that of adults; their digestion is likewise more quickly performed: If to these we add the power of habit, we will be inclined to think, that children should be fed oftener than grown persons. If a child, who has been accustomed to suck its nurse at all hours, be suddenly deprived of that, and restricted to three meals a-day, bad consequences must follow. I have often seen the scheme of bringing children to live on three regular meals a-day tried, but never knew it succeed. Children thrive much better with small quantities of food frequently given. This neither overcharges the stomach, nor hurts the digestion, and is certainly most agreeable to nature.

Writers on nursing have inveighed with such vehemence against too much food, that one would be apt to imagine two-thirds of those who die in infancy were actually crammed to death. This has induced many parents to ruin the constitutions of their children, by running into the other extreme. The error of pinching children in their food, is more hurtful than its opposite. Nature has many ways of relieving herself when overcharged; but a child who is pinched with hunger will never become a strong or healthy man. That errors are frequently committed on both sides, we are ready to acknowledge; but where one child is hurt by the quantity of its food, ten suffer from the quality. That is the principal evil, and claims our strictest attention.

Many people imagine, that food which they love themselves cannot be bad for their children:

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But this notion is very absurd. In the more advanced periods of life, we often acquire an inclination for food, which, when children, we could not bear to taste. There are many things that may agree very well with the stomach of a grown person, which would be very hurtful to a child; as high-seasoned, salted, and smoke-dried provisions, &c. It would also be improper to feed children with fat meat, strong broths, rich soups, gravies, or the like.

All strong liquors are hurtful to children. Some parents teach their children to guzzle ale, and other strong liquors, at every meal; but such a practice cannot fail to do mischief. These children seldom escape the violence of the small-pox, measles, hooping-cough, or some other feverish disorder. Milk, water, butter-milk, or whey, make the most proper drink for children. If they have any thing stronger, it may be fine small beer, or a little wine mixed with water. The stomachs of children can digest well enough without the assistance of warm stimulants. Young people are naturally hot, and consequently are easily hurt by every thing of a heating quality: Their blood has a constant tendency to inflammation, which all strong liquors must increase.

Few things are more hurtful to children than unripe fruits. These not only sour the stomach, but relax it, and weaken the digestion; by which means it becomes a proper nest for worms of all kinds. Children indeed show the greatest inclination for fruit; and I am apt to believe, that if good ripe fruit were allowed them in proper quantity, it would have no bad effects. We seldom find a natural inclination wrong, if directed to its proper objects. Fruits are generally of a cooling nature, and correct the heat and acrimony of the humours. This is what most children want; only

care should be taken lest they exceed. Indeed the best way to prevent children from going to excess in the use of fruit, or eating that which is bad, is to allow them a proper quantity of what is good.

Roots which contain a crude viscid juice should be sparingly given to children. They fill the body with gross humours, and tend to produce eruptive diseases. This caution is peculiarly necessary for the poor; being glad to get what will fill their children's bellies for a little money, they stuff them two or three times a-day with potatoes and the like. Children had better eat a small quantity of such food as would yield a wholesome nourishment, than be crammed with what their digestive powers are unable properly to assimilate.

Butter ought likewise to be sparingly given to children. It both relaxes the stomach, and produces gross humours. Indeed most things that are fat or oily, have the same effect. Butter, when salted, becomes still more hurtful. Instead of butter, so plentifully eat by children in most parts of Britain, we would recommend honey. Honey is not only more wholesome than butter, but likewise cheaper. It is cooling, cleansing, and tends to sweeten the humours; whereas butter is just the reverse. Children who eat honey are seldom troubled with worms. They are also less subject to the common cutaneous diseases, as itch, scabbed-head, &c.

Many people err in thinking the diet of children should be always moist. When children live entirely upon slops, it relaxes their solids, renders them weak, and predisposes them to rickets, scrofulas, and other glandular disorders. Relaxation is one of the most general causes of the diseases of children. Every thing, therefore, which tends to unbrace their bodies, ought to be carefully avoided.

We would not be understood as confining children

dren to any kind of particular food. Their diet may be frequently varied, provided regard be had to simplicity. Whatever food we are most accustomed to in youth, we generally love during life. For this reason, children should have a little of any kind of food that is plain and wholesome, lest they should contract an aversion from it, and afterwards be under a necessity of using it.

OF THE EXERCISE OF CHILDREN.

Of all the causes which conspire to render the lives of children short and miserable, none has greater influence than the want of proper exercise: Healthy parents, wholesome food, and proper clothing, will avail little where it is neglected: Enough of exercise will make up for several other defects; but nothing can supply the want of it. It is absolutely necessary to the health, the growth, and the strength of children.

The desire of exercise is almost coeval with life itself. Were this principle attended to, many diseases might be prevented. But while indolence and sedentary employments keep two-thirds of mankind from either taking exercise themselves, or giving it to their children, what have we to expect but diseases and deformity among their offspring? The rickets, so destructive to children, never appeared in Britain till manufactures began to flourish, and people, attracted by the love of gain, left the country to follow sedentary employments in great towns. It is amongst these people that this disease chiefly prevails, and not only deforms, but kills many of their offspring.

The analogy of other young animals shews that

children require exercise. Every creature endeavours to make use of its limbs as soon as it can, and many of them, even when under no necessity of moving in quest of food, cannot be restrained without force. This is evidently the case with the calf, the lamb, and many other young animals. If these creatures were not permitted to frisk about, and take exercise, they would soon die. The same inclination appears very early in the human species; but as they are not able to take exercise themselves, it is the business of their parents or nurses to assist them.

Children may be exercised in various ways. The best method, while they are young, is to carry them about in the nurse's arms. This gives the nurse an opportunity of talking to the child, and of pointing out every thing that may please and delight its fancy. It is much safer than swinging an infant in a machine, or leaving it to the care of such as are not fit to take care of themselves. Nothing can be more foolish than to set one child to keep another; that practice has proved fatal to many infants, and has rendered others lame for life.

When children begin to walk, the safest and best method of leading them about is by the hands. The common way of swinging children by strings fixed to their backs, has many bad consequences. It makes them throw their bodies forward, and press with their whole weight upon the breast: by that means the breathing is obstructed, the breast flattened, and the bowels compressed. This hurts the digestion, and occasions consumptions of the lungs, and other diseases.

It is a common notion, that if children be set upon their feet too soon, their legs will become crooked. There is reason to believe, that the very reverse of this is true. Every member acquires strength in proportion as it is exercised. The
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limbs of children are weak indeed, but their bodies are proportionably light; and had they skill to direct themselves, they would soon be able to support their own weight. Who ever heard of any other animal that became crooked by using its legs too soon? Indeed, if a child be not permitted to make use of its legs till a considerable time after the birth, and be then set upon them with its whole weight at once, there may be some danger of hurting it; but this proceeds entirely from the child's not having been accustomed to use its legs from the beginning.

Mothers of the poorer sort think they gain a great deal by making their children lie or sit while they work. In this they are greatly mistaken. By neglecting to give their children exercise, they are obliged to keep them a long time before they can do any thing for themselves, and to spend more on medicine than would have paid for proper care, while it can never supply its place. To take care of their children, is the most profitable business in which even the poor can employ themselves: But, alas! it is not always in their power. Poverty often obliges them to neglect their offspring, in order to procure the necessaries of life. When that is the case, it becomes the interest as well as the duty of the public to assist them. Ten thousand times more benefit would accrue to the State, by enabling the poor to bring up their own children, than from all the * hospitals that ever can be erected for that purpose.

Whoever

* If we make it the interest of the poor to keep their offspring alive, we shall lose very few of them. This I have had many opportunities of observing. A small premium given to the poor annually for every child they have alive, would save more infant-lives, than if the whole revenues of the nation were expended on hospitals for that purpose. This would make the poor esteem fertility a blessing; whereas many of them think it the greatest curse that can befall them; and in place of wishing their children to live, so far does poverty get the better of natural affection, that they are very happy when they die.

Whoever considers the structure of the human body, will soon be convinced of the necessity of exercise for the health of children. The body is composed of an infinite number of vessels, whose contents cannot be pushed on without the action and pressure of the muscles. But if the fluids remain inactive, obstructions must happen, and the humours will of course be vitiated, which cannot fail to occasion diseases. Nature has furnished both the vessels which carry the blood and lymph, with numerous valves, in order that the action of every muscle might push forward their contents; but without action, this admirable contrivance can have no effect. The final cause of this part of the animal economy proves the necessity of exercise for the preservation of health.

Arguments to shew the importance of exercise might be drawn from every part of the animal economy: Without exercise the circulation of the blood cannot be properly carried on, nor the different secretions duly performed; without exercise the humours cannot be properly prepared, nor the solids rendered strong or firm. The action of the heart, the motion of the lungs, and all the vital functions, are greatly assisted by exercise. But to point out the manner in which these effects are produced, would lead us farther into the economy of the human body, than most of those for whom this treatise is intended would be able to follow. We shall therefore only add, that where exercise is neglected, none of the animal functions can be duly performed; and when that is the case, the whole constitution must go to wreck.

Certainly our first object in the management of children ought to be a good constitution. This lays a foundation for their being useful and happy in life; and whoever neglects it, not only fails in his duty to his offspring, but to society.

One very common error of parents, by which they hurt the constitutions of their children, is sending them too young to school. This is often done solely to prevent trouble. When the child is at school, he needs no keeper. Thus the schoolmaster is made the nurse ; and the poor child is nailed to a seat seven or eight hours a-day, which ought to be spent in exercise and diversions. Sitting so long cannot fail to produce the worst effects upon the body ; nor is the mind less injured. Early application weakens the faculties, and often fixes in the mind such an aversion from books, as can never be removed.

But suppose this were the way to make children scholars, it ought not to be done at the expence of their constitutions. Our ancestors, who seldom went to school before they were men, were not less learned than we. But we imagine the boy's education will be quite lost, unless he be carried to school in his nurse's arms. No wonder if such hot-bed plants seldom become either scholars or men !

Not only the confinement in public schools, but the number often proves extremely hurtful. Children are much injured by being kept in crowds within doors ; their breathing not only renders the place unwholesome, but if any one of them happens to be diseased, the rest catch the infection. A single child has been often known to communicate the bloody-flux, the hooping-cough, the itch, or other diseases, to almost every individual in a numerous school.

But if fashion will prevail, and infants must be sent to school, we would earnestly recommend to teachers, as they value the interests of society, not to confine them too long at a time, but to permit them to run about and play at such active diversions as may promote their growth, and improve their constitutions. Were boys, instead of being
whipped

whipped for stealing an hour to run, ride, swim, or the like, encouraged to employ their time in these manly and useful exercises, it would have many excellent effects.

It would likewise be of great service to boys, if, at a proper age, they were all taught the military exercise. This would improve their strength, courage, and agility; and, when their country called for their assistance, it would enable them to act in her defence, without being obliged to undergo a tedious and troublesome course of instructions, at a time when they are less fit to learn new motions, gestures, &c.

An effeminate education will infallibly spoil the best natural constitution; and, if boys are brought up in a more delicate manner than even girls ought to be, they never will be men.

But the common education of girls is no less hurtful to the constitution than that of boys. Miss is set down to her frame, before she can put on her clothes, and is taught to believe, that to excel at the needle is the only thing that can entitle her to general esteem. It is unnecessary here to insist upon the dangerous consequences of obliging girls to sit too much; they are pretty well known, and are too often felt at a certain time of life. But suppose this critical period to be got over, greater dangers still await them when they come to be mothers. Women who have been early accustomed to a sedentary life, generally run great hazard in child-bed, while those who have been used to romp about, and take enough of exercise, are seldom in any danger.

One hardly meets with a girl who can, at the same time, boast of early performances with the needle, and a good constitution. Close and early confinement generally occasions indigestions, headaches, pale complexions, pain of the stomach, loss
of

of appetite, coughs, consumptions of the lungs, and deformity of body. The latter, indeed, is not to be wondered at, considering the aukward postures in which girls sit at many kinds of needle-work, and the delicate flexible state of their bodies in the early period of life.

Would mothers, instead of having their daughters instructed in many useless accomplishments, teach them plain work and housewifery, allowing them enough of time to run about, they would both make them better mothers, and more useful members of society. I am no enemy to genteel accomplishments, but would have them only considered as secondary, and always disregarded when they impair health.

Many people imagine it a great advantage for children to be early taught to gain their bread. This opinion is certainly right, provided they be so employed as not to hurt their health or growth; but, when these suffer, society, in place of being gainers, are real losers by their labour. There are few employments, except sedentary ones, by which children can earn a livelihood; and, if they be set to these too soon, it ruins their constitutions. Thus, by gaining a few years from childhood, we generally lose twice as many in the other periods of life, and even render the person less valuable while he does live.

In order to be satisfied of the truth of this observation, one needs only look into the great manufacturing towns, where he will find a puny degenerate race of people, weak and sickly all their lives, seldom exceeding the middle period of life; or, if they do, being unfit for business, they become a burden to society. Thus, arts and manufactures, though they may increase the riches of a country, are by no means favourable to the health of its inhabitants. Good policy would therefore require,
that

that such people as labour during life, should not be set too early to work. Every person, conversant in the breeding of horses, or other work-animals, knows, that, if they be set to hard labour too soon, they never will turn out to advantage. This is equally true with respect to the human species.

There are, nevertheless, various ways of employing young people, without hurting their health. The easier parts of gardening, husbandry, or any business carried on without doors, are most proper. These are employments that most young people are fond of; and some parts of them may always be adapted to their age, taste, and strength.

Such parents, however, as are under the necessity of employing their children within doors, ought to allow them enough of time for active diversions. This would both encourage them to do more work, and prevent their constitutions from being hurt.

Some imagine that exercise within doors is sufficient; but they are greatly mistaken. One hour spent in running, or any other exercise without doors, is worth ten within. When children cannot go abroad, they ought indeed to be exercised at home. The best method of doing this is to make them run about in a long room, or dance. This last kind of exercise, if not carried to excess, is of excellent service to young people. It cheers the spirits, promotes perspiration, strengthens the limbs, &c. An eminent physician used to say, that he made his children dance instead of giving them physic. It were well if more people followed his example.

As many of the chronic diseases of children might be prevented by the prudent use of the COLD BATH, we shall point out some of those mistakes which commonly prevent its having the desired effect.

The Cold Bath may be considered as an aid to exercise. By it the body is braced and strengthened,
the

the circulations and secretions promoted, and, were it conducted with prudence, many diseases, as the rickets, scrophula, &c. might thereby be prevented. The ancients, who took every method to render children hardy and robust, were no strangers to the use of the cold bath; and, if we may judge from the great number of consecrated wells in this island, many of which have no other virtues but those of cold water, yet are said to have been famous for curing the diseases of children, we will see cause to believe, that the practice of immersing children in cold water must have been very common among our ancestors.

So far as I have been able to observe, the cold bath does as much mischief as good; but that is owing to the want of due care in using it. Children born of delicate parents are not suddenly to be plunged over the head in cold water. They must be gradually brought to it, by using tepid water at first, and making it a little cooler every time they are bathed, till by degrees they be able to bear it quite cold. Children afflicted with internal diseases, as inflammations or obstructions of the breast, bowels, &c. ought not to be bathed in cold water.

It is next to impossible to bring nurses to make a proper use of the cold bath: Their prejudices are so strong and deep-rooted, that no reasoning is able to bring them off their own way. I have known some of them who would not dry a child's skin after bathing it, lest it should destroy the effect of the water. Others will even put clothes dipt in the water upon the child, and either put it to bed, or suffer it to go about in that condition. Some nurses believe, that the whole virtue of the water depends upon its being dedicated to some particular saint. These will carry a child 40, 50, or 100 miles, to have it once dipt in a certain well; and this is to cure it of whatever disease it labours under.

under. Others place their confidence in a certain number of dips, as three, seven, nine, or the like; and the world could not persuade them, if these do not succeed, to try it a little longer.

Thus, by the whims and caprice of nurses, a valuable remedy is lost, and the physician is often disappointed in his hopes by their misconduct. When the cold bath is used as a remedy, it ought always to be by the advice of a physician, and the nurse should adhere strictly to his directions. I have seen wonderful cures in the most obstinate scrophulous cases performed by the cold bath. The salt water in this case is always to be preferred. That will succeed where all other medicines have failed.

Every child, when in health, ought to have its extremities at least washed with cold water daily. This is a partial use of the cold bath, and is better than none. In winter this may suffice; but in the warm season, if a child be relaxed, or seem to have a tendency to the rickets or scrophula, its whole body ought to be daily immersed in cold water*. Care, however, must be taken not to do this when the body is hot, or the stomach full. The child should be dipt only once at a time, should be taken out immediately, and have its skin well rubbed with a dry cloth.

OF THE BAD EFFECTS OF UNWHOLESOME AIR UPON CHILDREN.

Few things are more destructive to children, than confined or unwholsome air. This is one reason why so few of those infants live who are put into hospitals, or parish-workhouses. These places are generally

* Children of this description ought, wherever it can be done, to be sent for two or three months every year to sea-bathing quarters.

generally crowded with old, sickly, and infirm people; by that means the air is rendered so extremely pernicious, that it becomes a poison to infants.

Want of wholesome air is likewise destructive to many of the children born in great towns. There the poorer sort of inhabitants live in low, dirty, confined houses, where the fresh air has no access. Though grown people, who are hardy and robust, may live for a number of years in such situations, yet they generally prove fatal to their offspring, few of whom arrive at maturity, and those who do are weak and deformed. Such people, not being able to carry their children abroad into the open air, we must lay our account with losing the greater part of their progeny. But the rich have not that excuse. It is their business to see that their children be daily carried abroad, and that they be kept in the open air for a sufficient time. This will succeed better if the mother goes along with them. Servants are often negligent in these matters, and allow a child to sit or lie on the damp ground, in place of leading or carrying it about. The mother surely needs air as well as her children; and how can she be better employed than in attending them? Some may think this office below their dignity; but I know no situation in which a mother appears to such advantage, as when surrounded by a circle of healthy children.

A very bad custom prevails of making children sleep in small apartments, or crowding two or three beds into one chamber. In place of that, the nursery ought always to be the largest and best-aired room in the house. When children are confined in small apartments, the air is not only unwholesome, but such places being generally too hot, their bodies are relaxed, and this disposes them to catch
C cold

cold when they go abroad, and has many other bad effects *.

Children who are kept within doors all day, and sleep all night in warm close apartments, may, with great propriety, be compared to plants nursed in a hot house, in place of the open air. Though such plants, by extraordinary care, may be kept alive for some time; yet they never will arrive at that degree of strength, vigor, and magnitude, at which they would have arrived in the open air, nor would they be able to bear it afterwards should they be exposed to it.

Children brought up in the country, who have been accustomed to fresh open air, should not be too early sent to great towns, where the air is confined and unwholesome. This is frequently done with a view to forward their education, but proves very hurtful to health. Those who are grown up do not suffer near so much from bad air as young persons. All schools and seminaries of learning ought to be so situated as to have fresh, dry, wholesome air, and should never be too much crowded.

Without entering into a detail of the particular advantages of wholesome air to children †, we shall only

* Children ought not to be wrapped up too close in cradles either, or to have their face covered while asleep, so as to be forced to breathe the same vitiated air over and over again.

† In addition to what has been so fully and so ably stated by our author, respecting the importance of fresh air to young children, we have only to observe, as we think the subject of great importance, that it is not enough that children in large towns should be sent out for one or two hours, once or twice a-day, into the streets. The atmosphere, in all considerable towns, is more or less vitiated; and therefore, though preferable to the air within doors, is certainly very far from being so salubrious, especially to children, as fresh country-air. In such situations, children ought undoubtedly in good weather to be sent, at least twice a-day, to some country-walk that may chance to be nearest them, where they may both enjoy the pure air, and at the same time amuse themselves at pleasure, without the risk of those accidents to which they are inevitably exposed on the streets of a large city.

only observe, that when they enjoy that blessing, they generally sleep well, eat well, and thrive accordingly. It braces and strengthens their bodies, enlivens their spirits, and every way promotes their growth and health.

OF NURSES.

NURSES are guilty of many faults, which prove fatal to infants. It is therefore the duty of parents to watch over their conduct with the greatest care, and to be extremely cautious in the choice of them*.

One of the most common faults of nurses is to dose children with stupefactives, or such things as lull them asleep. An indolent nurse, who does not give a child enough of exercise in the open air to make it sleep, and does not chuse to be disturbed by it in the night, will seldom fail to procure for it a dose of laudanum, diacodium, saffron, or, what answers the same end, a dram of spirits, or other strong liquors. These, though they be certain poison to children, are every day administered by many who bear the character of very good nurses.

A nurse who has not enough of milk is apt to imagine, that she can supply that defect by giving the child wines, cordial waters, or other strong liquors. This is an egregious mistake. The only thing that has any chance to supply the place of the nurse's milk, must be somewhat nearly of the

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same

* This direction, at all times proper, is peculiarly so, when a child is to be nursed abroad. In this case, it is of the utmost consequence to be well acquainted with the character and dispositions of the person to whom we entrust so tender a charge. We ought also to observe if she be well-tempered and careful, and if her own child be stout and healthy.

same quality, as cow's milk, afs's milk, or the like, with good bread. It never can be done by the help of strong liquors. These, in place of nourishing an infant, never fail to produce the contrary effect.

Children are often hurt by nurses permitting them to cry long and vehemently. This strains their tender bodies, and frequently occasions ruptures, inflammations of the throat, lungs, &c. The nurse who can hear an infant cry till it has almost exhausted itself, without endeavouring to please it, must be cruel indeed, and is unworthy to be trusted with the care of a human creature.

Nurses who deal much in medicine, are always to be suspected. They trust to it, and neglect their duty. I never knew a good nurse who had her Godfrey's cordials, Daffy's elixirs, &c. at hand. Such generally imagine, that a dose of these will make up for all defects in food, air, exercise, cleanliness, &c.

A very pernicious custom of indolent nurses is allowing children to continue long wet. This is not only disagreeable, but it galls and frets the infant, and, by relaxing the solids, occasions scrophulas, rickets, and other fatal diseases.

Nature often attempts to free the bodies of children from superfluous humours, by throwing them out upon the skin: By this means, fevers, and other diseases, are prevented. Nurses are apt to mistake such critical eruptions for an itch, or some other infectious disorder. Accordingly they take every method to drive them in. In this way many children lose their lives; and no wonder, as nature is opposed in the very method that she took to relieve them. It ought to be a rule which every nurse should observe, never to stop any eruption without proper advice, or being well assured, that it is not of a critical nature. At any rate, it is never to be done without previous evacuations.

Loose

Loose stools is another method by which nature often prevents the diseases of infants *. If these proceed too far, no doubt they ought to be checked; but this is never to be done without the greatest caution. Nurses, upon the first appearance of loose stools, frequently fly to the use of astringents, or such things as bind the belly. Thus inflammations, fevers, and other fatal diseases, are brought on. A dose of rhubarb, a gentle vomit, or some other evacuations, should always precede the use of astringent medicines.

One of the greatest faults of nurses is concealing the diseases of children from their parents. This they are extremely ready to do, especially when the disease is the effect of their own negligence. Every person must have seen instances of people who were lame for life by a fall out of the nurse's arms, while she, through fear, concealed the misfortune till it was past cure. Every parent who entrusts a nurse with the care of a child, ought to give her the strictest charge not to conceal the most trifling disorder or misfortune that may befall it. Parents, instead of being angry when a nurse informs them of such accidents, ought to reward her for her honesty; this would encourage her to do the same upon other occasions. We can see no reason why a nurse should not be punished who conceals any disorder or misfortune that happens to a child under her care, till it loses its life. A few examples of this would save many infant lives;

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* Though we do not believe, with our Author, that *looseness* and *eruptions* in children are commonly critical, and therefore ought not to be stopped; we yet cordially agree with him in thinking, that nurses ought seldom or never to tamper with these, or indeed any other diseases of children. Their delicate constitutions are certainly improper subjects for random experiments. In cases of looseness where the complaint is moderate, and only of short continuance, a little magnesia, or prepared chalk, may frequently be given with advantage, as the disease often proceeds from acidity. But if the disease do not very soon yield, or if the child begin to be weakened by it, recourse ought instantly to be had to medical assistance.

but as there is little reason to expect that it ever will be the case, we would earnestly recommend it to all parents to look carefully after their children, and not to trust so valuable a treasure entirely in the hands of an hireling.

These, and many other faults, being daily committed by those who have the care of children, it ought surely to rouse the attention of all parents who have any regard for their offspring, and to make them very circumspect in the choice of those into whose hands they commit them. They ought at least to take care that a nurse be sober, cleanly, honest, healthy, not too young, nor the contrary; that she have the necessaries of life, and a comfortable habitation, &c.

Were it practicable to have all children nursed and educated in the country, we should lose very few of them. One seldom sees a country-farmer without a numerous offspring, most of whom arrive at maturity. Many things conspire to that end. The children of these people are generally nursed by their mothers, they eat plain wholesome food, enjoy the benefit of fresh air, and have enough of proper exercise; they have rural sports and pastimes suited to their age, and as they grow up, find employments adapted to their strength, agreeable to their inclinations, and conducive to their health: They learn industry and sobriety from their parents, and seldom fail to practise these virtues for life. In fine, we cannot help joining with the learned Mr Locke *, in recommending the example of these people as a model to all in the management of their children.

* On Education.

As many people can understand the meaning of a short rule, who are not able to attend to a chain of reasoning, we shall reduce the leading principles of nursing under the following general heads.

1. Every mother ought to suckle her own child, if she can do it with safety.
2. A weak, consumptive, nervous, or hysteric mother ought not to give suck, where a healthy nurse can be had.
3. No child should be brought up without the breast, if it be possible to obtain a proper nurse.
4. The clothes of an infant should be soft, light, loose, and easy for its body. They ought to be fastened on with strings rather than pins.
5. The clothes of children ought to be kept very clean.
6. A new born infant should not be kept too hot.
7. An infant should be permitted to suck as soon as it shows an inclination for the breast.
8. An infant should neither be crammed with food nor physic as soon as it is born; but permitted to lie quiet for some time, in order to recover the fatigue of the birth, &c.
9. If an infant must have food before it sucks, let it be water-pap mixed with new milk, free of all wines, spiceries, or the like.
10. While the child sucks, it seldom needs much of any other food. It will, however, be right, about the third or fourth month, to begin to give it once or twice a day a little of some food that is light and easy of digestion. This will make the weaning both less troublesome and dangerous.
11. A child should not be weaned all at once, but by degrees; as all sudden changes in the diet of children are dangerous.
12. The food of children ought at all times to

be simple, but nourishing. It should consist of a proper mixture of animal and vegetable substances*.

13. Children should not be permitted to eat too much fruit, or roots of any kind; but all sorts of green trash ought to be kept from them with the greatest care.

14. Children ought not to be pinched in their food. They require to eat oftener than adults.—If their food be simple, and they know that they can have it when hungry, they will seldom or never eat more than enough.

15. As soon as children can take exercise, they ought to be allowed as much as they please; till then it is the business of the nurse to carry and toss them about.

16. A nurse ought not only to carry an infant about, but to divert and amuse it, so as to keep it in good humour.

17. An infant should never be suffered to cry long and vehemently.

18. Eruptions, or looseness in children, ought not to be stopped, but with the greatest caution:

19. No means should be used to force children to sleep; but they may always be permitted to take as much as they please.

20. Children ought never to have medicine unless they have some disease.

21. Children should neither be sent too early to school, nor confined to any mechanical employment within doors.

22. Schoolmasters,

* Children, in general, under two years of age, ought not to be allowed any animal food. Before this period they have not teeth to chew it properly, and at any rate good milk and bread, with a little weak soup or broth, or a fresh egg, while they afford enough of nourishment, certainly are not so heating. Nor should children, in our opinion, till the age of seven or eight, be indulged in the free use of animal food; after this they may be allowed their freedom, provided the meat be fresh, and not high seasoned.

22. Schoolmasters, and all who have the care of youth, should allow them plenty of time for exercise and diversions.

23. All children should be nursed and educated in the country, if possible. When that cannot be done, they ought to be carried abroad every day, and kept for a sufficient time in the open air.

24. The children of delicate and diseased parents must be managed with more care than those of the hardy and robust.

25. A mother should never abandon her child solely to the care of a mercenary nurse.

Let no one imagine these matters unworthy of his attention. On the proper management of children depend not only their health and usefulness in life, but likewise the safety and prosperity of the state to which they belong. Effeminacy ever must prove the ruin of any kingdom; and when its foundations are laid in infancy, it can never afterwards be wholly eradicated. We would therefore recommend to all who wish well to their country, to study every method to render their offspring strong and healthy.

By arts like these
Laconia nurs'd of old her hardy sons;
And Rome's unconquer'd legions urg'd their way,
Unhurt thro' every toil in every clime*.

* Armstrong on health.

CHAP.

CHAP. II.

OF ADULTS.

HAVING endeavoured to point out some of the sources from which the diseases and mortality of infants proceed, we shall next take a view of the more general causes of diseases, or such things as endanger the health of mankind in the more advanced periods of life.

Diseases cannot at all times be avoided; yet nothing is more certain than that many of them, and those too of the most dangerous nature, are often owing to the want of care. The smallest causes, when neglected, often produce the greatest effects. This is strictly true with respect to diseases. A little care would often prevent what no medicine can cure.

The most common cause of diseases in this island is an obstructed perspiration, or what commonly goes by the name of CATCHING COLD. The perspiration is by far the most considerable discharge from the body; and so long as it goes on properly, we have seldom any complaints; but when it is obstructed, the health must suffer. Men being less sensible of this than of the other evacuations, are consequently not so attentive to the various causes which obstruct it: We shall therefore point out some of the most considerable of them, in order to put people upon their guard.

COM.

COMMON CAUSES OF CATCHING COLD.

COLDS are often occasioned by *sudden changes* in the *atmosphere*. There is no country where such changes happen, more frequently than in Britain. The degrees of heat and cold are not only various in the different seasons of the year, but often change from the one extreme to the other, in a few days, and sometimes even in the course of one day: As these changes cannot fail to increase or diminish the perspiration, they must of course affect the health.

The best method of fortifying the body against the *changes* of the *weather* is, to be abroad every day. Those who keep much within doors, are most liable to catch cold. Such people feel even the slightest changes in the atmosphere, and, by their coughs, pains, and oppressions of the breast, &c. become a kind of living barometers.

The frequent *changes* of the *weather* ought to make us cautious in changing our apparel. All persons, but especially the valetudinary, should be careful not to put off their winter-garments too soon, nor to wear their summer ones too long. The commencement of our warm season is so uncertain, that a few hot days in April or May, often make us believe summer is arrived; when all of a sudden, the weather sets in more intensely cold than at Christmas. The like sudden changes frequently happen in September or October; and where no care is taken, to guard against their influence, the gout, rheumatisms, fluxes, and fevers, often ensue.

Labourers frequently suffer, by not attending to the changes of the weather. They strip to work while it is warm, but neglect to put on their clothes, when it grows cold; some are even thoughtless

less enough to disregard being wet ; such, however, in the end, generally find cause to repent their fool-hardiness.

Nothing more certainly obstructs the perspiration, than WET CLOTHES. Nor is the most robust constitution proof against their effects. The perspiration is not only obstructed by wet clothes, but the moisture is likewise absorbed, which greatly increases the danger.

It is impossible for people who go abroad, always to avoid being wet. But the danger might generally be lessened, if not wholly prevented, by changing their clothes soon ; when that cannot be done, they should keep in motion till they dry. So far are many from observing this rule, that they will sit, or even lie down in the fields with their clothes wet, and frequently sleep whole nights in that condition. Every person must have known instances of fevers, rheumatisms, and even consumptions, brought on in this way. Though these things happen daily, yet they are not sufficient to deter others from the like conduct.

Even *wet feet* often occasion fatal diseases. Coughs, inflammations of the breast, and ulcers in the lungs, frequently proceed from that cause. The cholic, a fit of the gout, the iliac passion, and *cholera morbus*, are likewise often occasioned by wet feet. Habit will, no doubt, render this less dangerous ; but it ought, as far as possible, to be avoided. The delicate, and those who are not accustomed to have their clothes or feet wet, should be peculiarly careful in this respect.

The perspiration is often obstructed by NIGHT-AIR ; the absence of the sun renders it damp and foggy. Even in summer, the night-air ought to be avoided. The dews which fall plentifully after the hottest day, make the night more dangerous than when the weather is cool. Hence, in warm countries,

countries, the dews are more hurtful, than where the climate is more temperate.

It is very agreeable indeed, after a warm day, to be abroad in the cool evening; but this is a pleasure to be avoided by all who value their health. The effects of evening-dews are gradual, and almost imperceptible; but they are not the less to be dreaded: We would therefore advise travellers, labourers, and all who are much heated by day, carefully to avoid them. When the perspiration has been great, these become dangerous in proportion: By not attending to this, in flat marshy countries, where the exhalations and dews are copious, labourers often catch intermitting fevers, quinsies, and the like.

Damp beds seldom fail to obstruct the perspiration. Beds become damp, either from want of use, standing in damp houses, or in rooms without fire. Nothing is more to be dreaded by travellers than damp beds, which are very common in all places where fuel is scarce. When a traveller, cold and wet, arrives at an inn, he may, by means of a good fire, and a dry bed, have the perspiration restored; but if he be put into a cold room, and laid on a damp bed, it will be more obstructed, and the worst consequences must ensue. Travellers should avoid inns which are noted for damp beds, as they would a house infected with the plague; as no man, however robust, is proof against the danger arising from them.

But inns are not the only places where damp beds are to be met with. Beds kept in private families, for the reception of strangers, are no less dangerous. All kinds of linen and bedding, when not frequently used, become damp. How, then, is it possible, that beds which are not slept in above two or three times a-year, should be otherwise? Nothing is more common, than to hear of people
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having caught cold, by changing their bed. The reason is obvious: Were they careful never to sleep on a bed, but what was frequently used, they would seldom find any ill consequences from a change.

Nothing is more to be dreaded by a delicate person, when on a visit, than being laid in the guest-chamber. This ill-judged piece of complaisance becomes a real injury. All the bad consequences from this quarter, might be easily prevented in private families, by causing their servants to sleep in the spare beds, and to resign them to strangers when they come. This is the custom of many families in London, and we would earnestly recommend it to all who value the health of their friends. In inns where the beds are used almost every night, nothing else is necessary than to keep the rooms well seasoned, by frequent fires, and the linen dry*.

Damp houses frequently produce the like ill consequences; for this reason, those who build should be careful to chuse a dry situation. A house which stands on a damp marshy soil, must be hurtful to the health of the inhabitants. Not only a marshy soil, but the being situated in the neighbourhood of large woods, lakes, or standing water, must make a house damp. Large woods both prevent the free current of air, and send forth great quantities of moist exhalations, which render all places near them unwholesome. This is one reason

* In travelling, especially on unfrequented roads, our first care after arriving at the inn where we are to lodge for the night, should be to inspect the bed where we are to lie. If we are not satisfied, from examination, of the bedding or bed-clothes being perfectly dry, we ought to see them well toasted at the fire, along with the sheets: when, from want of time or any other accident, we have not had this in our power, we ought to ly with part of our clothes on, or in a wrapper, if we have one. Indeed, I consider a wrapper, especially a flannel one, as forming a very necessary part of a travelling apparatus.

reason why new discovered countries commonly prove unhealthy, till they be cleared of their woods. Even in England, at this day, there is greatly more planting in several parts, than is either conducive to the fertility of the soil, or the health of its inhabitants. This taste, instead of being any improvement, is the way to reduce the country back to its original state, and to render the climate less healthy than it otherwise would be.

Cold is not near so hurtful to the health as *moisture*. Cold, in a moderate degree, braces and strengthens the body; but moisture relaxes and pre-disposes it to diseases. This is the reason why intermittents and other fevers are so frequent in low damp, marshy countries, abounding with woods and standing water. This likewise shews the danger of inhabiting new houses before they be thoroughly dry. Nothing is more common, than for people, merely to avoid some trifling inconveniency, to hazard their lives, by inhabiting a house almost as soon as the masons, plaisterers, &c. have done with it: Such houses are not only dangerous from their dampness, but likewise from the smell of lime, paints, &c. The asthma's, consumptions, and other diseases of the lungs, so common to people who work in these articles, are a plain proof of their being unwholesome.

Rooms are often rendered damp by an unreasonable piece of cleanliness; I mean the ridiculous custom of washing rooms immediately before company is put into them. Many people are sure to catch cold, if they sit but a short while in a room that has been lately washed; the delicate ought carefully to avoid such a situation, and even the robust would run less hazard by sitting without doors. People who are accustomed to live in dry houses, ought, as far as possible, to shun damp ones,

ones, and by all means not to continue long in rooms that have been lately washed.

All houses, unless where the ground is extremely dry, should have the first floor a little raised. Such servants as are obliged to live for the most part in cellars and sunk stories, seldom continue long in health; and surely masters ought to pay some regard to the health of their servants as well as to their own.

Even houses which are built for the poor ought to be dry. These people generally live on the ground-floor, and if it be damp, they must suffer. This is one cause of the aches, cramps, and rheumatic pains, which poor people are so subject to in the decline of life.

But nothing so frequently obstructs the perspiration as SUDDEN TRANSITIONS from heat to cold. Colds are seldom caught unless when people have been too much heated. Heat rarifies the blood, quickens the circulation, and increases the perspiration; but when these are suddenly checked, the consequences must be bad. It is indeed impossible for labourers not to be too hot upon certain occasions; but it is generally in their power to put on their clothes when they leave off work, to make choice of a dry place to rest themselves in, and to avoid falling asleep in the fields. These easy rules, if observed, would save many useful lives.

Nothing is more common than for people when hot, to drink freely of cold small liquors. This conduct is extremely dangerous. Thirst, indeed, is hard to bear, and the inclination to gratify that appetite frequently gets the better of reason, and makes us do what our judgement frequently disapproves. Every peasant knows if his horse be permitted to drink his bellyful of cold water after violent exercise, and be immediately put into the stable, or suffered to remain at rest, that it will
kill

kill him. This he takes the utmost care to prevent. It were well if he was equally attentive to his own safety.

Thirst may be quenched many ways without swallowing large quantities of cold liquor. The fields afford variety of acid fruits and plants, the very chewing of which would abate thirst. Water kept in the mouth for some time, and spit out again, if frequently repeated, will have the same effect. If a bit of bread be eat along with a few mouthfuls of water, it will both quench thirst more effectually, and make the danger less. When a person is extremely hot, a mouthful of brandy, or other spirits, ought to be preferred to any thing else, if it can be obtained. But if any one has been so foolish, when hot, as to drink freely of cold liquor, he ought to continue his exercise at least, till what he drank be thoroughly warmed upon his stomach.

It would be tedious to enumerate all the bad effects which flow from drinking cold thin liquors when the body is hot. Sometimes it has occasioned immediate death. Hoarseness, quinseys, and fevers of various kinds, are its common consequences. Neither is it safe, when warm, to eat freely of raw fruits, sallads, or the like. These indeed have not so sudden an effect upon the body as cold liquors, but they are notwithstanding dangerous, and ought to be avoided.

Sitting in a warm room, and drinking hot liquors till the pores are quite open, and immediately going into the cold air, is extremely dangerous. Colds, coughs, and inflammations of the breast, are the usual effects of this conduct: Yet how common is it! Many people, after having drank warm liquors for several hours, walk or ride a number of miles in the coldest night, or ramble about in the streets. Such conduct is one cause

why coughs and colds are so common in the winter-season.

People are very apt, when a room is hot, to throw open a window, and to sit near it. This is a most ready way to catch cold. A delicate person had better sit without doors, than in such a situation as the current of air is directed against one particular part of the body. Inflammatory fevers and consumptions have often been occasioned by sitting or standing thinly clothed near an open window. Nor is sleeping with open windows less to be dreaded. That ought never to be done, even in the hottest season. I have known mechanics frequently contract fatal diseases, by working stripped at an open window, and would advise all of them to beware of such a practice.

Nothing exposes people more to catch cold than keeping their own houses too warm; such persons may be said to live in a sort of hot-houses; they can hardly stir abroad to visit a neighbour, but at at the hazard of their lives. Were there no other reason for keeping houses in a moderate degree of warmth, that alone is sufficient: But no house that is too hot can be wholesome; heat destroys the elasticity of the air, and renders it less fit for expanding the lungs, and other purposes of respiration. Hence it is, that consumptions, and other diseases of the lungs, prove so fatal to people who work in forges, glass-houses, and the like.

Some are even so fool-hardy, as to bathe themselves when hot in cold water. Not only fevers, but madness itself, has frequently been the effect of this conduct. Indeed it looks too like the action of a madman to deserve a serious consideration.

We shall conclude these observations on the common causes of catching cold, by recommending it to every one to avoid, with the utmost attention,

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all sudden transitions from heat to cold *, and to keep the body in as uniform a temperature as possible; or, where that cannot be done, to take care to cool gradually.

It may be thought, that too strict an attention to these things would tend to render people delicate. So far, however, is this from being our design, that the first rule laid down for preventing colds, is to harden the body, by enuring it daily to bear the open air.

It is a true saying, that colds kill more than plagues. On examining patients, one finds most of them impute their diseases either to violent colds, or to slight ones which had been neglected. This shows the importance of guarding against every thing that may obstruct the perspiration, and likewise of using proper means immediately to remove such obstruction when it does happen. The want of due attention to these, costs Britain annually some thousands of useful lives.

OF FOOD.

As our bodies consist of what we eat and drink, unwholesome food must be dangerous. There is no question but the whole constitution of body may be changed by diet. This is often done more quickly than people would imagine. A diet consisting too much of alkaline substances, will soon render the humours putrid. On the other hand, if acids be used too freely, they will receive a taint of an opposite nature. The solids may be relaxed or weakened by the use of oily or watery substances, or they may be too much constricted by eating spiceries, austere vegetables, &c.

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* Transitions from cold to heat, though not taken notice of here by the author, are equally dangerous. This is well known in the sudden application of heat to a part previously affected with torpor from cold.

It is not easy to ascertain the exact quantity and quality of food proper for every age, sex, and constitution: But a scrupulous nicety here is by no means necessary. The best rule is to avoid all extremes. Mankind were never intended to weigh and measure their food. Nature teaches every creature when it has enough of food, and a very small degree of reason is sufficient for the choice of it. Men seldom err in this respect through ignorance. The most knowing are generally the most guilty.

Though *moderation* be the only rule necessary with respect to the quantity of food, yet the quality of it merits further attention. Many people, if they can satisfy the appetites of hunger and thirst, are very indifferent what they eat or drink. The following observations will show the danger of such conduct.

Provisions may be rendered unwholesome various ways. Bad seasons may either prevent the ripening of grain, or damage it afterwards. Wet and cold summers seldom bring the fruits of the earth to maturity; and if the harvest likewise prove rainy, they are often so damaged as to be very hurtful. These, indeed, are acts of Providence; it is therefore our duty to submit to them: But surely no punishment can be too severe for those who suffer provisions to be spoilt, by hoarding them on purpose to enhance the price. The soundest grain, if kept too long, must become unfit for use.

The poor are generally the first who suffer by unsound provisions: But the lives of the labouring poor are of the greatest importance to the state. Besides, diseases occasioned by unwholesome food often prove infectious, and by that means reach people in every station. The poor judge ill in buying low-priced and coarse provisions. They had better have a smaller quantity of what is sound and good;

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as that would both afford more nourishment, and be attended with less danger.

Animal, as well as vegetable food becomes unwholesome when kept too long. All animal substances have a constant tendency to putrefaction; and when that has proceeded too far, they not only become offensive to the senses, but hurtful to health. Diseased animals, and such as die of themselves, ought not to be eaten. It is common enough in grazing countries, for servants and poor people to eat such animals as die of any disease in the spring or winter, or are killed by accident. I have been frequently told by people who live in places where this is done, that when much flesh of that kind is eaten, it never fails to occasion fevers*.

The injunctions given to the Jews, not to eat any creature which died of itself, seem to have a strict regard to health, and ought to be observed by Christians as well as Jews. Animals never die of themselves without some previous disease; but how a diseased animal should be wholesome food, is inconceivable: Even those which die by accident must be hurtful, as their blood is mixed with the flesh, and soon turns putrid.

Animals which feed grossly, as tame ducks, swine, &c. are neither easily digested, nor afford wholesome nourishment. No animal can be wholesome food which does not take sufficient exercise. Most of our stalled cattle, hogs, &c. are crammed with gross food, but not allowed exercise or free air; by which means they indeed grow fat, but their humours, not being properly prepared or affi-

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mulated,

* In this, our Author must have been deceived; for though we are acquainted with many parts of this country where the practice alluded to is common among the lower classes, we neither know nor have heard of one single instance, where it was attended with any bad consequences. We ought also to observe, that the Doctor has thought proper to omit this sentence in a later edition.

mulated, they must remain crude. The flesh of an animal which has not properly digested its own food, can never be easily digested by another: Yet such are the delicacies of modern luxury, and such the animals daily devoured even by the weak and valetudinary. Is it any wonder that such should complain of crudities, indigestions, and oppression of the spirits? Let them eat the same quantity of an animal which runs wild, and they will not feel any load on their stomach, or difficulty of digestion. We would not have people live on carrion; but surely the opposite extreme of eating animals which are gorged with gross food till they are unfit to live, must be as pernicious.

Animals may likewise be rendered unwholesome by being over-heated. Heat causes a fever, exhales the salts of the animal, and mixes the blood so intimately with the flesh, that it cannot be separated. For this reason, people ought not to eat freely of such animals as are hunted down, their flesh being apt to occasion putrid fevers. Butchers should also be careful not to over-drive their cattle. No person would chuse to eat the flesh of an animal which had died in a high fever; yet that is the case with all over-drove cattle; and the fever is often raised even to the degree of madness.

No people in the world eat such quantities of animal food as the English; that is one reason why they are so generally tainted with the scurvy, and its numerous train of consequences, as indigestion, low spirits, hypochondriacism, &c. Animal food was surely designed for man, and, with a proper mixture of vegetables, it will be found the most wholesome; but to gorge beef, mutton, pork, fish, and fowl, twice or thrice a-day, is certainly too much. All who value health ought to be contented with making one flesh-meal in the twenty-four

four hours, and this ought to consist of one kind only *.

The most obstinate scurvy has often been cured by a vegetable diet; nay, milk alone will frequently do more in that disease than any medicine. From hence it is evident, that if vegetables and milk were more used in diet, we should have less scurvy, and likewise fewer putrid and inflammatory fevers.

Our aliment ought neither to be too moist, nor too dry. Moist aliment relaxes the solids, and renders the body feeble. Thus we see females who live much on tea and other watry diet generally become weak, and unable to digest solid food; from whence proceed hysterics, and all their dreadful consequences. On the other hand, food that is too dry renders the solids in a manner rigid, and the humours viscid, which predisposes the body to inflammatory fevers, scurvies, and the like.

The arts of cookery render many things unwholesome, which are not so in their own nature. By jumbling together a number of different ingredients, in order to making a poignant sauce, or rich soup, the composition proves almost a poison. All high seasoning, pickles, &c. are only incentives to luxury, and never fail to hurt the stomach. It were well for mankind, if cookery, as an art,

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were

* While we heartily agree with the Doctor in restricting people in the use of animal food, to one meal in the twenty four hours, we would beg leave to assign a somewhat different reason for this. Though we have heard a great deal of animal food producing the scurvy, &c. we are still inclined to think, that, as *animal food*, that is in a sound and fresh state, it never does so: and we know not of a single well authenticated case to the contrary. It is only when in a highly salted and often putrid state, that it produces this effect;—and it would farther appear, from some late observations on this subject, that fresh animal food proves a powerful and efficacious remedy for the scurvy, perhaps equally so with fresh vegetables. Our reason for the above restriction would be this, that those people who are most apt to exceed in that respect, are such as have least occasion for that indulgence; namely, the rich and luxurious, whose bodily labours certainly do not in general require such full feeding.

were entirely prohibited. Plain roasting or boiling is all that nature points out, and all that the stomach requires. These alone are sufficient for people in health; and the sick have still less need of a cook.

The liquid part of our aliment likewise claims our attention. Water is not only the basis of most liquors, but also composes a great part of our solid food. Good water must therefore be of the greatest importance in diet. The best water is that which is most pure, and free from any mixture of foreign bodies. Water takes up parts of every body with which it comes in contact; by which means it is often impregnated with metals or minerals of a hurtful or poisonous nature.

The inhabitants of some hilly countries have peculiar diseases, which, in all probability, proceed from the water. Thus the people who live near the Alps in Switzerland, and the inhabitants of the Peak of Derby in England, have large tumours or wains on their necks. This disease is generally imputed to the snow-water; but there is more reason to believe it is owing to the minerals in the mountains through which the waters pass. Were it owing to the snow-water, it should happen to the inhabitants of all mountainous countries, where snow lies long; but there are many parts of Britain where the snow lies much longer than in the Peak of Derby; yet the inhabitants have no such disease. The Peak of Derby is well known to be a bed of minerals of different kinds; and, as far as what is called the mineral country extends, these tumors are common, and generally go by the name of *Derbyshire-necks*.

When water is impregnated with foreign bodies, this generally appears by its weight, colour, taste, smell, heat, or some other sensible quality. Our business, therefore, is to chuse such water, for common

mon use, as is lightest, and without any particular colour, taste, or smell. In most places of Britain the inhabitants have it in their power to make choice of their water, and few things would contribute more to health than a due attention to this article. But mere indolence often induces people to make use of the water that is nearest them, without considering its qualities.

Before water be brought into great towns, the strictest attention ought to be paid to its qualities, as epidemic distempers are often occasioned by bad water; and when it has been procured at a great expence, we are unwilling to give it up.

The common methods of rendering water clear by filtration, or soft by exposing it to the sun and air, &c. are so generally known, that it is unnecessary to spend time in explaining them. We shall only in general advise all to avoid waters which stagnate long in small lakes, ponds, or the like; such waters often become putrid with insects and other vermin, which breed and die in them. Even cattle frequently suffer by drinking, in dry seasons, water which has stood long in small reservoirs, without being supplied by springs, or freshened with showers. All wells ought to be kept clean, and to have a free communication with the air. When either animal or vegetable substances are suffered to lie at the bottom of wells, they corrupt and taint the water. Even the air itself, when confined in wells, becomes poisonous, and must of course render the water unwholesome.

Much noise has been made about the use of fermented liquors; they notwithstanding still continue to be the common drink of almost every person who can afford them. As this is, and in all probability will be the case, we shall rather endeavour to assist people in their choice of these liquors, than pretend to condemn what custom has established.

established. It is not the moderate use of sound fermented liquors which hurts mankind; it is excess, or the abuse of them, and using such as are ill-prepared or vitiated.

Fermented liquors which are too strong hurt digestion, instead of assisting it, by which means their intention is lost, and the body, in place of being strengthened by them, is weakened and relaxed. Many imagine, that hard labour could not be supported without drinking strong liquors: This, though a common, is a very erroneous notion. Men who never taste strong liquors, are not only able to endure more fatigue, but also live much longer, than those who use them daily. But suppose strong liquors did enable a man to do more work, they must nevertheless waste the powers of life, and of course occasion premature old age. They keep up a constant fever, which wastes the spirits, heats and inflames the blood, and predisposes the body to numberless diseases.

But fermented liquors may be too weak as well as too strong: When that is the case, they must either be drank new, or they become sour and dead; when such liquors are drank new, the fermentation not being over, they generate air in the bowels, and occasion flatulencies; and when kept till stale, they sour on the stomach, and greatly hurt digestion. For this reason, all malt liquor, cyder, &c. ought to be of such strength as will make them keep till they be ripe, and then they should be used. When such liquors are kept too long, though they should not become sour, yet they generally contract a hardness, which renders them unwholesome.

All families, who can, ought to prepare their own liquors. Since preparing and vending of liquors became one of the most general branches of business, every method has been tried to adulterate them. The greatest object both of the makers and
venders

venders of liquor is, to render it intoxicating. But it is well known that this may be done by other ingredients than those which ought to be used for that purpose. It would be imprudent even to name those things which are daily made use of to render liquors heady. It is sufficient to observe, that the practice is very common, and all the ingredients used for that purpose are of a narcotic or stupifactive nature. But as all opiates are of a poisonous quality, it is easy to see what must be the consequence of their general use. Though they do not kill suddenly, yet they hurt the nerves, relax and weaken the stomach, and of course spoil the digestion.

Were fermented liquors faithfully prepared, not too strong, nor too weak, kept to a proper age, and used in moderation, they would prove real blessings to mankind. But while they are ill prepared, various ways adulterated, and taken to excess, they must have many bad consequences. These, however, we shall not mention at present, as they will be pointed out under another article.

To specify the different kinds of aliment, to explain their nature and properties, and to point out their effects in different constitutions, would far exceed the limits of our design. Instead of a detail of this kind, which in all probability would be very little attended to, and would not be generally understood, we shall only mention the following easy rules with respect to the choice of aliment.

Those whose solids are weak and relaxed, ought to avoid all viscid food, or such things as are hard of digestion; and to take plenty of exercise in a dry open air*.

Such as abound with blood should be sparing in the use of every thing that is highly nourishing, as

fat

* People of a weak relaxed habit should live mostly on animal food. This, too, will answer best when used in its juicy and savoury state, as roasted, or in the form of flakes. Much vegetable food, or even soups and broths, are not so proper here.

fat meat, rich wines, strong ale, &c. Their food should consist mostly of bread and other vegetable substances; and their drink ought to be water, whey, and the like.

Fat people should not eat freely of oily nourishing diet. They ought frequently to use raddish, garlic, spices, or such things as are heating, and promote perspiration and urine. Their drink should be water, coffee, tea, or the like; and they ought to take much exercise and little sleep.

Those who are too lean must follow an opposite course.

Such as are affected with acidities, or whose food is apt to sour on their stomach, should live much on flesh-meats; and those who are troubled with alkaline eructations, or heat of the stomach, ought to use a diet consisting chiefly of acid vegetables.

People who are affected with the gout, low spirits, hypochondriac, or hysteric disorders, ought to avoid all flatulent food, every thing that is viscid, or hard of digestion, all salted or smoke-dried provisions, and whatever is austere, acid, or apt to sour on the stomach. Their food should be light, spare, cool, and of an opening quality.

The diet ought not only to be suited to the age and constitution, but also to the manner of life. A sedentary and studious person should live more sparingly than one who labours hard without doors. Food will nourish a peasant very well, which would be almost indigestible to a citizen; and the latter will live upon a diet on which the former would starve.

Diet ought not to be too uniform. The constant use of one kind of food might have bad effects. Nature points out this by the great variety of aliments which she has provided for man, and likewise by giving him an appetite for different kinds of food.

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Those who labour under any particular disease, ought to avoid such aliments as have a tendency to increase it: For example, a gouty person should not use rich wines, strong soups, or gravies, and should avoid all acids. One who is troubled with the gravel, ought to shun all austere and astringent aliments; and those who are scorbutic should not indulge in animal food*, &c.

In the first period of life, our food ought to be light, nourishing, and of a diluting nature, but frequently used. Food that is solid, with a sufficient degree of tenacity, is most proper for the state of manhood. The diet suited to the last period of life, when nature is upon the decline, approaches near to that of the first. It should be lighter, and more deluting than that of vigorous age, and likewise more frequently taken.

IRREGULARITIES IN DIET, SLEEP, &c.

It is not only necessary for health, that our diet be wholesome, but also that it be taken at regular periods. Some imagine, that long fasting will atone for excess; but that, instead of mending the matter, never fails to make it worse. When the stomach and intestines are over distended with food, they lose their proper tone, and by long fasting they become weak, and inflated with wind. Thus either gluttony or fasting destroys the powers of digestion.

The frequent repetition of aliment is not only necessary for repairing the continual waste of our bodies, but likewise to keep the humours sound and sweet. Our humours, even in the most healthy state, have a constant tendency to become putrid,

* See a former note on this subject.

trid, which can only be prevented by frequent supplies of fresh nourishment: When that is wanting too long, the putrefaction often proceeds so far, as to occasion very dangerous fevers. From hence we may learn the necessity of regular meals. No person can enjoy a good state of health, whose vessels are either frequently overcharged, or the humours long deprived of fresh supplies of chyle.

Long fasting is extremely hurtful to young people; it vitiates their humours, and prevents their growth and strength. Nor is it less injurious to the aged. Many in the decline of life are afflicted with wind: That complaint is not only increased, but even rendered dangerous, and often fatal, by long fasting. Old people, when their stomachs are empty, are frequently seized with giddiness, headaches, and faintness. These complaints may generally be removed by a bit of bread, and a glass of wine, or taking any other solid food; which plainly points out the method of preventing them. It is more than probable, that many of the sudden deaths which happen in the advanced periods of life, are occasioned by fasting too long, as it exhausts the spirits, and fills the bowels with wind; we would therefore advise people in the decline of life, never to allow their stomachs to be too long empty. Many take nothing but a few cups of tea, and a bit of bread, till two or three next afternoon. Such may be said to fast almost three fourths of their time. This can hardly fail to ruin the appetite, vitiate the humours, and fill the bowels with wind; all which might be prevented by a solid breakfast. That would tend more to strengthen the nerves, and expel wind, than all the cordial or carminative medicines which can be administered.

The strong and healthy do not indeed suffer so much from fasting as the weak and delicate; but they

they run great hazard from its opposite, *viz.* repletion. Many diseases, especially fevers, are the effect of a plethora, or too great fulness of the vessels. Strong people, in high health, have generally a great quantity of blood and other humours. When these are suddenly increased by an overcharge of rich and nourishing diet, the vessels become distended, and, being unable to contract themselves, obstructions and inflammations ensue. Hence so many people are seized with inflammatory and eruptive fevers, after a feast or debauch. This shows the danger of all sudden transitions from a spare to a full and luxurious diet.

Excess in diet is not peculiar to the rich and opulent; the poor are often guilty of it, and frequently feel its bad effects. The poor seldom lose an opportunity of gorging themselves either with meat or drink, when they can obtain it; and the less they are accustomed to it, the danger is the greater.

When we recommend regularity of diet, we would not be understood as condemning every small deviation from it. It is next to impossible for people at all times to avoid some degree of excess; and living too much by rule might make even the smallest deviation dangerous. It may therefore be prudent to vary a little, sometimes taking more, sometimes less than the usual quantity of meat and drink, provided always that regard be had to moderation.

Sleep, as well as diet, ought to be duly regulated. Too little sleep exhausts the spirits, weakens the nerves, and occasions diseases; and too much renders the mind dull, the body gross, and disposes it to apoplexies, lethargies, &c. A medium, therefore, ought to be observed, but is not easy to fix. The young require more sleep than those who are grown, the laborious than the idle, and such as eat and drink freely, than those who live abstemiously. Besides, the real quantity of sleep cannot be measured

fured by time ; as one person will be more refreshed by five or six hours of sleep, than another by eight or ten. The best way to make sleep sound and refreshing, is to rise betimes. The indolent custom of lolling a-bed for nine or ten hours relaxes the body, unbraces the nerves, and greatly hurts the constitution.

Children may be allowed as much sleep as they chuse ; but for adults six or seven hours is certainly enough, and none ought to exceed eight. Those who lie more than eight hours a-bed, may slumber, but they can hardly be said to sleep ; such generally toss and dream away the fore-part of the night, sink to rest towards morning, and dose till noon.

Nature points out night as the proper time for sleep. Those who think it too vulgar to sleep in that season, seldom enjoy health. Nothing more certainly destroys the constitution, than night-watching. It is great pity that a practice so destructive to health should be so much in fashion. How quickly the want of rest in due season will blast the most blooming complexion, or ruin the best constitution, is evident from the ghastly countenances of those who, as the phrase is, turn day into night, and night into day.

To make sleep refreshing, the following things are necessary. First, Take enough of exercise in the open air, through the day ; next, Eat a light supper ; and, lastly, Lie down with a mind cheerful and serene.

It is certain, that too much fatigue will prevent sleep, as well as too little. We seldom, however, hear the active and laborious complain of restless nights. It is the indolent and slothful who generally have these complaints. Is it any wonder that a bed of down should not be refreshing to a person who lolls all day in an easy chair ? A great
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part of the pleasure of life consists in alternate rest and motion; but they who neglect the latter can never relish the former. The labourer enjoys more true luxury in plain food and sound sleep, than is to be found in sumptuous tables and downy pillows, where exercise is wanting.

That light suppers cause sound sleep, is true even to a proverb. Many, if they exceed the least at that meal, are sure to have uneasy nights; and if they drop asleep, the load and oppression on their stomach and spirits occasion frightful dreams, broken and disturbed repose, with night mares, &c. Were the same persons to go to bed with a light supper, or sit up till what they ate were pretty well digested, they might enjoy sound sleep, and rise refreshed and chearful.

Nothing more certainly disturbs our repose than anxiety. When the mind is not at ease, we seldom enjoy sound sleep. That greatest of human blessings often flies the wretch who needs it most, and visits the happy, the chearful, and the gay. This is a good reason why every man should endeavour to be as easy in his mind as possible, when he goes to rest. Many, by neglecting this rule, and by indulging grief and anxious thoughts, have banished sleep so long, that they could never afterwards enjoy it.

Few things contribute more to health than keeping the *belly regular*. When the fæces lie too long in the bowels, they become acrid, and spoil the humours; and when they are discharged too soon, the body is not properly nourished. Regular stools depend greatly upon regularity in eating and drinking, and proper exercise; people have reason to suspect a fault in one or other of these, whenever the belly is not regular.

To prevent costiveness, one good rule is, to rise betimes, and go abroad in the open air. Not only

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the posture in bed is unfavourable to regular stools, but likewise the warmth. This, by promoting the perspiration, cannot fail to lessen all the other discharges. Mr Locke's advice, to solicit nature by going regularly to stool every morning, is a very good one, and has more effect than most people would imagine. Any habit will in time become natural. It is always more safe to keep the belly regular by proper diet, exercise, &c. than by the use of drugs *. Those who have frequent recourse to medicine for that purpose, seldom fail to ruin their constitutions. But if opening medicines must be used, the safest is fine rhubarb, which may either be taken in small doses in powder, or a little of it chewed daily. Custom will render this sufficiently agreeable.

Such as are troubled with habitual looseness, ought to suit their food to the nature of their complaint. Looseness may often be removed by a change of diet: For example, boiled milk may be used in place of raw, wheat bread instead of that which is mixed, red wine, or brandy and water, may be drank in place of malt-liquor, white broths may be eat instead of flesh, and rice or sago gruels, with light flour puddings, in place of barley or oat-meal. An habitual looseness is often occasioned by an obstructed perspiration. In that case a flannel vest and thick shoes are the best medicines.

OF

* This purpose may be often answered very completely, by using constantly bread made from the bran, or coarsest part of the flour, or even by using a species of bread made from the coarse and fine flour ground together.

OF AIR.

BAD air is a very common cause of diseases. Few are aware of the danger arising from it; people generally pay some attention to what they eat and drink, but seldom regard what goes into the lungs, though the one often proves fatal as well as the other.

Perhaps no air is perfectly pure; that, however, which has fewest noxious particles in it, is no doubt the best. Air as well as water takes up part of most bodies with which it comes into contact, and is often so replenished with those of a noxious quality, as to occasion immediate death. But such violent effects seldom happen, as people are generally on their guard against them. The less perceptible influences of bad air prove more hurtful to mankind; we shall therefore endeavour to point out some of these, and to show wherein the danger consists.

Air may become noxious many ways. Whatever destroys its spring or elasticity, renders it unfit for respiration: Wherever, therefore, great numbers of people are crowded into one place, if the air has not a free current, it soon becomes unwholesome*. Hence it is, that delicate persons are so apt to faint or be sick, in crowded churches, assemblies, or any place where the air is exhausted by breathing, fires, candles, or the like.

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* Atmospheric air is now ascertained to be composed of two different ingredients, namely, vital air and azotic air, or gas, in the proportion of somewhat more than one fourth of the former, to three-fourths of the latter. It is the first of these only, or vital air, that contributes to respiration; and as part of this is constantly absorbed in every inspiration, the remaining air soon becomes unfit for breathing, if a current of fresh air be not admitted to supply this constant waste. From this cause, and not from the want of elasticity, proceeds the noxious qualities of the air in crowded assemblies, &c.

In great cities, so many things tend to pollute the air, that it is no wonder it proves so fatal to the inhabitants. The air in cities is not only breathed over and over by thousands, but is likewise exhausted by fires, loaded with sulphur, smoke, and other exhalations, besides the vapours continually arising from innumerable putrid substances. All possible care should be taken to keep the streets of large towns open and wide, that the air may have a free current. They ought likewise to be kept very clean. Nothing tends more to pollute and contaminate the air than dirty streets, dung-hills, slaughter-houses, &c.

It is very common in this country to have churchyards in the middle of populous cities. Whether this be the effect of ancient superstition, or owing to the increase of such towns, is a matter of no consequence. Whatever gave rise to the custom, it is a bad one. It is habit alone which reconciles us to these things; by means of it the most ridiculous, nay, pernicious customs, often become sacred. Certain it is, that thousands of putrid carcases, so near the surface of the earth, in a place where the air stagnates, cannot fail to taint it; and that such air, being breathed into the lungs, and mixed with the blood, must occasion diseases*.

Wherever air stagnates long, it becomes unwholesome. Hence the unhappy inmates of jails not only contract malignant fevers themselves, but often communicate them to others. Nor are many of the holes, for we cannot call them houses, possessed by the poor in great towns, much better than jails. These low dirty habitations are the very lurking places of bad air and contagious diseases.

* In most eastern countries, it is customary to bury the dead at some distance from any town. It were to be wished the inhabitants of Europe would follow this example.

eases. Such as live in them seldom enjoy good health; and their children commonly die young. In the choice of a house, the greatest attention ought always to be paid to free air.

The various methods which luxury has invented to make houses close and warm, contribute not a little to render them unwholesome. No house can be wholesome, unless the air has a free passage through it. For which reason, houses ought daily to be ventilated by opening opposite windows, and admitting a current of fresh air into every room. This would expel any noxious vapour, and could not fail to promote the health of the inhabitants. In hospitals, jails, ships, &c. where that cannot be conveniently done, ventilators should be used. The method of expelling foul, and introducing fresh air, by means of ventilators, is a most salutary invention, and is indeed the most useful of all our modern medical improvements. We wish, for the benefit of mankind, it were more generally regarded. It is capable of universal application, and fraught with numerous advantages, both to those in health and sickness.

Air not only loses its spring, and becomes unwholesome from heat and stagnation, but likewise from moisture. Thus, in low marshy countries, the air is generally bad, as also in countries overrun with wood, or any thing that sends forth moist exhalations.

Air that stagnates in mines, wells, cellars, &c. must be noxious. That kind of air is to be avoided as the most deadly poison. It often kills almost as quick as lightning. For this reason, people should be very cautious in opening cellars that have been long shut, or going down into deep wells, especially if they have been close covered*.

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* Before going down to such places as these, it is a proper precaution to let down a lighted candle, and observe if it go out; as
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Many people who have splendid houses, chuse to sleep in small apartments. This conduct is very imprudent. A bed-chamber ought always to be well aired, as it is generally occupied in the night only, when all doors and windows are shut. If a fire be kept in it, the danger becomes still greater. Many have been stifled when asleep by a fire in a small apartment. Some are even so inconsiderate as to make fires in bed-chambers which have no chimneys, and imagine, by using that kind of coal which has little or no smoke, that they are safe; whereas the danger becomes thereby the greater, such coal generally abounding with sulphur. The most fatal consequences are always to be dreaded from every attempt of this nature.

Those who are obliged, on account of business, to spend the day in close towns, ought, if possible, to sleep in the country. Breathing good air in the night will, in some measure, make up for the want of it through the day. This practice would have a greater effect in preserving the health of citizens than is commonly imagined.

Care should be taken to admit a constant stream of fresh air into all crowded places, as churches, assembly-rooms, colleges, courts of justice, &c. The neglect of this has had so many fatal consequences, that it is sufficient only to mention it.

It was necessary in former times, for safety, to surround cities, colleges, and even single houses, with high walls. These, by obstructing the current of air, never fail to render such places damp and unwholesome. As such walls are now, generally speaking, become useless, they ought to be thrown down, and every method taken to admit a free passage to the air. Were proper attention paid to AIR and CLEANLINESS, it would tend more
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we may be assured, that the same air that is unfit for combustion, is equally unfit for respiration.

to preserve the health of the inhabitants of great towns than all the endeavours of the Faculty.

If fresh air be necessary for those in health, it is still more so for the sick, who often lose their lives for want of it. The notion that sick people must be kept very hot, is so common, that one can hardly enter the chamber where a patient lies, without being ready to faint, by reason of the hot suffocating smell. How this must affect the sick, any one may judge. No medicine is so beneficial to the sick as fresh air. It is the most reviving of all cordials, if it be administered with prudence. We are not, however, to throw open doors and windows at random upon the sick. Fresh air is to be let into the chamber gradually, and, if possible, by opening the windows of some other apartment.

The air of a sick person's chamber may be greatly freshened, and the patient much revived, by sprinkling the floor, bed, &c. frequently with vinegar, juice of lemon, or any other strong vegetable acid.

In places where numbers of sick are crowded into the same house, or, which is often the case, into the same apartment, fresh air becomes absolutely necessary. Infirmarys, hospitals, &c. often become so noxious for want of proper ventilation, that the sick run more hazard from them than from the disease; this is particularly the case when dysenteries, putrid fevers, or other infectious diseases prevail.

Physicians, surgeons, and others who attend hospitals, ought, for their own sake, to take care that they be properly ventilated. They are obliged to spend much of their time amongst the sick, and run great hazard of being themselves infected when the air is bad. All hospitals, and places for the sick, ought to have an open situation, at some distance from any great town.

OF CLEANLINESS.

THE want of cleanliness is a fault which admits of no excuse. Where water can be had for nothing, it is surely in the power of every person to be clean. The continual discharge from our bodies by perspiration renders frequent changes of apparel necessary. Change of apparel greatly promotes the secretion from the skin, so necessary for health. When that matter, which ought to be carried off by perspiration, is either retained in the body, or re-absorbed from dirty clothes, it is apt to occasion diseases.

Most diseases of the skin proceed from want of cleanliness *. They may indeed be caught by infection ; but they will seldom continue long where cleanliness prevails. To the same cause must we impute the various kinds of vermin which infest the human body, houses, &c. These may generally be banished by cleanliness alone. Perhaps the intention of Nature, in permitting such vermin to annoy mankind, is to induce them to the practice of this virtue.

One common cause of putrid and malignant fevers is the want of cleanliness. These fevers commonly begin among the inhabitants of close, dirty houses, who breathe bad air, take little exercise, use unwholesome food, and wear dirty clothes. There the infection is generally hatched, which often spreads far and wide, to the destruction of many. Hence cleanliness may be considered as an object of public attention. It is not sufficient that

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* The disease described by Mr Pott, under the name of the Chimney-sweepers Cancer, is with much probability imputed by the Author to this cause : And as it occurs only in people that are employed in working among soot, it is therefore natural to conclude, that it might be altogether prevented by a proper attention to cleanliness.

I be clean myself, while the want of it in my neighbour affects my health as well as his own. If dirty people cannot be removed as a common nuisance, they ought at least to be avoided as infectious. All who regard their health should keep at a distance even from their habitations.

In places where great numbers of people are collected, cleanliness becomes of the utmost importance. It is well known, that infectious diseases are communicated by tainted air. Every thing, therefore, which tends to pollute the air, or spread the infection, ought, with the utmost care, to be avoided. For this reason, in great towns, no filth of any kind, should be permitted to lie upon the streets. Nothing is more apt to convey infection than the excrements of the diseased. These, in many cases, are known to be highly infectious. The streets in many great towns are little better than dunghills, being frequently covered with ashes and nastiness of every kind. How easily might this be prevented by active magistrates, who have it always in their power to make proper laws relative to things of this nature, and to enforce the observance of them?

We are sorry to say, that the importance of general cleanliness does by no means seem to be sufficiently understood. It were well if the inhabitants of Britain would imitate their neighbours the Dutch in the cleanness of their streets, houses, &c. Water, indeed, is easily obtained in Holland; but the situation of most towns in Britain is more favourable to cleanliness. Nothing can be more agreeable to the senses, more to the honour of the inhabitants, or conducive to their health, than a clean town; nor does any thing impress a stranger sooner with a disrespectful idea of any people, than its opposite.

The peasants in most countries seem to hold
cleanliness

cleanliness in a sort of contempt. Were it not for the open situation of their houses, they would often feel the bad effects of this disposition. One seldom sees a farm-house without a dunghill before the door, and frequently the cattle and their masters lodge under the same roof. Peasants are likewise extremely careless with respect to change of apparel, keeping their skins clean, &c. These are merely the effects of indolence and a dirty disposition. Habit may indeed render them less disagreeable; but no habit can ever make it salutary to wear dirty clothes, or breathe unwholesome air.

In camps the strictest regard should be paid to cleanliness. By negligence in this matter, infectious diseases are often spread amongst a whole army; and frequently more die of these than by the sword. The Jews, during their encampments in the wilderness, received particular instructions with respect to cleanliness*. The rules enjoined them ought to be observed by all in the like situation. Indeed the whole system of laws delivered to that people, has a manifest tendency to promote cleanliness. Whoever considers the nature of their climate, and the diseases to which they were liable, will see the propriety of such laws.

It is remarkable, that in most eastern countries cleanliness makes a great part of their religion. The Mahometan, as well as the Jewish religion, enjoins various bathings, washings, and purifications. No doubt these were designed to represent inward purity; but they are at the same time calculated for the preservation of health. However whimsical these washings may appear to some, few things would tend more to prevent diseases than a
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* Thou shalt have a place also without the camp, whither thou shalt go forth abroad; and thou shalt have a paddle upon thy weapon: and it shall be, when thou shalt ease thyself abroad, thou shalt dig therewith, and shalt turn back, and cover that which cometh from thee, &c. Deut. xxiii. 12. 13.

proper attention to many of them. Were every person, for example, after handling a dead body, visiting the sick, &c. to wash before he went into company, or sat down to meat, he would run less hazard either of catching the infection himself, or communicating it to others.

Frequent washing not only removes the filth and fordes which adhere to the skin, but likewise promotes the perspiration, braces the body, and enlivens the spirits. Even washing the feet tends greatly to preserve health. The sweat and dirt with which these parts are frequently covered, cannot fail to obstruct the perspiration. This piece of cleanliness would often prevent colds and fevers. Were people careful to bathe their feet and hands in warm water at night, after being exposed to cold or wet through the day, they would seldom experience any of the fatal effects which often proceed from these causes.

A proper attention to cleanliness is no where more necessary than on ship-board. If epidemical distempers break out there, no one can be safe. The best way to prevent them is to take care that the whole company be cleanly in their clothes, diet, &c. When infectious diseases do break out, cleanliness is the most likely means to prevent their spreading. Above all things, the clothes, bedding, &c. of the sick, ought to be carefully washed, and fumigated with brimstone, or the like *. Infection will lodge a long time in dirty clothes, and will afterwards break out in the most terrible manner.

In places where great numbers of sick people are kept, cleanliness ought most religiously to be observed. The very smell in such places is often sufficient to make one sick. It is easy to imagine what

* Fumigation with nitrous acid has been found a very effectual preservative from infection.

what effect that is likely to have upon the diseased. A person in perfect health has a greater chance to become sick, than a sick person has to get well, in an hospital or infirmary, where cleanliness is neglected.

The brutes themselves set us an example of cleanliness. Most of them seem uneasy, and thrive ill, if they be not kept clean. A horse that is kept thoroughly clean will thrive better on a smaller quantity of food, than with a greater where cleanliness is neglected. Even our own feelings are a sufficient proof of the necessity of cleanliness. How refreshed, how chearful, and agreeable, does one feel on being shaved, washed, and dressed, especially when these offices have been long neglected? Most people esteem cleanliness; and even those who do not practise it themselves often admire it in others. Superior cleanliness sooner attracts our regard than even finery itself, and often gains esteem where the other fails.

To point out the numerous advantages arising from cleanliness of person, houses, streets, &c. would be a very useful and agreeable task; but as our plan only permits us to name things, we must conclude this article by recommending the practice of that virtue to people of all stations and conditions in life. We do not indeed pretend to rank cleanliness amongst the *cardinal virtues*; but we would recommend it as necessary for supporting the dignity of human nature, as useful and agreeable to society, and as highly conducive to health*.

INTEM-

* Most unfortunately, a prejudice prevails very generally, especially in country places, against cleanliness, similar to that which was taken notice of before in respect of fresh air. If the admission of fresh air be reckoned dangerous, or even hurtful to the sick, the change of body or bed-linen, in the same situation, is considered as at least equally hurtful. Nothing, however, we may observe, tends more to the comfort and relief of a patient. Indeed, if a frequent change of linen be indispensably necessary in health, it becomes

INTEMPERANCE.

A MODERN author * observes, that temperance and exercise are the two best physicians in the world. He might have added, that if these were duly regarded, there would be little occasion for any other. Temperance may justly be called the parent of health; but numbers of mankind act as if they thought diseases and death too slow in their progress, and by intemperance and debauch seem, as it were, to solicit their approach.

The danger of intemperance appears from the very construction of the human body. Health depends on that state of the solids and fluids, which fits them for the due performance of the vital functions; and so long as these go regularly on, we are sound and well; but whatever disturbs them necessarily impairs health. Intemperance never fails to disorder the whole animal œconomy; it spoils the digestion, relaxes the nerves, renders the different secretions irregular, vitiates the humours, and of course occasions diseases.

The analogy between the nourishment of plants and animals affords a strong proof of the danger of intemperance. Moisture and manure greatly promote vegetation; but an over-quantity of either will entirely prevent it. The best things become hurtful, nay destructive, when carried to excess. Hence we learn, that the greatest pitch of human wisdom consists in regulating our appetites and passions, so as to avoid all extremes. It is this alone which entitles us to the character of rational beings.

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becomes peculiarly so under disease, where, from the confinement and warmth, as well as frequently from the nature of the disease, the discharge by the skin is increased, while at the same time, from the increased irritability of the system, the same strength of impression will produce two or three times the effect.

* Rousseau.

The slave of appetite will ever be the disgrace of human nature.

The Author of nature hath endued us with various passions, for the propagation of the species, the preservation of the individual, &c. Intemperance is the abuse of these passions; and in the proper regulation of them moderation consists. Men, not content with satisfying the simple calls of nature, create artificial wants, and are perpetually in search after something that may gratify them; but imaginary wants can never be gratified. Nature is content with a little, but luxury knows no bounds. The epicure, the drunkard, and the debauchee, seldom stop in their career, till their money or constitution fail: Then, indeed, they generally see their error when too late.

It is impossible to lay down determined rules of temperance, on account of the different constitutions of mankind. The most ignorant person, however, certainly knows what is meant by excess; and it is in the power of every man to avoid it, if he chuses. The great rule in regulating our diet, is to study simplicity. Nature delights in the most plain and simple food; and every animal, except man, follows her dictates. Man alone riots at large, and ransacks the whole creation in quest of luxuries, to his own destruction. An elegant writer* of the last age speaks thus of intemperance: "For my part, when I behold a fashionable table set out in all its magnificence, I fancy that I see gout and dropsies, fevers and lethargies, with other innumerable distempers, lying in ambuscade among the dishes."

Intemperance does not hurt its votaries alone; the innocent too often feel the direful effects of it. How many wretched orphans are to be seen embracing dunghills, whose parents, regardless of the future,

* Addison.

future, spent in riot and debauch what might have served decently to feed and clothe their offspring ! How often do we behold the miserable mother, with her helpless infants, pining in want, while the cruel father is indulging even at the expence of their lives !

Families are not only reduced to misery, but extirpated, by means of intemperance. Nothing tends so much to prevent propagation, and to shorten the lives of children. The poor man who labours all day, and at night lies down contented with his humble fare, can boast a numerous offspring, while his pampered lord, sunk in ease and luxury, has neither son nor nephew. Even states and empires feel the influence of intemperance, and rise or fall as it prevails.

Instead of mentioning the different kinds of intemperance, and pointing out their influence upon health, we shall confine our observations to one particular species of that vice, viz. the abuse of intoxicating liquors.

Every act of intoxication puts nature to the expence of a fever, in order to discharge the superfluous load ; but when that is repeated almost every day, it is easy to foresee the consequences. That constitution must be strong indeed, which is able long to hold out under a daily fever ! But fevers occasioned by drinking do not always go off in a day ; they frequently end in an inflammation of the breast, liver, or brain, and produce fatal effects.

Though the drunkard should not fall by an acute disease, he seldom escapes those of a chronic nature. Intoxicating liquors, when used to excess, weaken the bowels, and spoil the digestion ; they destroy the power of the nerves, and occasion paralytic and convulsive disorders ; they heat and inflame the blood, destroy its balsamic quality, render
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it unfit for circulation, and the nourishment of the parts, &c. Hence obstructions, atrophies, dropsies, and consumptions of the lungs. These are the common ways in which drunkards make their exit. Diseases of this kind, when brought on by hard drinking, seldom admit of a cure.

Many people injure their health by drinking, who seldom get drunk. The continual habit of soaking, as it is called, though its effects be not so violent, is no less pernicious. When the vessels are kept constantly full, and upon the stretch, the different digestions can neither be duly performed, nor the humours properly prepared. Hence most people of this character are afflicted with the gout, the gravel, ulcerous sores in the legs, &c. ; if these disorders do not appear, they are seized with low spirits, hypochondriacal disorders, and other symptoms of indigestion.

All intoxicating liquors may be considered as poisons. However disguised, that is their real character, and, sooner or later, they will have their effect. Consumptions are now so common, that it is thought one tenth of the inhabitants of great towns die of that disease. Drunkenness is one of the causes to which we must impute the increase of consumptions. The great quantities of viscid malt-liquor drank by the common people of England, cannot fail to render the blood fizy, and unfit for circulation ; from whence proceed obstructions and inflammations of the lungs. There are few great ale-drinkers who are not phthysical ; nor is that to be wondered at, considering the glutinous and almost indigestible nature of strong ale. Those who drink ardent spirits, or strong wines, do not run less hazard ; these liquors heat and inflame the blood, and tear the tender vessels of the lungs in pieces.

The habit of drinking proceeds frequently from
misfortunes

misfortunes in life. The miserable fly to it for relief. It affords them indeed a temporary ease. But, alas! this solace is short-lived, and when it is over, the spirits sink as much below their natural pitch, as they had before been raised above it. Hence a repetition of the dose becomes necessary, and every fresh dose makes way for another, till the unhappy wretch becomes a slave to the bottle, and at length falls a sacrifice to what nature intended only as a medicine. No man is so dejected as the drunkard when his debauch is gone off. Hence it is, that those who have the greatest flow of spirits while the glass circulates freely, are of all others the most melancholy when sober, and often put an end to their own miserable existence in a fit of spleen or ill humour.

Drunkenness not only proves destructive to health, but likewise to the faculties of the mind. It is strange that creatures who value themselves on account of a superior degree of reason to that of the brutes, should take pleasure in sinking so far below them. Were such as voluntarily deprive themselves of the use of reason, to continue ever after in that condition, it would seem but a just punishment. Though that be not the consequence of one act of drunkenness, it seldom fails to succeed a course of intoxication. By a habit of drinking, the greatest genius is often reduced to a mere dunce *.

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* In a subsequent edition, the Author observes, that intoxication is peculiarly hurtful to young persons. It heats their blood, impairs their strength, obstructs their growth; besides, the frequent use of strong liquors, in the early part of life, destroys, in a great measure, the benefit that might be derived from a judicious use of them afterwards.

Drunkenness is not only a most abominable vice in itself, but serves as an inducement to many others. There is hardly any crime so horrid that the drunkard will not perpetrate for the love of liquor. We have

OF INACTIVITY.

MANY look upon the necessity which man is under of earning his bread by labour as a curse. Be that as it may, it is evident from the structure of the body, that exercise is not less necessary for the preservation of health, than food. Those whom poverty obliges to labour for daily bread, are not only the most healthy, but generally the most happy. Industry seldom fails to place such above want, and activity serves them instead of physic. This is peculiarly the case with those who live by the culture of the ground. The great increase of inhabitants in infant-colonies, and the common longevity of such as follow agriculture every where, evidently prove it to be the most healthful as well as the most useful employment.

The love of activity shows itself very early in man. So strong is this principle, that a healthy youth cannot be restrained from exercise, even by the fear of punishment. Our love of motion is surely a strong proof of its utility. Nature implants no disposition in vain. Some imagine, that the love of motion was implanted in man, because without it he could not obtain the necessaries of life; but suppose the necessaries of life could be universally obtained without motion, it would nevertheless be indispensable. It seems to be a catholic law throughout the whole animal creation, That no creature, without exercise, can enjoy health. Every creature, except man, takes as much exercise as is necessary. He alone, and such animals as are under his direction, deviate from this original law, and they suffer accordingly.

Inactivity

have known mothers sell their children's clothes, the food that they should have eat, and afterwards even the infants themselves, in order to purchase the accursed draught.

Inactivity never fails to bring on universal relaxation of the solids, which occasions innumerable diseases. When the solids are relaxed, neither the digestion, nor any of the secretions, can be duly performed. In this case, the worst consequences must ensue. How can those who loll all day in easy chairs, and sleep all night on beds of down, fail to be relaxed? Nor do such greatly mend the matter, who never stir abroad but in a coach, or sedan, &c. These elegant pieces of luxury are become so common, that the inhabitants of great towns seem to be in some danger of losing the use of their limbs altogether. It is now below any one to walk who can afford to be carried. How ridiculous would it seem to a person unacquainted with modern luxury, to behold the young and healthy swinging along on the shoulders of their fellow-creatures! or to see a fat carcase overrun with diseases occasioned by inactivity, dragged through the streets by half a dozen horses!

Glandular obstructions generally proceed from inactivity. These are the most obstinate of all maladies. So long as the liver, kidneys, and other glands, duly perform their functions, health is seldom impaired; but when they fail, nothing can preserve it. Exercise is almost the only cure we know for glandular obstructions; indeed it does not always succeed; but there is reason to believe that it would seldom fail to prevent these complaints. One thing is certain, that amongst those who take enough of exercise, glandular diseases are very little known; whereas the indolent and inactive are seldom free from them.

Weak nerves are the constant companions of inactivity. Nothing but exercise and open air can brace and strengthen the nerves, or prevent the endless train of diseases which proceed from a relaxed state of these organs. We seldom hear the

active or laborious complain of nervous diseases; these are reserved for the sons of ease and affluence. Many have been completely cured of nervous disorders, by being reduced from a state of opulence to labour for their daily bread. This plainly points out the sources from whence such diseases flow, and the means by which they may be prevented.

It is absolutely impossible to enjoy health without a free perspiration; but that necessary discharge never goes properly on where exercise is wanting. When the matter which ought to be thrown off by perspiration is retained in the body, it cannot fail to vitiate the humours. Hence proceed the gout, fevers, rheumatism, &c. In a word, none of the vital or animal functions can be duly performed when exercise is neglected. It alone would prevent many diseases which cannot be cured, and would remove others where medicine proves ineffectual.

A late author *, in his excellent Treatise on Health, says, that the weak and valetudinary ought to make exercise a part of their religion. We would recommend this, not only to the weak and valetudinary, but to all whose business does not oblige them to take sufficient exercise, as sedentary artificers, shop-keepers, studious people, &c. Such ought to take exercise as regularly as they take food. This, were people careful to husband their time well, might be done without any interruption to business or study.

No piece of indolence hurts the health more than the modern custom of lolling a-bed too long in a morning. This is universally the case in great towns. The inhabitants of cities seldom do much business before breakfast; but that is the best time for exercise, while the stomach is empty, and the
body

* Cheyne.

body refreshed with sleep. Rising early would not only give those who cannot leave their business through the day, an opportunity of taking exercise, but it would prevent the bad effects of loitering in bed too long. The morning-air braces and strengthens the nerves, and in some measure answers the purpose of a cold bath. Let any one who has been accustomed to lie a-bed till eight or nine o'clock, rise by six or seven, spend a couple of hours in walking, riding, or any active diversion without doors, and he will find his spirits chearful and serene through the day, his appetite keen, and his body braced and strengthened. Custom soon renders early rising agreeable, and nothing contributes more to the preservation of health.

Exercise, if possible, ought always to be taken in the open air. When that cannot be done, various methods may be contrived for exercising the body within doors, as dancing, fencing, the dumb bell, playing at tennis, &c. It is not necessary to adhere strictly to any particular kind of exercise. The best way is to take them by turns, and to use that longest which is most suitable to the strength and constitution. Those kinds of exercise which give action to most of the bodily organs, are always to be preferred, as riding, walking, running, digging, swimming, and such like.

It is much to be regretted, that active and manly diversions are now so little regarded. Diversions make people take more exercise than they otherwise would do, and are of the greatest service to such as are not under the necessity of labouring for their bread. As active diversions lose ground, those of a sedentary kind seem to prevail. Sedentary diversions are of no other use than to consume the time which might be employed in exercise: Instead of relieving the mind, they often require more thought than either study or business. Every

thing that induces people to sit still, unless it be some necessary employment, ought to be avoided.

The diversions which afford the best exercise are, hunting, shooting, playing at cricket, hand-ball, golff*, &c. These exercise the limbs, promote perspiration, and the other secretions. They likewise strengthen the lungs, and give firmness and agility to the whole body.

Such as can, ought to spend two or three hours a-day on horseback; those who cannot, should employ the same time in walking. The best time for taking exercise is in the morning, or at least before dinner; but it should never be continued too long. Over fatigue prevents the benefit of exercise, and weakens instead of strengthening the body.

Every man should lay himself under some sort of necessity to take exercise. Indolence, like all other vices, when indulged, gains ground, and at length becomes agreeable. Hence many who were fond of exercise in the early part of life, become quite averse from it afterwards. This is the case of most hypochondriac and gouty people, which renders their diseases in a great measure incurable.

In some countries laws have been made, obliging every man, of whatever rank, to learn some mechanical employment. Whether such laws were designed for the preservation of health, or encouragement of manufacture, is a question of no importance. Certain it is, that if gentlemen were frequently to amuse and exercise themselves in this way, it might have many good effects. They would at least derive as much honour from a few
masterly

* Golf is a diversion very common in North Britain. It is well calculated for exercising the body, and may always be taken in such moderation, as neither to over-heat nor fatigue. It has greatly the preference over cricket, tennis, or any of those games which cannot be played without violence.

masterly specimens of their own workmanship, as from the character of having ruined most of their companions by gaming or hard drinking. Besides, men of leisure, by applying themselves to the mechanical arts, might improve them, to the great benefit of society. This would afford a more comfortable reflection at the close of life, than the consciousness of having lived in the world for no other purpose than to eat and drink.

Indolence not only occasions diseases, and renders men useless to society, but promotes all manner of vice. To say a man is idle, is perhaps, in the strongest terms, to call him vicious. The mind, if not engaged in some useful pursuit, is constantly in quest of ideal pleasures, or impressed with the apprehension of some imaginary evil. From these sources proceed most of the miseries of mankind. Surely man never was intended to be idle. Inactivity frustrates the very design of his creation. An active life is the best guardian of virtue, and the greatest preservative of health.

OF INFECTION.

A NUMBER of diseases are infectious. Every person ought therefore, as far as he can, to avoid all communication with the diseased. The common practice of visiting the sick, though well meant, has many ill consequences. Far be it from us to discourage any act of charity or benevolence, especially towards those in distress; but we cannot help blaming such as endanger their own or neighbours lives by a mistaken friendship, or an impertinent curiosity.

The houses of the sick, especially in the country, are generally crowded from morning till night with idle visitors. It is customary, in such places, for servants and young people to wait upon the sick by turns. It would be a miracle indeed should such always escape. Experience teaches us the danger of this conduct. People often catch fevers in this way, and communicate them to others, till at length they become epidemic.

It would be thought highly improper for one who had not had the small-pox, to wait upon a patient in that disease; yet many other fevers are almost as infectious as the small-pox, and not less fatal. Some imagine, that fevers prove more fatal in villages than in great towns, for want of proper medical assistance. How far that is true, we will not pretend to say; but we are inclined to think, that it rather proceeds from the cause above mentioned.

Were a plan to be laid down for communicating infection, it could not be done more effectually than by the common method of visiting the sick. Such visitors not only endanger themselves and their connections, but likewise hurt the sick. By crowding the house, they render the air unwholesome, and by their private whispers and dismal countenances, disturb the imagination of the sick, and depress their spirits. Sick persons, especially in fevers, ought to be kept as quiet as possible. The sight of strange faces, and every thing that disturbs the mind, hurts them.

The common practice, in country-places, of inviting great numbers of people to funerals, and crowding them into the same apartment where the corpse lies, is another way of spreading infection. The infection by no means dies with the patient. In many cases it rather grows stronger as the body becomes putrid. This is peculiarly the case of
those

those who die of malignant fevers, or other putrid diseases. Such ought not to lie long unburied; and people should keep at a distance from them. It is very common for people, after attending the funeral of a friend, to be seized with the same disease of which he died, and to share the same fate.

It would tend greatly to prevent the spreading of infectious diseases, if those in health were kept at a proper distance from the sick. The Jewish Legislator, among many other wise institutions for preserving health, has been peculiarly attentive to the means of preventing infection, or *defilement* as it is called, either from a diseased person or a dead body. In many cases, the diseased were to be separated from those in health; and it was deemed a crime even to approach their habitations. If a person only touched a dead body, he was appointed to wash himself in water, and to keep for some time at a distance from society.

Infectious diseases are often communicated by clothes. It is extremely dangerous to wear apparel which has been worn by a person who died of an infectious disease, as infection will lodge in it a long while, and afterwards produce very tragical effects. This shows the danger of buying at random the clothes which have been used by other people.

Infectious disorders are frequently imported. Commerce, together with the riches of foreign climes, brings us also their diseases. These do often more than counterbalance all the advantages of that trade by means of which they are introduced. It is to be regretted, that so little care is commonly taken, to prevent either the introduction or spreading of infectious diseases. Some attention indeed is generally paid to the plague; but other diseases pass unregarded.

Infection is often spread by jails, hospitals, &c.
These

These are frequently situated in the very middle of cities, or populous towns; and when infectious diseases break out in them, it is impossible for the inhabitants to escape. Were magistrates to pay any regard to the health of the people, this evil might be easily remedied.

Many are the causes which tend to diffuse infection through populous cities. The whole atmosphere of a large town is one contaminated mass, abounding with every kind of infection, and must be pernicious to health. The best advice that we can give to such as live in cities, is to chuse an open situation; to avoid narrow, dirty, crowded streets; to keep their own houses and offices clean; to admit the fresh air every day into their apartments; and to be as much abroad as their time will permit.

It would tend greatly to prevent the spreading of infectious diseases, were proper nurses every where employed to take care of the sick. This might often save a family, or even a whole town, from being infected by one person. We do not mean that people should abandon their friends or relations in distress, but only to put them on their guard against being too much in company with those who are afflicted with diseases of an infectious nature.

Such as wait upon the sick in infectious diseases, ought to stuff their noses with tobacco, or some other strong smelling herb, as rue, tansy, or the like. They ought likewise frequently to sprinkle the room where the patient lies with vinegar, or other strong acids; and to avoid the patient's breath as much as they can.

However easy these hints may seem, yet a proper attention to them would save many lives. A fever, or other infectious disease, seldom breaks out in a family, but it affects the most of them, and frequently

quently seizes every individual. The scenes of calamity and distress produced by this means, are too often witnessed by those who attend the sick.

Young people are peculiarly liable to catch infection; and therefore ought to be kept at the greatest distance from the diseased. Their minds are easily affected with scenes of distress, and they often catch diseases even by the force of imagination.

We would not only recommend it to magistrates, to take proper measures to prevent the spreading of infectious diseases, but also to masters of families. A single servant may spread a disease amongst a whole family, which may prove fatal to many of them. For this reason, when a servant is seized with a fever, or other infectious disease, he ought to be kept in some separate apartment, or rather sent to an hospital or infirmary. Servants would not only be taken better care of in this way, but fatal diseases might be often prevented.

Infection is often caught by sleeping with the diseased. Every person knows that this is the case in consumptions of the lungs; but other diseases are infectious as well as consumptions: Nay, we hardly know any disease that is not so in some degree. If a sound person communicates health, surely a diseased one must have the contrary effect. Were this attended to in the choice of companions for life, it would save many from a premature end.

Not only the diseases of the body, but also those of the mind, are infectious. For this reason, our companions ought to be of a sound mind, as well as a sound body. A melancholy person, for example, diffuses a gloom all around him, and generally taints the minds of his companions with the temper of his own. Those who would be healthy and
happy,

happy, ought therefore to associate with the young, the chearful, and good humoured.

OF THE PASSIONS.

THE passions have great influence both in the cause and cure of diseases. How mind acts upon matter will, in all probability, ever remain a secret. It is sufficient for us to know, that there is established a reciprocal influence betwixt the mental and corporeal parts; and that whatever disorders the one, likewise hurts the other.

OF ANGER.

THE passion of *anger* ruffles the mind, distorts the countenance, hurries on the circulation of the blood, and disorders the whole vital and animal functions. It often occasions fevers, with other acute diseases; and sometimes brings on sudden death. This passion is peculiarly hurtful to the delicate, and those of weak nerves. I have known a hystERIC woman lose her life by a violent fit of anger; all such ought to guard against the excess of this passion, with the utmost care.

It is not always in our power to prevent being angry; but we may surely avoid harbouring resentment in our breast. Resentment preys upon the mind; it occasions the most obstinate chronical disorders, and gradually wastes the constitution. Nothing shows true greatness of mind more than to forgive injuries: It promotes the peace of society, and greatly conduces to our own ease, health, and felicity.

Such

Such as value health should avoid violent gusts of anger, as they would the most deadly infection. They ought never to indulge resentment, but to endeavour at all times to keep their minds calm and serene. Nothing tends so much to the health of the body, as a constant tranquillity of mind.

OF FEAR.

THE influence of *fear*, both in occasioning and aggravating diseases, is very great. No man ought to be blamed for a decent concern about life ; but too great a desire to preserve it, is often the way to lose it. Fear and anxiety, by depressing the spirits, pre-dispose us to diseases, and often render those fatal which an undaunted mind would overcome.

Sudden fear has generally violent effects. Epileptic fits, and other convulsive disorders, are often occasioned by it. Hence the danger of that practice, so common among young people, of frightening one another. By this many have lost their lives ; and others have been rendered useless ever after. It is dangerous to tamper with the human passions. The mind may easily be thrown into such disorder, as never again to act with regularity.

But the gradual effects of fear prove more generally hurtful. The constant dread of some future evil, by dwelling upon the mind, often occasions the very evil itself. Hence it comes to pass, that so many die of those diseases of which they long had a dread, or which some accident, or foolish prediction, had impressed on their minds. This often happens to women in child-bed. Many of those who die in that situation, are impressed with the notion of their death, a long while before it

it happens ; and there is reason to believe, that such impressions are often the cause of it.

The methods taken to impress the minds of women with apprehensions of the great danger and peril of child-birth, are very hurtful. Few women die in labour, though many lose their lives after it ; which may be thus accounted for : A woman after delivery, finding herself weak and exhausted, immediately apprehends she is in danger : But fear seldom fails to obstruct the necessary evacuations upon which her recovery depends. Thus the sex often fall a sacrifice to their own imaginations, when there would be no danger, did they apprehend none.

It seldom happens, that two or three women who are generally known die in child-bed, but their death is followed by many others. Every woman of their acquaintance, who is with child, dreads the same fate, and the disease becomes epidemical, by the mere force of imagination. This should induce pregnant women to despise fear, and by all means to avoid those tattling gossips who are continually telling them the misfortunes of others. Every thing that may in the least alarm a pregnant, or child-bed woman, ought, with the greatest care, to be guarded against. Many women have lost their lives in child-bed, by the old superstitious custom, still kept up in most parts of Britain, of tolling the parish-bell for every person who dies. People who think themselves in danger, are very inquisitive ; and if they come to know that the bell tolls for one who died in the same situation, what must be the consequence ?

But this custom is not pernicious to child-bed women only. It is hurtful in many other cases. When low fevers, in which it is difficult to support the patient's spirits, prevail, what must be the

the effect of a funeral-peal sounding five or six times a-day in his ears? His imagination will no doubt suggest, that others died of the same disease which he labours under. Nor will the matter be at all mended, by endeavouring to persuade him of the contrary. This will tend rather to confirm than remove his suspicions.

If this childish custom cannot be abolished, we ought to keep the sick as much from hearing it as possible, and from every thing else that may tend to alarm them. So far is this from being attended to, that many make it their business to visit the sick, on purpose to whisper dismal stories in their ears. Such may pass for sympathising friends, but they ought rather to be reckoned enemies, and ranked amongst murderers. All who wish well to the sick, ought to keep such persons at the greatest distance from them.

A custom has long prevailed among physicians, of prognosticating, as they call it, the patient's fate, or foretelling the issue of the disease. Vanity, no doubt, introduced this practice, and still supports it, in spite of common sense, and the safety of mankind. I have known a physician barbarous enough to boast, that he pronounced more *sentences* than all his Majesty's judges. Would to God that such sentences were not often equally fatal! It may be alleged, that the doctor does not declare his opinion before the patient. So much the worse. A sensible patient had better hear what the doctor says, than learn it from the disconsolate looks, the watery eyes, and the broken whispers of those about him. It seldom happens, when the doctor gives an unfavourable opinion, that it can be concealed from the patient. The very embarrassment which generally appears in disguising what he has said, is sufficient to discover the truth.

We

We do not see what right any man has to announce the death of another, especially if such a declaration has a chance to kill him. Mankind are indeed very fond of prying into future events, and seldom fail to importune the physician for his opinion. A doubtful answer, however, or one that may tend to encourage the hopes of the patient, is surely the most safe. This conduct could neither hurt the patient nor the physician. Nothing tends more to destroy the credit of physic, than those bold prognosticators, who, by the bye, are generally the most ignorant. The mistakes which daily happen in this way are so many standing proofs of human vanity, and the weakness of science *.

The vanity of foretelling the fate of the sick, is not peculiar to the Faculty. Others follow their example, and those who think themselves wiser than their neighbours often do much mischief in this way. Humanity surely calls upon every one to comfort the sick, and not to add to their affliction by alarming their fears. A physician may often do more good by a mild and sympathizing behaviour, than by medicine, and should never neglect to administer that greatest of all cordials, HOPE.

OF GRIEF.

GRIEF is the most destructive of all the passions. Its effects are permanent; and when it sinks deep into the mind, it generally proves fatal. Anger and fear, being of a more violent nature, seldom last long; but grief often changes into a fixed melancholy, which preys upon the spirits, and wastes the constitution. We should beware of indulging
this

* Cases, however, no doubt, do frequently occur, in which it is highly proper for the physician to inform some of the nearest relations of the real situation of the patient.

this passion. It may generally be conquered at the beginning; but when it has gained strength, all our attempts become vain.

No person can prevent misfortunes; but it shows true greatness of mind to bear them with serenity. Many make a merit of indulging grief, and when misfortunes happen, they obstinately refuse all consolation, till the mind, overwhelmed with melancholy, sinks under the load. Such conduct is not only destructive to health, but inconsistent with reason, religion, and common sense.

Change of ideas is as necessary for health as change of posture. When the mind dwells long upon one object, especially of a disagreeable nature, it hurts the whole functions of the body. Thus grief indulged spoils the digestion, and destroys the appetite. By that means the spirits are depressed, the nerves relaxed, the bowels inflated with wind, and the humours, for want of fresh supplies of chyle, vitiated. Thus many an excellent constitution has been ruined by a family-misfortune, or any thing that occasioned excessive grief.

It is utterly impossible, that any person of a dejected mind should enjoy health. Life may indeed be dragged on for a few years: But whoever would live to a good old age, must be good-humoured and chearful. This indeed is not altogether in our own power; yet our temper of mind, as well as actions, depend greatly upon ourselves. We can either think of agreeable or disagreeable objects, as we chuse; we can go into chearful or melancholy company; we can mingle in the amusements and offices of life, or sit still and brood over our calamities. These, and many such things, are certainly in our power, and from these the mind generally takes its cast.

The variety of scenes which present themselves

to the senses, were certainly designed to prevent our attention from being too long fixed upon any one object. Nature abounds with variety, and the mind, unless fixed down by habit, delights in contemplating new objects. This at once points out the method of relieving the mind in distress. Turn the attention to other objects. Examine them with accuracy. When the mind begins to recoil, shift the scene. By this means a constant succession of new ideas may be kept up, till the disagreeable ones entirely disappear. Thus travelling, the study of any art or science, reading or writing on such subjects as engage the attention, will sooner expel grief than the most sprightly amusements.

It has already been observed, that exercise is absolutely necessary for the health of the body; but it is no less so for that of the mind. Indolence nourishes grief. When the mind has nothing else to think of but calamities, no wonder that it dwells there. Few people who pursue business with attention are hurt by grief. Instead of abstracting ourselves from the world or business, when misfortunes happen, we ought to engage in it with more than usual attention, to discharge with double diligence the functions of our station, and to mix with friends of an easy social temper.

Innocent amusements are by no means to be neglected. These, by leading the mind insensibly to the contemplation of agreeable objects, help to dispel the gloom which misfortunes cast over it. They make time seem less tedious, and have many other happy effects.

Some, when overwhelmed with grief, betake themselves to drinking. This is making the cure worse than the disease. It seldom fails to end in the ruin of fortune, character, and constitution.

The best way to counteract the violence of any passion is to encourage its opposite. Thus, under
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the most pressing calamities, HOPE is always to be kept in view. Hope is the very support of life, and absolutely necessary to the happiness of a rational being.

Should all other means of comfort fail, the Christian religion affords an inexhaustible source of consolation. It teaches us, that the sufferings of this life are designed to prepare us for a future state of happiness; and that all who pursue the paths of virtue shall at last arrive at complete felicity.

C H A P. III.

OF ARTIFICERS, THE LABORIOUS, THE
SEDENTARY, THE STUDIOUS.

THAT men are exposed to particular diseases from the occupations which they follow, is a fact well known; but to remedy that evil is a difficult matter. People are under a necessity of pursuing the employments in which they are bred, whether they be favourable to health or not. Hence all that we can propose under this article, is to point out those diseases to which men are more immediately exposed from their particular occupations; and to shew how far such diseases, by due care, may be avoided.

The first cause of the diseases of artificers that we shall mention, is the unwholesome smells and noxious exhalations which often proceed from those materials in which they are employed. Thus tallow-chandlers, boilers of oil, dressers of leather, and all who work upon putrid animal substances, are afflicted with diseases of the stomach and lungs. Ill smells not only create a nausea, and hurt the digestion, but even taint the humours themselves, and frequently prove the cause of fevers, consumptions, &c.

These occupations are not only hurtful to such as are employed in them, but likewise to those who live in the neighbourhood of the places where they are carried on; for which reason they ought always to be at a proper distance from any town.

The best advice that we can give to such as are
employed

employed in this way, is, to pay the utmost attention to cleanliness. They are indeed obliged to wear dirty clothes while at work; but the moment they leave off, they ought to wash themselves, strip off their dirty clothes, put on clean ones, and remove to a proper distance from the smell of their work-shops, &c. No one who has not made the trial, can imagine how far an attention to these, and other pieces of cleanliness, will go in preserving the health of those artificers who are obliged to follow such employments.

Chymists, founders, glass-makers, &c. besides the noxious exhalations from those bodies in which they work, are forced to breathe an air that is in a manner burnt, or at least too much rarified to expand the lungs, or answer the important purposes of respiration*. Such people are generally thin, pale, and of a weak consumptive habit. They are melted down with sweat, in order to supply which evacuation large quantities of liquor become necessary. Thus, by hard working and fast living, their constitutions are worn out in a few years.

Such artists ought to work by turns, and should never continue long near the furnace at a time. They should be careful, when they leave off work, to cool gradually, avoiding every thing that may suddenly check the perspiration. The places where these occupations are carried on should be properly constructed for discharging the smoke, and other exhalations, and admitting a free current of fresh air; otherwise the people who work in them can never enjoy health.

The exhalation from metals and minerals is not only hurtful to founders, chymists, and others who manufacture them for particular purposes, but likewise to miners, or those who dig them out of the
G 3 earth.

* See a former note on this subject, p. 67.

earth. Fallopius observes, that such as work in mines of mercury seldom live above three or four years. They are generally affected with palsies, vertigos, and other diseases of the nerves, which soon put an end to their miserable lives. Those also who work in lead-mines are very liable to paralytic disorders, with gripes, cholics, and other complaints of the bowels.

Miners suffer from their situation as well as from the metals in which they work. The air in mines being totally excluded from the sun's rays, by stagnation loses its spring, and often becomes damp. This kind of air is to be avoided as the most deadly poison: Besides, mines are often wet, which renders them still more hurtful. This is one reason why miners are very subject to aches, cramps, rheumatic pains, &c.

Miners should never continue too long under ground at a time; neither ought they at any time to go to work fasting, nor to suffer their stomachs to be empty while they continue in the mines. They ought not to live too low; and their liquor should be generous. They should by all means avoid costiveness, by either taking food of an opening nature, or, when that does not succeed, a gentle purge. Oils are found to be a good preservative against gripes from the effluvia of metals. Oils both open the belly, and sheath the coats of the intestines, which prevents their being hurt by the poisonous particles of the metal.

Miners should by all means take care that the air have a free current through the mines, and that neither it nor the water be suffered to stagnate. All who work in mines or metals ought to wash when they leave off work, and to change their clothes. Those parts of the metal which adhere either to the skin or the clothes, being continually absorbed into the body, must necessarily do hurt.

People

People are too apt to look upon such circumstances as unworthy of their attention; but these small causes, by being neglected, never fail to produce the most dreadful effects.

Plumbers, painters, gilders, and all who work in metals, are subject to the same diseases as those who dig them. They are afflicted with cholics, asthmas, palsies, &c. and should observe the same precautions as miners. It is impossible for people thus employed, at all times to avoid some degree of danger; but it consists with observation, that, by due care, they may prolong their lives to a good old age, with a tolerable share of health. We have seldom seen a person in danger from any of the above causes, but it proceeded from his own foolhardiness, or want of care.

As it would greatly exceed our bounds to specify the disorders peculiar to every occupation, we shall therefore consider mankind under the following general classes, *viz. Laborious, Sedentary, and Studious.*

THE LABORIOUS.

THOUGH those who follow laborious employments are in general the most healthy, yet the nature of their occupations, and the places where they are carried on, expose them to many diseases. Husbandmen, for example, are exposed to all the vicissitudes of the weather, which are often very great and sudden. They are likewise forced to work hard, and often to carry loads above their strength, which, by overstraining the vessels, occasion many diseases, as asthmas, ruptures, &c.

Intermittent fevers, or agues, are very common amongst those who labour without doors. These are occasioned by the frequent vicissitudes of heat and cold to which they are exposed, by the bad water which they are often obliged to drink, by the low marshy situation of their houses, and by their frequent exposure to the evening-dews, night-air, &c.

Asthmas and inflammations of the breast are very incident to the laborious. These are occasioned by the violent exercise and the frequent extremes of heat and cold to which they are exposed. Those who bear heavy burdens, as porters, &c. are obliged to draw in the air with much greater force, and also to keep their lungs distended with more violence than is necessary for common respiration: By this means the tender vessels of the lungs are over-distended, and often burst, insomuch that a spitting of blood or fever ensues. Hippocrates mentions an instance to this purpose, of a man who, upon a wager, had carried an ass. The man, he says, was immediately seized with a fever, a vomiting of blood, and a rupture.

Carrying heavy burdens is often the effect of mere indolence, which prompts people to do at once what should be done at twice. It likewise proceeds frequently from bravado, or an emulation to outdo others. Hence it is that the strongest men are most generally hurt by heavy burdens, hard labour, or feats of activity. It is rare to find one who excels in this way, without a hernia, a hæmoptoe, or some other disease, which he enjoys as the fruit of his folly. One would imagine, that the daily instances which we have of the fatal effects of carrying great weights, running, wrestling, &c. should be sufficient to put a stop to such practices.

There are indeed some employments which necessarily

cessarily require a violent exertion of strength, such as blacksmiths, carpenters, &c. None ought to follow these occupations but men of a strong body; and they should never exert their strength to the utmost, nor work too long. When the muscles are violently strained, frequent rest is necessary, in order that they may recover their tone; where this is neglected, the strength and constitution will soon be worn out, and a premature old age brought on.

The quinsy and erisipelas, or St Anthony's fire, are likewise diseases very incident to the laborious. These are occasioned by whatever gives a sudden check to the perspiration, as drinking cold liquor when the body is warm, keeping on wet clothes, sitting or lying on the cold ground, damp houses, wet feet, &c. As the great danger of these practices has already been pointed out, it is unnecessary to insist upon them here.

The laborious are often afflicted with the iliac passion, the cholic, and other complaints of the bowels. These are often occasioned by wet feet, or wet clothes; but they more generally proceed from flatulent and indigestible food. Labourers eat unfermented bread made of pease, beans, rye, and other windy ingredients. They also eat great quantities of unripe fruits, baked, stewed, or raw, with various kinds of roots and herbs, upon which they drink sour milk, stale small beer, &c. Such a composition cannot fail to fill the bowels with wind, and occasion diseases. Accordingly we find these people in the decline of life universally complaining of flatulencies; a disorder which renders many of them very unhappy, and for which no cure is yet known. The best advice that we can give them is to avoid windy food as far as possible.

Inflammations, whitloes, and other diseases of
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the extremities, are very common amongst those who labour without doors. These diseases are often attributed to venom, or some kind of poison; but they generally proceed either from sudden heat after cold, or the contrary. When such people come from the fields cold and wet, they run to the fire, and often plunge their hands in warm water, by which means the blood and other humours in these parts are suddenly expanded, and the vessels not yielding so quickly, a strangulation happens, and an inflammation or mortification ensues.

When labourers come home cold, they ought to keep at a distance from the fire for some time, to wash their hands in cold water, and to rub them well with a dry cloth. It sometimes happens that people are so benumbed with cold, as to lose, for a time, the use of their limbs altogether. In such a case, the only remedy is to rub the parts affected with snow, or, failing that, with cold water. If they be held near the fire, or plunged into warm water, a mortification will frequently ensue.

Labourers in the hot season are apt to lie down and sleep in the sun. This practice is so dangerous, that they often rise in a high fever. The burning fevers, which prove so fatal about the end of summer, and beginning of autumn, are often occasioned by this means. When labourers leave off work, which they ought always to do during the heat of the day, they should go home, or, at least, get under some cover, where they may repose themselves in safety.

The different seasons of the year expose those who labour without doors to different diseases. Thus, in the spring, agues are frequent; in summer, as has been observed, burning fevers abound; and in autumn, dysenteries and fluxes prevail. The latter proceed not only from the perspiration being at that time obstructed, but also from the green
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trash, or unripe fruits, which country-people eat in great quantities. Indeed, if fruit be ripe, and eat in moderation, it rather prevents than occasions dysenteries; but it is equally certain, that much bad fruit will bring on a flux.

Labourers are often hurt by long fasting. They frequently follow their employments in the fields from morning till night, without eating any thing. This cannot fail to hurt their health. However homely their fare may be, they ought to have it at regular times; and the harder they work, the more frequently should they eat.

Labourers likewise suffer from the nature of their food. They are extremely careless with respect to what they eat or drink, and often, through mere indolence, eat unwholesome food, when they might, for the same expence, have that which is wholesome. The poor often hurt their health for want of a proper method of living, and in the end save nothing by it. In many parts of Britain, the peasants are too careless to take the trouble of dressing their victuals, though they have fuel for nothing. Such people will live upon one meal a-day in indolence, rather than labour, though it were to procure them the greatest affluence.

Poverty is doubtless a very general cause of diseases among the labouring part of mankind. Few of them have much foresight; and if they had, it seldom is in their power to lay any thing up against hard times. They are glad to make a shift to live from day to day; and when any disease renders them unfit for work, their families are ready to starve. Here the God-like virtue of charity ought ever to exert herself. To relieve the industrious poor, when in distress, is surely the most exalted act of religion, and can never lose its reward. They alone who witness those scenes of calamity, can form a notion of what numbers perish in diseases
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for want of proper assistance, and even for want of the necessaries of life. It were to be wished, for the honour of human nature, as well as for the good of society, that these things were more looked into.

Fevers of a very bad kind are often occasioned by what is called *poor living*. When the body is not sufficiently nourished, the humours become bad, and the spirits sink; from whence the most fatal consequences must ever ensue. *Poor living* is likewise productive of cutaneous diseases. It is remarkable, that cattle, when pinched in their food, are generally affected with diseases of the skin. These diseases seldom fail to disappear when they are put upon a good pasture; which shews how much a good state of the humours depends upon a sufficient quantity of proper nourishment.

Labourers often suffer from a foolish emulation, which prompts them to vie with one another, till they drop down dead, or over-heat themselves to such a degree as to occasion a fever. As this is the effect of vanity, it ought always to be checked by those who have the superintendence of them. Such as wantonly throw away their lives in this manner, deserve to be looked upon in no better light than self-murderers. It is a pity that poor widows and fatherless children should suffer by such childish conduct: Could we speak to the passions of men, we would bid them think of these, and then consider of how great importance their lives are.

The office of a soldier in time of war, may be ranked amongst laborious employments. Soldiers suffer many hardships from the inclemency of seasons, long marches, hunger, bad provisions, &c. These occasion fevers, fluxes, rheumatisms, and other fatal diseases, which often do more execution than the sword, especially when campaigns are continued

continued too late in the season. One week of cold rainy weather will kill more men than many months when it is dry and warm.

Every commander should take care that his soldiers be well clothed and well fed. He ought also to endeavour to put an end to the campaign in due season, and to provide his men with winter-quarters that are dry and well-aired. These easy rules, with taking care to keep the sick at a proper distance from those in health, will go a great length in preserving the lives of the soldiery.

It is indeed to be regretted, that soldiers suffer no less by indolence and intemperance in time of peace, than from hardships in time of war. When men are idle, they will be vicious. It would therefore be of the greatest importance, could a scheme be formed for rendering the military in time of peace less vicious, more healthy, and more useful to society. All these desirable objects might certainly be promoted by only employing them five or six hours every day, and advancing their pay in proportion. By this means idleness, the mother of vice, would not only be prevented, but the price of labour might be lowered. Public works, as harbours, canals, turnpike roads, &c. might be made, without hurting manufactures; and soldiers might be enabled to marry, and bring up children.

A scheme of this kind might be so conducted as to raise instead of depressing the martial spirit, provided the men were never allowed to work above a certain number of hours, and obliged always to work without doors. No soldier should ever be allowed to work too long, nor permitted to follow any sedentary employment. Sedentary employments render men weak and effeminate, and quite unfit for the hardships of war; whereas working a few hours daily without doors would inure them to the

the weather, brace their nerves, and promote their strength and courage.

Sailors may also be numbered amongst the laborious. They undergo great hardships from change of climate, the violence of weather, hard labour, bad provisions, &c. Sailors are of so great importance both to the trade and safety of this kingdom, that too much pains can never be bestowed in pointing out the proper means of preserving their lives.

Excess is one great source of the diseases of sea-faring people. When they get on shore, after being long at sea, without regard to the climate, or their own constitutions, they plunge headlong into all manner of riot, and often persist till a fever puts an end to their lives. Thus intemperance, and not the climate, is often the cause why so many of our brave sailors die on foreign coasts. We would not have sea-faring people live too low; but they will find temperance the best defence against fevers, and many other maladies.

Sailors, when on duty, are often exposed to cold and wet. When that happens, they should change their clothes as soon as they are relieved, and take every proper method to restore the perspiration. In this case they should not have recourse to spirits, or other strong liquors, but should rather drink such as are weak and diluting, of a proper warmth, and go immediately to bed, where a sound sleep and a gentle sweat will set all to rights.

The health of sailors, however, suffers most from unwholesome food. The constant use of salted provisions vitiates the whole humours, and occasions the scurvy, and other obstinate maladies. It is no easy matter to prevent this disease in long voyages; yet we cannot help thinking, that much might be done towards effecting so desirable an end, were due pains bestowed for that purpose. For example,
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various roots, greens, and fruits, might be kept a long time at sea, as onions, potatoes, cabbages, lemons, oranges, tamarinds, apples, &c. When fruits cannot be kept, the juices of them, either fresh or fermented, may. With these all the drink, and even the food of the ship's company, ought to be acidulated in long voyages. But suppose the vegetable acids should fail, yet the chymical, as cream of tartar, elixir of vitriol, &c. may be kept for any length of time; and as they are attended with no expence, it is in the power of every sailor to lay in enough of these for the longest voyage. These, though not so good as the vegetable acids, are still better than none, and should always be used when the others fail.

Stale bread and beer likewise contribute to vitiate the humours. Meal will keep for a long while on board, of which fresh bread might frequently be made. Malt, too, might be kept on board, and infused with boiling water at any time. This liquor, when drank even in the form of wort, is very wholesome, and is found to be an excellent antidote against the scurvy. Small wines and cyder might likewise be plentifully laid in; and should they turn sour, they would still be useful, as vinegar. Vinegar is a very great antidote against diseases, and should be used by all travellers, especially at sea.

Such animals as can be kept alive ought likewise to be carried on board, as hens, ducks, pigs, &c. Fresh broths made of portable soup, and puddings made of pease, or other vegetables, ought to be used frequently. Many other things will occur to people conversant in these matters, which would tend to preserve the health of that brave and useful set of men. Pity it is that so little attention should be paid to these things by such as have it in their power to rectify them; but interest blinds the eyes of some, while others, totally regardless of the future,

ture, will make no provision against diseases till they feel them.

There is reason to believe, if care were taken with respect to the diet, air, clothing, &c. of seafaring people, that they would be the most healthy set of men in the world; but when these are not duly regarded, the very reverse must happen.

Peruvian bark is the best *medical antidote* that we can recommend to sailors or soldiers on foreign coasts. This will often prevent fevers, and other fatal diseases. A drachm or so of it may be chewed every day; or if this should prove disagreeable, an ounce of bark, with half an ounce of orange-peel, and two drachms of snake-root coarsely powdered, may be infused for two or three days in an English quart of brandy, and half a wine-glass of it taken twice or thrice a-day, when the stomach is most empty. This has been found to be an excellent antidote against fluxes, putrid, intermitting, and other fevers, in unhealthy climates. It is not material in what form this medicine be administered. It may either be infused in water, wine, or spirits, as recommended above, or made into an electuary, with syrup of lemons, oranges, or the like.

THE SEDENTARY.

THOUGH nothing can be more contrary to the nature of man than a sedentary life, yet the far greater part of the human species are comprehended under this class. Almost the whole female world, and, in manufacturing countries, the major part of the males, may be reckoned sedentary.

Agriculture, the first and most healthful of all employments, is now followed by few who are able to carry on any other business. Those who imagine
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that the culture of the earth is not sufficient to employ all its inhabitants, are greatly mistaken. An ancient Roman, we are told, could maintain his family from the produce of one acre of ground. So might a modern Briton, if he could be contented to live like a Roman. This shows what an immense increase of inhabitants Britain might admit of, and all of them live by the culture of the ground. Agriculture is the great source of domestic riches. It is of all employments the most favourable to health and population. When it is neglected, whatever wealth may be imported from abroad, poverty, wretchedness, and misery, will abound at home. Such is, and ever will be, the fluctuating nature of manufactures, that ten thousand people may be in bread to-day, and in beggary to-morrow. This can never happen to those who cultivate the ground. They can eat the fruit of their labour, and can always by industry obtain, at least, the necessaries of life.

Though sedentary employments be necessary, yet there seems to be no reason why any person should be confined for life to these alone. Were such employments intermixed with the more active and laborious, they would never do hurt. It is constant confinement that ruins the health. A man may not be hurt by sitting four or five hours a-day, who, were he obliged to sit ten or twelve, would soon contract diseases.

But it is not want of exercise alone which hurts sedentary people; they often suffer from the unwholesome air which they breathe. It is very common to see ten or a dozen tailors, or stay-makers, for example, crowded into one small apartment, where there is hardly room for one single person to breathe freely. In this situation they generally continue for many hours at a time, with often the addition of fundry candles, which help to waste the air, and render it less fit for respiration. Air that

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is breathed over and over, loses its spring, and becomes unfit for expanding the lungs*. This is one cause of the phthical coughs, and other complaints of the breast, so incident to sedentary artificers.

Even the perspiration from a great number of bodies pent up together, renders the air unwholesome. The danger from this quarter is greatly increased, if any one of them happen to have bad lungs, or be otherwise diseased. Those who sit near him, being forced to breathe the same air, can hardly fail to be infected. It would be a rare thing, indeed, to find a dozen of sedentary people all sound. The danger of crowding them together must therefore be evident to every one.

Many of those who follow sedentary employments are constantly in a bending posture, as shoemakers, tailors, cutlers, &c. Such a situation is extremely hurtful. A bending posture obstructs all the vital motions, and of course must ruin the health. Accordingly we find such artificers generally complain of indigestions, flatulencies, head-achs, pains of the breast, &c. In such people the first concoction is generally bad; and as that fault can never be mended in any of the subsequent ones, it cannot fail to induce a total vitium of the humours, which paves the way to innumerable diseases.

The aliment in sedentary people, instead of being pushed forwards by an erect posture, the action of the muscles, &c. is in a manner confined in the bowels. Hence costiveness, wind, and other hypochondriacal symptoms, the never-failing companions of the sedentary. Indeed none of the excretions can be duly performed where exercise is wanting; and when any one of these is retained too long in the body, it must have bad effects, as it is again taken up into the mass of humours.

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* We have already had occasion to observe, that it is by losing its oxygen that air becomes unfit for respiration.

A bending posture is very hurtful to the lungs. When this organ is compressed, the air cannot have free access into all its parts, so as to expand them properly. Hence tubercles, adhesions, &c. are formed, which often end in consumptions. The proper action of the lungs is likewise necessary for making good blood. When that organ fails, the humours soon become universally depraved, and the whole constitution goes to wreck. In fine, both the pectoral and abdominal viscera ought to be kept as free and easy as possible. Their continual action is absolutely necessary to life, and being of a soft texture, their functions are easily obstructed by any sort of pressure.

The sedentary are not only hurt by pressure on the bowels, but also on the inferior extremities, which obstructs the circulation in these parts, and renders them weak and feeble. Thus tailors, shoemakers, &c. frequently lose the use of their legs altogether; besides the blood and other humours, by stagnating in these parts, are vitiated; from whence proceed the scab, ulcerous sores, foul blotches, and other cutaneous diseases, so common among sedentary artificers.

A bad figure of body is a very common consequence of close application to sedentary employments. The spine, for example, by being continually bent, puts on a crooked shape, and generally remains so ever after. But a bad figure of body has already been observed to be hurtful to health, as the vital functions, &c. are thereby impeded.

A sedentary life never fails to occasion an universal relaxation of the solids. This is the grand source from whence most of the diseases of sedentary people flow. The scrophula, consumption, rickets, and many other maladies which now abound, were very little known in this country be-

fore sedentary artificers became so numerous ; and they are very little known still among such of our people as follow active employments without doors, though in the great manufacturing towns, at least two thirds of the inhabitants are afflicted with them.

It is the more difficult to remedy those evils, because many who have been accustomed to a sedentary life, like rickety children, lose all inclination for exercise ; we shall, however, give a few hints with respect to the most likely means for preserving the health of this useful set of people, which some of them, we hope, will be wise enough to observe.

It has been observed, that sedentary artificers are often hurt by their bending posture. They ought, therefore, to stand or sit as erect as the nature of their employments will permit. They should likewise change postures frequently, and should never sit too long at a time, but leave off work, and walk, ride, run, or do any thing that will promote the vital functions.

Sedentary artificers are allowed too little time for exercise ; yet, short as it is, they seldom employ it properly. A journeyman tailor or weaver, instead of walking abroad for exercise and fresh air at his hours of leisure, chuses often to spend them in a public house, or in pursuing some sedentary diversion, at which he generally loses both his time and money.

The aukward postures in which many sedentary artificers work, seem rather to be the effect of custom than necessity. For example, a table might surely be contrived for ten or a dozen tailors to sit round it, with liberty for their legs either to hang down, or rest upon a foot-board, as they should chuse. A place might be cut out in the table for every person to sit in, by which means his work

would

would lie as ready to his hand, as in the present mode of sitting cross-legged.

We would recommend to all sedentary artificers the most religious regard to cleanliness. Both their situation and occupations render this highly necessary. Nothing would contribute more to preserve sedentary artificers in health, than a strict attention to this rule; and such of them as neglect it, not only run the hazard of losing their health, but of becoming a nuisance to society.

Sedentary people should live sparingly. They ought likewise to avoid food that is windy, or hard of digestion, and should pay the strictest regard to sobriety. A person who works hard without doors will soon throw off an overcharge of liquors, but one who sits has by no means an equal chance. Hence it often happens, that sedentary people are seized with fevers after hard drinking. When such people feel their spirits low, instead of running to the tavern for relief, they should ride, or walk into the fields. This would remove the complaint more effectually than strong liquor, and would never hurt the constitution.

Instead of multiplying rules for preserving the health of the sedentary, we shall recommend the following general plan, viz. That every person who follows a sedentary employment should cultivate a piece of ground with his own hands. This he might dig, plant, sow, and weed at his leisure-hours, so as to make it both an exercise and amusement, while it produced many of the necessaries of life. After working an hour in a garden, a man will return with more keenness to his employment within doors, than if he had been all the while idle.

Labouring the ground is every way conducive to health. It not only gives exercise to every part of the body, but the very smell of the earth and

fresh herbs, revive and cheer the spirits, whilst the perpetual prospect of something coming to maturity, delights and entertains the mind. We are so made as to be always pleased with somewhat in prospect, however distant or however trivial. Hence the happiness that most men feel in planting, sowing, building, &c. These seem to have been the chief employments of the early ages; and when kings and conquerors cultivated the ground, there is reason to believe, that they knew as well wherein true happiness consisted as we do.

It may seem romantic to recommend gardening to manufacturers in great towns; but observation proves, that the plan is very practicable. In the town of Sheffield, in Yorkshire, where the great iron manufacture is carried on, there is hardly a journeyman cutler who does not occupy a piece of ground which he cultivates as a garden. This practice has many salutary effects. It not only induces these people to take exercise without doors, but also to eat many greens, roots, &c. of their own produce, which they would not think of purchasing. There seems to be no reason why manufacturers in any other town in Great Britain should not follow this example.

Mechanics are too much inclined to crowd into great towns. This situation may have some advantages; but it has many disadvantages. All mechanics who live in the country, have it in their power, and indeed most of them do occupy a piece of ground, which not only gives them exercise, but enables them to live more comfortably. So far at least as our observation reaches, mechanics who live in the country are far more happy than those in great towns. They enjoy better health, live in greater affluence, and seldom fail to rear a healthy and numerous offspring.

In a word, exercise without doors, in one shape
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or other, is absolutely necessary to health. Those who neglect it, though they may for a while drag out life, can hardly be said to enjoy it. Their humours are generally vitiated, their solids relaxed and weak, and their spirits low and depressed.

THE STUDIOUS.

INTENSE thought is so destructive to health, that few instances can be produced of studious persons who live to an extreme old age. Hard study always implies a sedentary life; and when want of exercise is joined to intense thinking, the consequences must be bad. We have frequently known even a few months intense study ruin an excellent constitution, and bring on a train of nervous complaints, which never could be removed. Man is evidently not formed for continual thought, more than for perpetual action, and would be as soon worn out by the one as by the other.

So great is the power of the mind over the body, that by its influence the whole vital motions may be accelerated or retarded, to almost any degree. Cheerfulness and mirth quicken the circulation, and promote all the secretions; whereas sadness and profound thought never fail to retard them. Thus even a degree of thoughtlessness is necessary to health. The perpetual thinker seldom enjoys either health or spirits; while the person who can hardly be said to think at all, seldom fails to enjoy both. The mind, by a habit of thinking, in some measure loses the power of unbending itself. This may be called a disease of the mind, and should be as carefully guarded against as any other malady.

Perpetual thinkers, as they are called, seldom think to much purpose. Such people, in a course

of years, generally become quite stupid, and exhibit a melancholy proof how readily the greatest blessings may be abused. Study, like all other things, when carried to extreme, becomes a vice. Hence nothing can afford a greater proof of wisdom, than for a man frequently and seasonably to unbend his mind. This may always be done by chearful company, active diversions, music, or the like.

The gout is the common companion of the studious. This excruciating disease generally proceeds from indigestions, and an obstructed perspiration. It is impossible that the man who sits all day in a closet should either digest his food, or have any of the secretions in due quantity. When that matter, which should be thrown off by the skin, is retained in the body, it cannot fail to vitiate the humours, and of course to produce the gout, or some other malady.

The studious are often afflicted with the stone and gravel. Motion greatly assists the secretion and discharge of urine; consequently a sedentary life must have the contrary effect. Of this any one may be sensible, by observing, that he passes much more urine by day than in the night, and also when he walks or rides, than when he sits. A free discharge of urine, not only prevents the gravel and stone, but many other diseases.

Obstructions of the liver prove often fatal to the studious. Diseases of that organ are very obstinate, and generally complicated. The circulation in the liver being slow, obstructions can hardly fail to be the consequence of inactivity. Hence sedentary people are frequently afflicted with schirrous livers, the jaundice, &c. The proper secretion and discharge of the bile is so necessary a part of the animal œconomy, that where it is not duly performed, the health must needs be impaired. Indigestion,
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loss of appetite, and a wasting of the whole body, seldom fail to be the consequences of a vitiated state of the liver, or obstructions of the bile.

Few diseases prove more fatal to the studious than consumptions of the lungs. It has already been observed, that this organ cannot be duly expanded in those who do not take proper exercise; and where that is the case, obstructions, adhesions, &c. must ensue. Not only want of exercise, but the posture in which studious people often sit, is very hurtful to the lungs. Those who read or write much are apt to contract a habit of bending forwards, and often press with their breast upon a table or bench, &c. It is impossible this posture should fail to hurt the lungs. It ought therefore to be avoided with the utmost care.

The studious are often afflicted with want of appetite and indigestions. These lay the foundation of numerous diseases. When the digestions fail, the humours must soon be depraved, to which succeed low spirits, weak nerves, with the whole train of hysteric and hypochondriac maladies.

Head-achs often afflict the studious. These proceed from long and intense thinking, and sometimes they are aggravated by costiveness. The best way to prevent them is, never to study too long, and to keep the belly regular, either by proper food, or taking frequently a little of some opening medicine.

Diseases of the eyes often afflict the studious. Such therefore as read or write much should early accustom themselves to use *preserves*. Night-study is most destructive to the sight, and should never be prolonged too late. Indeed late studies are not only hurtful to the eyes, but to the whole body. Nothing more certainly ruins the health, than the practice of spending those hours in the closet which should be allotted to sleep. Studious persons will
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find their eyes greatly strengthened by bathing them frequently in cold water, or brandy and water mixed.

The dropfy is another of those diseases which commonly affect the studious, and very often puts an end to their lives. It has already been observed, that the secretions are generally defective in the studious, and that various diseases, among which is the dropfy, are occasioned by the retention of those humours which ought to be thrown off in that way. Any person may observe, that sitting makes his legs swell, and that this will go off by exercise; which clearly points out the method of prevention to all who can take it. To those who cannot take exercise, we would recommend the use of the flesh-brush, cold-bathing, and such food as is of a bracing and strengthening nature.

Fevers, especially of the nervous kind, are often the effect of study. Nothing is so destructive to the nerves as intense thought. It is able, in a manner, to unhinge the whole machine. It not only hurts the vital motions, but disorders the mind itself. Hence a delirium, melancholy, and even madness, are often the effect of close application to study. There is no disease which can proceed either from a bad state of the humours, a defect of the usual secretions, or a debility of the nervous system, which may not be brought on by intense thinking.

But the most afflicting of all the diseases which attack the studious, is the hypochondriacal. This seldom fails to be the companion of deep thought, and may rather be called a complication of maladies, than a single one. To what a wretched pass are the best of men often reduced by this malady? Their strength and appetite fail. A perpetual gloom hangs over their minds. They live in the
constant

constant dread of death, and are continually in search of relief from medicine, where, alas! it is not to be found. This disease far exceeds all description, and those who labour under it, though they be often made the subject of ridicule, justly claim our highest sympathy and compassion.

Nothing can be more preposterous than for any man to make study his sole business. A mere student is seldom an useful member of society. Indeed it rarely happens, that an useful invention is the effect of study. The farther that men dive into profound researches, they generally deviate the more from common sense, and too often lose sight of it altogether. Hence it is that profound speculations, instead of making men wiser or better, generally render them mere sceptics, and overwhelm them in doubt and uncertainty. All that is necessary for man to know, in order to be happy, is easily obtained, and the rest, like the forbidden tree, serves only to increase his misery.

Studious people, in order to relieve their minds, must not only discontinue to read and write, but engage in some employment or amusement, that will so far occupy the thought as to make them forget the business of the closet. A solitary ride or walk are so far from relieving the mind, that they rather encourage thought. Nothing can divert the mind, when it gets into a train of serious thinking, but an attention to subjects of a more trivial nature. These, when compared with the other, prove a kind of play to the mind, and consequently relieve it.

Thinking men are apt to contract a contempt for what they call trifling company. They are ashamed to be seen with any but philosophers. This, however, is no proof of their being philosophers themselves. No man deserves the name of a philosopher who is ashamed to unbend his mind by associating

affociating with the chearful and gay. Even the society of children will relieve the mind, and expel the gloom which application to study is too apt to occasion. It is remarkable, that such as have numerous families, whatever hardships they may labour under, are generally the most chearful and happy.

As studious people are necessarily much within doors, they should make choice of a large and well-aired place for study. This would not only prevent the bad effects which attend confined air, but would chear the spirits, and have a most happy influence both on the body and mind. It is said of Euripides the Tragedian, that he used to retire to a dark cave to compose his tragedies, and of Demosthenes the Grecian orator, that he chose a place for study where nothing could be either heard or seen. With all deference to such venerable names, we cannot help condemning this taste. A man may surely think to as good purpose in an elegant apartment as in a cave; and may have as happy ideas where the all-cheering rays of the sun render the air wholesome, as in places where they never reach.

Those who read or write much should be very attentive to their posture. They ought to sit and stand by turns, always keeping as near an erect posture as possible. Those who dictate may do it walking. It has an excellent effect frequently to read or speak aloud. This not only exercises the lungs, but almost the whole body. Hence studious people are greatly benefited by delivering discourses in public. Such indeed sometimes hurt themselves by over-acting their part; but that is their own fault. The man who dies a martyr to mere vociferation, merits not our sympathy.

The morning has by all medical writers been reckoned the best time for study. It is so. But it

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is also the most proper season for exercise, while the stomach is empty, and the spirits refreshed with sleep. Studious people should therefore frequently spend the morning in some manly diversion abroad. This would make them return to study with greater alacrity, and would be of more service than twice the time after their spirits are worn out with fatigue. It is not sufficient to take diversion only when we can think no longer. Every studious person should make it a part of his business, and should let nothing interrupt his hours of recreation, more than those of the study.

Music has a most happy effect in relieving the mind. It would be well if every studious person were so far acquainted with that science, as to amuse himself after severe thought, by playing such airs as have a tendency to rouse the spirits, and inspire chearfulness and good humour.

Studious persons generally spend their mornings in the closet, and their evenings in company. It were better to invert this rule. It is the reproach of learning, that so many of her sons, to relieve the mind after study, betake themselves to the use of strong liquors. This indeed is a remedy; but it is a desperate one, and always ends in destruction. Would such persons, when their spirits are low, get on horseback, and gallop ten or a dozen miles, they would find it a more effectual remedy than all the strong liquors in the world. A good horse is the best preventive medicine that we can recommend to the studious. This is better than all the nervous antidotes of the shops, and will in the end be found much cheaper.

It is really to be regretted, that men, while in health, pay so little regard to these things. How common is it to see a wretch, over-run with nervous diseases, bathing, walking, riding, and, in a word,

word, doing every thing for health after it is gone ; yet, if any one had recommended these things by way of prevention, his advice would have been treated with contempt, or at least with neglect. Such is the weakness of human nature, and such the folly and want of foresight even of those who ought to be the wisest of mankind !

PART

PART II.

OF DISEASES.

CHAP. IV.

OF DISTINGUISHING AND CURING DISEASES.

BEFORE we proceed to the particular treatment of diseases, it will be necessary to lay down some general rules for distinguishing one disease from another, as the danger of mistaking the disease often deters people from attempting to relieve the sick.

To distinguish diseases is the most difficult part of the practice of physic. So near a resemblance do the symptoms of one disease often bear to those of another, that they may deceive the most skilful physician. We do not mean in this place to give the distinguishing marks of every particular disease, but only to put the reader upon his guard, by pointing out a few of those diseases which have the nearest resemblance to one another, and which the unwary and inattentive may be most apt to mistake.

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The small-pox and measles are both preceded by chilness and shivering, with heat and cold by turns, a quick pulse, great thirst, and other symptoms of a fever. In both, the eruption appears about the third or fourth day, in little spots resembling flea-bites. Thus far the disease cannot be certainly known; but on the second or third day from the eruption, the small-pox begin to rise and to fill with matter; which plainly shows the nature of the disease.

The petechial or spotted fever, may be known from the miliary by this mark, that in the former the spots never rise above the skin, whereas, in the latter, the skin is rough, and before the eruption appears, the patient complains of chilness, itching in the skin, and oppression of the breast.

Though there be a great similitude in the first symptoms of all fevers, yet an attentive observer may generally discover to what class they belong. Thus a burning fever may be known by the intense heat of the whole body, a dry parched skin, a chapt tongue, and unquenchable thirst. Malignant fevers are generally owing to infection. They may be known by the patient's sudden loss of strength, perpetual watching, &c. A catarrhal fever is known by a running at the nose, a hoarseness, and a sense of fulness in the breast.

The peripneumony and pleurisy may be distinguished by this, that in the latter the pain is more acute, and in the former the oppression of the breast and difficulty of breathing are greater; and the spittle is generally tinged with blood.

Intermittent fevers or agues are known by their leaving the patient, and returning at certain periods, as once a-day, once in two days, three days, or the like. They are denominated from the space between the fits, as quotidian, or every-day agues, tertian,

tertian, or such as return every other day, quartan, &c.

A hectic fever may be known by its supervening to some other disorder, as the dropfy, consumption, scurvy, &c. It differs from a flow fever in this, that the pulse is always quick, but remarkably so in the morning; whereas, the pulse in a flow fever is more natural in a morning, and before meals, though it be more quick after eating: Besides, in a flow fever the weakness is not so great as in a hectic.

An inflammation of the stomach may be distinguished from a cardialgia, an inflammation of the liver, &c. by a sense of the most intense heat in the stomach, a fever attended with a quick, unequal, and weak pulse, and a prodigious uneasiness upon taking any thing into the stomach.

An inflammation in the concave part of the liver may be distinguished from the bastard pleurisy, by the fever being less violent, the breathing easier, and the pain lower down. Besides, the bastard pleurisy generally goes off on the seventh day; whereas, the inflammation of the liver is a tedious disease, and often ends in an abscess, which occasions a hectic fever, or a dropfy, &c.

A phrenzy, or inflammation of the membranes of the brain, may be distinguished from madness, a common delirium, the hydrophobia, &c. by the burning fever, the continual watching, and the violent pulsation of the arteries about the head and temples, which always attend it. It differs from a delirium, in being more violent; from madness, in being an acute disease; and from the hydrophobia in this, that the patient has no aversion from liquids.

A nephritis, or inflammation of the kidneys, may be distinguished from a fit of the gravel, by a fixed, dull, pressing pain in the loins, which
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continues long; whereas, the pain in a fit of the gravel is more violent, less fixed, and generally extends downwards.

External inflammations are easily distinguished. An *erysipelas*, or St Anthony's fire, only affects the skin with redness, tumour, and pain; whereas, a *phlegmon* reaches to the subjacent muscles, and a *gangrene* penetrates not only the muscles, but even the tendinous and nervous parts, and is attended with great heat, pain, and redness, which at length change into a livid or black colour.

A stone descending by the ureters may easily be mistaken for a fit of the cholic, as both are attended with violent pain, vomiting, &c. In the former, however, the pain is more fixed in the loins, is attended with shiverings, and as the stone descends, the pain reaches downwards, and occasions a numbness of the thigh on the side affected; there is also a frequent inclination to pass water, with some degree of strangury; whereas, in the cholic, the pain is chiefly about the navel, and the belly is generally distended with wind.

The gout may be distinguished from the rheumatism, by its attacking the extremities chiefly, and being attended with a greater inflammation, and more violent pain. It may likewise be distinguished from venereal pains, by its being more violent in the day; whereas, they are most severe in the night.

The piles may be mistaken for a dysentery, as both tinge the stools with blood, though the one be a dangerous disease, and the other in many cases a salutary evacuation. In the piles, however, the blood flows without pain or gripes; whereas, in the dysentery, the stools are attended with the most violent gripes, spasms, &c.

Coughs may be owing to cold, an ulcer in the lungs, an asthma, &c. The best way to distinguish them

them is, to examine into the cause, to observe what the patient spits, and to mark the continuance of the disease. A cough occasioned by catching cold, is generally attended with a discharge of phlegm, and is seldom of long continuance. That which is owing to an ulcer of the lungs, is generally attended with an hectic fever, and the spittle is mixed with matter. An asthmatic cough is generally owing to wind or spasms, and seldom admits of relief from medicine.

A head-ach, which proceeds from too great a quantity of blood being forced into the vessels of the brain, is generally attended with heat, redness, and a swelling of the face, a great pulsation of the arteries of the neck, &c. That kind of head-ach, which is the effect of venereal contagion, may be known by its being generally worst in the night. When the head-ach is owing to an effusion of serum or blood into the sinuities of the bones of the forehead, the pain is obstinate, sharp, and fixed; it is generally situated in the bottom of the forehead, and above the eyes. When the head is disordered from crudities in the stomach or wind, it may be known from belching, and the increase of the disorder upon using flatulent food, &c.

An apoplexy may be distinguished from a syncope, or fainting fit, by the colour of the face, the breathing, and the pulse continuing much the same as in health; whereas, in a syncope, the pulse and breathing are imperceptible, the face is pale, and the body grows cold. An apoplexy may be distinguished from a catalepsy, because the latter comes on suddenly, and keeps the member quite rigid, and in the same posture as at the time of the attack.

A proper attention to the age, sex, constitution, temper of mind, &c. of the patient, would greatly assist us in finding out and distinguishing diseases.

Thus, in children the fibres are lax and soft; in adults, rigid and tense. In young people, the nerves are extremely irritable, and the fluids thin. In old age, the nerves become almost insensible, and many of the vessels imperviable. These, and numberless other peculiarities, render the diseases of the young and those of the aged very different; and of course they must require different treatment.

Not only the age, but also the sex of the patient, claims our attention. Females are liable to many peculiar diseases. Their nervous system being weak and delicate, they are easier affected with spastic or convulsive disorders than males. This is the true source of most of the diseases of the fair sex, and ought always to be kept in view in the treatment of their disorders.

We ought likewise to attend to the particular constitution. This not only predisposes persons to peculiar diseases, but likewise makes it necessary that their diseases be treated in a very different manner. For example, a delicate person, with weak nerves, can neither bear bleeding, nor any other evacuation, to the same extent as one whose constitution is hardy and robust.

The temper of mind ought likewise to be attended to in diseases. Fear, anxiety, and a fretful temper, both occasion and aggravate diseases. The medicine of the mind is too little regarded. In vain do we apply medicines to the body to remove diseases which proceed from the mind. When that is the case, the best medicine is to soothe the passions, divert the mind from anxious thought, and to cherish the hopes of the patient.

Attention ought likewise to be paid to the place where the patient lives, the air he breathes, his diet, occupation, &c. Such as live in low marshy countries, are subject to many diseases which are
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unknown to the inhabitants of high countries. Those who breathe the impure air of cities, have many maladies, to which the more happy rustics are strangers. Such as feed grossly, and indulge in strong liquors, are liable to diseases which do not affect the temperate and abstemious. The situation of life, as has been observed, likewise predisposes men to peculiar diseases. Thus the laborious, the sedentary, the studious, &c. are liable to particular maladies from the very occupations which they follow.

It is necessary to inquire, whether or not the patient has been guilty of any excess in eating or drinking, if he has overstrained himself, has drank cold liquor when he was warm, lain on the damp ground, changed his usual cloathing, or, in a word, done any thing that might obstruct the perspiration. It will also be proper to inquire, if any usual evacuation, as sweating of the feet, issues, &c. has been stopped. The state of the belly should likewise be inquired into. Costiveness alone will occasion diseases, and the removing of it will cure them.

It is likewise necessary to inquire, what diseases the patient has formerly been most liable to, and what medicines were most beneficial. If medicines have been administered, it will be proper to inquire into their effect. It will likewise be necessary to inquire, what kind of medicines are most agreeable to the patient, or if he has an aversion to any particular drug, &c.

It is also necessary to inquire, whether the patient can perform with ease all the animal and vital functions, or which of them gives him pain; and also to inquire, if all the different secretions go duly on, as the perspiration, discharge of urine, &c.

The nature of the disease is likewise to be in-

quired into, as, whether it be primary or secondary ; whether simple or complicated with some other disease ; whether it be external or internal ; whether epidemic or not ; whether it be the effect of age, intemperance, infection, or owing to a vitiated state of the humours, &c. &c. &c.

OF FEVERS IN GENERAL.

A FEVER is the most general disease incident to mankind. It attacks every age, sex, and constitution, and affects every part of the body ; nor is the mind itself free from its influence. A fever is known by a quick pulse, an increased heat, and a difficulty in performing some of the vital or animal functions, as breathing, walking, &c *.

Fevers are divided into continual, remitting, and intermitting. By a continual fever is meant, that which never leaves the patient during the whole course of the disease, or which shews no remarkable increase or abatement in the symptoms. This kind of fever is likewise divided into acute, slow, and malignant. The fever is called *acute*, when its progress is quick, and the symptoms violent ; but when these are more gentle, it is generally denominated *slow*. When lived or petechial spots shew a putrid state of the humours, the fever is called *malignant*, *putrid*, or *petechial*.

A remitting fever differs from a continual, only in degree. It has frequent increases and decreases,
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* The characteristic symptoms of fever are sickness and nausea, a sense of debility or languor, pain of the head or back, a rigor or chilliness alternating with hot fits or flushings, a sense of thirst, with a parched foul tongue, a dry hot skin, a quick pulse—and these symptoms without any *primary local affection*.

or exacerbations and remissions, but never wholly leaves the patient during the course of the disease. Intermitting fevers, or agues, are those which, during the time that the patient may be said to be ill, have evident intervals or remissions of the symptoms.

As a fever is nothing else but an effort of Nature to free herself from an offending cause, it is the business of those who have the care of the sick, to observe with diligence, which way Nature points, and to endeavour to assist her operations. Our bodies are so framed, as to have a constant tendency to expel or throw off whatever is injurious to health. This is generally done by urine, sweat, stool, expectoration, vomit, or some other evacuation.

There is reason to believe, if the efforts of Nature, at the beginning of a fever, were duly attended to and promoted, it would seldom continue longer than twenty-four hours; but when her attempts are either neglected, or counteracted, it is no wonder if the disease be prolonged. There are daily instances of persons, who, after catching cold, have all the symptoms of a beginning fever; but by keeping warm, drinking diluting liquors, bathing their feet in warm water, &c. the symptoms in a few hours disappear, and the danger is prevented. In a word, almost every fever proceeding from an obstructed perspiration, might be carried off, or its danger prevented, by timely care.

Our design is not to enter into a critical inquiry into the nature, causes, &c. of fevers, but to mark their most obvious symptoms, and to point out the proper treatment of the patient, with respect to his diet, drink, air, warmth, &c. in the different stages of the disease. In these articles, the inclinations of the patient will, in a great measure, direct our conduct.

Almost every person in a fever complains of great thirst, and calls out for drink, especially of a cooling nature. This at once points out the use of *water*, which we may venture to call the greatest febrifuge in nature. What is so likely to abate the heat, attenuate the humours, remove spasms and obstructions, promote perspiration, increase the quantity of urine, and, in short, produce every salutary effect, in an ardent or inflammatory fever, as drinking plentifully of water, thin gruel, or any other weak, diluting liquor, of which water is the basis? The necessity of diluting liquors is pointed out by the dry tongue, the parched skin, and the burning heat, as well as by the unquenchable thirst of the patient *.

Many cooling liquors, which are extremely grateful to patients in a fever, may be prepared from fruits, roots, and acid vegetables, as decoctions of tamarinds, apple-tea, orange-whey, and the like. Mucilaginous liquors might also be prepared from marsh-mallow roots, linseed, lime-tree buds, and many other vegetables. These liquors, especially when acidulated, are highly agreeable to the patient, and should never be denied him.

At the beginning of a fever, the patient generally complains of great lassitude or weariness, and has no inclination to move. This evidently shows the propriety of keeping him easy, and, if possible, in bed; which relaxes the spasms, abates the violence of the circulation, and gives Nature an opportunity of exerting all her force to overcome the disease. The bed alone would often remove a fever at the beginning; but when the patient struggles with the disease, instead of driving it off, he

* Vomiting, by freeing the system from a load of undigested stimulating food, is frequently of the greatest service, and therefore ought not to be neglected, at the commencement of fevers. It may even frequently be repeated with advantage.

he only fixes it the deeper, and renders it more dangerous. This observation is too often verified in travellers, who happen, when on a journey, to be seized with a fever. Their anxiety to get home, induces them to travel with the fever upon them; which conduct seldom fails to render it fatal.

In fevers, the mind as well as the body should be kept easy. Company is seldom agreeable to the sick. Indeed every thing that disturbs the imagination, increases the disease; for which reason, every person in a fever ought to be kept perfectly quiet, and neither allowed to see nor hear any thing that may in the least affect or discompose his mind.

Though a person in a fever has the greatest inclination for drink, yet he seldom has any appetite for solid food; from whence we may see the impropriety of loading his stomach with victuals. Much solid food in a fever is every way hurtful. It oppresses nature, and instead of nourishing the patient, serves only to feed the disease. What food the patient takes, should be in small quantity, light, and easy of digestion. It ought to be chiefly of the vegetable kind, as water-pap, roasted apples, water-gruel, and such like.

Poor people, when any of their family are taken ill, run directly to their rich neighbours for cordials, and pour wines, spirits, &c. into the patient, who perhaps never had been accustomed to taste such liquors when in health. If there be any degree of fever, this conduct must increase it; and if there be none, this is the ready way to raise one. Stuffing the patient with sweet-meats, and other delicacies, is likewise very pernicious. These are always harder to digest than common food, and cannot fail to do hurt.

Nothing is more desired by a patient in a fever, than fresh air. It not only removes his anxiety, but

but cools the blood, revives the spirits, and proves every way beneficial. Many patients are in a manner stifled to death in fevers, for want of fresh air; yet such is the unaccountable infatuation of many people, that the moment they think a person in a fever, they imagine he should be kept in a close chamber, into which not one particle of fresh air must be admitted. There ought to be a constant stream of fresh air into a sick person's chamber, so as to keep it always in a temperate degree of warmth, which ought never to be greater than is agreeable to one in perfect health.

Nothing spoils the air of a sick person's chamber, or hurts the patient more, than a number of people breathing in it. When the blood is inflamed, or the humours in a putrid state, air that has been breathed over and over will greatly increase the disease. Such air not only loses its spring, and becomes unfit for the purposes of respiration, but acquires a noxious quality, which renders it in a manner poisonous to the sick*.

In fevers, when the patient's spirits are low and depressed, he is not only to be supported with cordials, but every method should be taken to cheer and comfort his mind. Many, from a mistaken zeal, when they think a person in danger, instead
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* As the volume of air in the lungs has been long known to be diminished by respiration; so this was *formerly* explained by saying, that the air had lost its spring or elasticity; and this loss of spring again served to explain why the air was become unfit for respiration. *Later* discoveries, however, enable us to account for these phenomena in a more satisfactory manner. From these we learn, that atmospheric air consists of two principles, namely, vital air, and mephetis, or nitrogene gas, as it has been called. Of these two principles, the one only, viz. vital air, serves the purposes of respiration. During this process, there is a constant waste, or rather absorption of this principle. If this waste be not constantly supplied by an influx of fresh air, the remainder becomes in time totally unfit for the purpose: and this will happen sooner or later, in proportion as the waste has been greater, or the supply less.

of solacing his mind with the hopes and consolations of religion, fright him with the views of hell and damnation, &c. It would be unsuitable here to dwell upon the impropriety and dangerous consequences of this conduct; it often hurts the body, and there is reason to believe, seldom benefits the soul.

Amongst common people, the very name of a fever generally suggests the necessity of bleeding. This notion seems to have taken its rise from most fevers having been formerly of an inflammatory nature; but true inflammatory fevers are now seldom to be met with. Sedentary occupations, and a different manner of living, has so changed the state of diseases in Britain, that there is now hardly one fever in ten where the lancet is necessary. In most low, nervous, and putrid fevers, which are now so common, bleeding is really hurtful, as it weakens the patient, and sinks his spirits, &c. We would recommend this general rule, never to bleed at the beginning of a fever, unless there be evident signs of inflammation. Bleeding is an excellent medicine when necessary, but should never be wantonly performed.

It is likewise a common notion, that it is always necessary to raise a sweat in the beginning of a fever. As fevers often proceed from an obstructed perspiration, this notion is not ill founded. If the patient only lie in bed, bathe his feet and legs in warm water, and drink freely of water-gruel, or any other weak, diluting liquor, he will seldom fail to perspire freely. The warmth of the bed, and the diluting drink, will relax the universal spasm, which generally affects the solids at the beginning of a fever; it will open the pores, and promote the perspiration, by means of which, the fever may often be carried off. But instead of this,
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the common practice is, to heap clothes upon the patient, and to give him things of a hot nature, as spirits, spiceries, &c. which fire his blood, increase the spasms, and render the disease more dangerous.

In all fevers, a proper attention should be paid to the patient's longings. These are the calls of nature, and often point out what may be of real use. Patients are not to be wantonly indulged in every thing that the sickly appetite may crave; but it is generally right to let them have a little of what they eagerly desire, though it may not seem altogether proper. What the patient longs for, his stomach will generally digest; and such things have sometimes a very happy effect.

When a patient is recovering from a fever, great care is necessary to prevent a relapse. Many persons, by too soon imagining themselves well, have relapsed, or contracted some other disease of an obstinate nature. As the body after a fever is weak and delicate, it is necessary to guard against catching cold. Moderate exercise in the open air will be of use; agreeable company will also have a good effect. The diet must be light, but nourishing. It should be taken frequently, but in small quantities. It is very dangerous at such a time to eat as much as the stomach craves.

OF INTERMITTING FEVERS, OR AGUES.

INTERMITTING fevers afford the best opportunity both of observing the nature of a fever, and also the effects of medicine. No person can be at a loss to distinguish an intermitting fever from any other

other disease; and the proper medicine for it is now almost universally known.

The several kinds of intermitting fevers, as has been observed, take their names from the period in which the fit returns, as quotidians, tertians, quartans, &c.

CAUSES.—Agues are occasioned by marsh-malaria. This is evident from their abounding in rainy seasons, and being most frequent in countries where the soil is marshy, as in Holland, the fens of Cambridgeshire, the Hundreds of Essex, &c. This disease is also occasioned by eating too much stone-fruit, a poor watery diet, damp houses, evening dews, lying upon the wet ground, &c. When the inhabitants of a high country remove to a low one, they seldom fail to catch an intermitting fever, and to such the disease is most apt to prove fatal. In a word, whatever relaxes the solids, diminishes the perspiration, or obstructs the circulation in the capillary or small vessels, predisposes the body to agues.

SYMPTOMS.—An intermitting fever generally begins with a pain of the head and loins, weariness of the limbs, coldness of the extremities, stretching, yawning, with sometimes great sickness and vomiting; to which succeed shivering and violent shaking. Afterwards the skin becomes moist, and a profuse sweat breaks out, which generally terminates the fit or paroxysm. Sometimes indeed the disease comes on suddenly, when the person thinks himself in perfect health; but it is more commonly preceded by listlessness, loss of appetite, and the symptoms mentioned above.

REGIMEN.—While the fit continues, the patient may drink freely of water-gruel, orange-whey, weak camomile-tea; or, if his spirits be low, small wine-whey, sharpened with the juice of lemon. His drink ought to be a little warm,

as that will assist in bringing on the sweat, and consequently shorten the paroxysm *.

Between the paroxysms, the patient must be supported with food that is nourishing, but light and easy of digestion, as veal or chicken-broths, sago, gruel with a little wine, light puddings, &c. His drink may be small negus, acidulated with the juice of lemons or oranges, and sometimes a little weak punch. He ought also to drink infusions of bitters, as camomile, wormwood, or water-trefoil tea, and may now and then take a glass of small wine, in which gentian root, centaury, or some other bitter, has been infused.

As the chief intentions of cure in an ague are to brace the solids, and promote perspiration, the patient ought to take as much exercise between the fits as he can bear. If he be able to go abroad, riding on horseback, or in a machine, will be of great service. But if he cannot bear that kind of exercise, he ought to take such as his strength will permit. Nothing tends more to prolong an intermitting fever, than indulging a lazy indolent disposition.

Intermitting fevers, under a proper regimen, will frequently go off of themselves; and when the disease is mild, in an open dry country, there is seldom any danger from allowing it to take its course; but when the patient's strength is exhausted, and the paroxysms are so violent that his life is in danger, medicine ought immediately to be administered. This, however, should never be done till the disease be properly formed, that is to say, till the patient has had several fits of shaking and sweating.

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* Five and twenty or thirty drops of laudanum, given soon after the commencement of the hot fit, in a cup of the patient's drink, have been recommended, as tending greatly to promote the sweat, and to relieve the head.

MEDICINE.—The first thing to be done in the cure of an intermitting fever, is to cleanse the first passages. This not only renders the application of other medicines more safe, but likewise more efficacious. In this disease, the stomach is generally overcharged with cold viscid phlegm, and frequently great quantities of bile are discharged by vomit; which plainly points out the necessity of such evacuations. Vomits are therefore to be administered before the patient takes any other medicine. A dose of ipecacoanha will generally answer this purpose very well. Half a dram or a scruple of the powder will be sufficient for an adult, and for a younger person the dose must be less in proportion. After the vomit begins to operate, it may be wrought off, by drinking plentifully of weak camomile tea. The vomit should be taken two or three hours before the coming on of the fit, and may be repeated two or three times, at the distance of three or four days from each other. Vomits not only cleanse the stomach, but increase the perspiration, and all the other secretions, which render them of such importance, that they often cure intermitting fevers without the assistance of any other medicine. Of this I have seen many instances, and remember myself to have been completely cured of a regular tertian, by taking two vomits of ipecacoanha, and observing proper regimen.

Purging medicines are likewise useful, and often necessary, in intermitting fevers. A smart purge has been known to cure an obstinate ague, after the Jesuits bark and other medicines had been used in vain. Vomits, however, are more suitable in this disease, and render purging less necessary; but if the patient be afraid to take a vomit, he ought in this case to cleanse the
bowels

bowels by a dose or two of Glauber's salt, jalap, or rhubarb, &c*.

Bleeding may sometimes be proper at the beginning of an intermitting fever, when excessive heat, a delirium, &c. give reason to suspect an inflammation; but as the blood is very seldom in an inflammatory state in intermitting fevers, this operation is rarely necessary.

After proper evacuations, the patient may safely use the Jesuit's bark, which may be taken in any way that is most agreeable to him. As it would answer no purpose to multiply forms, we shall only mention the following.

Two ounces of the best Jesuit's bark, finely powdered, may be divided into twenty-four doses. These may be either made into bolusses as they are used, with a little syrup of lemon, or mixed in a glass of red wine, a cup of camomile-tea, water-gruel, or the like.

In an ague which returns every day, a dose of the above may be taken every two hours during the interval of the fit. By this method, the patient will be able to take five or six doses between each paroxysm. In a tertian, or third-day ague, it will be sufficient to take a dose every third hour, during the interval, and in a quartan every fourth. If the patient cannot take so large a dose of the bark, he may divide each of the powders into two parts, and take one every hour. For a young person, a smaller quantity of this medicine will

* The present practice, we believe, does not pay much attention to these formalities, whatever consequence may have been attached to them formerly. The bark is, in general, administered at the commencement of the disease, without waiting, as has been recommended, for any repetition of paroxysms, and without any previous preparation of body, a matter that made a mighty noise in former times; except where symptoms of accidental indigestion, or a redundancy of bile, seem to indicate the propriety of a puke or a purge.

will be sufficient; and the dose must be adapted to the age, constitution, &c *.

The above quantity will seldom fail to remove an ague; but the patient ought not to leave off taking the medicine so soon as the paroxysms are stopped, but should continue to use it till such time as there is reason to believe the disease is entirely overcome. Most of the failures in the cure of this disease are owing to patients not continuing to use the medicine long enough. They are generally directed to take it till the fits are stopped, then to leave it off, and begin again at some distance of time; by which means the disease gathers strength, and often returns with as much violence as before. A relapse may always be prevented by the patient's continuing to take small doses of the medicine for some time after the symptoms disappear. This is both the most safe and effectual method of cure.

An ounce of gentian root, calamus aromaticus, and orange-peel, of each half an ounce, with three or four handfuls of chamomile flowers, and an handful of coriander-seed, all bruised together in a mortar, may be used in form of infusion or tea. About half an handful of these ingredients may be put into a tea-pot, and an English pint of boiling water poured on them. A cup of this infusion may be drank three or four times a-day. This strengthens the stomach, rectifies the blood, and greatly promotes the cure. Such patients as cannot drink the watery infusion, may put two handfuls of the same ingredients into a bottle of white wine, and take a glass of it twice or thrice a-day.

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* It will frequently be found necessary to give the bark in larger doses, or to repeat them oftener. Indeed the best rule for regulating the quantity of this medicine, is to give it as often, and in as large doses, as can be admitted of by the patient's stomach. In this way the disease will be soonest cured, and by the smallest quantity of the medicine.

If patients drink freely of the above, or any other proper infusion of bitters, a much smaller quantity of bark than is generally used will be sufficient to cure an ague.

There is reason to believe, that fundry of our own plants or barks, which are very bitter and astringent, would succeed well enough in the cure of intermitting fevers, especially when assisted by aromatics. But as the Jesuits bark has been long approved in the cure of this disease, and is now to be obtained at a very reasonable rate, it is of less importance to search after new medicines. We cannot, however, omit taking notice, that the Jesuits bark is very often adulterated, and that it requires considerable skill to distinguish between the genuine and the false. This ought to make people very cautious of whom they purchase it.

Those who cannot swallow the bark in substance, may take it in decoction or infusion. An ounce * of bark in powder may be infused in a bottle of white wine for four or five days, frequently shaking the bottle; afterwards let the powder subside, and pour off the clear liquor. A wine-glass may be drank three or four times a-day, or oftener, as there is occasion. If a decoction be more agreeable, an ounce of the bark, and two drams of snake-root bruised, with a dram of salt of wormwood, may be boiled in an English pint of water, into half a pint. To the strained liquor may be added an equal quantity of red wine, and a glass of it taken thrice a-day, or oftener if necessary.

In obstinate agues the bark will be found much more efficacious when assisted by warm cordials, than if taken alone. This I have had frequently occasion to observe in a country where intermitting fevers

* The bark may be taken, with propriety, in double the proportion that is here mentioned:

fevers were endemical. The bark seldom succeeded, unless assisted by snake-root, ginger, canella alba, or some other warm aromatics*. When the fits are very frequent and violent, in which case the fever often approaches towards an inflammatory nature, it will be safer to leave out the aromatics, and to add in their place half an ounce of salt of wormwood. But in obstinate tertians or quartans, in the end of autumn or beginning of winter, warm and cordial medicines are absolutely necessary.

As autumnal and winter agues generally prove much more obstinate than those which attack the patient in spring or summer, it will be necessary to continue the use of medicines longer in the former than in the latter. A person who is seized with an intermitting fever in the beginning of winter, ought frequently, if the season prove rainy, to take a little of the medicine, although the disease be cured, to prevent a relapse, till the return of the warm season. He ought likewise to take care not to be much abroad in wet weather, especially in cold moist easterly winds.

When agues are not properly cured, they often degenerate into obstinate chronical diseases, as the dropy, jaundice, &c. For this reason all possible care should be taken to have them radically cured, before the humours be vitiated, and the constitution spoiled.

Though nothing is more rational than the method of treating intermitting fevers, yet, by some strange infatuation, more charms and whimsical remedies are daily used for removing this than any other disease. There is hardly an old woman who is not possessed of a nostrum for stopping an ague; and there is reason to fear, that many, by trusting

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* The Author observes, in a subsequent edition, in such cases, half an ounce of Virginia snake-root, and a quarter of an ounce of ginger, may be mixed up with two ounces of the bark.

to such people, lose their lives. Those in distress eagerly grasp at any thing that promises sudden relief; but the shortest way is not always the safest in the treatment of diseases. The only method to obtain a safe and lasting cure, is gradually to assist nature in removing the cause of the disease.

Some people try bold, or rather fool-hardy experiments, to cure agues, as drinking strong liquors, jumping into a river, &c. These may sometimes have the desired effect, but must always be attended with danger. When there is any degree of inflammation, or the least tendency to it, such experiments may prove fatal. The only person whom I remember to have seen die in an intermitting fever, evidently killed himself by drinking strong liquor, which some person had persuaded him would prove an infallible remedy.

Many out-of-the-way things are extolled for the cure of intermitting fevers, as spiders' cobwebs, snuffings of candles, &c. Though these may sometimes succeed, yet their very nastiness is sufficient to set them aside, especially when cleanly medicines will answer the purpose better. The only medicine that can be depended upon, for thoroughly curing an intermitting fever, is the Jesuits bark. It may always be used with safety: And I can honestly declare; that in all my practice I never knew it fail, when properly applied, and duly persisted in.

Where agues are endemical, even children are often afflicted with that disease. Such patients are very difficult to cure, as they can seldom be brought to take the bark, or any other disagreeable medicine. One method of rendering this medicine more palatable is, to make it into a mixture with distilled waters and syrup, and afterward to give it an agreeable sharpness with the elixir or spirit of vitriol. This both improves the medicine, and
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takes off the nauseous taste. The bark may be administered to children in form of clyster, when they will not take it by the mouth. Wine-whey is a very proper drink for a child in an ague; to half an English pint of which may be put a tea-spoonful of the spirit of hartshorn. Exercise is likewise of considerable service; and when the disease proves obstinate, the child ought, if possible, to be removed to a warm dry air. His food ought to be nourishing, and he should sometimes have a little generous wine.

We have been the more full upon this disease, because it is very common, and because few patients in an ague apply to physicians unless in extremities. There are, however, many cases in which the disease is very irregular, being complicated with other diseases, or attended with symptoms which are both very dangerous and difficult to understand. All these we have purposely passed over, as they would only bewilder the generality of readers. When the disease is very irregular, or the symptoms dangerous, the patient ought immediately to apply to a physician, and strictly to follow his advice.

To prevent agues, people must avoid their causes. These have been already pointed out in the beginning of this section; we shall therefore only add one preventive medicine, which may be of use to such as are obliged to live in low marshy countries, or who are liable to frequent attacks of this disease.

Take an ounce of the best Jesuits bark, half an ounce of Virginian snake-root, and half an ounce of orange-peel; bruise them all together, and infuse for five or six days in a bottle of brandy, Holland gin, or any good spirit; afterwards pour off the clear liquor, and take a wine-glass of it twice or thrice a-day. This indeed is recommending a dram; but the bitter in a great measure takes off

the ill effects of the spirit. Those who do not chuse it in brandy may infuse it in wine; and such as can bring themselves to chew the bark, will find that method succeed very well. Gentian-root, or calamus aromaticus, may also be chewed by turns for the same purpose. All bitters seem to be antidotes to agues, especially those that are warm and astringent.

OF AN ACUTE CONTINUAL FEVER.

THIS fever is denominated acute, ardent, or inflammatory. It most commonly attacks the young, or those about the prime or vigour of life, especially such as live full, abound with blood, and whose fibres are strong and elastic. It seizes people at all seasons of the year; but is most frequent in the spring and beginning of summer.

CAUSES.—An ardent fever may be occasioned by any thing that overheats the body, as violent exercise, sleeping in the sun, drinking strong liquors, eating spiceries, &c. It may likewise be occasioned by any thing that obstructs the perspiration, as lying on the damp ground, drinking cold liquor when the body is hot, night-watching, or such like.

SYMPTOMS.—A rigour or chillness generally ushers in this fever, which is soon succeeded by great heat, a frequent and full pulse, a pain of the head, dry skin, redness of the eyes, a florid countenance, pains in the back, loins, &c. To these succeed difficulty of breathing, sickness, with an inclination to vomit. The patient complains of great thirst, has no appetite for solid food, is restless, and his tongue generally appears black and rough.

A delirium, excessive restlessness, great oppression of the breast, with laborious respiration, starting of the tendons, hiccup, cold, clammy sweats, and an involuntary discharge of urine, are generally the forerunners of death.

As this disease is always attended with danger, the best medical assistance ought to be procured as soon as possible. A physician may be of use at the beginning, but his skill is often of no avail afterwards.

We cannot here omit, once for all, taking notice of the unaccountable conduct of those who have it in their power, at the beginning of a fever, to procure the best medical assistance, yet put it off till things come to an extremity. When the disease, by delay or wrong treatment, has become incurable, and has exhausted the strength of the patient, it is in vain to hope for relief from medicine. Physicians may indeed assist Nature; but their attempts must ever prove fruitless, when she is no longer able to co-operate with their endeavours.

REGIMEN.—From the symptoms of this disease, it is evident, that the blood must be thick and viscous, by which its circulation through the small vessels is impeded; that the perspiration, urine, and all the other secretions, are in too small quantity; that the vessels are too rigid, and the heat of the whole body too great: All these clearly point out the necessity of a regimen, calculated to dilute the blood, allay the excessive heat, remove the spasmodic stricture of the vessels, and promote the secretions.

These important purposes may be greatly promoted by drinking plentifully of diluting liquors, as thin-water-gruel, oat-meal tea, clear whey, barley-water, balm-tea, apple-tea, &c. These should be sharpened with juice of orange, jelly of currants, raspberries, and such like: Orange-whey is like-

wife an excellent cooling drink. It is made by boiling a bitter orange, sliced among milk and water, till the curd separates. If no orange can be had, a lemon, a little cream of tartar, or a few spoonfuls of vinegar, will have the same effect. Two or three spoonfuls of white wine may be occasionally added to the liquor when boiling.

If the patient be costive, an ounce of tamarinds, with two ounces of stoned raisins of the sun, and a couple of figs, may be boiled in three English pints of water to a quart. This makes a very pleasant drink, and may be used at discretion. The common pectoral decoction is likewise a very proper drink in this disease. It is made by boiling barley, stoned raisins and figs, of each two ounces, with half an ounce of liquorice-root sliced, in two English quarts of water, till one half be consumed. The barley should be boiled some time before the other ingredients are put in. This, with the addition of two or three drams of purified nitre, or sal-prunel, will not only be a proper drink, but prove an exceeding good medicine. A tea-cupful of it may be taken every two hours, or oftener, if the patient's heat and thirst be very great.

The above liquors must all be drank a little warm. They may be used in smaller quantities at the beginning of a fever, but more freely afterwards, in order to assist in carrying off the morbid matter by the different excretions. We have mentioned a variety of liquors, that the patient may have it in his power to chuse that which is most agreeable, and that, when tired of one, he may have recourse to another.

The patient's diet must be very spare and light. All sorts of meats, and even chicken-broths, are to be avoided. He may be allowed groat-gruel, panada, or light bread boiled in water, and afterwards strained; to which may be added a few
grains

grains of common salt, and a little sugar, which will render it more palatable. He may eat roasted apples with a little sugar, toasted bread with a little currant jelly, boiled prunes, &c.

It will greatly relieve the patient, especially in an hot season, to have fresh air frequently let into his chamber. This, however, must always be done in such a manner as not to endanger his catching cold.

It is a common practice to load the patient with bed-clothes, under the pretence of making him sweat, or defending him from the cold. This custom has many ill effects. It increases the heat of the body, fatigues the patient, and retards, instead of promoting, the perspiration.

Sitting upright in bed, if the patient be able to bear it, will often have a good effect. It relieves the head, by retarding the motion of the blood to the brain. But this posture ought never to be continued too long : And if the patient be inclined to sweat, it will be more safe to let him lie still, only raising his head with pillows, &c.

Sprinkling the chamber with vinegar, juice of lemon, or vinegar and rose-water, with a little nitre dissolved in it, will greatly refresh the patient. This ought to be done frequently, especially if the weather be hot.

The patient's mouth should be often washed with warm water, mixed with honey, and a little vinegar ; or a decoction of figs in barley-water, &c. His feet and hands ought likewise frequently to be bathed in lukewarm water ; especially if the head be affected.

The patient should be kept as quiet and easy as possible. Company, noise, and every thing that disturbs the mind, is hurtful. Even too much light, or any thing that affects the senses, is to be avoided. His attendants should be as few as possible, and

and they ought not to be too often changed. His inclinations ought rather to be soothed than contradicted; even the promise of what he craves will often satisfy him as much as its reality.

MEDICINE.—In this and all other fevers attended with much heat, and a hard full pulse, bleeding is of the greatest importance. This operation ought always to be performed as soon as the symptoms of an inflammatory fever appear. The quantity of blood to be let must be in proportion to the strength of the patient, and the violence of the disease. If after the first bleeding the fever seem to rise, and the pulse feel hard, there will be a necessity for repeating it a second, and perhaps a third time, which may be done at a distance of twelve, eighteen, or twenty-four hours, as the symptoms require. If the pulse continue soft, and the patient be tolerably easy after the first bleeding, it ought not to be repeated till necessary.

The cooling febrifuge draught, recommended in the intermitting fever will likewise be very proper, here; only the brandy must be left out, and half a dram of purified nitre added in its stead.

If the above cannot be conveniently obtained, forty or fifty drops of the dulcified or sweet spirit of nitre may be made into a draught, with an ounce of rose-water, two ounces of common water, and half an ounce of simple syrup, or a bit of loaf-sugar. This draught may be given to the patient every three hours while the fever is violent; afterwards, once in five or six hours will be sufficient.

If the patient be afflicted with reaching, or an inclination to vomit, it will be right to assist Nature's attempts, by giving him weak camomile tea or lukewarm water to drink.

If the belly be bound, the patient ought daily to receive a clyster of milk and water, with a little salt,

salt, and a spoonful of sweet oil or fresh butter. If this have not the desired effect, a tea-spoonful of magnesia alba, or cream of tartar, may be frequently put into his drink. He may likewise eat tamarinds, boiled prunes, roasted apples, and the like.

If about the tenth, eleventh, or twelfth day, the pulse become more soft, the tongue moister, and the urine begin to let fall a reddish sediment, there is reason to expect a favourable issue to the disease. But if, instead of these symptoms, the patient's spirits grow languid, his pulse sink, and his breathing become difficult; with a stupor, tremors of the nerves, starting of the tendons, &c. there is reason to fear that the consequences will be fatal. In this case blistering plaisters must be applied to the head, ankles, inside of the thighs, &c.; synapisms may likewise be laid to his feet, and the patient must be supported with cordials, as strong wine-whey, negus, sago-gruel, and such like.

A proper regimen is not only necessary during the fever, but likewise after the patient begins to recover. By neglecting this, many relapse, or fall into other diseases, and continue valetudinary for life. Though the body be weak after a fever, yet the food for some time ought to be rather of easy digestion than of too nourishing a nature. The person should take great care not to exceed in any thing. Too much food, drink, sleep, exercise, company, &c. are carefully to be avoided. The mind ought likewise to be kept easy, and the person should not attempt to pursue study, or any thing that requires intense thinking.

If the digestion be bad, or the person be troubled at times with feverish heats, an infusion of the Jesuits bark in cold water will be of use. It will strengthen the stomach, and help to subdue the remains of the fever.

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When the patient's strength is pretty well recovered, he ought to take some gentle laxative. An ounce of tamarinds and a dram of fenna may be boiled for a few minutes in an English pint of water, and an ounce of manna dissolved in the decoction; afterwards it may be strained, and a tea-cupful drank every hour till it operate. This dose may be repeated twice or thrice, five or six days intervening betwixt each dose.

Those who follow laborious employments ought not to return too soon to their labour after a fever, but should keep easy till their strength and spirits be recruited.

OF THE PLEURISY.

THE true pleurisy is an inflammation of that membrane, called *the pleura*, which lines the inside of the breast. It is distinguished into the moist and the dry. In the former, the patient spits freely; but in the latter, little or none at all. There is likewise a species of this disease, which is called the *spurious* or *bastard pleurisy*, in which the pain is more external, and chiefly affects the muscles between the ribs. This disease abounds among labouring people, especially such as work without doors, and are of a sanguine constitution. It is most frequent in the spring-season.

CAUSES.—The pleurisy is occasioned by whatever obstructs the perspiration; as cold northerly winds, drinking cold liquors when the body is hot, sleeping without doors on the damp ground; wet clothes, plunging the body into cold water, or exposing it to the cold air when covered with sweat,

sweat, &c. It may likewise be occasioned by drinking strong liquors; by the stoppage of usual evacuations, as old ulcers, issues, sweating of the feet or hands, &c.; the sudden striking in of any eruption, as the itch, the measles, or the small-pox. Those who have been accustomed to bleed at a certain season of the year, are apt, if they neglect it, to be seized with a pleurisy. Keeping the body too warm by means of fire, clothes, &c. renders it more liable to this disease. A pleurisy may likewise be occasioned by violent exercise, as running, wrestling, leaping, or by supporting great weights, especially on the breast. The very make of the body sometimes predisposes persons to this disease, as a narrow chest, a straitness of the arteries of the pleura, &c.

SYMPTOMS.—This, like most other fevers*, begins with chillness and shivering, which are followed by heat, thirst, and restlessness. To these succeed a violent pricking pain in one of the sides amongst the ribs. Sometimes the pain extends towards the back-bone, sometimes towards the fore-part of the breast, and at other times towards the shoulder-blades. The pain is generally most violent when the patient draws in his breath.

The pulse in this disease is generally hard, the urine high coloured; and if blood be let, it is covered with a tough crust, or buffy coat. The patient's spittle is at first thin, but afterwards it becomes grosser, and is often streaked with blood.

REGIMEN.—Nature endeavours to carry off this disease either by a critical discharge of blood from the nose, &c. or by expectoration, sweat, loose stools, thick urine, &c. When the violence of the fever is not broken by these, or other evacuations,

* This disease is not classed by our Author with much propriety among the fevers strictly so called, as being attended with a primary local affection.

cuations, it often ends in an abscess or suppuration; to which ensues an ulcer, hectic fever, and death.

The violence of this disease may generally be checked by lessening the force of the circulation, relaxing the vessels, diluting the humours, and promoting expectoration, &c.

For these purposes, the diet, as in the former disease, must be cool, slender, and diluting. The patient must avoid food that is viscid, hard of digestion, or that affords much nourishment, as flesh, butter, cheese, eggs, milk, and also every thing that is of a heating nature. His drink must be sweet whey, or decoctions and infusions of the pectoral and balsamic vegetables.

Take a table spoonful of linseed, a quarter of an ounce of liquorice-root sliced, and half an ounce of the leaves of coltsfoot. Put these ingredients in a close vessel, pour on them a quart of boiling water, and let them stand near a fire for eight or ten hours; afterwards strain off the liquor; of which the patient may take a cupful frequently for his ordinary drink.

Barley-water, sweetened with honey, or sharpened with the jelly of currants, is likewise a very proper drink in this disease. It is made by boiling an ounce of pearl-barley in three English pints of water to two, which must afterwards be strained. The decoction of figs, raisins, and barley, &c. recommended in the continual fever, is here likewise very proper. These and other diluting liquors are not to be drank in large quantities at a time, but the patient ought, in a manner, to keep continually sipping them, so as to render his mouth and throat always moist. All his food and drink must be taken a little warm.

The patient should be kept quiet, cool, and every way

way easy, as directed under the foregoing disease. His feet and hands ought daily to be bathed in warm water; and he may sometimes sit up in bed for a short space, in order to relieve his head.

MEDICINE.—Almost every person knows, when a fever is attended with a violent pain of the side, and a quick, hard pulse, that bleeding is necessary. When these symptoms appear, the sooner this operation is performed the better; and the quantity at first must be pretty large, provided the patient be able to bear it. A large quantity of blood let at once, in the beginning of a pleurisy, has a much greater effect than several repeated small bleedings. An adult person may lose ten or twelve ounces of blood as soon as it is certainly known that he is seized with a pleurisy*. For a younger person, or one of a delicate constitution, the quantity must be less.

If after the first bleeding, the stitch, with the other violent symptoms, should continue, it will be necessary, at the distance of twelve or eighteen hours, to let eight or nine ounces more. If the symptoms do not then abate, and the blood show a strong buffy coat, a third or even a fourth bleeding may be requisite. If the pain of the side abate, the pulse become softer, or the patient begin to spit freely of a brown or reddish colour, bleeding ought not to be repeated. This operation is seldom necessary after the third or fourth day of the fever†, and ought not then to be performed without the advice of a physician, unless in the most urgent circumstances.

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* In an adult male of tolerable vigour, and when the attack is any way severe, the first bleeding should not be under sixteen or twenty ounces.

† This direction must be received with much caution. The propriety of bleeding is to be judged of, not from the duration of the disease, but from the degree of pain; and whenever this is violent, is clearly indicated.

The blood may be many ways attenuated without letting it off. There are likewise many things that may be done to ease the pain of the side, besides bleeding. Thus, after the first or second bleeding, emollient fomentations may be applied to the part affected. These may be made by boiling a handful of the flowers of elder, camomile, and common mallows, or any other soft vegetables, in a proper quantity of water. The herbs may be either put into a bag, and applied warm to the side, or flannels may be dipped in the decoction, afterwards wrung out, and applied to the part affected, with as much warmth as the patient can easily bear. As the cloths grow cool, they must be changed, and great care taken that the patient do not catch cold. An ox's bladder may be half filled with warm milk and water, and applied to the side, if the above method of fomenting be found inconvenient. Fomentations not only ease the pain, but, by relaxing the vessels, prevent the stagnation of the blood and other humours.

The side may likewise be frequently rubbed with a little of the following liniment. Take two table-spoonfuls of the oil of sweet almonds, olives, or any other sweet oil, and two tea-spoonfuls of spirit of hartshorn: Shake them well together, and rub about a tea-spoonful upon the side, with a warm hand, three or four times a-day.

Leaves of various plants might likewise be applied to the patient's side with advantage. We have often seen, and even felt, the benefit of young cabbage-leaves applied warm to the side in a pleurisy. These not only relax, but likewise draw off a little moisture, and may prevent the necessity of blistering-plasters; which, however, when other things fail, must be applied.

If the stitch continues after repeated bleedings, fomentations, &c. a blistering-plaster must be laid
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upon the part affected, and suffered to remain for twelve or fourteen hours. This will procure a discharge from the side, and by that means assist in removing the cause of the disease *.

To prevent a strangury when the blistering-plaster is on, the patient may drink freely of the following emulsion. Take an ounce of sweet almonds blanched, and beat them well in a mortar, with an equal quantity of fine sugar. Then dissolve half an ounce of gum-arabic in an English quart of barley-water, warm. Let it stand till it cool, and afterwards pour it by little and little upon the almonds and sugar, continually rubbing them till the liquor becomes uniformly white or milky. Afterwards strain it, and let the patient use it for ordinary drink. A quart-bottle, at least, may be drank daily.

If the patient be costive, a clyster of warm water, or of barley-water, in which a handful of mallows, or any other emollient vegetable, has been boiled, may be daily administered. This will not only empty the bowels, but have the effect of a warm fomentation applied to the inferior viscera, which will help to make a derivation from the breast.

The expectoration, or spitting, may be promoted by sharp, oily, and mucilaginous medicines. For this purpose, an ounce of the oxymel or vinegar of squills may be added to six ounces of the pectoral decoction, and two table-spoonfuls of it taken every two hours.

Should the squill disagree with the stomach, two ounces of the oil of sweet almonds, or oil of olives,
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* Local bleeding may frequently be used with advantage in this disease; in those cases especially, where, from the previous loss of blood, or the debilitated state of the patient, farther general bleeding may seem dangerous, while, at the same time, the pain continues severe. This may be done either by means of a number of leeches applied to the part, or by scarifying and cupping.

and two ounces of the syrup of violets, may be mixed with as much sugar-candy powdered as will make an electuary of the consistence of honey. The patient may take a little of this frequently, when the cough is troublesome.

Should oily medicines happen to prove nauseous, which is sometimes the case, two drams of gum ammoniac may be dissolved in half an English pint of barley-water, in the following manner: The gum must be well rubbed in a mortar, and the water gradually poured upon it till it be quite dissolved. Three or four ounces of simple pennyroyal water may be added to the above quantity, and two table-spoonfuls of it taken three or four times a-day.

If the patient does not perspire, but has a burning heat upon his skin, and passes very little water, some small doses of purified nitre and camphire will be of use. Two drams of the former may be rubbed, with five or six grains of the latter, in a mortar, and the whole divided into six doses, one of which may be taken every five or six hours, in a little of the patient's ordinary drink.

But the best medicine, which some indeed reckon almost a specific in the pleurisy, is the decoction of the seneka rattle-snake root. Two ounces of the root grossly powdered must be boiled in two English pints and a half of water, till one half the water be consumed. It must not be boiled quickly, but gradually simmered over a slow fire. After bleeding and other evacuations have been premised, the patient may take two, three, or four table-spoonfuls of this decoction, according as his stomach will bear it, three or four times a-day. If it should occasion vomiting, two or three ounces of simple cinnamon-water may be mixed with the quantity of decoction above mentioned; or it may be taken in smaller doses. As this medicine at
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once promotes perspiration, urine, and keeps the belly easy, it bids the fairest of any thing yet known to answer all the intentions of cure in a pleurisy, or any other inflammation of the breast *.

No one will imagine, that these medicines are all to be used at the same time. We have mentioned different things, on purpose that people may have it in their power to chuse; and likewise, that when one thing cannot be obtained, they may make use of another. Different medicines are no doubt necessary in the different periods of a disorder; and where one fails of success, or disagrees with the patient, it will be proper to try another.

What is called the crisis, or height of the fever, is sometimes attended with very alarming symptoms, as difficulty of breathing, an irregular pulse, convulsive motions, &c. These are apt to fright the attendants, and induce them to do improper things, as bleeding the patient, giving him strong stimulating medicines, or the like. But they are only the struggles of nature to overcome the disease, in which she ought to be assisted by plenty of diluting drink, which is then peculiarly necessary. If the patient's strength, however, be much exhausted by the disease, it may be necessary at this time to support him with frequent small draughts of wine-whey, or the like.

When the pain and fever are gone, it will be proper, after the patient has gathered sufficient strength, to give him some gentle purges, as those directed under the acute continual fever. He ought likewise to use a light diet of easy digestion, and his drink should be butter-milk, whey, and other things of a cleansing nature.

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* Whatever reputation this, as well as many other medicines, may have formerly possessed in the cure of this complaint, the present practice pays but little regard to any of them; and trusts the cure entirely to repeated bleeding and blistering.

OF THE BASTARD PLEURISY.

THAT species of pleurisy which is called the *bastard* or *spurious*, generally goes off by keeping warm for a few days, drinking plenty of diluting liquors, and observing a low regimen.

It is known by a dry cough, a quick pulse, and a difficulty of lying on the affected side; which last does not always happen in the true pleurisy. Sometimes indeed this disease proves obstinate, and requires bleeding, with cupping, and scarifications of the affected side. These, together with the use of nitrous, and other cooling medicines, seldom fail to effect a cure *.

OF THE PARAPHRENITIS.

THE *paraphrenitis*, or inflammation of the diaphragm, is so nearly connected with the pleurisy, and resembles it so much in the manner of treatment, that it is scarcely necessary to consider it as a separate disease.

It is attended with a very acute fever, and an extreme pain of the part affected, which is generally augmented by coughing, sneezing, drawing in the breath, taking food, going to stool, making water, &c. Hence the patient breathes quick, and draws in his bowels to prevent the motion of the diaphragm, is restless, anxious, has a dry cough, a hiccup, and often a delirium. A convulsive laugh,

* Blistering, as well as vomiting, is frequently useful in the cure of this disease.

laugh, or rather a kind of involuntary grin, is no uncommon symptom of this disease.

Every method must be taken to prevent a sup-
puration, as it is impossible to save the patient's life
when that happens. The regimen and medicine
are in all respects the same as in the pleurisy. We
shall only add, that in this disease emollient cly-
sters are peculiarly useful, as they relax the bowels,
and by that means draw the humours from the part
affected.

OF A PERIPNEUMONY, OR INFLAMMATION OF THE LUNGS.

As this disease affects an organ which is abso-
lutely necessary to life, it must always be attended
with danger. Those who abound with thick blood,
whose fibres are tense and rigid, who feed upon
gross aliment, and drink strong viscid liquors, are
most liable to this disease. It is generally fatal to
persons of a flat breast, or narrow chest, and to
such as are afflicted with an asthma, especially in
the decline of life. Sometimes the inflammation
reaches to one lobe of the lungs only, at other
times the whole of that organ is affected; in which
case the disease can hardly fail to prove fatal.

When the disease proceeds from a viscid pituitous
matter, obstructing the vessels of the lungs, it is
called a *spurious*, or *bastard peripneumony*. When
it arises from a thin acrid defluxion on the lungs,
it is denominated a *catarrhal peripneumony*, &c.

CAUSES.—An inflammation of the lungs is
sometimes a primary disease, and sometimes it suc-
ceeds to other diseases, as a quinsy, a pleurisy, &c.

It arises from the same causes as a pleurisy, viz. an obstructed perspiration from cold, wet clothes, &c.; or from an increased circulation of the blood by violent exercise, the use of spices, ardent spirits, and such like. The pleurisy and peripneumony are often complicated; in which case the disease is called *pleuro-peripneumony* *.

SYMPTOMS.—Most of the symptoms of a pleurisy likewise attend an inflammation of the lungs; only in the latter the pulse is more soft, and the pain less acute; but the difficulty of breathing, and oppression of the breast, are generally greater.

REGIMEN.—As the regimen and medicine are in all respects the same in the true peripneumony as in the pleurisy, we shall not here repeat them, but refer the reader to the treatment of that disease. It may not, however, be improper to add, that the aliment ought to be more slender and thin in this than in any other inflammatory disease. The learned Dr Arbuthnot asserts, that even common whey is sufficient to support the patient, and that decoctions of barley, and infusions of fennel-roots in warm water with milk, are the most proper both for drink and nourishment. He likewise recommends the steam of warm water taken in by the breath, which serves as a kind of internal fomentation, and helps to attenuate the impacted humours. If the patient has loose stools, but is not weakened by them, they are not to be stopped, but rather promoted by the use of emollient clysters.

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* In this, as well as in many other instances, medical writers have amused themselves by making *distinctions* without *differences*. Inflammations of the chest, they divided into pneumonia, pleuritis, paraphrenitis, &c. All these, however, as they are never, or seldom, to be distinguished from one another by the symptoms, and as they require precisely the same method of treatment, are now considered as one and the same disease, under the general title of Pneumonia.

It has already been observed, that the *spurious* or *bastard* peripneumony is occasioned by a viscid pituitous matter obstructing the vessels of the lungs. It commonly attacks the old, infirm, and phlegmatic, in winter or wet seasons.

The patient at the beginning is cold and hot by turns, has a small quick pulse, feels a sense of weight upon his breast, breathes with difficulty, and sometimes complains of a pain and giddiness of his head. His urine is commonly pale, and his colour very little changed.

The diet in this, as well as in the true peripneumony, must be very slender, as weak broths sharpened with the juice of orange or lemon, &c. His drink may be thin water-gruel sweetened with honey, or a decoction of fennel root, liquorice, and roots of quick grass. An ounce of each of these may be boiled in three English pints of water to a quart, and sharpened with a little currant jelly, or the like.

Bleeding and purging are generally proper at the beginning of this disease; but if the patient's spittle be pretty thick, or well concocted, neither of them are necessary. It will be sufficient to assist the expectoration by some of the soft balsamic medicines, recommended for that purpose in the pleurisy. Blistering-plasters have generally a good effect, and ought to be applied pretty early. They may either be applied to the neck or ankles, or both if necessary.

If the patient does not spit, he must be bled, if his strength will permit, and have a gentle purge administered. Afterwards his belly may be kept open by clysters, and the expectoration promoted, by taking every four hours two table-spoonfuls of the solution of gum-ammoniac, recommended in the pleurisy.

When an inflammation of the breast does not

yield to bleeding, blistering, and the other means mentioned above, it commonly ends in a suppuration, which is more or less dangerous, according to the part where it is situate. When this happens in the pleura, it sometimes breaks outwardly, and the matter is discharged by the wound.

Sometimes the suppuration happens within the substance or body of the lungs; in which case the matter may be discharged by expectoration; but if the matter floats in the cavity of the breast, between the pleura and the lungs, it can only be discharged by an incision made betwixt the ribs.

If the patient's strength does not return after the inflammation is to all appearance removed; if his pulse continues quick, though soft, his breathing difficult and oppressed; if he has cold shiverings at times, his cheeks flushed, his lips dry; and if he complains of thirst, and want of appetite; there is reason to fear that a suppuration is formed, and that a phthisis or consumption of the lungs will ensue. We shall therefore proceed to consider the proper treatment of that disease,

OF CONSUMPTIONS.

A CONSUMPTION is a wasting or decay of the whole body, from an ulcer, tubercles, or concretion of the lungs; from an empyema, a nervous atrophy, &c.

Dr Arbuthnot observes, that in his time consumptions made up above one tenth part of the bills of mortality about London. There is reason to believe they have rather increased since that time; and we know for certain, that they are not less

less fatal in several other towns in England than in London.

Young persons betwixt the age of fifteen and thirty, of a slender make, long neck, high shoulders, and flat breasts, are most liable to this disease.

Consumptions prevail more in England than in any other part of the world, owing perhaps to the great use of animal food, and strong liquors, the general application to sedentary employments, and the great quantity of pit-coal which is there burnt; to which we may add, the perpetual changes in the atmosphere, or variableness of the weather.

CAUSES.—It has already been observed, that inflammations of the breast often end in an imposthume: Consequently whatever predisposes to those diseases must likewise be considered as a cause of consumptions.

Many other diseases, by vitiating the humours, may likewise occasion consumptions; as the scurvy, the scrophula or king's-evil, the venereal disease, the asthma, small-pox, measles, &c.

As this disease is seldom cured, it will be necessary to point out its causes more particularly, in order that people may be the better enabled to avoid it. These are:

—— Want of exercise. Hence this disease is so common amongst the inhabitants of great towns, who follow sedentary employments, and likewise amongst the rich, who are not under the necessity of labouring for their bread.

—— Confined or unwholesome air. Air which stagnates, or is impregnated with the fumes of metals or minerals, is extremely hurtful to the lungs, and often corrodes the tender vessels of that necessary organ.

—— Violent passions, or affections of the mind; as grief, disappointment, anxiety, or close application to the study of abstruse arts or sciences, &c.

—— Excessive

—— Excessive evacuations ; as sweating, diarrhœas, diabetes, excessive venery, the fluor albus, an over-discharge of the menstrual flux, giving suck too long, &c.

—— The sudden stoppage of customary evacuations ; as the bleeding piles, sweating of the feet, bleeding of the nose, the menses, issues, ulcers, or eruptions of any kind.

—— Changing suddenly from a hot to a very cold climate, or whatever greatly lessens the perspiration.

—— Frequent and excessive debaucheries. Late watching, and drinking of strong liquors, which generally go together, can hardly fail to destroy the lungs. Hence the *bon companion* generally falls a sacrifice to this disease.

—— Infection. Consumptions are often caught by sleeping with the diseased ; for which reason this should be carefully avoided. It cannot be of great benefit to the sick, and must hurt those in health.

—— Occupations in life. Those artificers who sit much, and are constantly leaning forward, or pressing upon their stomachs and breasts, as cutlers, tailors, shoemakers, &c. often die of consumptions.

—— Cold. More consumptive patients date their disorders from wet feet, damp beds, night-air, wet clothes, and such like, than from all other causes.

Sharp, saline, and aromatic aliments, which heat and inflame the blood, are likewise frequently the cause of consumptions.

We shall only add, that this disease is often owing to an hereditary taint ; in which case it is generally incurable.

SYMPTOMS.—This disease generally begins with a dry cough, which often continues for some months.

months. If a disposition to vomit after eating be excited by it, there is great reason to fear an approaching consumption. The patient complains of a more than usual degree of heat, a pain and oppression of the breast, especially after motion; his spittle is of a saltish taste, and sometimes mixed with blood. He is apt to be sad; his appetite is bad, and his thirst great. There is generally a sense of weight on the breast, with a quick, soft, small pulse; though sometimes the pulse is pretty full, and rather hard. These are the common symptoms of a beginning consumption.

Afterwards the patient begins to spit a greenish, white, or bloody matter. His body is extenuated by the hectic fever and colliquative sweats, which mutually succeed one another, viz. the one towards the night, and the other in the morning. A looseness, and excessive discharge of urine, are often troublesome symptoms at this time, and greatly weaken the patient. There is a burning heat in the palms of the hands, and the face generally flushes after eating; the fingers become remarkably small, the nails are bent inwards, and the hairs fall off.

At last the swelling of the feet and legs, the total loss of strength, the sinking of the eyes, the difficulty of swallowing, and the coldness of the extremities, show the immediate approach of death, which, however, the patient seldom believes to be so near. Such is the usual progress of this fatal disease, which, if not early checked, commonly sets all medicine at defiance.

REGIMEN.—On the first appearance of this disease, if the patient lives in a large town, or any place where the air is confined, he ought immediately to quit it, and to make choice of a situation in the country, where the air is pure, dry, and free.
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Here he must not remain inactive, but take every day as much exercise as he can bear.

The best method of taking exercise is to ride on horseback, as this gives the body a great deal of motion without much fatigue. Such as cannot bear this kind of exercise, must make use of a machine. A long journey, as it amuses the mind by a continual change of objects, is greatly preferable to riding the same ground over and over. Care, however, must be taken to avoid catching cold from wet clothes, damp-beds, or such like. At any rate, the patient must ride; his life depends upon it; and it is almost an infallible remedy, if begun in time, and duly persisted in.

It is pity those who attend the sick seldom recommend riding in this disease, till the patient is either unable to bear it, or the malady is become incurable. Patients are always apt to trifle with every thing that is in their own power. They cannot see how one of the common actions of life should prove a remedy in an obstinate disease, and therefore they reject it, while they greedily hunt after relief from medicine, merely because it is unknown.

Those who have strength and courage to undertake a pretty long voyage, may expect great advantage from it. This has frequently cured a consumption after the patient was thought to be in the last stage of that disease, and where medicine had proved ineffectual. It is reasonable from hence to conclude, that if a voyage were undertaken in due time, it would seldom fail to perform a cure.

Such as try this method of cure ought to carry as much fresh provisions along with them as will serve for the whole time they are at sea. As milk is not to be obtained in this situation, they ought to live upon fruits and the broth of chickens, or other young animals which can be kept alive on board,

board. It is scarce necessary to add, that such voyages should be undertaken, if possible, in the mildest season, and that they ought to be towards a warmer climate.

Those who have not courage for a long voyage, may travel into a more southern climate, as the south of France, Spain, or Portugal; and if they find the air of these countries agree with them, they should continue there, at least till their health be confirmed.

Next to proper air and exercise, we would recommend a due attention to the diet. The patient must eat nothing that is either heating or hard of digestion, and his drink must be of a soft and cooling nature. All the diet must be calculated to lessen the acrimony of the humours, and abate the rapid motion of the blood. For this purpose the patient must keep strictly to the use of vegetables and milk. Milk alone is of more value in this disease than the whole *materia medica*.

Asses milk is generally reckoned preferable to any other; but it cannot always be obtained; besides, it is generally taken as a medicine; whereas, to produce any considerable effects, it ought in a manner to make the principal part of the patient's food. It is hardly to be expected, that a gill or two of asses milk, drank in the space of twenty-four hours, should be able to produce any considerable change in the humours in a short time; but when people do not perceive its effects soon, they lose hope, and so leave it off. Hence it comes to pass, that this medicine, however valuable, very seldom performs a cure. The reason is obvious; it is commonly used too late, is taken in too small quantities, and is not duly persisted in.

I have known very extraordinary effects from asses milk in obstinate coughs, which threatened a consumption of the lungs; and do verily believe, if
used

used at this period, that it would seldom fail; but if it be delayed till an ulcer is formed, which is generally the case, how can it be expected to succeed?

Asses milk ought to be drank, if possible, in its natural warmth, and in the quantity of half an English pint at a time. Instead of taking this quantity night and morning only, the patient ought to take it four times, or at least thrice a-day, and to eat a little light bread along with it, so as to make it a kind of meal.

If asses milk should happen to purge the patient, it may be mixed with old conserve of roses, which is itself a valuable medicine in this disease. If that cannot be obtained, the powder of crabs claws may be used in its stead. Asses milk is usually ordered to be drank warm in bed; but as it generally throws the patient into a sweat when taken in this way, it would be more proper to give it after he rises.

Some extraordinary cures in consumptive cases have been performed by women's milk. Could this be obtained in sufficient quantity, we would recommend it preferably to any other. It is better if the patient can suck it from the breast, than to drink it afterwards. I knew a man who was reduced to such a degree of weakness in a consumption, as not to be able to turn himself in bed. His wife was at that time giving suck, and the child happening to die, he sucked her breasts, not with a view to reap any advantage from the milk, but to make her easy. Finding himself, however, greatly benefited by it, he continued to suck her till he perfectly recovered, and is at present a strong and healthy man.

Some prefer butter-milk to any other, and it certainly is a very valuable medicine, if the stomach

mach be able to bear it. It does not agree with every person at first; and is therefore often laid aside without a sufficient trial. It should at first be taken sparingly, and the quantity gradually increased, until it comes to be almost the sole food. I never knew it succeed, unless where the patient almost entirely lived upon it.

Cows milk is most readily obtained of any; and though it be not so easily digested as that of asses or mares, it may be rendered lighter by adding it to an equal quantity of barley-water, or allowing it to stand for some hours, and afterwards taking off the cream. If it should notwithstanding lie heavy on the stomach, a table-spoonful of rum or brandy, and a bit of loaf-sugar, may be put into half an English pint.

It is not to be wondered, that milk should, for some time, disagree with a stomach that has not been accustomed to digest any thing but flesh and strong liquors, which is the case of a number of those who fall into consumptions. We do not, however, advise those who have been accustomed to animal food and strong liquors, to leave them off all at once. This might be dangerous. It will be necessary for such to eat a little once a-day of the flesh of some young animal, or rather to use the broth made of chickens, veal, lamb, or such like. They ought likewise to drink a little wine made into negus, or diluted with twice or thrice its quantity of water, and to make it gradually weaker till they can leave it off altogether.

These must be used only as preparatives to a diet consisting solely of milk and vegetables, which the sooner the patient can be brought to bear, the better. Rice and milk, or barley and milk, boiled, with a little sugar, is very proper food. Ripe fruits, roasted, baked, or boiled, are likewise proper,

per, as goose or currant-berry tarts, apples roasted, or boiled in milk, &c. The jellies, conserves, and preserves, &c. of ripe subacid fruits, ought to be eat plentifully, as the jelly of currants, conserve of roses, preserved plumbs, cherries, &c.

Wholesome air, proper exercise, and a diet consisting solely of these and other vegetables, with milk, is the only course that can be depended on in a beginning consumption. If the patient has strength and sufficient resolution to persist in this course, he will seldom be disappointed of a cure.

In a populous town in England, where consumptions are very common, I have frequently seen consumptive patients, who had been sent to the country with orders to ride, and live upon milk and vegetables, return in a few months quite plump, and free of any complaint. This indeed was not always the case, especially when the disease was hereditary, or far advanced; but it was the only method in which success was to be expected; where it failed, I never knew medicine succeed.

If the patient's strength and spirits flag, he must be supported by rich broths and jellies, &c. Some recommend shell-fish in this disorder, and we are inclined to think with reason; they are very nourishing, at the same time that they cool the blood, and blunt the acrimony of the humours. All the food and drink ought to be taken in small quantities, lest an overcharge of fresh chyle should oppress the lungs, and too much accelerate the circulation of the blood.

The patient's mind ought to be kept as easy and chearful as possible. Consumptions are often occasioned by a melancholy cast of mind; for which reason, music, chearful company, and every thing that inspires mirth, are highly beneficial. The patient

patient ought seldom to be left alone, as brooding over his calamities is sure to render them worse.

MEDICINE.—Though we know no medicine that will cure a confirmed consumption; yet the following things may be of service, in abating some of the more violent symptoms.

In the first stage of a consumption, the cough may sometimes be appeased by bleeding; and expectoration promoted by the following medicines. Take fresh squills, gum-ammoniac, and powdered cardamum-seeds, of each a quarter of an ounce; beat them together in a mortar, and if the mass proves too hard for pills, a little of any kind of syrup may be added to it. This may be formed into pills of a moderate size, and four or five of them taken twice or thrice a-day, according as the patient's stomach will bear them.

The lac ammoniacum, or milk of gum-ammoniac, as it is called, is likewise a proper medicine in this stage of the disease. It may be prepared and used as directed before.

A syrup made of equal parts of lemon-juice, fine honey, and sugar-candy, may likewise be used. Four ounces of each of these may be simmered together in a sauce-pan, over a slow fire, and a table-spoonful of it taken at any time when the cough is troublesome *.

It is common, in this stage of the disease, to load the patient's stomach with balsamic medicines, and at the same time to drench him with decoctions, infusions, &c. of the pectoral vegetables. The former of these, instead of removing the cause of the disease, tend rather to increase it, by heating the blood, while the latter pall the appetite, relax the solids, and prove every way hurt-

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* Ten or twelve drops of laudanum may be added occasionally, to each spoonful of the mixture.

ful to the patient. Whatever is used for removing the cough, besides riding, and other proper regimen, ought to be medicines of a sharp and cleansing nature.

For the patient's drink, we would recommend infusions of the bitter plants, as ground-ivy, the lesser centaury, camomile-flowers, or water-trefoil. These infusions may be drank at pleasure. They strengthen the stomach, promote digestion, and at the same time answer all the purposes of dilution, and quench thirst much better than things that are luscious or sweet.

But if the patient spits blood, he ought to use the following decoction for his ordinary drink. Take an ounce of comfrey-root, of liquorice, and marsh-mallow roots, each half an ounce. Boil them in two English quarts of water to one. If a tea-spoonful of the acid elixir of vitriol be added to this decoction, when cold, it will be a very proper medicine. A tea-cupful of it may be taken at pleasure.

There are many other mucilaginous plants and seeds, of a healing and agglutinating nature, from which decoctions or infusions may be prepared, with the same intention as the orches, the quince-seed, coltsfoot, linseed, sarsaparilla, &c. It is not necessary to mention the different forms in which these may be used. Simple infusion or boiling, is all that is necessary, and the dose may be at discretion.

The conserve of roses is here peculiarly proper. It may either be put into the decoction above prescribed, or eat by itself. No benefit is to be expected from trifling doses of this medicine. I never knew it of any service, unless where three or four ounces at least were used daily. In this way, I have seen it produce very extraordinary effects, and would recommend it
wherever

wherever there is a discharge of blood from the lungs*.

When the spitting up of gross matter, oppression of the breast, and the hectic symptoms, show that an imposthume is formed in the lungs, we would recommend the Jesuits bark, that being the only drug which has any chance to counteract the tendency which the humours then have to putrefaction.

An ounce of the bark in powder, may be divided into eighteen or twenty doses, of which one may be taken every three hours through the day, in a little syrup, or a cup of the patient's ordinary drink.

If the bark should happen to purge, it may be made into an electuary, with the conserve of roses, thus: Take old conserve of roses, a quarter of a pound; Jesuits bark in powder, an ounce; syrup of orange or lemon, as much as will make it of the consistence of honey. This quantity will serve the patient four or five days, and may be repeated as there is occasion.

Such as cannot take the bark in substance, may infuse it in cold water. This seems to be the best medium for extracting the virtues of that drug. Half an ounce of bark in powder may be infused for twenty-four hours, in half an English pint of water. Afterwards, let it be passed through a fine strainer, and an ordinary tea-cupful of it taken three or four times a-day†.

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* That the conserve of roses, as well as the elixir of vitriol, have been useful as gentle astringents in some cases of spitting of blood, we can readily believe: but, we confess, we have not much faith in the virtues of these *vulnerable and agglutinating* decoctions and infusions.

† Notwithstanding the warm recommendation that is here given of the bark, we are of opinion, that it can seldom be administered with propriety in this disease. It is too generally accompanied

We would not recommend the bark while there are any symptoms of an inflammation of the breast; but when it is certainly known, that matter is collecting there, it is the only medicine upon which any stress can be laid. Few patients have resolution enough to give the bark a fair trial, at this period of the disease, otherwise we have reason to believe, that great benefit might be reaped from it.

When it is evident that there is an imposthume in the breast, and the matter can neither be spit up, nor carried off by absorption, the patient must endeavour to make it break inwardly, by drawing in the steams of warm water or vinegar with his breath, coughing, laughing, or bawling aloud, &c. When it happens to burst within the lungs, the matter may be discharged by the mouth. Sometimes indeed the bursting of the vomica occasions immediate death, by suffocating the patient. When the quantity of matter is great, and the patient's strength exhausted, this is apt to happen. At any rate, the patient is ready to fall into a swoon, and should have volatile spirits or salts held to his nose.

If the matter discharged be thick, and the cough and breathing become easier, there may be some hopes of a cure. The diet at this time ought to be light, but restorative, as small chicken-broths, fago-gruel, rice-milk, &c. the drink, butter-milk, or whey, sweetened with honey. This is likewise a proper time for using the Jesuits bark, which may be taken as before directed.

If the vomica or imposthume should discharge
itself

accompanied with an inflammatory disposition, to admit of such a powerful tonic as the bark. Where this disposition, however, is either altogether wanting, or at least only present in a less degree, and especially where the disease assumes somewhat of a more regular periodical appearance in its attacks, the bark may perhaps be used with advantage.

itself into the cavity of the breast, betwixt the pleura and the lungs, there is no way of getting the matter out, but by an incision, as has already been observed. As this operation must always be performed by a surgeon, it is not necessary for us to describe it. We shall only observe, that it is not so dreadful as people are apt to imagine, and that it is the only chance the patient has for his life. It is indeed a pity that this operation, like most others, is generally delayed till too late. When the whole mass of humours is tainted, the body wasted, and the strength decayed, it is in vain to attempt to save the patient's life by an operation.

A NERVOUS CONSUMPTION, is a wasting or decay of the whole body, without any considerable degree of fever, cough, or difficulty of breathing. It is attended with indigestion, weakness, want of appetite, &c.

Those who are of a fretful temper, who indulge in spiritous liquors, or who breathe an unwholesome air, are most liable to this disease.

We would chiefly recommend, for the cure of a nervous consumption, a light and nourishing diet, enough of exercise in a free open air, and the use of such bitters as brace and strengthen the stomach; as the Jesuits bark, gentian-root, camomile, &c. These may be infused in wine, and a glass of it drank frequently.

It will greatly assist the digestion, and promote the cure of this disease, to take twice a-day, twenty or thirty drops of the elixir of vitriol in a glass of wine or water.

The chalybeate wine is likewise an excellent medicine in this case. It strengthens the solids, and powerfully assists nature in the preparation of good blood. It is made by putting three ounces

of the filings of steel or iron into a bottle of Rhenish wine, and allowing it to digest for three weeks, frequently shaking the bottle. Afterwards the wine must be filtered for use. A table-spoonful of it may be taken twice or thrice a-day.

Agreeable amusements, chearful company, and riding about, are however preferable to all medicines in this disease. For this reason, when the patient can afford it, we would recommend a long journey of pleasure, as the most likely means to restore his health.

What is called a *symptomatic consumption*, cannot be cured without first removing the disease by which it is occasioned. Thus, when a consumption proceeds from the scrophula, or king's-evil, from the scurvy, the asthma, the venereal disease, &c. a due attention must be paid to the malady from whence it arises, and the regimen and medicine directed accordingly.

When excessive evacuations of any kind occasion a consumption, they must not only be restrained, but the patient's strength must be restored, by gentle exercise, nourishing diet, and generous cordials, &c. Young and delicate mothers often fall into consumptions, by giving suck too long. As soon as they perceive their strength and appetite begin to fail, they ought immediately to wean the child, or give it another nurse, otherwise they cannot expect a cure.

Before quitting this subject, we would earnestly recommend it to all who wish to avoid consumptions, to take as much exercise without doors as they can, to avoid unwholesome air, and to study sobriety. Consumptions owe their present increase not a little to the fashionable mode of spending every evening over a punch-bowl, or a bottle of wine. These liquors not only spoil the appetite,
and

and hurt the digestion, but heat and inflame the blood, and set the whole constitution on fire.

OF THE SLOW OR NERVOUS FEVER.

NERVOUS fevers have increased greatly of late years in this island, owing doubtless to the increase of luxury and sedentary employments; as this disease commonly attacks persons of a weak relaxed habit, who neglect exercise, eat little solid food, study hard, or indulge in spiritous liquors.

CAUSES.—Nervous fevers are occasioned by whatever depresses the spirits, or impoverishes the blood; as grief, fear, and anxiety, want of sleep, intense thought; living on poor watery diet, as unripe fruits, cucumbers, melons, mushrooms, &c. They are likewise occasioned by damp, confined, or unwholesome air. Hence they are very common in rainy seasons, and prove most fatal to those who live in dirty, low houses, crowded streets, hospitals, jails, or such like places.

Persons whose constitutions have been broken, by excessive venery, frequent salivations, too free an use of purgative medicines, or the like, are very liable to this disease.

Keeping on wet clothes, sleeping in the sun, lying on the damp ground, excessive fatigue, and whatever obstructs the perspiration, or causes a spasmodic stricture of the solids, may likewise occasion nervous fevers. We shall only add, frequent and great irregularities in eating and drinking. Too great abstinence as well as excess is hurtful. Nothing tends so much to preserve the humours in a sound state, as a regular diet; nor can any

thing contribute more to occasion fevers of the worst kind, than its contrary.

SYMPTOMS.—Low spirits, want of appetite, weakness, weariness after motion, watchfulness, deep sighing, and dejection of mind, are generally the forerunners of this disease. These are succeeded by a quick low pulse, a dry tongue, without any considerable thirst, chillness and flushing in turns, &c.

After some time, the patient complains of a giddiness and pain of his head, has a nausea, with reachings and vomiting; his pulse is quick, and sometimes intermitting; his urine pale, resembling dead small beer, and his breathing is difficult, with oppression of the breast, and slight alienations of mind.

If towards the ninth, tenth, or twelfth day, the tongue becomes more moist, with a plentiful spitting, a gentle diarrhoea, or a moisture upon the skin; or if a suppuration happen in one or both ears, or large pustules break out about the lips and nose, there is reason to hope for a favourable crisis.

But, if there be an excessive looseness, or wasting sweats, with frequent fainting fits; if the tongue, when put out, tremble excessively, and the extremities feel cold, with a fluttering or slow creeping pulse; if there be a starting of the tendons, an almost total loss of sight and hearing, and an involuntary discharge by stool and urine, there is great reason to fear that death is approaching.

REGIMEN.—It is highly necessary in this disease to keep the patient easy and quiet. The least motion will fatigue him, and will be apt to occasion weariness, and even faintings. His mind likewise ought not only to be kept easy, but soothed and comforted with the hopes of a speedy recovery.

recovery. Nothing is more hurtful in low fevers of this kind, than presenting to the patient's mind gloomy or frightful ideas. These often occasion nervous fevers; and it is not to be doubted but they will likewise increase the danger.

The patient must not be kept too low. His strength and spirits ought to be supported by nourishing diet, and generous cordials. For this purpose his gruels, panadas, or whatever food he takes, must be strengthened with wine according as the symptoms may require. Pretty strong wine-whey, or small negus, sharpened with the juice of orange or lemon, will be proper for his drink.

Wine in this disease, if it could be obtained genuine, would be almost the only medicine that we should need. Good wine possesses all the virtues of the cordial medicines, while it is free from many of their bad qualities. I say good wine; for however common that article of luxury is now become, it is rarely to be obtained genuine, especially by the poor, or such as purchase it in small quantities.

I have seen a patient in a low nervous fever, whose pulse could hardly be felt, with a constant delirium, coldness of the extremities, and almost every other mortal symptom, recover by using, in whey, gruel, and negus, a bottle of strong wine every day. Good wine is not only the most proper cordial, but seems also to be an excellent antispasmodic medicine; and consequently it must be highly proper, in all diseases arising from a poor vapid state of the blood, and too great a stricture of the solids.

Mustard-whey is a very proper drink in this fever. It is made by tying, in a linen rag, a table-spoonful of common mustard bruised, and boiling it a little in half an English pint of water, with an

an equal quantity of milk. Two or three spoonfuls of wine may be added to it when boiling, to make the curd separate more perfectly, and to render the whey more cordial. A tea-cupful of this may be given frequently for the patient's ordinary drink.

In a word, the great aim in this disease is to support the patient's spirits, by giving him frequently small quantities of the above, or other drinks of a warm and cordial nature. He is not, however, to be over-heated, either with liquor or clothes; and his food ought to be light, and given in small quantities.

MEDICINE.—Where a nausea, load, and sickness at stomach, prevail at the beginning of the fever, it will be necessary to give the patient a gentle vomit. Fifteen or twenty grains of ipecacanha will generally answer this purpose very well. This may be repeated any time before the third or fourth day, if the above symptoms continue. Vomits not only clean the stomach, but, by the general shock which they give, promote the perspiration, and have many other excellent effects in slow fevers, where there are no signs of inflammation, and nature wants rousing.

Such as dare not venture upon a vomit, may clean the bowels by a small dose of Turkey rhubarb, or an infusion of senna and manna.

In all fevers, the great point is to regulate the symptoms, so as to prevent their going to either extreme. Thus, in fevers of the inflammatory kind, where the force of the circulation is too great, or the blood dense, and the fibres too rigid, bleeding and other evacuations are necessary. But where nature flags, where the blood is vapid and poor, and the solids weak and relaxed, there the lancet is to be avoided. Hence bleeding is
never

never to be permitted in nervous fevers, unless there be evident signs of an inflammation, which very seldom happens.

It is the more necessary to caution people against bleeding in this disease, as there is generally at the beginning an universal stricture upon the vessels, which even to the patient himself often gives the idea of a plethora, or too great a quantity of blood. I have known some of the profession deceived by their own feelings in this respect, so far as to insist upon being bled, when it was evident that the operation was improper.

I remember to have attended an apothecary in a nervous fever, who, at the beginning, was so fully persuaded of the existence of a plethora, and the necessity of bleeding, that when I objected to it, he told me he was so certain of the necessity of that operation, from his own feelings, that if it was not performed, he could not live; and that if no body else would bleed him, he was determined to do it himself. He was accordingly bled, but was soon convinced of his error. The blood shewed no signs of inflammation, and he was so remarkably worse after the operation, that he narrowly escaped with his life. His pulse and spirits sunk exceedingly, so that he could hardly be supported by a bottle of strong wine in the day, besides other cordial medicines.

Though bleeding be improper in this disease, yet blistering is highly necessary. Blistering-plasters may be applied at all times of the fever, with great advantage; we would, however, advise people not to make too free with them at the beginning, lest there should be more occasion for them afterwards. If the patient be delirious, he ought to be blistered on the neck; and it will be the safest course, while the fever continues, as
soon

soon as the discharge occasioned by one plaster abates, to apply another some where else, and by that means keep up a continual succession of them till the patient be out of danger.

I have been more sensible of the advantage of blistering in this disease, than of any other medicine. It not only promotes the circulation by stimulating the solids, but likewise occasions a continual discharge, which may in some measure supply the want of critical evacuations, which seldom happen in this kind of fever.

If the patient be costive through the course of the disease, it will be necessary to procure a stool, by giving him every other day a clyster of milk and water, with a little sugar, to which may be added a spoonful of common salt, if it be necessary.

Should a violent looseness come on, it may be checked, by giving the patient frequently a small quantity of Venice treacle, or any thing that will promote the perspiration.

Though blistering and cordial liquors are the only medicines to be depended on in this kind of fever, yet, for those who may chuse to use them, we shall mention one or two of the forms of medicine which are commonly prescribed in it.

Thus, when the patient is low, ten grains of Virginian snake-root, and the same quantity of contrayerva-root, with five grains of Russian castor, all in fine powder, may be made into a bolus, with a little of the cordial confection, or syrup of saffron. One of these may be taken every four or five hours.

The following powder may be used for the same intention. Take wild Valerian root in powder one scruple, saffron and castor each four grains. Mix these by rubbing them together in a mortar,
and

and give one in a cup of wine-whey, three or four times a-day *.

In desperate cases, where the hiccup and starting of the tendons have already come on, we have sometimes seen extraordinary effects from large doses of musk frequently exhibited. This is doubtless a great antispasmodic, and may be given to the quantity of a scruple three or four times a-day. Sometimes it may be proper to add to the musk a few grains of camphor, and salt of hartshorn, as these tend to promote perspiration and urine. Thus, fifteen grains of musk, with three grains of camphor, and six grains of salt of hartshorn, may be made into a dose, and given as above.

If the fever should happen to intermit, which it frequently does towards the decline, or if the patient's strength should be wasted with colliquative sweats, it will be necessary to give him an infusion of the Jesuits bark, with snake-root, in wine or brandy.

Half an ounce of the bark, with a dram of Virginian snake-root, half a dram of saffron, and half an ounce of orange-peel, all grossly powdered, may be infused in half an English pint of brandy for three or four days. Afterwards strain it, and give the patient two tea-spoonfuls in a glass of water, or small wine, three or four times a-day.

Such as do not chuse spirits may infuse the above ingredients in a bottle of Lisbon wine, and take a glass of it frequently; this will restore the strength,
prevent

* The present practice trusts the cure of this disease almost entirely to bark and wine. These are administered in quantities proportioned to the debility of the patient, and his capability of receiving them. With these too, opiates are frequently conjoined, with a view both to their anodyne and stimulating effects. The patient should likewise be kept cool, by admitting a free circulation of air in his apartment, and now and then washing his hands and face, and even his whole body, with a little cold water and vinegar.

prevent a relapse, and help to carry off the remains of the fever.

It will likewise be proper at this time to interpose now and then a gentle dose of rhubarb, or some other mild opening medicine, taking care at the same time to support the patient's strength with chicken-broth, jellies, and such like.

OF THE MALIGNANT, PUTRID, OR SPOTTED FEVER.

THIS may be called the *pestilential fever* of Europe, as in many of its symptoms it bears a great resemblance to that dreadful disease.

Persons of a lax habit, a melancholy disposition, and those whose vigour has been wasted by long fasting, watching, hard labour, excessive venery, or frequent salivations, &c. are most liable to this disease.

CAUSES.—This fever is occasioned by an unwholesome, putrid, or stagnating air. Hence it prevails in jails, hospitals, and infirmaries, especially where such places are greatly crowded, and cleanliness is neglected.

A close constitution of the air, with long rainy or foggy weather, likewise occasions putrid fevers. Hence they often succeed great inundations in low and marshy countries, especially when these are preceded or followed by a hot and sultry season.

Living too much upon animal food, without a proper mixture of vegetables, or eating fish or flesh that has been kept too long, are likewise apt to occasion this kind of fever. Hence sailors on long voyages, and the inhabitants of besieged cities, are very often visited with putrid fevers.

Corn

Corn that has been greatly damaged by rainy seasons, or long keeping, and water that has become putrid by stagnation, will likewise occasion putrid fevers. The excessive use of alkaline salts will also have this effect.

Dead carcases tainting the air, especially in hot seasons, are very apt to occasion putrid fevers. Hence this kind of fever often prevails in camps, and such countries as are the scenes of war and bloodshed. This shews the necessity of removing church-yards, slaughter-houses, &c. a proper distance from the great towns.

Want of cleanliness is a very general cause of putrid fevers. Hence they prevail amongst the poor inhabitants of large towns, who breathe a confined unwholesome air, neglect cleanliness, and are forced to live upon spoiled or unwholesome provisions, &c. Such mechanics as carry on dirty employments, and are constantly confined within doors, are likewise very liable to putrid fevers.

We shall only add, that all putrid, malignant, or spotted fevers, are very infectious; and are therefore often communicated in this way. For which reason, all persons ought to keep at a distance from such as are affected with those diseases, unless those whose attendance is absolutely necessary.

SYMPTOMS.—The malignant fever is generally preceded by a remarkable weakness, or loss of strength, without any apparent cause. This is sometimes so great, that the patient can scarce walk, or even sit upright, without being in danger of fainting away. His mind too is greatly dejected; he sighs, and is full of dreadful apprehensions.

There is a nausea, and sometimes vomiting of bile; a violent pain of the head, with a strong pulsation or throbbing of the temporal arteries; the eyes often appear red and inflamed, with a
pain

pain at the bottom of the orbit ; there is a noise in the ears, the breathing is laborious, and often interrupted with a sigh ; the patient complains of pain about the region of the stomach, and in his back and loins ; his tongue is at first white, but afterwards it appears black and chapped ; and his teeth are covered with a black crust. He sometimes passes worms both upwards and downwards *, is affected with tremors, or shaking, and often becomes delirious.

If blood be let, it appears dissolved, or with a very small degree of cohesion, and soon becomes putrid ; the stools smell extremely fœtid, and are sometimes of a greenish, black, or reddish cast. Spots of a pale, purple, dun, or black colour, often appear upon the skin, and sometimes violent hæmorrhages, or discharges of blood from the mouth, eyes, nose, &c. happen.

Putrid fevers may be distinguished from the inflammatory, by the smallness of the pulse, the dejection of mind, the dissolved state of the blood, the petechiæ, or purple spots, and the putrid smell of the excrements. They may likewise be distinguished from the low or nervous fever, by the heat and thirst being greater, the urine of a higher colour, and the other symptoms more violent.

It sometimes, however, happens, that the inflammatory, nervous, and putrid symptoms, are so blended together, as to render it very difficult to determine to which class the fever belongs. In this case, the greatest caution and skill are requisite : And all endeavours must be used to relieve the most urgent symptoms.

Inflammatory and nervous fevers are often converted

* Though this may have happened accidentally in some cases, yet as being by no means a common occurrence, and at any rate not necessarily connected with this disease, it cannot with any propriety be enumerated among the symptoms.

verted into malignant and putrid, by too hot a regimen, or improper medicines.

The period of putrid fevers is extremely uncertain; sometimes they terminate betwixt the seventh and fourteenth day, and at other times they are prolonged for five or six weeks. Their duration depends greatly upon the constitution of the patient, and the manner of treating the disease.

The most favourable symptoms are, after the fourth or fifth day, a gentle looseness, with a warm, mild sweat. These, when continued for a considerable time, often carry off the fever, and should never be imprudently stopped. Small miliary pustules appearing between the petechiæ, or purple spots, are likewise favourable, as also hot scabby eruptions about the mouth and nose. It is a good sign when the pulse rises upon the use of wine, or other cordials, and the nervous symptoms abate; deafness coming on towards the decline of the fever, is likewise a favourable symptom; and so are abscesses in the groin, or parotid glands.

Amongst the unfavourable symptoms may be reckoned an excessive looseness, with a hard swelled belly. Large black or livid blotches breaking out upon the skin, are a proof of the putrid dissolution of the blood, and shew the danger to be very great. Aphthæ in the mouth, and cold clammy sweats, are unfavourable signs, as also blindness, change of the voice, a wild staring of the eyes, difficulty of swallowing, an inability to put out the tongue, and a constant inclination to uncover the breast. When the sweat and saliva are tinged with blood, and the urine is black, or deposits a black footy sediment, the patient is in great danger. Starting of the tendons, and fœtid, ichorous, involuntary stools, attended with coldness of the extremities, are generally the forerunners of death.

REGIMEN.——In the management of this disease, we are to endeavour, as far as possible, to counteract the putrid tendency of the humours; to support the patient's strength and spirits; and to assist nature in expelling the morbid matter, by gently promoting perspiration and the other evacuations.

It has been observed, that putrid fevers are often occasioned by unwholesome air, and of course they must be aggravated by it. Care must therefore be taken to prevent the air from stagnating in the patient's chamber, to keep it cool, and renew it frequently, by opening the doors or windows of some adjacent apartment. The breath and perspiration of persons in perfect health soon render the air of a small apartment noxious; but this will sooner happen from the perspiration and breath of a person whose whole mass of humours are in a putrid state. These fevers are often so heightened by the same infected air being breathed over and over, that the patient is in a manner suffocated by his own atmosphere.

Besides the frequent admission of fresh air, we would recommend the use of vinegar, verjuice, juice of lemon, Seville orange, or any kind of vegetable acid that can be most readily obtained. These ought frequently to be sprinkled upon the floor, the bed, and every part of the room. They may also be evaporated with an hot iron, or by boiling, &c. The fresh skins of lemons or oranges ought likewise to be laid in different parts of the room, and they should be frequently held to the patient's nose. The use of acids in this manner would not only prove very refreshing to the patient, but would tend greatly to prevent the infection from spreading among those who attend him. Strong smelling herbs, as rue, tansy, rosemary, wormwood, &c. may likewise be laid in different

ferent parts of the house, and smelled to by those who go near the patient.

The patient must not only be kept cool, but likewise quiet and easy. The least noise will affect his head, and the smallest fatigue will be apt to make him faint away.

Nothing is of so great importance in this disease, as the liberal use of acids. These are to be mixed with all the patient's food as well as drink. Orange, lemon, or vinegar-whey, are all very proper, and may be drank in turns, according to the patient's inclination. These may be rendered cordial by the addition of wine in such quantity as the patient's strength seems to require. When he is very low, he may drink negus, with only one half water, and sharpened with the juice of orange or lemon. In some cases a glass of clear wine may now and then be allowed. The most proper wine is Rhenish; but if the belly be open, red Port or Claret is to be preferred.

When the belly is bound, a tea-spoonful of the cream of tartar may be put into a cup of the patient's drink, as there is occasion; or he may eat a few tamarinds, which will both quench his thirst and keep his belly easy.

If camomile-tea will sit upon the stomach, it is a very proper drink in this disease. It may be sharpened by adding to every cup of the tea fifteen or twenty drops of the elixir of vitriol.

The food must be light, as panada, groat-gruel, and such like; to these a little wine may be added, if the patient be weak and low, and they ought all to be sharpened with the juice of orange, or the jelly of currants, rasp-berries, &c. The patient ought likewise to eat freely of ripe fruits, either baked, roasted, or raw, as roasted apples, currant or gooseberry tarts, preserved cherries, plumbs, and such like.

The patient must never be long without nourishment. Taking a little food or drink frequently, not only supports the spirits, but counteracts the putrid tendency of the humours; for which reason he ought constantly to be sipping small quantities of some of the acid liquors mentioned above, or any that may be more agreeable to his palate, or more readily obtained.

If the patient be delirious, his feet and hands ought to be frequently fomented with strong infusions of camomile flowers. This, or an infusion of the bark, to such as can afford it, cannot fail to have a good effect. Fomentations of this kind not only relieve the head, by relaxing the vessels in the extremities, but, as their contents are absorbed, and taken into the blood, they must, by their antiseptic qualities, assist in preventing the putrescency of the humours.

If the patient be not able to put his feet and hands into the decoction, cloths dipt in it may be applied to them.

MEDICINE.—If a vomit be taken at the very beginning of this fever, it will hardly fail to have a good effect; but if the fever has gone on for some days, and the symptoms are violent, vomits must not be taken without proper advice*.

Bleeding is seldom necessary in putrid fevers. If there be signs of an inflammation, it may sometimes

* Emetics are peculiarly proper in this disease. They should be given at first in such doses as to produce full vomiting, with a view to evacuate the morbid contents of the stomach, and afterwards continued in nauseating doses, with a view to promote the perspiration. For these purposes, the antimonial preparations, and particularly tartarised antimony, is generally employed. This medicine has also another good effect, as it commonly operates as a laxative. Should it fail in this respect, however, an emollient clyster ought to be administered every night, or every other night at farthest. The patient's body, too, ought to be frequently washed all over with a sponge soaked in vinegar and water.

times be permitted at the first onset; but the repetition of it often proves fatal *.

Blistering-plasters are never to be used unless in the greatest extremities. If the petechiæ or spots should suddenly disappear, the patient's pulse sink remarkably, and a delirium, with other bad symptoms, come on, blistering may be permitted. In this case, the blistering-plasters are to be applied to the head, and the insides of the legs or thighs. But as they are sometimes apt to occasion a gangrene, we would rather recommend warm poultices or cataplasms to be applied to the feet, having recourse to blisters only in the utmost extremities.

A very ridiculous notion has long prevailed, of expelling the poisonous matter of malignant diseases by strong doses of cordial or alexipharmic medicines. In consequence of this notion, the contrayerva-root, the cordial confection, and the mithridate, &c. have been extolled as infallible remedies. There is reason to believe that these oftener do harm than good. Where cordials are necessary, we know none that is superior to good wine; and therefore again recommend it both as the safest and best. Wine, with other acid and antiseptic medicines, are the only things to be relied on in the cure of malignant fevers.

We have already recommended acids in various forms, and shall only add one more, viz. camphorated vinegar. This is made by rubbing a dram of camphor with a small quantity of spirits of wine in a mortar, till it becomes soft, then adding half an ounce of loaf-sugar, and rubbing the whole together till perfectly united. Afterwards take an English pint of warm vinegar, and add it by little and little, still continuing the trituration, till they be uniformly mixed. Let it stand to cool, and afterwards strain it. This may be taken in the dose of a table-spoonful or two every two or three hours,

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according

* Bleeding we believe to be always dangerous in this disease.

according as it agrees with the stomach. If it should heat the patient, or occasion a nausea, it must be discontinued.

In the most dangerous species of this disease, when it is attended with purple, livid, or black spots, the Jesuits bark is the only medicine that can be depended upon. I have seen it, when joined with acids, almost perform wonders, even in cases where the petechiæ had the most threatening aspect. But, to answer this purpose, it must not only be given in large doses, but duly persisted in.

The best method for administering the bark is certainly in substance. An ounce of it in powder may be mixed with half an English pint of water, and the same quantity of red wine, and sharpened with the elixir or spirit of vitriol, which will both make it sit easier on the stomach, and render it more beneficial. Two or three ounces of the syrup of lemon may be added, and two table-spoonfuls of the mixture taken every two hours, or oftener, if the stomach will bear it.

Those who cannot take the bark in substance, may infuse it in wine, as recommended in a former disease.

If there be a violent looseness, the bark must be boiled in red wine with a little cinnamon, and sharpened with the elixir of vitriol as above. Nothing can be more beneficial in this kind of looseness than plenty of acids, and such things as promote the perspiration.

If the patient be troubled with vomiting, a dram of the salt of wormwood, dissolved in an ounce and half of fresh lemon juice, and made into a draught, with an ounce of simple cinnamon-water, or peppermint-water, and a bit of sugar, may be given to the patient, and repeated as often as it is necessary.

If swellings of the glands appear, their suppuration

tion is to be promoted by the application of poultices, ripening cataplasms, &c. ; and as soon as there is any appearance of matter in them, they ought to be laid open, and the poultices continued.

I have known patients in the decline of this fever have large ulcerous sores break out in various parts of the body, of a livid gangrenous appearance, and a most putrid cadaverous smell. These gradually healed, and the patient recovered, by the plentiful use of Jesuits bark mixed in wine, and sharpened with the spirits of vitriol.

All who would avoid this dreadful disease, should study universal cleanliness, and should live regularly, avoiding the extremes of too high or too low a diet with equal care.

Infection, above all things, is to be avoided. No constitution is proof against it. I have known persons seized with a putrid fever, by only making a single visit to a patient in it ; others have caught it by going through a town where it prevailed ; and some by attending the funerals of such as died of it.

Any one who is apprehensive of having caught the infection, ought immediately to take a vomit, and to work it off by drinking plentifully of camomile-tea. This may be repeated in a day or two, if the apprehensions still continue, or any unfavourable symptoms appear.

The person ought likewise to take an infusion of the bark and camomile-flowers for his ordinary drink ; and before he goes to bed, he may drink an English pint of pretty strong negus, or a few glasses of generous wine. I have been frequently obliged to follow this course, when malignant fevers prevailed, and have likewise recommended it to others with constant success.

People generally fly to bleeding and purging as

antidotes against infection; but these are so far from securing them, that they often increase the danger.

Physicians, and such as attend the sick in putrid fevers, ought always to have a piece of sponge or a handkerchief dipt in vinegar, or juice of lemon, to hold at their nose. They ought likewise to wash their hands, and, if possible, to change their clothes, before they visit any other patient *.

OF THE MILIARY FEVER.

THIS fever takes its name from the small pustules or bladders which appear on the skin, resembling,
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* As this disease is at once highly infectious and highly dangerous, the utmost attention is requisite, on its first appearance, in a large family, to prevent its spreading through the whole. For this purpose, when a servant or domestic happens to be seized with it, he ought, where it can be done, to be sent immediately to an hospital. Where circumstances do not permit the removal of the person infected, the same end may be often obtained by sending the family, especially if there be a young family, out of the way for a time. Where neither of these objects can be conveniently accomplished, our attention must be directed, *in the first place*, to the preventing all unnecessary communication with the patient, and, *secondly*, to the rendering the necessary communication as safe as possible. With a view to the first, a sick nurse, or some elderly person accustomed to that business, should remain constantly with the patient, and no other attendance but the visits of the medical gentlemen, or when occasional assistance is absolutely necessary, ought to be permitted. In regard to the second, the patient should be placed in the middle of a large airy apartment; the bed-curtains, carpet, and other unnecessary furniture, should be removed; a constant circulation of air, by opening either two windows or a door and window, ought to be kept up: the apartment ought to be frequently sprinkled with vinegar; the bed and body linen of the patient ought to be frequently changed, and should immediately be given out to the washing; and all excrementitious matters ought to be instantly removed. These precautions, though simple, will, we think, generally be effectual, if care be at the same time taken, to avoid all unnecessary contact with the patient, and all needless exposure to his breath or atmosphere.

in shape and size, the seeds of millet. The pustules are either red or white, and sometimes both are mixed together.

Sometimes the whole body is covered with pustules; but they are generally more numerous where the sweat is most abundant, as on the breast, the back, &c. A gentle sweat, or moisture on the skin, greatly promotes the eruption; but where the skin is dry, the eruption is both more painful and dangerous.

This is sometimes a primary disease; but it is much oftener only a symptom of some other malady, as the small-pox, measles, ardent, putrid, or nervous fever, &c. In all these cases it is generally the effect of too hot a regimen or medicines.

The miliary fever chiefly attacks the idle and the phlegmatic, or persons of a relaxed habit. The young and the aged are more liable to it than those in the vigour and prime of life. It is likewise more incident to women than men, especially the delicate and the indolent, who, neglecting exercise, keep continually within doors, and live upon weak watery diet. Such females are extremely liable to be seized with this disease in childbed, and often lose their lives by it.

CAUSES.—The miliary fever is often occasioned by violent passions or affections of the mind; as excessive grief, anxiety, thoughtfulness, &c. It may likewise be occasioned by excessive watching, great evacuations, a weak watery diet, rainy seasons, eating too freely of cold, watery, unripe fruits, as plumbs, cherries, cucumbers, melons, &c. Impure waters, or provisions which have been spoiled by rainy seasons, long keeping, &c. may likewise cause miliary fevers. They may also be occasioned by the stoppage of any customary evacuation, as issues, setons, ulcers, the bleeding piles in men, or the menstrual flux in women, &c.

This

This disease in childbed-women is sometimes the effect of great costiveness during pregnancy ; sometimes it is occasioned by the excessive use of green unripe fruits, and other unwholesome things in which pregnant women are apt to indulge. But its most general cause is indolence. Such women as indulge an easy sedentary life during pregnancy, and at the same time live grossly and fully, can hardly escape this disease in childbed. Hence it proves extremely fatal to women of fashion, and likewise to those women in manufacturing towns, who, in order to assist their husbands, sit close within doors for almost the whole of their time. But among women who are active and laborious, who live in the country, and take enough of exercise without doors, this disease is very little known.

SYMPTOMS.——When this is a primary disease, it makes its attack, like most other eruptive fevers, with a slight shivering, which is succeeded by heat, loss of strength, faintiness, sighing, a low quick pulse, difficulty of breathing, with great anxiety and oppression of the breast. The patient is restless, and sometimes delirious ; the tongue appears white, and the hands shake, with often a burning heat in the palms ; and in childbed-women the milk generally goes away, and the other discharges stop.

The patient feels an itching or pricking pain under the skin, after which innumerable small pustules of a red or white colour begin to appear. Upon this the symptoms generally abate, the pulse becomes more full and soft, the skin grows moister, and the sweat, as the disease advances, begins to have a peculiar foetid smell ; the great load on the breast and oppression of the spirits generally go off, and the customary evacuations gradually return. About the sixth or seventh day from the eruption, the pustules begin to dry and fall off,
which

which occasions a very disagreeable itching in the skin.

It is impossible to ascertain the exact time when the pustules will either appear or go off. They generally come out on the third or fourth day, when the eruption is critical; but, when symptomatic, they may appear at any time of the disease.

Sometimes the pustules appear and vanish by turns. When that is the case, there is always danger; but when they strike in all of a sudden, and do not appear again, the danger is very great.

In childbed-women the pustules are commonly at first filled with clear water, afterwards they grow yellowish. Sometimes they are interspersed with pustules of a red colour. When these only appear, the disease goes by the name of a *rasb*.

REGIMEN.—In all eruptive fevers, of whatever kind, the chief point is to prevent the sudden striking in of the pustules. For this purpose, the patient must be kept in such a temperature, as neither to push out the eruption too fast, nor to cause it retreat prematurely. The diet and drink ought therefore to be in a moderate degree nourishing and cordial; but neither strong nor heating. The patient's chamber ought neither to be kept too hot nor cold; and he should not be too much covered with clothes. Above all, the mind is to be kept easy and chearful. Nothing so certainly makes an eruption strike in as fear, or the apprehension of danger.

The food must be weak chicken-broth, with bread, water-pap, with sago, and groat-gruel, &c.; to a gill of which may be added a spoonful or two of wine, as the patient's strength requires, with a few grains of salt and a little sugar. Good apples, roasted or boiled, with other ripe fruits of an opening cooling nature, may be eat.

The

The drink must be suited to the state of the patient's strength and spirits. If these be pretty high, the drink ought to be weak ; as water-gruel, balm-tea, or the following decoction.

Take two ounces of the shavings of hartshorn, and the same quantity of sarsaparilla, boil them in two English quarts of water. To the strained decoction add a little white sugar, and let the patient take it for his ordinary drink.

When the patient's spirits are low, and the eruption does not rise sufficiently, his drink must be a little more generous ; as wine-whey, or small negus, sharpened with the juice of orange or lemon, and made stronger or weaker as the circumstances may require.

Sometimes the miliary fever approaches towards a putrid nature, in which case the patient's strength must be supported with generous cordials, joined with acids ; and if the degree of putrescency be great, the Jesuits bark must be administered. If the head be much affected, the belly must be kept open by emollient clysters.

In the *Commercium Literarium* for the year 1735, we have the history of an epidemical miliary fever, which raged at Strasburg in the months of November, December, and January ; from which we learn the necessity of a temperate regimen in this disease, and likewise that physicians are not always the first who discover the proper treatment of diseases : " This fever made terrible havock among men of robust constitutions, and all medicine proved in vain. They were seized in an instant with shivering, yawning, stretching, and pains in the back, succeeded by a most intense heat ; at the same time there was great loss of strength and appetite. On the seventh or ninth day the military eruptions appeared, or spots like flea-bites, with great anxiety, a delirium, restlessness,

ness, and tossing in bed. Bleeding was fatal. While matters were in this unhappy situation, a midwife, of her own accord, gave to a patient, in the height of the disease, a clyster of rain-water and butter without salt, and for his ordinary drink a quart of spring-water, half a pint of generous wine, the juice of one lemon, and six ounces of the whitest sugar, gently boiled till a scum arose; and this with great success; for the belly was soon loosened, the grievous symptoms vanished, and the patient was restored to his senses, and snatched from the jaws of death." This practice was imitated by others, with the like happy effects.

MEDICINE.—If the food and drink be properly regulated, there will be little occasion for medicine in this disease. Should the eruption, however, not rise, or the spirits flag, it will be necessary to support the patient with cordials, and to apply blisters. The most proper cordial in this case is good wine, which may either be taken in the patient's food or drink; and if there be any signs of putrescency, which frequently happens, the bark and acids may be mixed with wine, as directed in the putrid fever.

Some recommend blisters through the whole course of the disease; and where nature flags, and the eruption comes and goes, it may be necessary to keep up a stimulus, by a continual succession of small blisters; but we would not recommend above one at a time. If, however, the pulse should sink remarkably, the pustules strike in, and the head be affected, it will be necessary to apply several blistering-plasters to the most sensible parts, as the inside of the legs, thighs, &c.

Bleeding is seldom necessary in this disease, and sometimes it does much hurt, as it weakens the patient, and depresses his spirits. It is therefore never to be attempted, unless by the advice of a physician.

physician. We mention this, because it has been customary to treat this disease in childbed-women by bleeding, and other evacuations, as if it were highly inflammatory. But this practice is generally very unsafe. Patients in this situation bear evacuations very ill. And indeed the disease seems often to be more of a putrid than an inflammatory nature.

Though this fever be often occasioned in childbed-women by too hot a regimen, yet it would be dangerous to leave that off all of a sudden, and have recourse to a very cool regimen, and large evacuations. We have reason to believe, that supporting the patient's spirits, and promoting the natural evacuations, is here much safer than to have recourse to artificial ones, as every thing that tends to depress the patient's spirits constantly increases the danger.

If this disease proves tedious, or the recovery slow, we would recommend the Jesuits bark, which may either be taken in substance, or infused in wine or water, as the patient inclines.

The miliary fever, like other eruptive diseases, after it is gone, requires purging, which should not be neglected as soon as the patient's strength will permit.

To avoid this disease, a pure dry air, plenty of exercise and wholesome food, are necessary. Pregnant women should guard against costiveness, and take daily as much exercise as they can bear, avoiding all green trashy fruits, and other unwholesome things; and when in childbed, they ought strictly to observe a cool regimen.

OF THE SMALL-POX.

THIS disease is so general, that very few escape it at one time of life or another. It is the most contagious malady in these parts; and has, for upwards of a thousand years, proved the scourge of Europe.

The small pox generally appear towards the spring. They are very frequent in summer, less so in autumn, and least of all in winter. Children are most liable to this disease; and those whose food is unwholesome, who want proper exercise, and abound with gross humours, run the greatest hazard from it.

The disease is distinguished into the distinct and confluent kind; the latter of which is always attended with danger. There are likewise other distinctions of the small-pox; as the lymphatic, the crystalline, the bloody, &c.

CAUSES.—The small-pox are commonly caught by infection. Since the disease was brought into Europe, the infection has never been wholly extinguished; nor have any proper methods, so far as we know, ever been taken for that purpose; so that now it has become in a manner constitutional. Children who have over-heated themselves by running, wrestling, &c. or adults after a debauch, are very apt to be seized with this disease.

SYMPTOMS.—This disease is so generally known, that a minute description of it is unnecessary. Children commonly look a little dull, seem listless and drowsy for a few days before the more violent symptoms of the small-pox appear. They are likewise more inclined to drink than usual, have little appetite for solid food, complain of weariness, and, upon taking exercise, are apt to

to sweat. These symptoms are succeeded by slight fits of cold and heat in turns, which, as the time of the eruption approaches, become more violent, and are accompanied with pains of the head and loins, vomiting, &c. The pulse is quick, with a great heat of the skin, and restlessness. When the patient drops asleep, he wakes in a kind of horror, with a sudden start, which is a very common symptom of the approaching eruption; as are also convulsion-fits in very young children.

About the third or fourth day from the time of sickening, the small pox generally begin to appear; sometimes indeed they appear sooner, but that is no advantage. At first they very nearly resemble flea-bites, and are most early discovered on the face, arms, and breast.

The most favourable symptoms are a slow eruption, and an abatement of the fever as soon as the pustules appear. In a mild distinct kind of small-pox the pustules seldom appear before the fourth day from the time of sickening, and they generally keep coming out gradually for several days after. Pustules which are distinct, with a florid red basis, and which fill with thick purulent matter, first of a whitish, and afterwards of a yellowish colour, are the best.

A livid brown colour of the pustules is an unfavourable symptom; as also when they are small and flat, with black specks in the middle. Pustules which contain a thin watery ichor are very bad. A great number of pox on the face is always a bad sign, especially if they be confluent, or run into one another.

But the most unfavourable symptom is the petechiæ, or purple, brown, and black spots interspersed among the pustules. These are signs of a putrid dissolution of the blood, and show the danger to be very great. Bloody stools or urine,
with

with a swelled belly, are bad symptoms; as is also a continual strangury. When the urine is very pale, and there is a violent throbbing of the arteries of the neck, it portends a delirium or convulsion-fits. When the face does not swell, or falls before the pox come to maturity, it is a very bad sign. If the face begins to fall about the eleventh or twelfth day, and the hands begin to swell, and afterwards the feet, the patient generally does well; but when these do not succeed one another, there is reason to apprehend danger. When the tongue is covered with a brown crust, it is an unfavourable symptom. Cold shivering fits coming on at the height of the disease, are likewise unfavourable. Grinding of the teeth, when it proceeds from an affection of the nervous system, is a bad sign; but sometimes it is occasioned by worms, or a disordered stomach.

REGIMEN.—When the first symptoms of the small-pox appear, people are ready to be alarmed, and often fly to the use of medicine, to the great danger of the patient's life. I have known children, to appease the anxiety of their parents, bled, blistered, purged, and vomited, during the fever which preceded the eruption of the small-pox, to such a degree, that Nature was not only disturbed in her operation, but rendered unable to support the pustules after they were out; so that the patient, exhausted by mere evacuations, sunk under the disease.

When convulsions appear, they give a dreadful alarm. Immediately some nostrum is applied, as if this were a primary disease; whereas it is only a symptom, and far from being an unfavourable one, of the approaching eruption. As the fits generally go off before the actual appearance of the small-pox, it is attributed to the medicine, which
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by this means acquires a reputation without any merit.

All that is, generally speaking, necessary during the eruptive fever, is to keep the patient within doors*, and to allow him to drink freely of some weak diluting liquors; as balm-tea, barley-water, clear whey, gruels, &c. He should neither be kept in too warm a room, nor confined to bed; but should sit up as much as he is able, and should have his feet and legs frequently bathed in lukewarm water. His food, if he takes any, ought to be very light; and he should be as little disturbed with noise and company as possible.

Much mischief is done at this period by confining the patient too soon to his bed, and plying him with warm cordials or sudorific medicines. Every thing that heats and inflames the blood increases the fever, and pushes out the pustules too fast. This has numberless ill effects. It not only increases the number of pustules, but likewise tends to make them run into one another; and when they have been pushed out with too great violence, they generally fall in before they come to maturity.

The good women, as soon as they see the small-pox begin to appear, commonly ply their tender charge with cordials, saffron and marigold teas, wines, punch, and even brandy itself. All these are given with a view to throw out the eruption, as they pretend, from the heart. This, like most other

* This direction has, we observe, very properly been omitted in the last edition of this Work. Indeed nothing, we may remark, contributes so effectually to moderate the eruptive fever, and consequently to mitigate this disease, as a free exposure of the patient to cold air, and a free indulgence in the use of cold drink; while, on the other hand, nothing tends with such certainty to increase the eruptive fever, and consequently to render the subsequent disease violent, as keeping the patient hot, or, in other words, confining him within doors, and giving him warm drink, or any thing heating.

other popular mistakes, is the abuse of a very just observation, *That when there is a moisture on the skin, the pox rise better, and the patient is easier than when it continues dry and parched.* But that is no reason for forcing the patient into a sweat. Sweating never relieves, unless where it comes spontaneously, or is the effect of drinking weak diluting liquors.

The patient ought to have no more covering in bed than is necessary to prevent his catching cold; and he should be frequently taken up, if it were only for a few minutes; this will both keep him cool, and prevent too great a flux of blood towards the head.

Children are often so peevish, that they will not lie a-bed without a nurse constantly by them. This, we have reason to believe, has many bad effects. Even the natural heat of the nurse cannot fail to augment the fever of the child; but if she too proves feverish, the danger must be increased. I have known a nurse contract a malignant fever by lying in bed with a child the whole time of its being ill of a bad kind of small-pox.

Laying several children who have the small-pox in the same bed, has many ill consequences. They ought, if possible, never to be in the same chamber, as the perspiration, the heat, and the smell, &c. all tend to augment the fever, and to heighten the disease. It is common among the poor to see two or three children lying in the same bed, with such a load of pustules, that their very skins stick together. One can hardly view a scene of this kind without being sickened by the sight and smell. How much more must these affect the poor patients, many of whom perish by this usage!

This observation is likewise applicable to hospitals, workhouses, &c. where numbers of children happen to have the small-pox at the same time. I

have seen above forty children cooped up in one apartment all the while they had this disease, without any of them being admitted to breathe the fresh air. No one can be at a loss to see the impropriety of such conduct, which generally proceeds from a piece of ill-judged œconomy, to save the trifling expence of a few nurses. It ought to be a rule, not only in hospitals for the small-pox, but likewise for other diseases, that no patient should be within sight or hearing of another. This is a matter to which too little regard is paid in most hospitals and infirmaries, where the sick, the dying, and the dead, are often to be seen in the same apartment.

A very dirty custom prevails amongst the lower sort of people, of allowing children in the small-pox to keep on the same linen during the whole period of that loathsome disease. This is done lest they should catch cold, but it has many ill consequences. The linen becomes hard by the moisture which it absorbs, and frets the tender skin. It likewise occasions a bad smell, which is very pernicious both to the patient and those about him; besides, the filth and sordes which adhere to the linen being absorbed, or taken up again into the body, greatly augment the disease.

A patient should not be kept dirty in any disease, especially in the small-pox. Cutaneous disorders are often occasioned by nastiness alone, and are always increased by it. Were the patient's linen to be changed every day, it would greatly refresh him. Care indeed is to be taken that the linen be thoroughly dry. It ought likewise to be warmed, and put on when the patient is most cool.

So strong is the vulgar prejudice in this country, notwithstanding all that has been said against keeping children too warm in the small-pox, that numbers still fall a sacrifice to that error. I have seen

poor

poor women travelling in the depth of winter, and carrying their children along with them in the small-pox; and have frequently observed others begging by the wayside, with infants in their arms covered with the pustules; yet I could never learn that one of these children died by this sort of treatment. We would not, however, propose this as an example worthy of imitation; we only mention it to shew, that the danger of exposing children to the open air in this disease is not so great as people are apt to imagine.

The food in this disease ought to be very light, and of a cooling nature, as water-pap, rice or bread boiled with milk, good apples roasted or boiled with milk, and sweetened with a little sugar, or such like.

The drink may be equal parts of milk and water, clear sweet-whey, barley-water, or thin gruel, &c. After the pox are full, butter-milk is an excellent drink, being of an opening and cleansing nature.

MEDICINE.—This disease is generally divided into four different periods, *viz.* the fever which precedes the eruption, the eruption itself, the suppuration, or maturation of the pustules, and the secondary fever.

It has already been observed, that little more is necessary during the primary fever than to keep the patient cool and quiet, allowing him to drink diluting liquors, and bathing his feet frequently in warm water. Though this be generally the safest course that can be taken with infants, yet adults of a strong constitution and plethoric habit sometimes require bleeding. When a full pulse, a dry skin, and other symptoms of inflammation, render this operation necessary, it ought to be performed; but unless these symptoms are urgent, it may be omitted, and, if the belly be bound, emollient clysters may be thrown in.

If there be a great nausea or vomiting, weak camomile-tea or lukewarm water may be drank, in order to clean the stomach. At the beginning of a fever Nature generally attempts a discharge, either upwards or downwards, which, if promoted by gentle means, would tend greatly to abate the force or violence of the disease.

Though every method is to be taken during the primary fever, by a cool regimen, &c. to prevent too great an eruption; yet, after the pustules have made their appearance, our business is to promote the suppuration, by gentle warmth, diluting drink, light food, and, if Nature seems to flag, by generous cordials; but the latter ought never to be given unless where there is an absolute necessity. When a low creeping pulse, faintishness, and great loss of strength, render cordials necessary, we would recommend good wine, which may be made into negus, with an equal quantity of water, and sharpened with the juice of orange, the jelly of currants, or the like. Wine-whey, sharpened as above, is likewise a proper drink in this case; great care, however, must be taken not to overheat the patient by any of these things. This would retard instead of promoting the eruption.

Sometimes the rising of the small-pox is prevented by the violence of the fever; in which case the cool regimen is strictly to be observed. For example, the patient's chamber must be kept cool; he ought likewise frequently to be taken out of bed, and to be lightly covered with clothes while in it.

Excessive restlessness often prevents the rising and filling of the small-pox. When that happens, gentle opiates are necessary. These, however, ought always to be administered with the greatest caution. To an infant, a tea-spoonful of the syrup of poppies may be given every five or six hours,
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till it has the desired effect. An adult will require a table-spoonful in order to answer the same purpose; and to others, the dose must be proportioned to their age and the violence of the symptoms.

If the patient be troubled with a strangury, or suppression of urine, which often happens in the small-pox, he should be frequently taken out of bed, and, if he be able, should walk across the room with his feet bare. When he cannot do this, he may be frequently set on his knees in bed, and should endeavour to pass his urine as often as he can. When these do not succeed, a tea-spoonful of the sweet spirits of nitre may be occasionally mixed in his drink. Nothing more certainly relieves the patient, or is more beneficial in the small-pox, than a plentiful discharge of urine.

If the mouth be foul, and the tongue dry and chapped, it ought to be frequently washed, and the throat gargled with warm water and honey, sharpened with a little vinegar or currant-jelly.

During the rising of the small-pox, it frequently happens that the patient is eight or ten days without a stool. This not only tends to heat and inflame the blood, but the feces, by lodging so long in the body, become acrid, and even putrid; from whence bad consequences must ensue. It will, therefore, be proper, when the belly is bound, to throw in an emollient clyster at least every second day, through the whole course of the disease. This will greatly cool and relieve the patient.

When petechiæ, or purple, black, or livid spots, appear among the small-pox, the Jesuits bark must immediately be administered in as large doses as the patient's stomach can bear. For a child, two drams of the bark in powder may be mixed in three ounces of common water, one ounce of simple cinnamon-water, and two ounces of the syrup of orange or lemon. This may be sharpened with

the spirits of vitriol, and a table-spoonful of it given every hour. If it be given to an adult in the same form, he may take at least three or four spoonfuls every hour. This medicine ought not to be trifled with, but must be thrown in as fast as the stomach can bear it; in which case it will often produce very happy effects. I have frequently seen the petechiæ disappear, and small-pox, which had a very threatening aspect, rise and fill with laudable matter, by the use of the Jesuits bark and acids*.

The patient's drink ought likewise in this case to be acidulated with the spirits of vitriol, vinegar, juice of lemon, jelly of currants, or such like. His food must consist of apples roasted or boiled, preserved cherries, plumbs, and other sharp fruits.

The bark and acids are not only necessary when the petechiæ or putrid symptoms appear, but likewise in the lymphatic or crystalline small-pox, where the matter is thin, and not duly prepared. The Jesuits bark seems possessed of a singular power to assist Nature in preparing laudable pus, or what is called good matter; consequently it must be very beneficial, both in this and other diseases whose crisis depends on a suppuration. I have often observed, where the small-pox were flat, and the matter contained in them quite clear and transparent, and where they had the appearance of running into one another, that the use of a few drams of the Jesuits bark, acidulated as above, not only promoted the suppuration, but changed the colour and consistence of the matter, and produced the most happy effects.

When

* At the same time that the bark is exhibited with so much freedom, and with so much propriety, in this species of the disease, wine, as the best and most powerful cordial that we are acquainted with, ought not to be withheld, but should be given in such quantity as the patient's situation may require.

When the eruption subsides suddenly, or, as the good women term it, when the small-pox strike in, before they have arrived at maturity, the danger is very great. This is often the effect of a hot regimen or medicines, which at the beginning push out the matter before it has been properly prepared. When this happens, blistering-plasters must be immediately applied to the wrists and ancles, and the patient's spirits supported with cordials.

Sometimes bleeding has a surprising effect in raising the pustules after they have subsided; but it requires skill to know when this is proper, or to what length the patient can bear it. Sharp cataplasms, however, may be applied to the feet and hands, as they tend to promote the swelling of these parts, and by that means to draw the humour towards the extremities.

The most dangerous period of the disease is, what we call the secondary fever. This generally comes on when the small-pox begin to turn on the face, and most of those who die of the small-pox are carried off by this fever.

Nature generally attempts, at the turn of the small-pox, to relieve the patient by loose stools. Her endeavours, this way, are by no means to be counteracted, but promoted, and the patient, at the same time, supported by things of a light, but nourishing nature. Patients have often been remarkably relieved at this time, by a few loose stools, either brought on by nature, or procured by art. That should encourage us to endeavour to assist Nature in this way, especially if the symptoms be threatening, and the belly continue bound.

If, at the approach of the secondary fever, the pulse be very quick, hard, and strong, the heat intense, and the breathing laborious, with other symptoms of an inflammation of the breast, the
patient

patient must immediately be bled, otherwise a fatal peripneumony will ensue. The quantity of blood to be let, must be regulated by the patient's strength, age, and the urgency of the symptoms.

But, in the secondary fever, if the patient be faintish, the pustules become pale, and shrink, and if there be great coldness of the extremities, blistering plasters must be applied, and the patient must be supported with generous wine. Wine, and even spirits, have sometimes been given in such desperate cases, with amazing success.

As the secondary fever is in a great measure, if not wholly, owing to the absorption of the matter, it would seem highly consonant to reason, that the pustules, as soon as they come to maturity, should be opened. This is every day practised in other phlegmons, which tend to suppuration; and there seems to be no reason why it should be less proper here. On the contrary, we have reason to believe, that by this means the secondary fever might always be lessened, and often wholly prevented.

The pustules should be opened, when they begin to turn of a yellow colour. Very little art is necessary for this operation. They may either be opened with a pair of scissars, or a needle, and the matter absorbed by a wet sponge or a little lint. As the pustules are generally first ripe on the face, it will be proper to begin with opening these, and the others in course as they become ripe. The pustules generally fill again, a second, or even a third time, &c.; for which cause, the operation must be repeated, or rather continued, so long as there is any considerable appearance of matter in the pustules.

We have reason to believe, that this operation, rational as it is, has been neglected from a piece of mistaken tenderness in parents. They believe, that

that it must give great pain to the poor child; and therefore would rather see it die than have it thus tortured. This notion, however, is entirely without foundation. It is only the scarf-skin that is cut, which, upon the top of the pustules, by the time they are ripe, becomes quite insensible. I have frequently opened the pustules when the patients did not see me, without their being in the least sensible of it; but suppose it were attended with a little pain, that is nothing in comparison to the advantages which arise from it.

Opening the pustules not only prevents the absorption of the matter into the blood, but likewise takes off the tension of the skin, and by that means greatly relieves the patient. It likewise prevents the pitting, which is a matter of no small importance. Acrid matter, by lodging long in the pustules, cannot fail to corrode the tender skin; by which many a handsome face becomes so deformed, as hardly to bear a resemblance to the human figure*.

It is commonly necessary, after the small-pox are gone off, to purge the patient. If, however, the belly has been open through the whole course of the disease, or if butter-milk and other things of an opening nature have been given after the height of the small-pox, purging becomes less necessary; though it ought not perhaps to be altogether omitted.

For very young children, an infusion of fenna and prunes, with a little rhubarb, may be sweetened with manna or coarse sugar, and given in small quantities till it operate. Those who are farther advanced must take medicines of a sharper nature. For example, a child of four or five years of age
may

* This practice, we believe, is now seldom or never attempted, most probably from being found, upon trial, to be attended with no particular advantage.

may take ten grains of fine rhubarb in powder over night, and the same quantity of jalap in powder next morning, with two or three grains of calomel, mixed in currant-jelly, or made into a bolus with a little honey *. He ought to keep the house all day, and to drink nothing that is cold. The dose may be repeated three or four times, five or six days intervening betwixt each dose. For children further advanced, and adults, the dose must be increased in proportion to the age and constitution.

When imposthumes happen after the small-pox, which is not seldom the case, they are to be brought to suppuration as soon as possible, by means of ripening poultices; and, when they have been opened, or break of their own accord, the patient must be purged.

When a cough, a difficulty of breathing, or other symptoms of a consumption, succeed to the small-pox, the patient must be sent to a well-aired place, and put upon a course of asses milk, with such exercise as he can bear. For further directions in this case, see the article Consumptions.

Though no disease, after it is formed, baffles the powers of medicine more than the small-pox, yet more may be done beforehand to render this disease favourable, than in any one that we know of, as almost all the danger from it may be prevented by inoculation.

OF

* We would consider this as rather a strong *medium-dose*, for children of that age; and are of opinion, that the above ingredients taken in the one half, or at most two thirds, of the quantity that is here directed, will generally be found sufficient.

OF INOCULATION.

THIS salutary invention has been known in Europe about half a century, but, like most other useful discoveries, it has met with great opposition. It must, however, be acknowledged, to the honour of this country, that inoculation has met with a more favourable reception here than with any of our neighbours. It is still, however, far from being general, which we have reason to fear will ever be the case, so long as the practice continues in the hands of the Faculty.

No discovery can ever be of general utility while the practice of it is kept in the hands of a few. Had the inoculation of the small-pox been introduced as a fashion, and not as a medical discovery, and had it been practised by the same kind of operators here as it is in those countries from whence we had it, it had long ago been universal. The fears, the jealousies, the prejudices, and the opposite interests of the Faculty, are and ever will be the most effectual obstacles to the progress of any salutary discovery*. Hence it is that the practice of inoculation never became in any measure general,

* This reflection on the Faculty, we must observe, appears to us neither very liberal nor well-founded. For, however the passions and the opposite interests of individuals might tend to counteract one another in this as well as in any other branch of the profession; yet, since the practice was to be retained in their hands, the passions and interests of the whole as a body must certainly have co-operated jointly to its general extension. Beside the benefit of a party thus in some measure interested in its support, the practice in this way had the farther advantage of not being so liable, on its first introduction, to be hurt by any unfortunate accident that might attend it; as this was more likely either to be avoided by the skill and prudence of those who conducted it, or at least could be better supported by their responsibility. So far, therefore, are we from agreeing with our Author, that the practice of inoculation, has, by being retained in the hands of the Faculty, been limited and confined, that we maintain, that the practice has in this way, and in this way only could have, become so extensive and almost universal as it is at this moment.

general, even in England, till taken up by men not bred to physic. These have not only rendered the practice more extensive. but likewise more safe, and, by acting under less restraint than the regular practitioners, have taught them that the patient's greatest danger arose, not from the want of care, but from the excess of it.

They know very little of the matter, who impute the success of modern inoculators to any superior skill, either in preparing the patient or communicating the disease. Some operators indeed, from a fordid desire of ingrossing the whole practice to themselves, pretend to have extraordinary secrets or nostrums in preparing persons for inoculation, which never fail of success. But this is only a pretence calculated to blind the ignorant and inattentive. Common sense and prudence alone are sufficient, both in the choice of the subject and management of the operation. Whoever is possessed of these may perform this office for his children whenever he finds it convenient, provided they be in a proper state of health; and may rest assured, that he will succeed as well as the most celebrated inoculator.

This sentiment is not the result of theory, but of observation. Though few physicians have had more opportunities of trying inoculation in all its different forms, so little appears to me to depend on these, generally reckoned important circumstances, of preparing the body, communicating the infection by this or the other method, &c. that for several years past I have caused the parents or nurses perform the whole themselves, and have found that method followed with equal success, while it is free from many inconveniences that attend the other.

A critical situation, too often to be met with, first put me upon trying this method. A gentleman

man who had lost all his children, except one son, by the natural small-pox, was determined to have him inoculated. He told me his intention, and desired I would persuade the mother and grandmother, &c. of its propriety. But that was impossible. They were not to be persuaded, and either could not get the better of their fears, or were determined against conviction. It was always a point with me, not to perform the operation without the consent of parties concerned. I therefore advised the father, after giving his son a dose or two of rhubarb, to go to a patient who had the small-pox of a good kind, to open two or three of the pustules, taking up the matter with a little cotton, and as soon as he came home to take his son into a private room, and give his arm a light scratch with a pin, as if it had been by accident, afterwards to rub the place well with the cotton, and take no further notice of it. All this he punctually performed; and at the usual period the small-pox made their appearance, which were of an exceeding good kind, and so mild as not to confine the boy an hour to his bed. None of the other relations knew but the disease had come in the natural way till the patient was well.

We do not propose this as the only method in which the small-pox can be communicated. It appears from experience, that this may be done in various ways with equal success. In Turkey, from whence we learned the practice, the women communicate the disease to children, by opening a bit of the skin with a needle, and putting into the wound a little matter taken from a ripe pustule. On the coast of Barbary they pass a thread wet with the matter through the skin, between the thumb and fore-finger; and in Europe inoculation is generally performed by making a small incision through the cuticle of the arm or leg with a lancet, and

and laying a bit of thread wet with the matter upon the wound, which is covered with a piece of sticking-plaster, and kept on for two or three days.

Some of the people in England who make a trade of inoculation, only open one of the ripe pustules with a lancet, and while it is wet with the matter, make a slight incision in the arm of the person to whom they want to communicate the disease; afterwards they close up the wound, and leave it without any other dressing. This seems to be no real improvement. It frequently fails to communicate the disease, and is far less certain than when a scratch with a pin or a needle is made, and a bit of thread wet with the matter kept on the wound for some days by a sticking-plaster*.

Indeed, if the matter be applied long enough to the skin, there is no occasion for any wound at all. Let a bit of thread, about half an inch long, wet with the matter, be applied to the arm, midway between the shoulder and elbow, and covered with a piece of the common black sticking-plaster, and kept on for eight or ten days. This will seldom fail to communicate the disease. We mention this method because many people are afraid of a wound; and doubtless the more easily the operation can be performed, it has the greater chance to become general. Some people imagine, that the discharge from a wound lessens the eruption; but there is not much stress to be laid upon this notion: Besides, deep wounds often ulcerate, and become troublesome.

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* The common method of inoculating in this country at present is, by making two or three scratches or punctures, scarcely through the skin, with the point of a lancet that had been previously wet with matter taken from a ripe pustule. If the matter, as frequently happens, from the difficulty of procuring it always fresh, has become dry before it be used, it is softened again by holding it in the steam of warm water.

We do not find that inoculation is at all considered as a medical operation in those countries from whence we learned it. In Turkey it is performed by the women, and in the East Indies by the Brachmins or Priests. In this country the custom is still in its infancy; we make no doubt, however, but it will become so familiar, that parents will think no more of inoculating their own children, than at present they do of giving them a dose of physic.

No set of men have it so much in their power to render the practice of inoculation general as the clergy, the greatest opposition to it still arising from some scruples of conscience, which they alone can remove. We would recommend it to them, not only to endeavour to remove the religious objections which weak minds may have to this salutary practice, but to enjoin it as a duty, and to point out the danger of neglecting to make use of a mean which Providence has put in our power for saving the lives of our offspring. Surely such parents as wilfully neglect the means of saving their children, are as guilty as those who put them to death. We wish this matter were duly weighed. No one is more ready to make allowance for human weakness and religious prejudices, yet I cannot help recommending it, in the warmest manner, to parents to consider how great an injury they do their children, by neglecting to give them this disease in the early period of life.

The numerous advantages attending inoculation of the small-pox, have been pretty fully pointed out by the learned Dr M'Kenzie, in his History of Health: "Many and great," says this humane author, "are the dangers attending the natural infection, from all which the inoculation is quite secure. The natural infection may invade weak or distempered bodies, by no means disposed for its

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kindly reception. It may attack them at a season of the year either violently hot, or intensely cold. It may be communicated from a sort of small-pox impregnated with the utmost virulence. It may lay hold upon people unexpectedly, when a dangerous sort is imprudently imported into a maritime place. It may surprise us soon after excesses committed in luxury, intemperance, or lewdness. It may likewise seize on the innocent, after indispensable watchings, hard labour, or necessary journeys. And is it a trivial advantage, that all these unhappy circumstances can be prevented by inoculation? By inoculation numbers are saved from deformity, as well as from death. In the natural small-pox, how often are the finest features, and the most beautiful complexions, miserably disfigured? Whereas inoculation rarely leaves any ugly marks or scars, even where the number of pustules on the face have been very considerable, and the symptoms by no means favourable. And many other grievous complaints, that are frequently subsequent to the natural sort, seldom follow the artificial. Does not inoculation also prevent those inexpressible terrors that perpetually harass persons who never had this disease, inasmuch that when the small-pox is epidemical, entire villages are depopulated, markets ruined, and the face of distress spread over the whole country? From this terror it arises, that justice is frequently postponed, or discouraged, at sessions or assizes, where the small-pox rages. Witnesses and juries dare not appear; and, by reason of the necessary absence of some gentlemen, our honourable and useful judges are not attended with that reverence and splendor due to their office and merit. Does not inoculation in like manner prevent our brave sailors from being seized with this distemper on shipboard, where they must quickly spread the infection among such of the crew

crew who never had it before, and where they have scarce any chance to escape, being half-stifled with the closeness of their cabins, and but very indifferently nursed? Lastly, with regard to the soldiery, the miseries attending these poor creatures, when attacked by the small-pox on a march, is inconceivable, without attendance, without lodgings, without any accommodations; so that one of three commonly perishes."

We shall only add, that such as have not had the small-pox in the early period of life, are not only rendered unhappy, but likewise in a great measure unfit for sustaining many of the most useful and important offices. Few people would chuse even to hire a servant who had not had the small-pox, far less to purchase a slave who had the chance of dying of this disease. How could a physician or a surgeon, who had never had the small-pox himself, attend others under that malady? Thus, beside the continual fears and anxiety which haunt those persons who have not had the small-pox, we might shew numberless inconveniences which arise from it. For example,

How deplorable is the situation of females, who arrive at mature age without having had the small-pox! A woman with child seldom survives this disease: And if an infant happens to be seized with the small-pox upon the mother's breast who has not had the disease herself, the scene must be distressing! If she continues to suckle the child, it is at the peril of her own life; and if she weans it, in all probability it will perish. How often is the affectionate mother forced to leave her house, and abandon her children, at the very time when her care is most necessary! But should parental affection get the better of her fears, the consequences will often prove fatal. I have known the tender mother and her infant-child laid in the same grave,

both untimely victims to this dreadful malady. But these are scenes too shocking even to mention. Let parents who run away with their children to avoid the small-pox, or who refuse to inoculate them in infancy, consider to what deplorable situations they may be reduced by this mistaken tenderness.

As the small-pox has now become a constitutional disease in most parts of the known world, no other choice remains but to render the malady as mild as possible; that is the only manner of extirpation now left in our power; and, though it may seem paradoxical, this artificial method of planting the disease, could it be rendered universal, would amount to nearly the same thing as rooting it out. It is a matter of small consequence, whether a disease be entirely extirpated, or rendered so mild as neither to destroy life nor hurt the constitution; but that this may be done by inoculation, does not now admit of a doubt. The numbers who die under inoculation hardly deserve to be named. In the natural way, one in four or five generally die; but by inoculation not one of a thousand. Nay, some can boast of having inoculated ten thousand without the loss of a single patient.

I have often wished to see some plan established for rendering this salutary practice universal; but am afraid I shall never be so happy. The difficulties indeed are many; yet the thing is by no means impracticable. The aim is great; no less than saving the lives of one-fourth of mankind. What ought not to be attempted in order to accomplish such an end?

The first step towards rendering the practice universal, must be to remove the religious prejudices against it. This, as already observed, can only be done by the clergy. They must not only recommend it as a duty to others, but likewise practice it

it on their own children. Example will ever have more influence than precept.

The next thing requisite is to put it in the power of all. For this purpose, we would recommend it to the Faculty to inoculate the children of the poor *gratis*. It is hard that those who are certainly the most useful part of mankind should, by their poverty, be excluded from such a benefit.

Should this fail, it is surely in the power of any State to render the practice general, at least as far as its dominion extends. We do not mean, that it ought to be enforced by a law: That, there is reason to believe, would rather tend to obstruct its progress. The way to promote it would be, to employ a sufficient number of operators, at the public expence, to inoculate the children of the poor. This would only be necessary till the practice became general; afterwards custom, the strongest of all laws, would oblige every one to inoculate their children, to prevent reflections.

It may be objected to this scheme, that the poor would refuse to employ the inoculators: That is easily removed. A small premium to enable mothers to attend their children while under the disease, would be a sufficient inducement; besides, the success attending the operation would soon banish all objections to it: Even considerations of profit would induce the poor to embrace this plan. They often bring up their children to the age of ten or twelve, and when they come to be useful, they are snatched away by this malady, to the great loss of their parents and detriment of the public.

The British Legislature has, of late years, shown great attention to the preservation of infant-lives, by supporting the Foundling-hospital, &c. But we will venture to say, if one-tenth part of the sums laid out in supporting that institution, had

been bestowed towards promoting the practice of inoculation of the small-pox among the poor, that not only more useful lives had been saved, but the practice ere now rendered quite universal in this island. It is not to be imagined what effect example and a little money will have upon the poor; yet, if left to themselves, they will go on for ever in the old way, without thinking of any improvement. We only mean this as a hint to the humane and public-spirited. Should such a scheme be adopted, a proper plan might easily be laid down for the execution of it.

As all public plans are very difficult to bring about, and often, by the selfish views or misconduct of those intrusted with the execution of them, fail of answering the noble purposes for which they were designed, we shall therefore point out some other methods by which the benefits of inoculation may be extended to the poor.

There is no doubt but inoculators will be daily more numerous. We would, therefore, have every parish in Britain to allow one of them a small annual salary for inoculating all the children of the parish at a proper age. Though some refractory persons might for a while object to this method, they would soon be obliged to comply with it, or run the hazard of being reckoned the murderers of their own children.

Two things chiefly operate to prevent the progress of inoculation. The one is a wish to put the evil day as far off as possible. This is a principle in our nature; and as inoculation seems rather to be anticipating a future evil, it is no wonder mankind are so averse from it. But this objection is sufficiently answered by the success. Who in his senses would not prefer a lesser evil to-day to a greater to-morrow, provided it were equally certain?

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The other obstacle is the fear of reflections. This has very great weight with the bulk of mankind. Should the child die, they think the world would look down upon them. This they cannot bear. Here lies the difficulty which pinches; and till that be removed, inoculation will make but small progress. Nothing can remove it but custom. Make the practice fashionable, and all objections at once vanish. It is fashion alone that has led the multitude since the beginning of the world, and will lead them to the end. We must therefore call upon the more enlightened part of mankind to set a pattern to the rest. Their example, though it may for some time meet with opposition, must at length infallibly prevail.

I am aware of an objection to this practice from the expence with which it may be attended; this is easily obviated. We do not mean that every parish ought to employ a Sutton or a Dimsdale as inoculators. These have, by their success, already recommended themselves to crowned heads, and are beyond the vulgar reach; but have not others an equal chance to succeed? They certainly have. Let them make the same trial, and the difficulties will soon vanish. There is not a parish, and hardly a village in Britain, destitute of some person who can bleed. But this is a far more difficult operation, and requires both more skill and time, than inoculation.

The persons to whom we would chiefly recommend the performance of this operation are the clergy. Most of them know something of medicine. Almost all of them bleed, and can order a purge, which are all the qualifications necessary for the practice of inoculation. The Priests among the less enlightened Indians perform this office, and why should a Christian teacher think himself above it? Surely the bodies of men, as well as

their souls, merit a part of the pastor's care ; at least the greatest Teacher who ever appeared among men seems to have thought so.

Should all other methods fail, we would recommend it to parents to perform the operation themselves. Let them take any method of communicating the disease they please, provided the subject be healthy, and of a proper age ; and we may venture to warrant their success. I have known many instances of parents performing the operation, and never so much as heard of one bad consequence. A planter in one of the West-India islands is said to have inoculated with his own hand, in one year, three hundred of his slaves, who, notwithstanding the warmth of the climate, and other unfavourable circumstances, all did well. Common mechanics have often, to my knowledge, performed the operation with as good success as physicians. We do not, however, mean to discourage those who have it in their power from employing people of skill to inoculate their children, and attend them while under the disease, but only to shew, that where such cannot be had, the operation ought not upon that account to be neglected.

Instead of multiplying arguments to this effect, I shall just beg leave to mention the method which I took with my own child, an only son. After giving him two gentle purges, I ordered the nurse to take a bit of thread which had been previously wet with fresh matter from a pock, and to lay it upon his arm, covering it with a piece of sticking-plaster. This staid on six or seven days, till it was rubbed off by accident. At the usual time the small-pox made their appearance, and were exceedingly favourable. Surely this, which is all that is for the most part necessary, may be done without any skill in medicine.

The best seasons of the year for inoculation is
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towards the end of the spring, and in the beginning of summer. It may, however, be done at any time of the year, if circumstances render it necessary.

The most proper age for inoculation is betwixt two and five. Many disagreeable circumstances attend inoculating children upon the breast, which we have not time to enumerate. Neither should the operation be too long delayed. When the fibres begin to grow rigid, and children make use of grosser food, the small-pox become more dangerous*.

Children who have constitutional diseases, must nevertheless be inoculated. It will often mend the habit of body; but ought to be performed at a time when they are most healthy. Accidental diseases should always be removed before inoculation.

The most healthy state is always to be chosen, as that must be the best preparation. The next step is to regulate the diet for some time before the disease is communicated. In children great alteration in diet is seldom necessary, their food being commonly of the most simple and wholesome kind; as milk, water-pap, small broths, bread, light pudding, mild roots, and white meats.

Children, however, who have been accustomed to a hotter diet, who are of a gross habit, or abound with bad humours, ought to be put upon a spare diet before they be inoculated. Their food should be of a light cooling nature; and their drink whey, butter-milk, and such like.

We would recommend no other medicinal preparation but two or three mild purges, which ought

* Children in this country are now generally inoculated on the breast, and the disease is found to be rendered milder in general by this practice.

ought to be suited to the age and strength of the patient. It is no doubt possible, by purgative and mercurial medicines, to lessen the eruption; but it very seldom happens, that the eruption in this way proves too great; and we have always observed, that those children who had a pretty free eruption, and where the pox filled well, enjoyed the best health afterwards.

The regimen during the disease must be the same as under the natural small-pox. The patient must be kept cool, his diet must be light, and his drink weak and diluting, &c. Should any bad symptoms appear, which seldom happens, they must be treated in the same way as directed in the natural small-pox. Purging is not less necessary after the small pox by inoculation, than in the natural way, and ought by no means to be neglected.

OF THE MEASLES.

THE measles appeared about the same time with the small-pox, and are nearly related to that disease. They both came from the East, are both infectious, and seldom attack people more than once. The measles are most common in the spring-season, and generally disappear in summer. The disease itself, when properly managed, is seldom dangerous; but its consequences are often fatal.

CAUSE.—This disease, like the small-pox, proceeds from infection, and is more or less dangerous according to the constitution of the patient, the season of the year, the climate, &c.

SYMPTOMS.—The measles, like other fevers,

vers, are preceded by alternate fits of heat and cold, sickness, and loss of appetite. The tongue is white, but generally moist. There is a short cough, a heaviness of the head and eyes, drowsiness, and running of the nose. Sometimes indeed the cough does not come before the eruption. The eye-lids frequently swell so as to occasion blindness. The patient generally complains of his throat; and vomiting or looseness often precedes the eruption. The stools in children are commonly greenish; they complain of an itching of the skin, and are remarkably peevish. Bleeding at the nose is common, both before and in the progress of the disease.

About the fourth day, small spots, resembling flea-bites, appear, first upon the face, then upon the breast, and afterwards on the extremities: These may be distinguished from the small-pox by their scarcely rising above the skin. The fever, cough, and difficulty of breathing, instead of being removed by the eruption, as in the small-pox, are rather increased; but the vomiting generally ceases.

About the sixth day, the measles begin to grow dry on the face, and afterwards upon the body; so that by the ninth day they entirely disappear. The fever, however, and difficulty of breathing, often continue, especially if the patient has been kept upon too hot a regimen. Petechiæ, or purple spots, may likewise be occasioned by this error.

A violent looseness sometimes succeeds the measles; in which case the patient's life is in imminent danger.

Such as die of the measles, generally expire about the ninth day, and are evidently carried off by a peripneumony, or inflammation of the lungs.

The most favourable symptoms are a moderate looseness,

looseness, gentle sweats, and a plentiful discharge of urine.

When the eruption suddenly falls in, and the patient is seized with a delirium, he is in the greatest danger. If the measles turn too soon of a pale colour, it is an unfavourable symptom, as are also great weakness, vomiting, restlessness, and difficulty of swallowing. Purple or black spots appearing among the measles, are very unfavourable. When a continual cough, with hoarseness, succeeds the disease, there is reason to suspect an approaching consumption of the lungs.

Our business in this disease is to assist Nature, if her efforts be too languid, in throwing out the morbid matter, by proper cordials; but when they are too violent, they must be restrained by evacuations, and cool diluting liquors, &c. We ought likewise to endeavour to appease the most urgent symptoms, as the cough, restlessness, and difficulty of breathing.

REGIMEN.—The regimen in this disease should be of the same kind with that recommended in the small-pox, viz. cooling and diluting. Acids, however, do not answer so well here as in small-pox, as they tend to exasperate the cough. Small beer likewise, though a good drink in the small-pox, is here improper. The most suitable liquors are decoctions of liquorice, with marsh-mallow-roots, and sarsaparilla, infusions of linseed, or of the flowers of elder, with milk, clarified whey, barley-water, and such like. These, if the belly be bound, may be sweetened with honey; or, if that should disagree with the stomach, a little manna may occasionally be added to them.

MEDICINE.—The measles being an inflammatory disease, without any critical discharge of matter, as in the small-pox, bleeding is commonly necessary, especially when the fevers run high,
with

with difficulty of breathing, and great oppression of the breast*. But if the disease be of a mild kind, bleeding may be omitted.

Bathing the feet and legs in lukewarm water both tends to abate the violence of the fever, and to promote the eruption.

The patient is often greatly relieved by vomiting. When there is a tendency this way, it ought not to be stopped, but encouraged by drinking lukewarm water, or weak camomile-tea.

When the cough is very troublesome, with dryness of the throat, and difficulty of breathing, it will greatly relieve the patient, if he holds his head over the steam of warm water, and draws the steam into his lungs.

He may likewise lick a little spermaceti and sugar-candy pounded together; or take now and then a spoonful of the oil of sweet almonds, with sugar-candy dissolved in it. These will soften the throat, and relieve the tickling cough.

In case the measles should suddenly disappear, it will be necessary to pursue the same method which we have recommended when the small-pox fall in. The patient must be supported with wine and cordials. Blistering-plasters must be applied to the extremities, and the body rubbed all over with warm flannels. Warm poultices may likewise be applied to the feet and palms of the hand.

When purple or black spots appear, the patient's drink should be sharpened with spirits of vitriol; and if the putrid symptoms run high, the Jesuits bark

* These symptoms of pneumonic affection, whenever they occur, certainly indicate the propriety of blood-letting. This remedy, however, is often required towards the end of this disease, though it had not been necessary at the beginning; as the symptoms denoting an affection of the lungs often do not appear, till after the desquamation of the measles; in this case, we trust solely to bleeding, blistering, laxatives, cooling diet, &c.

bark must be administered in the same manner as directed in the small-pox.

Opiates are sometimes necessary, but should never be given except in case of extreme restlessness, a violent looseness, or when the cough is very troublesome. For children, the syrup of poppies is sufficient. A tea-spoonful or two may be occasionally given, according to the patient's age, or the violence of the symptoms.

After the measles are gone off, purging is absolutely necessary. This may be conducted in the same manner as directed in the small-pox.

If a violent looseness succeeds the measles, it may be checked by taking for some days a gentle dose of rhubarb in the morning, and an opiate over night; but if these do not remove it, bleeding will seldom fail to have that effect.

Patients recovering after the measles should be very careful what they eat or drink. Their food, for some time, should be light, and in small quantities, and their drink diluting, and rather of an opening nature; as butter-milk, whey, and such like. They ought also to beware of exposing themselves to the cold air, lest a suffocating catarrh, an asthma, or a consumption of the lungs, should ensue.

Should a cough, with difficulty of breathing, and other symptoms of a consumption, remain after the measles, we would recommend small quantities of blood to be frequently let at proper intervals, as the patient's strength and constitution will bear. He ought likewise to drink asses milk, to remove to a free air, if necessary, and to ride daily on horseback. He must keep close to a diet consisting of milk and vegetables; and lastly, if these do not succeed, let him remove to a warmer climate.

OF THE SCARLET FEVER.

THE scarlet fever is so called from the colour of the patient's skin, which appears as if it were tinged with red wine. It happens at any season of the year, but is most common in the latter end of summer; at which time it often seizes whole families, especially children.

It begins with coldness and shivering, as other fevers, without any violent sickness. Afterwards the skin is covered with red spots, which are broader, more florid, and less uniform, than the measles. They continue two or three days, and then disappear; after which the cuticle, or scarf-skin, falls off*.

There is seldom any occasion for medicine in this disease. The patient ought, however, to keep within doors, to abstain from flesh, strong liquors, and cordials, and to take plenty of cool diluting drink. If the fever be high, the belly must be kept gently open by emollient clysters, or small doses of nitre and rhubarb. A scruple of the former, with five grains of the latter, may be taken thrice a-day, or oftener if necessary.

Children and young persons are sometimes seized, at the beginning of this disease, with a kind of stupor and epileptic fits. In this case, the feet and legs should be bathed with warm water, a large blistering-plaster applied to the neck, and a dose of the syrup of poppies given every night till the patient recovers.

OF

* Along with the scarlet eruption mentioned above, this disease is generally accompanied with an affection of the internal fauces. These, on inspection, at the beginning of this complaint, appear more or less inflamed; and are afterwards covered with thick white sloughs, which, on falling off, leave the parts beneath ulcerated. These ulcers sometimes put on a livid, black, gangrenous appearance;

OF THE ERYSIPELAS, OR ST ANTHONY'S FIRE.

THIS disease, which in many parts of Britain is called *The Rose*, attacks persons at all periods of life, but is most common between the age of thirty and forty. Persons of a sanguine or plethoric habit, are most liable to it. It often attacks young people and pregnant women; and such as have once been afflicted with it are very liable to have it again. Sometimes it is a primary disease, and at other times only a symptom of some other malady. Every part of the body is liable to be attacked by an erysipelas, but it most frequently seizes the legs or face, especially the latter. It prevails most in autumn, or when hot weather is succeeded by cold and wet.

CAUSES.—The erysipelas is frequently occasioned by violent passions or affections of the mind; as fear, anger, &c. It is likewise occasioned by cold. When the body has been heated to a great degree, and is immediately exposed to the cold air, so that the perspiration is suddenly checked, an erysipelas will often ensue. It may also be occasioned by excess in strong liquor, by continuing too long in a warm bath, or by any thing that overheats the blood. If any of the natural evacuations be obstructed, or in too small quantity, it may cause an erysipelas. The same effect will follow from the stoppage of artificial evacuations; as issues, setons, or the like.

SYMPTOMS.—The erysipelas attacks with a

ance; while, at the same time, the pulse becomes frequent and irregular, the breathing oppressed, and other symptoms of great general debility occur. Antiseptics and tonics are the only remedies to be depended on in this situation. Antiseptic gargles of bark and vitriolic acid are to be used frequently for washing the throat with, whilst we endeavour to support the system, by a liberal use of the same medicines internally, along with wine and other cordials.

a violent shaking, heat, thirst, loss of strength, pain in the head and back, restlessness, and a quick pulse; to which may be added vomiting, and sometimes a delirium. On the second, third, or fourth day, the part swells, becomes red, and small pustules appear; at which time the fever generally abates.

When the erysipelas seizes the foot, the parts contiguous swell, the skin shines; and, if the pain be violent, it will ascend to the leg, and will not bear to be touched.

When it attacks the face, it swells, appears red, and the skin is covered with small pustules filled with clear water. One or both eyes are generally closed with the swelling; and there is a difficulty of breathing. If the mouth and nostrils be very dry, and the patient drowsy, there is reason to suspect an inflammation of the brain.

If the erysipelas affects the breast, it swells, and becomes exceedingly hard, with great pain, and is apt to suppurate. There is a violent pain in the arm-pit on the side affected, where an abscess is often formed.

The event of this disease depends greatly upon the constitution of the patient. It is seldom dangerous; yet I have known it prove fatal to people in the decline of life, who were of a scorbutic habit, or whose humours were vitiated by irregular living, or unwholesome diet.

If in a day or two the swelling subsides, the heat and pain cease, the rosy colour turns yellow, and the cuticle breaks and falls off in scales, the danger is over.

When the erysipelas is large, deep, and affects a very sensible part of the body, the danger is great. If the red colour changes into black or blue, it will end in a mortification. Sometimes the inflammation cannot be discussed, but comes

to a suppuration; in which case fistulas, a gangrene, or mortification, generally ensue. Where the constitution was bad, I have frequently seen the leg swell to a prodigious size, and the cure prove extremely difficult.

Such as die of this disease are mostly carried off by the fever, which is attended with difficulty of breathing, sometimes with a delirium and great drowsiness. They generally die about the seventh or eighth day.

REGIMEN.—In this disease the patient must neither be kept too hot nor cold, as either of these extremes will tend to make the disease retreat, which is always to be guarded against. When the disease is mild, it will be sufficient to keep the patient within doors, without confining him to his bed, and to promote the perspiration by diluting liquors, &c.

The diet ought to be very spare, and of a moderately cooling and moistening quality; as water-gruel, panado, small chicken or barley broth, with cooling herbs and fruits, &c. avoiding flesh, fish, strong drink, spices, pickles, and all other things that may heat and inflame the blood; the drink may be barley-water, an infusion of elder flowers, common whey, and such like.

But if the pulse be low, and the spirits sunk, the patient must be supported with small negus, and other things of a cordial nature. His food may be sago-gruel with a little wine, and nourishing broths, taken in small quantities, and often repeated. Great care, however, must be had not to overheat him.

MEDICINE.—In this disease much mischief is often done by medicine, especially by external applications. People, when they see an inflammation, immediately think of some external applications. These indeed are necessary in large phlegmons;

phlegmons; but in an erysipelas the safer course is to apply nothing. Almost all ointments, salves, and plasters, are of a greasy nature, and tend rather to obstruct and repel than promote any discharge from the part. At the beginning of this disease, it is neither safe to promote a suppuration, nor to repel the matter too quickly. The erysipelas in many respects resembles the gout, and is to be treated with the greatest caution. Fine wool, or very soft flannel, are the safest applications to the part. These not only defend it from the external air, but likewise promote the perspiration, which has a great tendency to carry off the disease*.

It is a common thing to bleed in the erysipelas; but this likewise requires caution. If, however, the fever be high, the pulse hard and strong, and the patient vigorous, it will be proper to bleed; but the quantity must be regulated by these circumstances, and the operation repeated or not as the symptoms may require. If the patient has been accustomed to strong liquors, and the disease attacks his head, bleeding is absolutely necessary.

Bathing the feet and legs frequently in lukewarm water, when the disease attacks the face or brain, has an excellent effect. It tends to draw the humours from the head towards the inferior extremities, and seldom fails to relieve the patient. When bathing proves ineffectual, poultices, or sharp sinapisms, may be applied to the soles of the feet for the same purpose.

In cases where bleeding is requisite, it is likewise necessary to keep the belly gently open. This may be effected by emollient clysters, or small doses of nitre and rhubarb, such as are prescribed in the foregoing disease. Some indeed recommend

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* The common application in this country is a little hair-powder or fine flour dusted upon the part.

very large doses of nitre in this case; but nitre seldom fits easy on the stomach when taken in large quantities. It is, however, one of the best medicines in this case, and when the fever and inflammation run high, half a dram of it may be taken in the patient's ordinary drink, three or four times a day.

The saline julep, as it is called, is likewise a very proper medicine in the erysipelatous fever. It may be made by dissolving two drams of salt of wormwood, or salt of tartar, in three ounces of fresh lemon-juice, to which may be added two ounces of common water, and an ounce or two of peppermint water, with as much white sugar as will render it agreeable. Of this two table-spoonfuls may be taken every two or three hours.

When the erysipelas leaves the extremities, and seizes the head, so as to occasion a delirium or stupor, it is absolutely necessary to open the belly. If clysters and mild purgatives fail to have that effect, stronger ones must be given. Blistering-plasters must likewise be applied to the neck, or behind the ears, and sharp cataplasms laid to the soles of the feet.

When the erysipelas cannot be discussed, and the pain lies deep, and seems to reach to the membrane which covers the bones, and the part has a tendency to ulcerate, it will then be proper to promote suppuration, which may be done by the application of ripening poultices with saffron, warm fomentations, and such like.

When the black, livid, or blue colour of the part, shews a tendency to mortification, the Jesuits bark must be administered. It may be taken along with acids, as recommended in the small-pox, or in any other form more agreeable to the patient. It must not, however, be trifled with, as the patient's life is at stake. Half a dram, or even a tea-spoonful,

spoonful, may be taken every two hours, or oftener, if the symptoms be threatening, and cloths dipped in warm camphorated spirits of wine, or the tincture of myrrh and aloes, may be applied to the part, and frequently renewed.

In what is commonly called the scorbutic erysipelas, which continues for a considerable time, it will only be necessary to give gentle laxatives, and such things as purify the blood. Medicines which promote the perspiration are likewise proper. Thus, after the inflammation has been checked by opening medicines, a decoction of the sudorific woods, as saffrafras and guaiacum, with liquorice-root, may be drank, and afterwards a course of bitters, which will both strengthen the stomach and purify the blood.

Such as are liable to frequent attacks of the erysipelas ought carefully to guard against all violent passions; to abstain from strong liquors, and all fat, viscid, and highly nourishing food. They should take abundance of exercise, carefully avoiding the extremes of heat or cold. Their food should consist chiefly of milk, and such fruits, herbs, and roots, as are of a cooling quality; and their drink ought to be small beer, whey, butter-milk, and such like. They should never suffer themselves to be too long coſtive. If that cannot be prevented by diet alone, it will be proper to take frequently a gentle dose of rhubarb and cream of tartar, the lenitive electuary, or some other mild purgative.

OF THE INFLAMMATION OF THE BRAIN.

THIS is sometimes a primary disease, but oftener only a symptom of some other malady; as the inflammatory, eruptive, or spotted fever, &c. It is very common, however, as a primary disease in warm climates, and is most incident to persons about the prime or vigour of life. The passionate, the studious, and those whose nervous system is weak, are very liable to it.

CAUSES.—This disease is often occasioned by night-watching, especially when joined with hard study: It likewise proceeds from hard drinking, from anger, grief, or anxiety. It may also be occasioned by a sedentary life, or the stoppage of usual evacuations; as the bleeding piles in men, the customary discharges of women, &c. Such as imprudently expose themselves to the heat of the sun, especially by sleeping without doors in a hot season, with their heads uncovered, are often suddenly seized with an inflammation of the brain, so as to awake quite delirious. When repellents are imprudently used in an erysipelas, an inflammation of the brain is often the consequence. It may likewise be occasioned by external injuries, as blows or bruises upon the head, &c.

SYMPTOMS.—The symptoms which precede a true inflammation of the brain are, pain of the head, redness of the eyes, a violent flushing of the face, disturbed sleep, or a total want of it, great dryness of the skin, costiveness, a retention of urine, a small dropping of blood from the nose, ringing of the ears, and extreme sensibility of the nervous system.

When the inflammation is formed, the symptoms in general are similar to those of the inflammatory

matory fever. The pulse indeed is often weak, irregular, and trembling; but sometimes it is hard and contracted. When the brain itself is inflamed, the pulse is always soft and low; but when the inflammation only affects the integuments of the brain, it is hard*. A remarkable quickness of hearing is a common symptom of this disease; but that seldom continues long. Another usual symptom is a great throbbing or pulsation in the arteries of the neck and temples. The tongue is often black and dry; yet the patient seldom complains of thirst, and even refuses drink. The mind chiefly runs after such objects as have before made a deep impression upon it; and sometimes, from a sudden silence, the patient becomes all of a sudden quite outrageous.

A constant trembling and starting of the tendons, is an unfavourable symptom, as also a suppression of urine; a total want of sleep; a constant spitting, a grinding of the teeth, which must be considered as a kind of convulsion. When this disease succeeds an inflammation of the lungs, of the intestines, or of the throat, &c. it is owing to a translation of the morbid matter from these parts to the brain, and generally proves fatal. Hence we learn the necessity of proper evacuations, and the danger of repellents in all inflammatory diseases.

The favourable symptoms are, a free perspiration or sweating, a copious discharge of blood from the nose, the bleeding piles, a plentiful discharge of urine which lets fall a copious sediment. Sometimes the disease is carried off by a loosening, and in women by an excessive flow of the *menfes*.

As this disease often proves fatal in a few days,

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* This distinction is not supported by observation and experience, nor does it lead to any difference in the method of cure; so that it seems equally ill founded and unnecessary.

it requires the most speedy applications. When it is prolonged, or improperly treated, it sometimes ends in madness, or a kind of stupidity, which continues for life.

In the cure, two things are chiefly to be attended to, viz. to lessen the quantity of blood in the brain, and to retard the circulation towards the head.

REGIMEN.—The patient ought to be kept very quiet. Company, noise, and every thing that affects the senses, or disturbs the imagination, increases the disease. Even too much light is hurtful; for which reason, the patient's chamber ought to be a little darkened, and he should neither be kept too hot nor cold. It is not, however, necessary to exclude the company of an agreeable friend, as this has a tendency to soothe and quiet the mind. Neither should the patient be kept too much in the dark, lest it should occasion a gloomy melancholy, which is too often the consequence of this disease.

The patient must, as far as possible, be soothed and humoured in every thing. Contradiction will ruffle his mind, and increase his malady. Even when he calls for things which are not to be obtained, or which might prove hurtful, he is not to be positively denied them, but rather put off with the promise of having them as soon as they can be obtained, or by some other excuse. A little of any thing that the mind is set upon, though not quite proper, will hurt the patient less than a positive refusal. In a word, whatever the patient is fond of, or used to be delighted with when in health, may here be tried, as pleasing stories, soft music, or whatever has a tendency to soothe the passions, and compose the mind. Boerhaave proposes several mechanical experiments for this purpose; as the soft noise of water distilling by drops into a
basin,

bafon, and the patient trying to reckon them, &c. Any uniform foud, if low and continued, has a tendency to procure fleep, and confequently may be of fervice.

The aliment ought to be light, of farinaceous fubftances; as panado, and water-gruel fharpened with jelly of currants, or juice of lemons, ripe fruits roasted or boiled, jellies, preserves, &c. The drink fmall, diluting, and cooling; as whey, barley-water or decoctions of barley and tamarinds, which latter not only render the liquor more palatable, but likewise more beneficial, as they are of an opening cooling nature.

MEDICINES.—In an inflammation of the brain, nothing more certainly relieves the patient than a free difcharge of blood from the nofe. When this comes of its own accord, it is by no means to be ftopped, but promoted, by applying cloths dipped in warm water to the part. When bleeding at the nofe does not happen fpontaneoufly, it may be provoked by putting a ftraw, or any other fharp body up the noftril.

Bleeding in the temporal arteries greatly relieves the head; but as this operation cannot be generally performed, we would recommend in its ftead bleeding in the jugular veins. When the patient's pulse and fpirits are fo low, that he cannot bear bleeding with the lancet, leeches may be applied to the temples. Thefe not only draw off the blood more gradually, but by being applied nearer to the part affected, generally give more immediate relief.

A difcharge of blood from the hæmorrhoidal veins is likewise of great fervice, and ought by all means to be promoted. If the patient has been fubject to the bleeding piles, and that difcharge has been ftopped, every method muft be tried to reftore it; as the application of leeches to the parts,
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250 INFLAMMATION OF THE BRAIN.

sitting over the steams of warm water, sharp clysters or suppositories made of honey, aloes, and rock-salt.

If the inflammation of the brain be occasioned by the stoppage of any evacuation, either natural or artificial, as the menses, issues, setons, or such like, all means must be used to restore it as soon as possible, or to substitute some other in its stead.

The patient's bowels ought to be opened by smart purgatives, of calomel, jalap, &c. or if these cannot be swallowed, stimulating clysters may be frequently thrown up.

Small quantities of nitre ought frequently to be mixed with the patient's drink. Two drams, or more, if the case be dangerous, may be used every twenty-four hours.

The head should be shaven, and frequently rubbed with vinegar, and rose-water a little warm. Cloths dipped in it may likewise be applied to the temples.

If the disease proves obstinate, and does not yield to these medicines, it will be necessary to apply a blistering-plaster to the whole head.

OF THE INFLAMMATION OF THE EYES.

This disease may be occasioned by external injuries; as strokes, dust thrown into the eyes, &c. It is often caused by the stoppage of customary evacuations; as the healing of old sores, drying up of issues, or the like. Nothing more certainly brings on an inflammation of the eyes, than the suppressing of gentle morning sweats, or the sweating of the feet. Long exposure to the night-air, especially in cold northerly wind, or whatever suddenly checks the perspiration, especially after the
body

body has been much heated, is very apt to cause an inflammation of the eyes. Viewing snow or other white bodies for a long time, or looking steadfastly at the sun, a clear fire, or any bright object, will likewise occasion this malady. A sudden transition from darkness to very bright light will often have the same effect.

Nothing more certainly occasions an inflammation of the eyes than night-watching, especially reading or writing by candle-light. Drinking spirituous liquors and excess of venery, are very hurtful to the eyes. The acrid fumes of metals, and of several kinds of fuel, are likewise very pernicious. Sometimes an inflammation of the eyes proceeds from a venereal taint, and often from a scrophulous or gouty habit. It may likewise be occasioned by hairs in the eye lids turning inwards, and hurting the eyes. Sometimes the disease is epidemic, especially after wet seasons; and I have frequently known it prove infectious, particularly to those who lived in the same house with the patient. It may be occasioned by moist air, or living in low, damp houses, especially where people are not accustomed to such situations. In children, it often proceeds from imprudently drying of scabbed heads, a running behind the ears, or any other discharge of the same nature. Inflammations of the eyes often succeed the small-pox or measles, especially in children of a scrophulous habit.

SYMPTOMS.—An inflammation of the eyes is attended with acute pain, heat, redness, and swelling. The patient is not able to bear the light, and sometimes he feels a pricking pain, as if his eyes were pierced with a thorn. Sometimes he imagines his eyes are full of motes, or thinks he sees flies dancing before him. The eyes are filled with a scalding rheum, which rushes forth in great quantities whenever the patient attempts
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to look up. The pulse is generally quick and hard, with some degree of fever. When the disease is violent, the neighbouring parts swell, and there is a throbbing or pulsation in the temporal arteries, &c.

A slight inflammation of the eyes, especially from an external cause, is easily cured; but when the disease is violent, and continues long, it leaves specks upon the eyes, or dimness of sight, and sometimes total blindness.

If the patient be seized with a looseness, it has a good effect; and when the inflammation passes from one eye to another, as it were by infection, it is no unfavourable symptom. When the disease is accompanied with a violent pain of the head, and continues long, the patient is in great danger of losing his sight.

REGIMEN.—The diet, unless in scrophulous cases, can hardly be too spare, especially at the beginning. The patient must abstain from every thing of a heating nature. His food must consist chiefly of mild vegetables, weak broths, and gruels. His drink may be barley-water, balm-tea, common whey, and such like.

The patient's chamber must be darkened, or his eyes shaded by a green cover, so as to exclude the light, but not to press upon the eyes. He should not look at a candle, the fire, or any luminous object; and ought to avoid all smoke, as the fumes of tobacco, or any thing that may cause coughing, sneezing, or vomiting. He should be kept quiet, avoiding all violent efforts, either of body or mind, and encouraging sleep as much as possible.

MEDICINE.—This is one of those diseases wherein great hurt is done by external applications. Almost every person pretends to be possessed of a remedy for the cure of sore eyes. These remedies generally consist of eye-waters and ointments, with other external applications, which do mischief

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twenty times for once they do good. People ought therefore to be very cautious how they use such things, as the very pressure upon the eyes often increases the malady.

Bleeding, in a violent inflammation of the eyes, is always necessary. This should be performed as near the part affected as possible. An adult may lose ten or twelve ounces of blood from the jugular vein, and the operation may be repeated according to the urgency of the symptoms. If it be not, however, convenient to bleed in the neck, the same quantity may be let from the arm, or any other part of the body.

Leeches are often applied to the temples, or under the eyes, with good effect. The wounds must be suffered to bleed for some hours, and if the bleeding stop soon, it may be promoted by the application of cloths dipt in warm water. In obstinate cases, it will be necessary to repeat this operation several times*.

Opening and diluting medicines are by no means to be neglected. The patient may take a small dose of Glauber's salts and cream of tartar, every second or third day, or a decoction of tamarinds with senna. If these be not agreeable, gentle doses of rhubarb and nitre, a little of the lenitive electuary, or any other mild purgative, will answer the same end. The patient at the same time must drink freely of water gruel, tea, or any other weak diluting liquor. He ought likewise to take, at bed-time, a large draught of very weak wine-whey, in order to promote perspiration. His feet and legs must frequently be bathed in lukewarm water, and his head shaved twice or thrice a-week, and

* The most effectual remedy is to scarify the eyes, or to divide the turgid blood-vessels, with the shoulder of a small lancet. As a topical application too, a wash formed by dissolving from two to five grains, according to circumstances, of white vitriol, or of alum, in the ounce of water, may be frequently had recourse to with much advantage; especially after bleeding has been premised.

and afterwards washed in cold water. This has often a remarkably good effect.

After these evacuations have been continued for some time, if the inflammation does not yield to them, blistering-plasters must be applied behind the ears, to the temples, or upon the neck, and kept open for some time by the mild blistering ointment. I never knew these, if long enough kept open, fail to remove the most obstinate inflammation of the eyes; but, for this purpose, it is often necessary to continue the discharge for several weeks.

When the disease has been of long standing, I have seen very extraordinary effects from a seton in the neck, or betwixt the shoulders, especially the latter. It should be put upwards and downwards, or in the direction of the spine, and in the middle between the shoulder-blades. It may be dressed twice a-day with yellow basilicon. I have known patients, who had been blind for several months, recover sight by means of a seton betwixt the shoulders. When the seton is put across the neck, it soon wears out, and is both more painful and troublesome than between the shoulders; besides, it leaves a disagreeable mark, and does not discharge so freely.

When the heat and pain of the eyes is very great, a soft poultice of bread and milk, with plenty of sweet oil or fresh butter, may be applied to them, at least all night; and they may be bathed with lukewarm milk and water every morning.

If the patient cannot sleep, which is sometimes the case, he must take ten or twelve drops of laudanum, or two spoonfuls of the syrup of poppies, over night, more or less according to his age, or the violence of the symptoms.

After the inflammation is gone off, if the eyes
still

still remain weak and tender, they may be bathed every night and morning with cold water and a little brandy, six parts of the former to one of the latter. A method should be contrived by which the eye can be quite immersed in the brandy and water, where it should be kept for some minutes. I have generally found this as good a strengthener of the eyes as any of the most celebrated collyriums.

When an inflammation of the eyes proceeds from a scrophulous habit, it generally proves very obstinate. In this case the patient's diet must not be too low, and he may be allowed to drink small negus, or now and then a glass of wine. The most proper medicine is the Jesuits bark, which may either be given in substance, or prepared in the following manner :

Take an ounce of Jesuits bark in powder, with two drams of Winter's bark, and boil them in an English quart of water to a pint ; when it has boiled nearly long enough, add half an ounce of liquorice root sliced. Let the liquor be strained. Two, three, or four table-spoonfuls, according to the age of the patient, may be taken three or four times a-day. It is impossible to say, how long this medicine should be continued, as the cure is sooner performed in some than others ; but in general, it requires a considerable time to produce any lasting effects.

Dr Cheyne says, " That æthiops mineral never fails in inflammations of the eyes, even scrophulous ones, if given in a sufficient dose, and persisted in for a sufficient time." Both this and other mercurial preparations, are no doubt proper when the disease proves obstinate ; more especially when there is reason to suspect, that it may proceed from a venereal taint ; but as these medicines can never be safely administered, unless under the direction
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of a physician, we shall omit specifying their particular doses, &c.

It will be proper frequently to look into the eyes, to see if any hairs be turned inwards, or pressing upon them, in order that they may be pulled out without delay.

Such as are liable to frequent returns of this disease, ought constantly to have an issue in one or both arms. Bleeding or purging in the spring and autumn, will be very beneficial to such persons. They ought likewise to live regularly, avoiding strong liquor, and every thing of a heating quality. Above all, let them avoid the night-air and late studies.

OF THE QUINSEY, OR INFLAMMATION OF THE THROAT.

THIS disease is very common in Britain, and is frequently attended with great danger. It prevails in the winter and spring, and is most fatal to young people of a sanguine or plethoric habit.

CAUSES.—In general it proceeds from the same causes as other inflammatory affections, viz. an obstructed perspiration, or whatever heats or inflames the blood. An inflammation of the throat is often occasioned by omitting some part of the covering usually worn about the neck, by drinking cold liquor when the body is warm, by riding or walking against a cold northerly wind, or any thing that greatly cools the throat, and parts adjacent. It may likewise proceed from the neglect of bleeding, purging, or any customary evacuation.

Singing,

Singing, speaking loud and long, or whatever strains the throat, may likewise cause an inflammation of that organ. I have often known the quinsy prove fatal to jovial companions, when, after sitting long in a warm room, drinking hot liquors, and singing with vehemence, they were so imprudent as afterwards to go abroad in the cold night-air. Sitting with wet feet, or keeping on wet clothes, are very apt to occasion this malady. It is likewise frequently occasioned by continuing long in a moist place, sleeping in a damp bed, sitting in a room that has been newly plastered, &c. I know people who never fail to complain of their throat after sitting but a very short while in a room that has been lately washed.

Acrid or irritating food may likewise inflame the throat, and occasion a quinsy. It may also proceed from bones, pins, or other sharp substances, sticking in the throat, or from the caustic fumes of metals or minerals, as arsenic, antimony, &c. taken in by the breath. This disease is sometimes epidemic and infectious.

SYMPTOMS.—The inflammation of the throat is evident from inspection, the parts appearing red and swelled; besides, the patient complains of pain in swallowing any thing. His pulse is quick and hard, with other symptoms of a fever. If blood be let, it is generally covered with a tough coat of a whitish colour, and the patient spits a tough phlegm. As the swelling and inflammation increase, the breathing and swallowing become more difficult, the pain affects the ears; the eyes generally appear red, and the face swells. The patient is often obliged to keep himself in an erect posture, being in danger of suffocation; there is a constant nausea, or inclination to vomit; and the drink, instead of passing into the stomach, is often returned by the nose. The patient is frequently

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starved at last, merely from an inability of swallowing any kind of nourishment. When the breathing is performed with a hissing noise, and the pulse begins to intermit, death is at hand.

As several of the organs necessary for life are affected by this disease, it can never be without danger; no time, therefore, should be lost in attempting to remove it, as a little delay often renders it incurable.

When the breathing is laborious, with straitness of the breast and anxiety, the danger is great. Though the pain of swallowing be very great, yet while the patient breathes easy, there is not so much danger. An external swelling is no unfavourable symptom; but if it suddenly falls, and the morbid matter is thrown upon the breast, the danger is very great. When a quinsy is the consequence of some other disease, which has already weakened the patient, his situation is dangerous. A frothing at the mouth, with a swelled tongue, a pale ghastly countenance, and coldness of the extremities, are fatal symptoms.

REGIMEN.—The regimen in this disease is in all respects the same as in the pleurisy or peripneumony. The food must be light, and in small quantity, and the drink plentiful, weak, and diluting, mixed with acids.

It is highly necessary in this disease, that the patient be kept easy and quiet. Violent passions of the mind, or great efforts of the body, may prove fatal. He should not even attempt to speak but in a low voice. Such a degree of warmth as to promote a constant gentle sweat is proper. When the patient is in bed, his head ought to be raised a little higher than usual.

It is peculiarly necessary that the throat be kept warm; for which purpose several folds of soft flannel may be wrapt round the neck: That alone will
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often remove a slight complaint of the throat, especially if applied in due time. We cannot here omit observing the propriety of a custom which prevails amongst the peasants of this country. When they feel any uneasiness of the throat, they wrap a stocking about it all night. So effectual is this remedy, that in many places it passes for a charm, and the stocking is applied with particular ceremonies: The custom, however, is undoubtedly a good one, and should never be neglected. When the throat has been thus wrapt up all night, it must not be exposed to the cold air through the day, but a handkerchief, or a piece of flannel, kept about it till the inflammation be gone.

The jelly of black currants is a medicine very much in esteem for complaints of the throat; and may indeed be used in slight attacks with some advantage. It should be almost constantly kept in the mouth, and swallowed down leisurely. It may likewise be mixed in the patient's drink, or taken any other way. When it cannot be obtained, the red currant-jelly, or the mulberry, may be used in its stead.

Gargles for the throat are likewise very beneficial. They may be made by adding to half an English pint of the pectoral decoction before mentioned, two or three spoonfuls of honey, and the same quantity of currant-jelly. This may be used three or four times a-day; and if the patient be troubled with tough viscid phlegm, the gargle may be made more sharp and cleansing, by adding to it a tea-spoonful of the spirits of *sal ammoniac*. Some recommend gargles made of a decoction of the leaves or bark of the black-currant bush; but where the jelly can be had, these are unnecessary.

There is no disease wherein the benefits of bathing the feet and legs in lukewarm water are more apparent: That practice ought therefore never to

be neglected. If people were careful to keep warm, to wrap up their throats with flannel, to bathe their feet and legs in warm water, and to use a spare diet, with diluting liquors, at the beginning of this disease, it would seldom proceed to any great height, or be attended with any danger; but when these precautions are neglected, and the disease becomes violent, more powerful medicines are necessary.

MEDICINE.—An inflammation of the throat being one of the most acute and dangerous distempers, which sometimes takes off the patient in a short space of time, the most early remedies are with the greatest care and diligence to be administered. In the very first attack, therefore, when it is violent, it will be proper to bleed in the arm, or rather in the jugular vein, and to repeat the operation if the symptoms require.

The belly should likewise be gently opened. This may either be done by giving the patient, for his ordinary drink, a decoction of figs and tamarinds, or small doses of rhubarb and nitre, as recommended in a former part of the work. These may be increased according to the age of the patient, and repeated till they have the desired effect.

I have often known very good effects from a bit of *sal prunel*, or purified nitre, held in the mouth, and swallowed down as it melted. This promotes the discharge of *saliva*, by which means it answers the end of a gargle, while at the same time it cools the blood, by promoting the discharge of urine, &c.

The throat ought likewise to be rubbed twice or thrice a-day with a little of the volatile liniment. This may be made by taking an ounce of oil of sweet almonds, and half an ounce of spirit of hartshorn, and shaking them together in a vial till they be united. I do not remember ever to have seen
this

this fail to produce some good effects. The throat should be carefully covered with wool or flannel, to prevent the cold from penetrating the skin, as this application renders it very tender. Many other external applications are recommended in this disease, as a swallow's nest, poultices made of the fungus called Jews ears, &c. But as we do not look upon any of these to be preferable to a common poultice of bread and milk, we shall take no further notice of them.

Blistering upon the neck or behind the ears, in violent inflammation of the throat, is very beneficial. After the plasters are taken off, the parts ought to be kept running by the application of sharp ointment, till the inflammation is gone; otherwise, upon their drying up, the patient will be in danger of a relapse.

When the patient has been treated as above, a suppuration seldom happens. This, however, is sometimes the case in spite of all our endeavours to prevent it. When the inflammation and swelling continue, and it is evident that a suppuration will ensue, it ought to be promoted by drawing the steam of warm water into the throat through a funnel, or the like. Soft poultices ought likewise to be applied outwardly, and the patient may keep a roasted fig constantly in his mouth.

It sometimes happens, before the tumor breaks, that the swelling is so great, as entirely to prevent any thing from getting down into the stomach. In this case, the patient must inevitably perish, unless he can be supported in some other way. This can only be done by nourishing clysters of broth, or gruel with milk, &c. Patients have often been supported by these for several days, till the tumor has broke; and afterwards they have recovered.

Not only the passage of the food, but the breath-

ing is often prevented by the tumor. In this case nothing can save the patient's life, but opening the *trachea* or wind-pipe. That has been so often done with success, that no person, in such desperate circumstances, ought to hesitate a moment about the operation; but as it can only be performed by a surgeon, it is not necessary here to give any directions about it.

When a difficulty of swallowing is not attended with an acute pain or inflammation, it is generally owing to an obstruction of the glands about the throat, and only requires that the part be kept warm, and the throat frequently gargled with somewhat that may gently stimulate the glands; as a decoction of figs with vinegar and honey; to which may be added a little mustard, or a small quantity of spirits*. But this kind of gargle is never to be used where there are signs of an inflammation. This species of *angina* has various names among the common people, as the *pap of the throat*, the falling down of the *almonds of the ears*, &c. Accordingly, to remove it, they pull the patient up by the hair of the head, and thrust their fingers under his jaws, &c.; all which practices are at best useless, and often hurtful.

Those who are subject to inflammations of the throat, in order to prevent too great a fulness of blood and other humours, ought to live temperately. Such as do not chuse to observe this rule, must have frequent recourse to purging and other evacuations, to discharge the superfluous humours. They ought likewise to beware of catching cold, and should abstain from aliment and medicines of an astringent or stimulating nature.

Violent

* An infusion of red roses, in the proportion of about two drams to the pound of boiling water, with twenty drops of vitriolic acid, makes a common as well as a useful gargle, in the slighter attacks of this disease.

Violent exercise, by increasing the motion and force of the blood, is apt to occasion an inflammation of the throat, especially if cold liquor be drank immediately after it, or the body suffered suddenly to cool. Those who would avoid this disease ought therefore, after speaking aloud, singing, running, drinking warm liquor, or doing any thing that may strain the throat, or increase the circulation of the blood towards it, to take care to cool gradually, and to wrap plenty of coverings about their necks, &c.

I have often known persons who had been subject to sore-throats, kept entirely free from that complaint by only wearing a ribband, or a bit of flannel, constantly about their necks, or by wearing a pair of thicker shoes, &c. These may seem trifling, but they have great effect. There is danger indeed in leaving them off after persons have been accustomed to them; but surely the inconvenience of using such things for life is not to be compared with the danger which may attend the neglect of them.

OF THE MALIGNANT QUINSEY, OR PUTRID, ULCEROUS SORE THROAT.

THIS kind of quinsy is but little known in the northern parts of Britain, though for some time past it has been very fatal in the more southern counties. Children are more subject to it than adults, females than males, and the delicate than those who are hardy and robust. It prevails most in autumn, or after a long course of damp or sultry weather.

CAUSE.—This is evidently a contagious distemper, and is generally communicated by infection. Whole families, and even entire villages, often receive the infection from one person. This ought to put people upon their guard against going near such patients as labour under the disorder; as by that means they endanger not only their own lives, but likewise those of their friends and connections.

SYMPTOMS.—It begins with alternate fits of shivering and heat. The pulse is quick, but low and unequal, and generally continues so through the whole course of the disease. The patient complains greatly of weakness and oppression of the breast; his spirits are low, and he is apt to faint away when set upright; he is troubled with a nausea, and often with a vomiting or purging. The two latter are most common in children. The eyes appear red and watery, and the face swells. The urine is at first pale and crude; but, as the disease advances, it turns more of a yellowish colour. The tongue is white, and generally moist, which distinguishes this from an inflammatory disease. Upon looking into the throat, it appears swelled, and of a florid red colour. Pale or ash-coloured spots, however, are here and there interspersed, and sometimes one broad patch or spot, of an irregular figure, and pale white colour, surrounded with florid red, only appears. These whitish spots or sloughs cover so many ulcers underneath.

An efflorescence, or eruption upon the neck, arms, breast, and fingers, about the second or third day, is a common symptom of this disease. When it appears, the purging and vomiting generally cease.

There is often a slight degree of delirium, and the face frequently appears blotted, and the inside

side of the nostrils red and inflamed. The patient complains of a disagreeable putrid smell, and his breath is very offensive.

The putrid, ulcerous sore throat, may be distinguished from the inflammatory by the vomiting and looseness with which it is generally ushered in; by the foul ulcers in the throat, covered with a white or livid coat; and by the excessive weakness of the patient; with other symptoms of a putrid fever.

Unfavourable symptoms are, an obstinate purging, extreme weakness, dimness of the sight, a livid or black colour of the spots, and frequent shiverings, with a weak, fluttering pulse. If the eruption upon the skin suddenly disappear, or become of a livid colour, with a discharge of blood from the nose or mouth, the danger is very great.

If a gentle sweat break out about the third or fourth day, and continue with a slow, firm, and equal pulse; if the sloughs cast off in a kindly manner, and appear clean and florid at the bottom; and if the breathing be soft and free, with a lively colour of the eyes; there is reason to hope for a salutary crisis.

REGIMEN.—The patient must be kept quiet, and for the most part in bed, as he will be apt to faint when taken out of it. His food must be nourishing and restorative; as sago-gruel, with red wine, jellies, broths, &c. His drink ought to be generous, and of an antiseptic quality; as red wine negus, white-wine whey, and such like.

MEDICINE.—The medicine in this kind of quinsy is entirely different from that which is proper in the inflammatory. All evacuations, as bleeding, purging, &c. which weaken the patient, must be avoided. Cooling medicines, as nitre and cream of tartar, are likewise hurtful. Strengthening cordials

dials alone can be used with safety; and these ought never to be neglected.

If, at the beginning, there be a great nausea, or inclination to vomit, the patient must drink an infusion of green tea, camomile flowers, or *carduus benedictus*, in order to clean the stomach. If these be not sufficient, he may take a few grains of the powder of ipecacoanha, or any other gentle vomit.

If the disease be mild, the throat may be gargled with an infusion of sage and rose-leaves, to a gill of which may be added a spoonful or two of honey, and as much vinegar as will make it agreeably sharp; but when the symptoms are urgent, the sloughs large and thick, and the breath very offensive, the following gargle may be used.

To six or seven ounces of the pectoral decoction, when boiling, add half an ounce of contrayerva root; let it boil for some time, and afterwards strain the liquor; to which add two ounces of white-wine vinegar, an ounce of fine honey, and an ounce of the tincture of myrrh. This ought not only to be used as a gargle, but a little of it should frequently be injected with a syringe, to clean the mouth, before the patient takes any meat or drink. This method is peculiarly necessary for children, who cannot use a gargle *.

It will be of great benefit if the patient frequently receives into his mouth, through an inverted funnel, the steams of warm vinegar, myrrh, and honey.

When the putrid symptoms run high, and the disease is attended with danger, the only medicine that can be depended upon is the Jesuits bark. It may be taken in substance, if the patient's stomach

* An infusion of the bark strongly impregnated with vitriolic acid, makes an excellent gargle upon such an occasion.

mach will bear it. If not, an ounce of bark grossly powdered, with two drams of Virginian snake-root, may be boiled in an English pint and half of water, to half a pint; to which a tea-spoonful of the elixir of vitriol may be added, and an ordinary tea-cupful of it taken every three or four hours. Blistering-plasters are very beneficial in this disease, especially when the patient's pulse and spirits are low. They may be applied to the throat, behind the ears, or upon the back-part of the neck.

Should the vomiting prove troublesome, it will be proper to give the patient two table-spoonfuls of the saline julep, every two hours, or oftener if necessary. Tea made of mint and a little cinnamon, will likewise be a proper drink, especially if an equal quantity of red wine be mixed with it.

In case of a violent looseness, the size of a nutmeg of *diascordium*, or the japonic confection, may be taken two or three times a-day, or oftener if necessary; and the patient's drink must be red wine negus.

If a discharge of blood from the nose happens, the steams of warm vinegar may be received up the nostrils frequently; and the drink may be sharpened with spirits of vitriol, or tincture of roses.

In case of a strangury, the belly must be fomented with warm water, and emollient clysters given three or four times a-day.

After the violence of the disease is over, the belly should be opened with mild purgatives; as manna, senna, rhubarb, or the like.

If great weakness and dejection of spirits, or night-sweats, with other symptoms of a consumption, should remain after this disease, we would recommend it to the patient to continue the use of the Jesuits bark, with the elixir of vitriol, and to take frequently a glass of generous wine. These,
together

together with a milk-diet, and riding on horse-back, are the most likely means for recovering his strength.

OF COLDS.

It has already been observed, that colds are the effect of an obstructed perspiration; the common causes of which we have likewise endeavoured to point out, and shall not here repeat them. Neither shall we spend time in enumerating all the various symptoms of colds, as they are pretty generally known. It may not, however, be amiss to observe, that almost every cold is a kind of fever, and only differs in degree from some of those which have already been treated of.

No age, sex, nor constitution, is exempted from this disease; neither is it in the power of medicine to prevent it. The inhabitants of every climate are liable to catch cold; nor can even the greatest circumspection defend them against its attacks. Indeed, if the human body could be kept constantly in an uniform degree of warmth, such a thing as catching cold would be impossible: But as that cannot be effected by any means, the perspiration must be liable to many changes. Such changes, however, when small, do not affect the health; but, when excessive, they must prove hurtful. Hence the great secret of preventing colds, lies in avoiding, as far as possible, all extremes either of heat or cold, and especially all sudden changes from one extreme to another.

When oppression of the breast, a stuffing of the nose, unusual weariness, or a pain of the head, &c.
give

give ground to believe that the perspiration is obstructed, or, in other words, that the person has caught cold, he ought immediately to lessen his diet, at least the usual quantity of his solid food, and to abstain from all strong liquors. Instead of flesh, fish, eggs, milk, and other nourishing diet, he may eat light bread-pudding, veal or chicken-broth, paps or gruels, and such like. His drink may be water-gruel sweetened with a little honey; an infusion of balm, or linseed sharpened with the juice of orange or lemon; a decoction of barley and liquorice with tamarinds, or any other cool, diluting, acid liquor.

Above all, his supper should be light; as small posset, or water-gruel sweetened with honey, and a little toasted bread in it. If honey should disagree with the stomach, the gruel may be sweetened with treacle or coarse sugar, and sharpened with the jelly of currants. Those who have been accustomed to generous liquors may take white-wine whey instead of gruel, which may be sweetened as above.

The patient ought to lie longer than usual a-bed, and to encourage a gentle sweat, which is easily brought on towards morning, by drinking tea, or any kind of warm diluting liquor. I have often known this practice, in a day or two, carry off a cold, which, in all probability, had it been neglected, would have cost the patient his life, or have confined him for some months to his bed. Would people sacrifice a little time to ease and warmth, and practise a moderate degree of abstinence when the first symptoms of a cold appear, we have reason to believe, that most of the bad effects which flow from an obstructed perspiration might be prevented. But after the disease has gathered strength by delay, all attempts to remove it often prove in vain. A pleurisy, a peripneumony,

mony, or a fatal consumption of the lungs, are the common effects of colds that have either been totally neglected, or treated improperly.

Many attempt to cure a cold, by getting drunk. But this, to say no worse of it, is a very hazardous and fool-hardy experiment. No doubt it may sometimes succeed, by suddenly restoring the perspiration; but when there is any degree of inflammation, which is frequently the case, strong liquors, instead of removing the malady, will increase it. By this means a common cold is often converted into an inflammatory fever.

When those who labour for their daily bread have the misfortune to catch cold, they grudge to lose a day or two, in order to keep themselves warm, and take a little medicine, by which means the disorder is often so aggravated as to confine them for a long while, or even to render them ever after unable to sustain hard labour. Such of the labouring poor as can afford to take care of themselves, are often too hardy to do it; they affect to despise colds, and as long as they can crawl about, scorn to be confined by what they call a *common cold*. Hence it comes to pass that colds destroy such numbers of mankind. Like an enemy despised, they gather strength from delay, till at length they become invincible. We often see this verified in travellers, who, rather than lose a day in the prosecution of their business, throw away their lives, by pursuing their journey with this disease upon them, even in the coldest season.

But colds may be too much as well as too little indulged. When a person, for a slight cold, shuts himself up in a warm room, and drinks great quantities of warm liquor, it may bring on such a general relaxation of the solids as will not be easily removed. It will therefore be proper, when the disease will permit, and the weather is mild, to
join

join to the regimen mentioned above, gentle exercise; as walking, riding on horseback, or in a machine, &c. An obstinate cold, which no medicine can remove, will yield to a proper course of exercise, when duly persisted in.

Bathing the feet and legs every night in warm water has a great tendency to restore the perspiration. But care must be taken that the water be not too warm, otherwise it will do hurt. It should never be warmer than new milk, and the patient should go immediately to bed after using it. Bathing the feet in warm water, lying in bed, and drinking warm water-gruel, or other weak liquors, will sooner take off a spasm, and restore the perspiration, than all the hot sudorific medicines in the world. This is all that is necessary for removing a common cold; and if this course be taken at the beginning, and pursued for a few days, it will seldom fail.

But when the symptoms do not yield to abstinence, warmth, and diluting liquors, there is reason to fear the approach of some other disease, as an inflammation of the breast, an ardent fever, &c. If the pulse, therefore, be hard and frequent, the skin hot and dry, and the patient complain of his head and breast, &c. it will be necessary to bleed, and to give the cool opening powders mentioned when treating on scarlet fever, every three or four hours, till they give a stool.

It will likewise be proper to put a blistering-plaster on the back, to give two table-spoonfuls of the saline mixture every three hours, and, in short, to treat the patient in all respects as for a slight fever. I have often seen this course, when observed at the beginning, remove the complaint in two or three days, when the patient had all the symptoms of an approaching ardent fever, or an inflammation of the breast.

OF COUGHS.

A COUGH is generally the effect of a cold, which has either been improperly treated, or entirely neglected. When it proves obstinate, there is always reason to fear the consequences, as this shews a weak state of the lungs, and is often the forerunner of a consumption.

If the cough be violent, and the patient young and strong, with a hard quick pulse, bleeding will be necessary; but in weak and relaxed habits, bleeding rather prolongs the disease. When the patient spits freely, bleeding is unnecessary, and sometimes hurtful, as it tends to lessen that discharge.

When the cough is not attended with a fever, and the spittle is viscid and tough, sharp pectoral medicines are to be administered; as gum-ammoniac, squills, &c. The solution of gum-ammoniac may be prepared as directed in a former part of this work, and two table-spoonfuls of it taken three or four times a day, more or less, according to the age and constitution of the patient. Squills may be given various ways; two ounces of the vinegar, the oxymel, or the syrup, may be mixed with the same quantity of cinnamon-water, to which may be added an ounce of common water, and an ounce of balsamic syrup. Two table-spoonfuls of this mixture may be taken three or four times a-day.

A syrup made of equal parts of lemon-juice, honey, and sugar-candy, is likewise very proper in this kind of cough. A table-spoonful of it may be taken at pleasure.

When the defluxion is sharp and thin, these medicines rather do hurt. In this case, gentle opiates, oils, and mucilages, are proper. A cup of the infusion of wild-poppy leaves, with marsh-mallow-roots,

roots, or the flowers of colts-foot, may be taken frequently ; or a tea-spoonful of the paragoric elixir may be put into the patient's drink twice a-day. He may likewise take an emulsion made of an ounce and a half of olive-oil, six ounces of water, one ounce of pectoral syrup, and a tea-spoonful of spirit of hartshorn. These must be well shaken together, and two table-spoonfuls of the mixture taken every three or four hours. Fuller's Spanish infusion is also a very proper medicine in this case, and may be taken, if the above should disagree with the patient's stomach. It is made by infusing in an English quart of boiling water, two drams of salt of tartar, half a dram of saffron cut into small pieces, and an ounce of Spanish juice likewise cut small. These must stand in a close vessel for twenty-four hours, in a gentle degree of warmth. Afterwards let the infusion be strained, and a tea-cupful of it taken three or four times a-day.

When a cough is occasioned by acrid humours tickling the throat and *fauces*, the patient should keep some soft pectoral lozenges almost constantly in his mouth ; as the Pontefract liquorice cakes, barley-sugar, the Spanish juice, &c. These blunt the acrimony of the humours, and, by taking off their stimulating quality, help to appease the cough.

In obstinate coughs, proceeding from a flux of humours upon the lungs, it will often be necessary, besides expectorating medicines, to have recourse to issues, setons, or some other drain. In this case I have always observed the most happy effects from a Burgundy-pitch plaster applied between the shoulders. I have ordered this simple remedy in the most obstinate coughs, in a great number of cases, and in many different constitutions, without ever knowing it fail, unless where there are evident signs of an ulcer in the lungs. About the bulk of a nutmeg of Burgundy-pitch may be spread
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thin

thin upon a piece of soft leather, about the size of the hand, and laid between the shoulder-blades. It may be taken off and wiped every three or four days, and ought to be renewed once a fortnight or three weeks. This is indeed a cheap and simple medicine, and consequently apt to be despised; but we will venture to affirm, that the whole *materia medica* does not afford an application more efficacious in almost every kind of cough. It has not indeed an immediate effect; but, if continued long enough, it will succeed where most other medicines fail.

The only inconveniency attending this plaster is the itching, which it occasions in the part to which it is applied; but surely this may be dispensed with, considering the advantage which the patient may expect to reap from the application; besides, when the itching becomes very uneasy, the plaster may be taken off, and the part rubbed with a dry cloth, or washed with a little warm milk and water. Some caution, indeed, is necessary in discontinuing the use of such a plaster; this, however, may be safely done by making it smaller by degrees, and at length quitting it altogether in a warm season.

But coughs proceed from many other causes besides defluxions upon the lungs. In these cases the cure is not to be attempted by pectoral medicines. Thus, in a cough proceeding from a foulness and debility of the stomach, syrups, oils, mucilages, and all kind of balsamic medicines, do hurt. This cough may be known from one that is owing to a fault in the lungs by this, that in the latter the patient coughs whenever he inspires, or draws in his breath fully; but in the former that does not happen.

The cure of this cough depends chiefly upon cleansing and strengthening the stomach; for which purpose gentle vomits and bitter purgatives are
most

most proper. Thus, after a vomit or two, the sacred tincture, as it is called, may be taken for a considerable time in the dose of a table-spoonful or two twice a-day, or as often as it is found necessary to keep the belly gently open. People may make this tincture themselves, by infusing an ounce of *biera picra* in an English pint of white wine, letting it stand a few days, and then straining it off for use.

In coughs which proceed from a debility of the stomach, the Jesuits bark is likewise of considerable use. It may either be chewed, taken in powder, or made into a tincture along with other stomachic bitters.

A *nervous cough* can only be removed by change of air, and proper exercise; to which may be added the use of gentle opiates. A tea-spoonful of the paragoric elixir, or two of the saponaceous pills, may be taken twice a-day. If these prove too weak, ten, fifteen, or twenty drops of liquid laudanum, more or less as circumstances may require, may be taken at bed-time, or when the cough is most troublesome. Putting the feet and hands in warm water will often appease the violence of a nervous cough.

When a cough is only the symptom of some other malady, it is in vain to attempt to remove it, without first curing the disease from which it proceeds. Thus, when a cough is occasioned by the cutting of teeth; keeping the belly open, scari-fying the gums, or whatever facilitates the teething, likewise appeases the cough. In like manner, when worms occasion a cough, such medicines as remove these will generally cure the cough; as bitter purgatives, oily clysters, and such like.

Women, during the last months of pregnancy, are often greatly afflicted with a cough, which is generally relieved by bleeding, and keeping the

belly open. They ought to avoid all flatulent food, and to wear a loose easy dress.

A cough is not only a symptom, but is often likewise the forerunner of diseases. Thus, the gout is frequently ushered in by a very troublesome cough, which affects the patient for some days before the coming on of the fit. A paroxysm of the gout generally removes this cough, which should therefore be promoted, by keeping the extremities warm, drinking warm liquors, and bathing the feet and legs frequently in lukewarm water.

OF THE CHIN-COUGH.

THIS cough seldom affects adults, but is often epidemical among children. Such children as live upon thin watery diet, who breathe unwholesome air, and have too little exercise, are most liable to this disease, and generally suffer most from it.

The chin cough is so well known, even to nurses, —that no description of it is necessary. Whatever hurts the digestion, obstructs the perspiration, or relaxes the solids, predisposes to this disease: Consequently its cure must depend upon cleaning and strengthening the stomach, bracing the solids, and, at the same time, promoting perspiration and the different secretions

The diet in this disease must be light, and of easy digestion; for children, good bread made into pap or pudding, chicken-broth, with other light spoon-meats, are proper; but those who are farther advanced may be allowed sago-gruel, and if the fever be not high, a little boiled chicken, or
other

other white meats. The drink may be penny-royal tea, sweetened with honey or sugar-candy, small wine-whey; or, if the patient be weak, he may sometimes be allowed a little negus.

The most effectual remedy in this disease is change of air. This often removes the malady, even when the change seems to be from a purer to a less wholesome air. This may in some measure depend on the patient's being removed from the place where the infection prevails. Most of the diseases of children are infectious; nor is it at all uncommon to find the chin-cough prevailing in one town or village, when another, at a very small distance, is quite free from it. But, whatever be the cause, we are sure of the fact. No time ought therefore to be lost in removing the patient to some distance from the place where he caught the disease, and, if possible, into a more pure and dry air.

When the disease proves violent, and the patient is in danger of being suffocated by the cough, he ought to be bled, especially if there be a fever with a hard full pulse. But as the chief intention of bleeding is to prevent a rupture of the blood-vessels of the lungs, and, to render it more safe to give vomits, it will seldom be necessary to repeat the operation; yet if there be symptoms of an inflammation of the lungs, a second, or even a third bleeding, may be requisite*.

It is a favourable symptom when the patient vomits after the fit. This cleans the stomach, and greatly relieves the cough. It will therefore be proper to promote this discharge, either by camomile-tea, or lukewarm water; and when these are not sufficient, small doses of ipecacoanha may be

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given.

* Blistering, in this situation, may frequently be had recourse to with advantage: and, besides the occasional use of full vomiting, as recommended in the next paragraph, nauseating doses of antimonials ought to be constantly administered.

given. A child of three or four years of age may take five or six grains; and to others, less or more must be given according to their age and strength.

It is very difficult to make children drink after a vomit. I have often seen them happily deceived, by infusing a scruple or half a dram of the powder of ipecacoanha in a tea-pot, with half an English pint of boiling water. If this be disguised with a few drops of milk and a little sugar, they will imagine it tea, and drink it very greedily. A small tea-cupful of this may be given every quarter of an hour, or rather every ten minutes, till it operate. When they begin to puke, there will be no occasion for drinking any more, as the water already on their stomach will be sufficient.

Vomits not only clean the stomach, which in this disease is generally loaded with viscid phlegm, but they likewise promote the perspiration and other secretions; and ought therefore to be repeated according to the obstinacy of the disease. They should not however be too strong; gentle vomits, frequently repeated, are both less dangerous, and more beneficial than strong ones.

As the patient is generally costive, it will be proper to keep his belly gently open. The best medicines for this purpose are rhubarb and its preparations, or the sacred tincture, if the patient can be brought to take it*. Of this a tea-spoonful or two may be given to a young child twice or thrice a-day, as there is occasion. To such as are farther advanced, the dose must be proportionally increased,

* Neither of these medicines, we should conceive, are very well suited to the intention here proposed. The first, in place of tending to keep the body open, has a direct tendency to produce costiveness; the last we think too heating a medicine to be generally exhibited to children. We would rather prefer a gentle dose of any of the laxative neutral salts, or an infusion of senna and manna, as recommended afterwards.

creased, and repeated till it has the desired effect. Those who cannot be brought to take the bitter tincture, may have an infusion of senna and prunes, sweetened with manna, coarse sugar, or honey; or a few grains of rhubarb mixed with a tea-spoonful or two of syrup, or currant jelly, so as to disguise the taste. Most children are fond of syrups and jellies, and seldom refuse even a bitter medicine when mixed with them.

Many people believe, that oily, pectoral, and balsamic medicines, possess wonderful virtues for the cure of the chin-cough, and accordingly exhibit them plentifully to patients of every age and constitution, without considering that every thing of this nature must load the stomach, hurt the digestion, and of course aggravate the disorder.

The *millepedes*, or wood-lice, are greatly recommended for the cure of a chin-cough. Those who chuse to make use of these insects, may infuse two ounces of them bruised in an English pint of small white wine for one night. Afterwards the liquor may be strained through a cloth, and a table-spoonful of it given to the patient three or four times a-day.

Opiates are sometimes necessary to allay the violence of the cough. For this purpose a little of the syrup of poppies, or ten, fifteen, or twenty drops, according to the age of the patient, of the paregoric elixir, may be taken in hyssop or penny-royal tea, three or four times a-day. An adult may take a table-spoonful of the syrup, or a tea-spoonful of the elixir.

The garlic ointment is a well-known remedy in North Britain for the chin-cough. It is made by beating in a mortar, garlic, with an equal quantity of hogs lard, butter, or oil. With this the soles of the feet may be rubbed twice or thrice a-day, or it may be spread thin upon a rag, and applied

as a plaster. It should be renewed every night and morning at least, as the garlic soon loses its virtue.

This is an exceeding good medicine, both in the chin-cough, and in most other coughs of an obstinate nature. It ought not, however, to be used when the patient is very hot or feverish, lest it increase these symptoms.

The feet should be bathed once every two or three days in warm water; and the Burgundy-pitch plaster, mentioned above, may be applied betwixt the shoulders. But when the disease proves very violent, it will be necessary, instead of it, to apply a blistering-plaster, and to keep the part open for some time with issue-ointment.

When the disease is prolonged, and the patient is free of a fever, the Jesuits bark, and other bitters, are the most proper medicines. The bark may either be taken in substance, or in a decoction or infusion, as is most agreeable to the patient. For a child, ten, fifteen, or twenty grains, may be given for a dose, according to the age of the patient. For an adult, half a dram or two scruples will be proper. Some give the extract of the bark with cantharides; but to manage this requires some skill and attention. It is more safe to give a few grains of castor along with the bark. A child of six or seven years of age may take seven or eight grains of castor, with fifteen grains of powdered bark, for a dose. This may be made into a mixture, with two or three ounces of any simple distilled water, and a little syrup, and taken three or four times a-day.

INFLAM-

INFLAMMATION OF THE STOMACH.

THIS is a dangerous disease, and requires the most speedy assistance, as it frequently ends in a suppuration; and sometimes in a mortification, which is certain death.

CAUSES.—It may proceed from any of the causes which produce an inflammatory fever; as cold liquor drank while the body is warm, an obstructed perspiration, the sudden striking in of any eruption, &c. It may likewise proceed from the acrimony of the bile, or from acrid and stimulating substances taken into the stomach; as strong vomits or purges, corrosive poisons, and such like. When the gout has been repelled from the extremities, either by cold or improper applications, it often occasions an inflammation of the stomach. Hard or indigestible substances taken into the stomach, as bones, the shells of nuts, &c. have likewise that effect.

SYMPTOMS.—It is attended with a fixed pain and burning heat in the stomach; great restlessness and anxiety; a small, quick, hard pulse; vomiting, or at least a nausea and sickness; excessive thirst; coldness of the extremities; difficulty of breathing; cold clammy sweats; and sometimes convulsions and fainting fits. The stomach is swelled, and often feels hard to the touch. One of the most certain signs of this disease is, the sense of pain which the patient feels upon taking any kind of food or drink, especially if too hot or cold, into his stomach.

When the patient vomits every thing he eats or drinks, is extremely restless, has a hiccup, with an intermitting pulse, and frequent fainting fits, the danger is very great.

REGIMEN.—The patient must, with the greatest care, avoid all acrimonious, heating, and irritating food and drink. His weakness may deceive the by-standers, and induce them to give him wines, or other cordials; but all these increase the disease, and often occasion sudden death. The inclination to vomit may likewise impose on the attendants, and make them think a vomit necessary; but that too is almost certain death.

The food must be light, thin, cool, and easy of digestion. It must be given in small quantities, and should neither be quite cold nor too hot. Thin gruel made of barley or oat-meal, light toasted bread dissolved in boiling water, or very weak chicken-broth, are the most proper. The drink should be clear whey, barley-water, or decoctions of emollient vegetables; as liquorice and marsh-mallow-roots, &c.

MEDICINE.—Bleeding in this disease is absolutely necessary, and is almost the only medicine that can be depended on*. When the disease proves obstinate, it will often be necessary to repeat this operation several times; nor must the low state of the pulse deter us from doing so. The pulse in this disease generally rises upon bleeding, and so long as that is the case the operation is safe.

Frequent fomentations with warm water, or a decoction of emollient vegetables, are likewise beneficial. Flannel cloths dipped in these must be applied to the region of the stomach, and removed as they turn cool. They must neither be applied too warm, nor suffered to continue till they become

* Besides the general blood-letting here recommended, local bleeding with leeches may often be used with advantage, and a blister ought never to be neglected where the disease has not yielded to the above remedies.

come quite cold, as either of these extremes would aggravate the disease.

The feet and legs ought likewise to be frequently bathed in lukewarm water, and warm bricks or poultices may be applied to the soles of the feet.

The only internal medicines which we shall venture to recommend in this disease, are mild clysters. These may be made of warm water, or thin water-gruel, and if the patient be costive, a little sweet oil, honey, or manna, may be added. Clysters answer the purpose of an internal fomentation, while they keep the belly open, and at the same time nourish the patient, who is often, in this disease, unable to retain any thing upon his stomach. For these reasons they must not be neglected, as the patient's life may depend upon the application of them.

OF THE ILIAC PASSION.

THIS is one of the most painful and dangerous diseases that mankind are liable to. It proceeds from the same causes as the inflammation of the stomach; to which may be added costiveness, worms, eating unripe fruits, or great quantities of nuts, drinking hard windy malt liquors, as stale beer, bottled ale, or sour wine, cyder, &c. It may likewise be occasioned by a rupture, by scirrhus tumours of the intestines, or by their opposite sides growing together.

The *symptoms* here are nearly the same as in the foregoing disease; only the pain, if possible, is more acute, and is situate lower down, about the region of the navel. The vomiting is likewise more violent,

lent, and sometimes even the excrements, together with the clysters and suppositories, are discharged by the mouth. The patient is continually belching up wind, and has often an obstruction of his urine.

While the pain shifts, and the vomiting only returns at certain intervals, and while the clysters pass downwards, there is ground to hope; but when the clysters and *feces* are vomitted, and the patient is exceeding weak, with a low fluttering pulse, a pale countenance, and a disagreeable or stinking breath, there is great reason to fear, that the consequences will prove fatal. Clammy sweats, black foetid stools, with a small intermitting pulse, and a total cessation of pain, are the signs of a gangrene, and approaching death.

REGIMEN.—The regimen in this disease is in general the same as in an inflammation of the stomach. The patient must be kept quiet, avoiding cold, and all violent passions of the mind. His food must be thin, weak, and given in small quantities; his drink weak and diluting; as clear whey, barley-water, and such like.

MEDICINE.—Bleeding in this, as well as in the inflammation of the stomach, is the remedy most to be depended on. It should be performed as soon as the symptoms appear, and must be repeated according to the strength of the patient, and the violence of the symptoms.

A blistering-plaster applied immediately over the part where the most violent pain is, has often a very good effect. Even clysters, which before had no effect, will operate when the blister begins to rise.

Fomentations and laxative clysters are by no means to be omitted. The patient's feet and legs should frequently be bathed in warm water; and cloths dipped in it applied to his belly. Bladders
filled

filled with warm water may likewise be applied to the region of the navel, and warm bricks, or bottles filled with warm water, to the soles of the feet. The clysters may be made of barley-water or thin gruel, and softened with plenty of sweet oil or fresh butter. These may be administered every two or three hours, or oftener, if the patient continues costive.

If common clysters have not the desired effect, we would recommend the smoke of tobacco. It may be blown into the bowels through an inverted pipe. This may be repeated after some time, unless the effect of the first renders it unnecessary.

If the disease does not yield to clysters and fomentations, recourse must be had to pretty strong purgatives; but as these, by irritating the bowels, often increase their contraction, and by that means frustrate their own intention, it will be necessary to join them with opiates; these, by allaying the pain, and relaxing the spasmodic contractions of the guts, greatly assist the operation of purgatives in this case.

What often answers the purpose of purging very well, is a solution of the bitter purging salts. Two ounces of these may be dissolved in an English pint of warm water, or thin gruel, and two or three table-spoonfuls given every half hour till it operates. At the same time, fifteen, twenty, or twenty-five drops of laudanum may be given in a glass of peppermint or simple cinnamon-water, to appease the irritation, and prevent the vomiting, &c.

Acids have often a very happy effect in staying the vomiting, and appeasing the other violent symptoms of this disease. It will therefore be of use to sharpen the patient's drink with cream of tartar, juice of lemon; or, when these cannot be obtained, a little vinegar may be added to it.

But

But it often happens that no liquid whatever will stay on the stomach. In this case the patient must take purgative pills. I have generally found the following answer very well. Take jalap in powder, and vitriolated tartar, each half a dram, opium one grain, Castile soap, as much as will make the mass fit for pills. These must be taken at one dose; and if they do not operate in six or seven hours, the dose may be repeated.

If a stool cannot be procured by any of the above means, it will be necessary to immerse the patient in warm water up to the breast. I have often seen this succeed when other means proved in vain. The patient must continue in the water as long as he can easily bear it without fainting; and if one immersion does not succeed, it may be repeated after some time, when the patient's strength and spirits are recruited. It is more safe for him to go frequently into the bath, than to continue too long at a time; and it is often necessary to repeat it several times before it has the desired effect.

It has sometimes happened, after all other means of procuring a stool had been tried in vain, that this was brought about by immersing the patient's lower extremities in cold water, making him walk upon a wet pavement, and dashing his legs and thighs with the cold water, &c. This method, when others fail, at least merits a trial. It is indeed attended with some danger; but a doubtful remedy is better than none.

In desperate cases it is common to give quicksilver. This may be taken to the quantity of several ounces, or even a pound, but should not exceed that. When there are evident marks of an inflammation, or any reason to suspect a mortification of the guts, this medicine ought not to be tried. In that case it will only hasten the patient's death. But when the obstruction is occasioned by
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any cause that can be removed by force, quicksilver is not only a proper medicine, but the best that can be applied, as it is the fittest body we know for making its way through the intestinal canal.

If the disease proceeds from a rupture, the patient must be laid with his head very low, and the intestines, if possible, returned by gentle pressure with the hand. If this, with fomentations and clysters, should not succeed, recourse must be had to a surgical operation, which may give the patient relief.

Such as would avoid this excruciating and dangerous disease, must take care never to be too long without a stool. Some who have died of it have had several pounds of hard, dry *faeces* taken out of their guts. They should likewise beware of eating too freely of sour or unripe fruits, or drinking stale windy liquors, or the like. I have often known it brought on by living too much on baked fruits, which are seldom good. It likewise proceeds frequently from cold caught by wet clothes, &c. but especially from wet feet.

OF THE COLIC*.

THE colic has great affinity, both in its symptoms and method of cure, with the two preceding diseases.

* While our Author has here characterised the colic and iliac passion, as two different diseases, which are now generally allowed to be only different degrees of the same complaint; he has, at the same time, confounded the first of these with another disease, the inflammation of the intestines, from which, though they are frequently conjoined,

diseases. It is generally attended with costiveness and acute pain of the bowels; and requires diluting diet, evacuations, fomentations, &c.

Colics are variously denominated according to their causes, as the *flatulent*, the *bilious*, the *hysteric*, the *nervous*, &c. As each of these requires a particular treatment, we shall point out their most general symptoms, and the means to be used for their relief.

The *flatulent*, or windy-colic, is generally occasioned by an indiscreet use of unripe fruits, meats of hard digestion, windy vegetables, fermented liquors, and such like. It may likewise proceed from an obstructed perspiration, or catching cold. Delicate people, whose digestive powers are weak and debilitated, are most liable to this kind of colic.

The flatulent colic may either affect the stomach or intestines. It is attended with a painful stretching of the stomach, or that part of the bowels where it is lodged. The patient feels a rumbling in his guts, and is generally relieved by a discharge of wind, either upwards or downwards. The pain is seldom confined to any particular part, as the vapour wanders from one division of the bowels to another, till such time as it finds a vent.

When

conjoined, it ought, as being a different disease and requiring a somewhat different method of treatment, to have been carefully separated. An inflammation of the intestines, though it frequently supervenes upon colic, yet does not necessarily nor constantly attend this disease. In the one, along with the sharp fixed pain in some part of the belly, a degree of fever takes place from the very commencement of the attack; while the other is often without fever, and with no fixed pain in a particular part, but rather a general distention and uneasiness over the whole belly. In a word, pain and fever are the leading symptoms of the first, as constipation is of the last. In the first, our chief attention must be directed to the inflammation as the primary disease. This will require precisely the same remedies mentioned in the inflammation of the stomach, and which therefore need not to be repeated here. In the other, our method of treatment will in a great measure be directed by the cause inducing the disease, as mentioned above.

When the disease proceeds from windy liquor, eating green fruit, sour herbs, or the like, the best medicine is to take immediately a dram of brandy, gin, or any good spirits, and to apply warm cloths to the stomach and bowels. The patient should likewise sit with his feet upon a warm hearth-stone, or apply warm bricks to them; and he may drink camomile-tea or water-gruel, with as much pepper in it as to render it moderately warm.

This is the only colic wherein ardent spirits, spiceries, or any thing of a hot nature, may be ventured upon. Nor indeed are they to be used here, unless at the very beginning, before there be any symptoms of inflammation. We have reason to believe, that a colic occasioned by wind or flatulent food might always be cured by spirits and warm liquors, if they were taken immediately upon perceiving the first uneasiness; but when the pain has continued for a considerable time, and there is reason to fear an inflammation of the bowels is already begun, all hot things are to be avoided, and the patient is to be treated in the same manner as for the iliac passion.

Several kinds of food, as honey, eggs, &c. occasion colics in some particular constitutions. I have generally found, the best cure for these colics was to drink plentifully of small diluting liquors, as water-gruel, small posset, toast and water, &c.

Colics which proceed from excess and indigestion, generally cure themselves, by occasioning vomiting or purging. These discharges are by no means to be stopped, but promoted by drinking plenty of warm water, or weak posset. When their violence is over, the patient may take a dose of rhubarb, or any other gentle purge, to carry off the dregs of his debauch.

Colics which are occasioned by wet feet, or catching cold, may generally be removed at the
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beginning,

beginning, by bathing the feet and legs in warm water, and drinking such warm diluting liquors as will promote the perspiration, as weak wine-whey, or water-gruel with a small quantity of spirits in it.

Those flatulent colics, which prevail so much in the country, might generally be prevented, if people were careful to change their clothes when they get wet. They ought likewise to take a dram, or to drink some warm liquor, after eating any kind of green trash. We do not mean to recommend the practice of dram-drinking, but in this case ardent liquors prove a real medicine, and indeed the best that can be applied.

The *bilious* colic is attended with very acute pain about the region of the navel. The patient complains of great thirst, and is generally costive. He vomits a hot, bitter, yellow-coloured bile, which being discharged, seems to afford some relief, but is quickly followed by the same violent pain as before. As the distemper advances, the propensity to vomit increases, insomuch that sometimes it becomes almost continual, and the proper motion of the intestines is so far perverted, that there are all the symptoms of an impending iliac passion.

If the patient be young and strong, and the pulse full and frequent, it will be proper to bleed, after which clysters may be administered. Clear whey or gruel, sharpened with the juice of lemon, or cream of tartar, must be drank freely. Small chicken-broth, with a little manna dissolved in it, or a slight decoction of tamarinds, are likewise very proper, or any other thin, acid, opening liquor.

Beside bleeding and plentiful dilution, it will be necessary to foment the belly with cloths dipped in warm water; and if this should not succeed, the
patient

patient must be set in a warm bath up to the chin.

Mild purgatives are here likewise necessary, as the lenitive electuary, manna, cream of tartar, or, what will answer very well, the bitter purging salts. These may be dissolved in water, and given in the same manner as directed for the iliac passion. If these medicines will not stay on the stomach, it will be necessary to join an opiate with them*.

Such as are liable to frequent returns of the bilious colic should use flesh sparingly, and live chiefly upon a light vegetable diet. They should likewise take frequently a dose of cream of tartar with tamarinds, or any other cool acid purge.

The *hysteric* colic bears a great resemblance to the bilious. It is attended with acute pain about the region of the stomach, vomiting, &c. But what the patient vomits in this case is commonly of a greenish colour. There is a great sinking of the spirits, with dejection of mind and difficulty of breathing, which are the characteristic symptoms of this disorder. Sometimes it is accompanied with the jaundice; but this generally goes off of its own accord in a few days.

In this colic all evacuations, as bleeding, purging, vomiting, &c. do hurt. Every thing that weakens the patient, or sinks the spirits, is to be avoided. If, however, the vomiting should prove violent, weak camomile-tea, or small posset, may be drank to cleanse the stomach. Afterwards the

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patient

*The best way in this case is to administer, first, a full dose of laudanum, forty, fifty, or sixty drops, according to the exigence of the case. If the stomach will not retain this, a double quantity may be mixed with two or three ounces of water-gruel, and thrown up in the form of an injection. Five or six hours thereafter, a purgative may be administered; and with a view to promote this, a laxative clyster may be afterwards given, when, from the time or from the patient's sensations, there is reason to think the purgative begins to take effect.

patient may take fifteen, twenty, or twenty-five drops of liquid laudanum in a glass of cinnamon-water. This may be repeated every ten or twelve hours till the symptoms abate.

The patient may likewise take four or five of the foetid pills three times a-day, and drink a cup of penny-royal tea after them. If *alascetida* should disagree with the stomach, which is sometimes the case, a tea-spoonful of the tincture of castor in a cup of penny-royal tea, or thirty or forty drops of the balsam of Peru dropped upon a bit of loaf-sugar, may be taken in its stead. The anti-hysterical plaster may also be applied to the region of the navel, which has often a good effect.

The *nervous* colic prevails most among miners, smelters of lead, plumbers, the makers of white lead, &c. It is very difficult to cure, and often ends in a palsy.

No disease of the bowels is attended with more excruciating pain than this. Nor is it soon at an end. I have known it continue eight or ten days, with very little intermission, the belly all the while continuing bound in spite of medicine, yet at length yield, and the patient recover.

The general treatment of this disease is so nearly the same with that of the iliac passion, or inflammation of the guts, that we shall not insist upon it. The belly is to be opened by mild purgatives given in small doses, and frequently repeated; and their operation must be assisted by soft oily clysters, fomentations*, &c.

The Barbadoes tar is said to be a proper medicine in this disease. It may be taken to the quantity of two drams three times a-day, or oftener if the stomach will bear it. This tar, mixed with an equal
quantity

* Castor oil, as a mild laxative, may be administered with advantage here, in a dose of from half an ounce to an ounce and a half.

quantity of strong rum, is likewise proper for rubbing the spine, in case any tingling, or other symptoms of a palsy are felt. When this tar cannot be obtained, the back may be rubbed with strong spirits, or a little of the oil of nutmegs or rosemary.

If the patient remain weak or languid after this disease, he must take exercise on horseback, and use an infusion of Jesuits bark in wine. When the disease ends in a palsy, the bath-waters are found to be extremely proper.

To avoid this colic, people must shun all sour fruits, acid and austere liquors, &c. Those who work in lead ought never to go to their business fasting, and their food should be oily or fat. They may take a glass of salad oil, with a little brandy or rum every morning, but should never take spirits alone. Liquid aliment is best for them; as fat broths, &c.; but low living is bad. They should now and then go a little out of the tainted air; and should take care to keep their body open, either by means of diet or some gentle laxative.

Sundry other kinds of this disease might be mentioned, but too many distinctions would tend only to perplex and bewilder the reader. Those already mentioned are the most material, and should indeed be attended to, as their treatment is very different. But even those who are not in a condition to distinguish very accurately in these matters, may nevertheless be of great service to patients in colics, by only observing the following general rules: First, To bathe the patient's feet and legs in warm water; and next to apply bladders filled with warm water, or cloths dipped in it, to his stomach and bowels. Afterwards, to make him drink freely of weak diluting warm liquors. And, lastly, To give him an emollient clyster every two or three hours.

INFLAMMATION OF THE KIDNEYS.

CAUSES.—This disease may proceed from any of those causes which produce an inflammatory fever. It is likewise occasioned by wounds or bruises of the kidneys, and by small stones or gravel lodging within them. It may also proceed from strong diuretic medicines; as spirits of turpentine, tincture of cantharides, &c. Violent motion, as hard riding or walking, especially in hot weather, or whatever drives the blood forcibly into the kidneys, may occasion this malady. It may likewise proceed from lying too soft, or too much on the back, or from involuntary contractions, or spasms in the urinary vessels, &c.

SYMPTOMS.—There is a sharp pain about the region of the kidneys, with some degree of fever, and a stupor or dull pain in the thigh of the affected side. The urine is at first clear, and afterwards of a reddish colour; but in the worst kind of the disease it generally continues pale, is passed with difficulty, and commonly in small quantities at a time. The patient feels great uneasiness when he endeavours to walk or sit upright. He lies with more ease on the affected side than on the sound; and has generally a nausea or vomiting, resembling that which happens in the colic.

This disease, however, may be distinguished from the colic by the pain being seated farther back, and by the difficulty of passing urine, which is a constant symptom of this disease.

REGIMEN.—Every thing of a heating or stimulating nature is to be avoided. The food must be thin and light; as water-pap, small broths, with mild vegetables, and the like. Emollient and soft liquors must be plentifully drank; as
clear

clear whey, or balm-tea sweetened with honey, decoctions of marsh-mallow-roots, with barley and liquorice, &c. The patient, notwithstanding the vomiting, must constantly keep sipping small quantities of these or other diluting liquors. Nothing so safely and certainly abates the inflammation, and expels the obstructing cause, as copious dilution. The patient must be kept easy, quiet, and free from cold, so long as any symptoms of inflammation appear.

MEDICINE.——Bleeding is here very necessary, especially at the beginning. Ten or twelve ounces may be let from the arm or foot with a lancet; and if the pain and inflammation continue, the operation may be repeated in twenty-four hours, especially if the patient be of a full habit. Leeches may likewise be applied to the hæmorrhoidal veins, as a discharge from these will greatly relieve the patient.

Cloths dipped in warm water, or bladders filled with it, must be applied to the part affected, and renewed as they grow cool. If the bladders be filled with a decoction of mallows and camomile flowers, to which a little saffron is added, and mixed with about a third part of new milk, it will be still more beneficial.

Emollient clysters are likewise frequently to be administered; and if these do not open the belly, a little honey or manna may be added to them.

The same course is to be followed where gravel or a stone is lodged in the kidney; but when the gravel or stone is separated from the kidney, and lodges in any of the urinary passes, it will be proper, besides the fomentations, to rub the part with a little sweet oil, and to give gentle diuretics; as juniper-water, sweetened with the syrup of marsh-mallows, or a tea-spoonful of the sweet spirits of

nitre, now and then, in a cup of the patient's drink. He ought likewise to take exercise on horseback, or in a coach, &c.

When the disease is protracted beyond the seventh or eighth day, and the patient complains of a stupor, and heaviness of the part, has frequent returns of chillness, shivering, &c. there is reason to suspect, that matter is forming in the kidney, and that an abscess or ulcer will ensue.

When matter in the urine shews, that an ulcer is already formed in the kidney, the patient must be careful to abstain from all acrid, sour, and salted provisions; and must live chiefly upon mild mucilaginous herbs and fruits, together with the broth of young animals, made with barley and common pot-herbs, &c. His drink may be whey, and butter-milk that is not sour. The latter is reckoned a specific remedy in ulcers of the kidneys. To answer this character, however, it must be drank for a considerable time. Chalybeate waters have likewise been found beneficial in this disease. This medicine is easily obtained, as it is found in every part of Great Britain. It must likewise be used for a considerable time, in order to produce any salutary effects.

Those who are liable to frequent returns of inflammation, or obstruction of the kidneys, must abstain from wines, especially such as abound with tartar; and their food must be light, and of easy digestion. They should use moderate exercise, and should not lie too hot, nor too much on their back *.

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* They ought likewise carefully to avoid costiveness.

OF THE INFLAMMATION OF THE BLADDER.

THE inflammation of the bladder proceeds, in a great measure, from the same causes as that of the kidneys. It is known by an acute pain towards the bottom of the belly, and difficulty of passing urine, with some degree of fever, a constant inclination to go to stool, and a perpetual desire to make water.

This disease must be treated on the same principles as the immediately preceding. The diet must be light and thin, and the drink cooling and diluting. Bleeding is very proper at the beginning; and in robust constitutions, it will often be necessary to repeat it. The bottom of the belly must be frequently fomented with warm water, or a decoction of mild vegetables; and emollient clysters must frequently be administered, &c.

The patient should abstain from every thing that is of a hot, acid, and stimulating nature; and should live entirely upon small broths, gruels, or mild vegetables.

A stoppage of urine may proceed from other causes besides an inflammation of the bladder; as a swelling of the hæmorrhoidal veins, hard *feces* lodged in the *rectum*, a stone in the bladder, excrescences in the urinary passages, a palsy of the bladder, hysteric affections, &c. Each of these requires a particular treatment, which does not fall under our consideration here. We shall only observe, that in all of them a mild and gentle treatment is the safest, as strong diuretic medicines, or things of an irritating nature, generally increase the danger. Some persons have killed themselves by introducing probes into the urinary passages, to remove, as they thought, somewhat that obstructed

structed the passage of the urine ; and others have brought on a violent inflammation of the bladder, by using strong diuretics for that purpose.

INFLAMMATION OF THE LIVER.

THE liver is less subject to inflammation than many of the other viscera, as in it the circulation is slower ; but when an inflammation does happen, it is with difficulty removed, and often ends in a suppuration or schirrus.

CAUSES.—Beside the common causes of inflammation, we may here reckon the following, viz. excessive fatness, a schirrus of the liver itself, violent shocks from strong vomits when the liver was before unsound, an adust or atrabiliarian state of the blood, any thing that suddenly cools the liver after it has been greatly heated, stones obstructing the course of the bile, drinking strong wines or spiritous liquors, using hot spicy aliment, obstinate hypochondriacal distempers, &c.

SYMPTOMS.—This disease is known by a painful tension of the right side under the false ribs, attended with some degree of fever, a sense of weight, or fulness of the part, difficulty of breathing, loathing of food, great thirst, with a pale or yellowish colour of the skin and eyes.

The *symptoms* here are various, according to the degree of inflammation, and likewise according to the particular part of the liver where the inflammation happens. Sometimes the pain is so inconsiderable, that an inflammation is not so much as suspected ;

suspected; but when it happens in the upper or convex part of the liver, the pain is more acute, the pulse quicker, and the patient is often troubled with a dry cough, a hiccup, and a pain extending to the shoulder, with difficulty of lying on the left side, &c.

This disease may be distinguished from the pleurisy, by the pain being less violent, seated under the false ribs, the pulse not so hard, and by the difficulty of lying on the left side. It may be distinguished from the hysteric and hypochondriac disorders by some degree of fever, with which it is always attended.

This disease, if properly treated, is seldom mortal. A constant hiccuping, violent fever, and excessive thirst, are very bad symptoms. If it ends in a suppuration, and the matter cannot discharge itself outwardly, the danger is great. When a schirrus of the liver ensues, the patient, if he observes a proper regimen, may live a number of years tolerably easy; but if he indulges in animal food and strong liquors, or takes medicines of an acrid or irritating nature, the schirrus will be converted into a cancer, which must infallibly prove fatal.

REGIMEN.—The same regimen is to be observed in this as in other inflammatory disorders. All hot things are to be carefully avoided, and cool resolving liquors, as whey, barley-water, &c. drank freely. The food must be light and thin, and the body, as well as the mind, must be kept easy and quiet.

MEDICINE.—Bleeding is proper at the beginning of this disease, and it will often be necessary, even though the pulse should not feel hard, to repeat the operation. The belly must be kept gently open; but all violent purgatives are to be avoided. A decoction of tamarinds, with a little honey

honey or manna, will answer this purpose very well. The side affected must be frequently fomented with warm water, in the manner directed in the foregoing diseases. Mild laxative clysters should be frequently administered; and if the pain should notwithstanding continue violent, a blistering-plaster may be applied over the part affected.

Medicines which promote the secretion of urine have a very good effect here. For this purpose, half a dram of purified nitre, or half a tea-spoonful of the sweet spirits of nitre, may be taken in a cup of the patient's drink three or four times a day.

When there is an inclination to sweat, it ought to be promoted, but not by warm sudorifics. The only thing to be used for that purpose is plenty of diluting liquor drank about the warmth of the human blood. Indeed the patient in this case, as well as in all other topical inflammations, ought to drink nothing that is colder than the blood.

If the stools should be loose, and even streaked with blood, nothing must be given to stop them, unless they be so frequent as to weaken the patient. Loose stools often prove critical, and carry off the disease*.

If the disorder, in spite of all endeavours to the contrary, should end in a schirrus, the patient must be careful to regulate his diet, &c. in such a manner as not to aggravate the disease. He must not indulge in flesh, fish, strong liquors, or any poignant or salted provisions; but must, for the most part, live on mild vegetables, as fruits and roots, taking gentle exercise, and drinking whey, barley-water, or butter-milk. If he takes any thing stronger,

* When, in consequence of the previous inflammation, an abscess happens to form in the liver, if this should point outwardly, it ought to be opened by an incision.

stronger, it should be fine mild ale, which is much more safe than wines or spirits.

We shall take no notice of inflammations of the other viscera. They must all be treated upon the same principle as those already mentioned. The great rule with respect to all of them, is to avoid every thing that is strong, or of a heating nature, to apply warm fomentations to the part affected, and to supply the patient with plenty of weak, warm, diluting drink *.

OF THE CHOLERA MORBUS, OR VOMITING AND LOOSENESS.

THIS is a violent purging and vomiting, attended with gripes, and a constant desire to go to stool. It comes on suddenly, and is most common in autumn. There is hardly any disease that kills more quickly than this, when proper means are not used in due time for removing it.

CAUSES.—It is occasioned by a redundancy and putrid acrimony of the bile; by food that easily turns rancid or sour on the stomach; as butter, fat pork, sweetmeats, cucumbers, melons, cherries, &c. It is sometimes the effect of strong acrid purges or vomits; or of poisonous substances taken into the stomach. It may likewise proceed from violent passions of the mind; as fear, anger, &c.

SYMPTOMS.—It is generally preceded by
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* Blood-letting, both general and topical, as well as blistering, certainly ought not to be omitted in this catalogue.

a *cardialgia* or heart-burn, four belchings, and flatulences, with pain of the stomach and intestines. To these succeed excessive vomiting, and purging of a green, yellow, or blackish coloured bile, with a distension of the stomach, and violent griping pains. There is likewise a great thirst, with a very quick unequal pulse, and often a fixed acute pain about the region of the navel. As the disease advances, the pulse often sinks so low as to be quite imperceptible, the extremities grow cold, or cramped, and covered with a clammy sweat, the urine is obstructed, and there is a palpitation of the heart. Violent hiccuping, fainting, and convulsions, are the signs of approaching death.

MEDICINE.—At the beginning of this disease, the efforts of nature to expel the offending cause must be assisted, by promoting the purging and vomiting. For this purpose, the patient must drink plenty of diluting liquors; as whey, buttermilk, warm water, thin water-gruel, small posset, or, what is perhaps preferable to any of them, very weak chicken-broth. This should not only be drank freely, to promote the vomiting, but a clyster of it given every hour, in order to promote the purging.

After these evacuations have been continued for some time, a decoction of toasted oat-bread may be drank to stop the vomiting. The bread should be toasted till it is of a brown colour, but not burned, and afterwards boiled in spring-water. If oat-bread cannot be had, wheat-bread, or oat-meal well toasted, may be used in its stead. If this does not put a stop to the vomiting, the saline mixture may be taken as directed before.

The vomiting and purging, however, ought never to be stopped too soon. So long as these discharges do not weaken the patient, they are salutary, and may be allowed to go on, or rather ought to be promoted. But when the patient is much exhausted

exhausted by the evacuations, or has a small intermitting pulse, coldness of the extremities, with other symptoms of weakness, recourse must immediately be had to opiates, and generous cordial medicines. Ten or fifteen drops of liquid laudanum, in half a glass of strong cinnamon-water, may be taken every four or five hours, till the violent symptoms be removed. Warm negus, or strong wine-whey, may likewise be taken to support the patient's spirits, and promote the perspiration. His legs may be rubbed with flannel-cloths, or wrapped in warm blankets, and warm bricks applied to the soles of his feet.

When the violence of the disease is over, to prevent a relapse, it will be necessary, for some time, to continue the use of small doses of laudanum. Ten or twelve drops may be taken in a glass of wine, at least twice a-day, for eight or ten days. The patient's food ought to be nourishing, but taken in small quantities, and he should use moderate exercise. As the stomach and intestines are generally much weakened, an infusion of the bark, or other bitters, in small wine, may be drank for some time.

Though physicians are seldom called in due time in this disease, they ought not, however, to despair of relieving the patient even in the most desperate circumstances. Of this I lately saw a very striking instance in an old man and his son, who had been both seized with it about the middle of the night. I did not see them till next morning, when they had much more the appearance of dead than of living men. No pulse could be felt; the extremities were quite cold, and rigid; the countenance was ghastly, and the strength quite exhausted. Yet from this deplorable condition they were both recovered by the use of opiates and cordial medicines, with the regimen mentioned above.

OF A DIARRHOEA, OR LOOSENESS.

A LOOSENESS, in many cases, is not to be considered as a disease, but rather as a salutary evacuation. It never ought to be stopped, unless when it continues too long, or evidently weakens the patient. As this, however, sometimes happens, we shall point out the most common causes of a looseness, with the method of treatment proper in each case.

When a looseness is occasioned by catching cold, or an obstructed perspiration, the patient ought to keep warm, to drink freely of weak diluting liquors, to bathe his feet and legs frequently in lukewarm water, to wear flannel next his skin, and to take every other method to restore the perspiration.

In a looseness which proceeds from excess or repletion, a vomit is the proper medicine. Vomits not only clean the stomach, but promote all the secretions, which renders them of great importance in carrying off a debauch. Half a dram of ipecacuanha in powder will answer the purpose very well. A day or two after the vomit, the same quantity of rhubarb may be taken, and repeated two or three times, if the looseness continue. The patient ought to live upon light vegetable food of easy digestion, and to drink whey, thin gruel, or barley-water.

A looseness occasioned by the obstruction of any customary evacuation, as the bleeding piles in men, the monthly discharges in women, &c. generally requires bleeding. If that does not succeed, other evacuations, as issues, setons, &c. may be substituted in the room of those which are obstructed. At the same time, every method is to be taken to restore

restore the usual discharges, as not only the cure of the disease, but the patient's life, may depend on this.

A periodical looseness ought never to be stopped. It is always an effort of nature to carry off some offending matter, which, if retained in the body, might produce fatal diseases. Children are very liable to this kind of looseness, especially while teething. It is, however, so far from being hurtful to them, that such children generally get their teeth with least trouble. If these loose stools should at any time prove sour or griping, a tea-spoonful of magnesia alba, with four or five grains of rhubarb, may be given to the child in a little pap or any other food. This, if repeated three or four times, will generally correct the acidity, and carry off the griping stools *.

A diarrhœa or looseness which proceeds from violent passions or affections of the mind, must be treated with the greatest caution. Vomits in this case are highly improper. Nor are purges safe, unless they be very mild, and given in small quantities. Opiates, and other antispasmodic medicines, are most proper. Ten or twelve drops of liquid laudanum may be taken in a cup of valerian or penny-royal tea, every eight or ten hours, till the symptoms abate. Ease, cheerfulness, and tranquillity of mind, are here of the greatest importance.

When a looseness proceeds from acrid or poisonous substances taken into the stomach, the patient must drink large quantities of diluting liquors, with

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oil

* We would consider the *potio cretacea*, or the chalk julep, as being a gentle astringent, a preferable remedy in this case. It may be given in doses of two or three tea-spoonfuls, to be repeated after each evacuation. Where this medicine is not conveniently to be had, a tea-spoonful of fine powdered chalk may be mixed in a tea-cupful of water-gruel, and a tea-spoonful of this given occasionally.

oil or fat broths, to promote vomiting and purging. Afterwards, if the bowels are inflamed, bleeding will be necessary. Small doses of laudanum may likewise be taken to remove the spasms and the irritation of the bowels.

When gouty matter, repelled from the extremities, occasions a looseness, it is by no means to be stopped, but promoted by gentle doses of rhubarb, or other mild purgatives. The gouty matter is likewise to be solicited to the extremities by warm fomentations and cataplasms. And the perspiration ought to be promoted by warm diluting liquors; as wine-whey with spirits of hartshorn, or a few drops of liquid laudanum in it.

When a looseness proceeds from worms, such medicines ought to be used as kill or carry off these vermin; as powder of tin, with purges of rhubarb and calomel, &c. The proper doses of these medicines will be pointed out when we come to treat of diseases occasioned by worms.

A looseness is often occasioned by bad water. When this is the case, the disease generally proves epidemical. When there is reason to believe that this or any other disease proceeds from the use of unwholesome water, it ought immediately to be changed, or, if that cannot be done, it may be corrected by mixing with it quicklime, chalk, or the like.

In people whose stomachs are weak, violent exercise immediately after meals will occasion a looseness. Though the cure of this is obvious, yet it will be proper, besides avoiding violent exercise, to use such medicines as tend to brace and strengthen the stomach, as infusions of the bark, with other bitter and astringent medicines, in white wine. The person ought likewise to take frequently a glass or two of old red port, or good claret.

Persons who, from a peculiar weakness, or too
great

great an irritability of the bowels, are liable to frequent returns of this disease, should live temperately, avoiding crude summer-fruits, all unwholesome food, and meats of hard digestion. They ought likewise to beware of cold, moisture, or whatever may obstruct the perspiration, and should wear flannel next their skin. All violent passions of the mind, as fear, anger, &c. are likewise carefully to be avoided.

OF THE DYSENTERY, OR BLOODY-FLUX.

THIS disease prevails in the spring and autumn. It is very infectious, and often epidemical. Those persons are most liable to it who are much exposed to the night-air, or who live in places where the air is confined and unwholesome. Hence it often proves fatal in camps, on shipboard, in jails, hospitals, and such like places.

CAUSES.—This disease may be occasioned by any thing that obstructs the perspiration, or renders the humours putrid; as damp beds, wet clothes, unwholesome diet, air, &c. But it is most frequently communicated by infection. This ought to make people extremely cautious in going near such persons as labour under the disease. Even the smell of the patient's excrements has been known to communicate the infection.

SYMPTOMS.—It is known by a flux of the belly attended with violent pain of the bowels, a constant inclination to go to stool, and generally less or more of blood in the stools. It begins, like other fevers, with chillness, loss of strength, a quick pulse, great thirst, and an inclination to vomit. The stools are at first greasy or frothy, after-

wards they are streaked with blood, and, at last, have frequently the appearance of pure blood, mixed with small filaments, or bits of skin. Sometimes, however, there is no blood in the stools through the whole course of the disease. When the patient goes to stool, he feels a bearing down, as if the whole bowels were falling out, and sometimes a part of the intestine is actually protruded, which proves exceeding troublesome, especially in children.

This disease may be distinguished from the diarrhœa or looseness, by the acute pain of the bowels, and the blood which generally appears in the stools *. It may be distinguished from the *cholera morbus* by its not being attended with such violent and frequent fits of vomiting, &c.

When the dysentery attacks the old, the delicate, or such as have been wasted by scorbutic, consumptive, or other lingering diseases, it generally proves fatal. Vomiting and hiccuping are bad signs, as they shew an inflammation of the stomach. When the stools have an exceedingly disagreeable smell, are green, black, or mixed with small glandular substances, or bits of skin, the danger is great. It is an unfavourable symptom when clysters are immediately returned; but still more so, when the passage is so obstinately shut, that they cannot be injected. A weak pulse, coldness of the extremities, with difficulty of swallowing, and convulsions, are signs of approaching death.

REGIMEN.—Nothing is of more importance in this disease than cleanliness. It contributes greatly

* The two diseases, we believe, may in general be better distinguished by the appearance of the stools. In dysentery, the stools are generally small in quantity, and consist, at first, mostly of mucus or of blood, or of a mixture of the two; while, at the same time, the natural fœces are commonly retained. In diarrhœa, the discharge consists mostly of feculent matter, only in a more fluid form than usual.

greatly to the recovery of the patient, and no less to the safety of such as attend him. In all contagious diseases the danger is increased, and the infection spread, by the neglect of cleanliness; but in none more than in this. Every thing about the patient should be frequently changed. The excrements should never be suffered to continue in his chamber, but removed immediately, and buried under ground. A constant stream of fresh air should be admitted into the chamber; and it ought frequently to be sprinkled with vinegar, juice of lemon, or some other strong acid.

The patient must not be discouraged, but his spirits kept up in hopes of a cure. Nothing tends more to render any putrid disease mortal, than the fears and apprehensions of the sick. All diseases of this nature have a tendency to sink and depress the spirits; and when that is increased by fears and alarms from those whom the patient believes to be persons of skill, it cannot fail to have the worst effects.

A flannel vest worn next the skin has often a very good effect in a dysentery. This promotes the perspiration without greatly heating the body. Great caution, however, is necessary in leaving it off. I have often known a dysentery brought on by imprudently throwing off a flannel vest before the season was sufficiently hot. For whatever purpose this piece of dress be worn, it should never be left off but in a warm season.

In this disease the greatest attention must be paid to the patient's diet. Flesh, fish, and every thing that has a tendency to turn putrid or rancid on the stomach, must be abstained from. Apples boiled in milk, water-pap, and plain light pudding, with broth made of the gelatinous parts of animals, may be eat. Jelly-broth not only answers the purpose of food, but likewise of medicine. I have often

known dysenteries cured by it, after pompous medicines had proved ineffectual *.

Another kind of food very proper in the dysentery, which may be used by such as cannot take the broth mentioned above, is made by boiling a few handfuls of fine flower, tied in a cloth, for six or seven hours, till it becomes as hard as starch. Two or three table-spoonfuls of this may be grated down, and boiled in such a quantity of new milk and water as to be of the thickness of pap. This may be sweetened to the patient's taste, and taken for his ordinary food †.

The patient may likewise be allowed to eat freely of most kinds of good ripe fruit ; as apples, grapes, currant-berries, strawberries, &c. These may either be eat raw or boiled, with or without milk,
as

* The manner of making this broth is, to take a sheep's head and feet, with the skin upon them, and to burn the wool off with a hot iron, in the manner they do in Scotland. Afterwards to boil them till the broth is quite a jelly. A little cinnamon or mace may be added to give the broth an agreeable flavour, and the patient may take a little of it warm with toasted bread, three or four times a-day. A clyster of it may likewise be given twice a-day. Such as cannot use the broth made in this way, may have the head and feet skinned ; but we have reason to believe that this hurts the medicine. It is not our business here to reason upon the nature and qualities of medicines, otherwise this might be shewn to possess virtues every way suited to the cure of a dysentery which does not proceed from a putrid state of the humours. One thing we know, which is preferable to all reasoning, that whole families have often been cured by it, after they had used many other medicines in vain. It will, however, be proper that the patient take a vomit, and a dose or two of rhubarb, before he begins to use the broth. It will likewise be necessary to continue the use of it for a considerable time, and to make it the principal food.

† The learned Dr Rutherford, late professor of medicine in the university of Edinburgh, used to mention this medicine in his public lectures with great encomiums. He directed it to be made by tying three or four handfuls of the finest flower, as tight as possible, in a linen rag, afterwards to dip it frequently in water, and to dridge the outside with flower till a cake or crust be formed around it, which prevents the water from soaking into it while boiling. It is then to be boiled till it becomes a hard dry mass, as directed above. This will not only answer the purpose of food, but may likewise be given in clysters.

as the patient chuses. The prejudice against fruit in this disease is so great, that many believe it to be the common cause of dysenteries. This, however, is an egregious mistake. Both reason and experience shew, that good fruit is one of the best medicines, both for the prevention and cure of the most dangerous kind of dysentery. In a dysentery arising from a putrid state of the humours, fruit is in every respect calculated to counteract that tendency to putrefaction, from whence all the danger proceeds. The patient in such a case ought therefore to be allowed to eat as much fruit as he pleases, provided it be good *.

The most proper drink in this disorder is whey. The dysentery has often been cured by the use of clear whey alone. It may be taken both for drink, and in form of clyster. When whey cannot be had, barley water sharpened with cream of tartar may be drank, or a decoction of barley and tamarinds; two ounces of the former and one of the latter may be boiled in two English quarts of water to one. Warm water, water gruel, or water wherein hot iron has been frequently quenched, are all very proper, and may be drank in turns. Camomile-tea, if the stomach will bear it, is an exceeding proper drink. It both strengthens the
U 4 stomach,

* I lately attended a young gentleman who had been seized with a dysentery in North America. All means had been tried for his relief, but to no purpose. At length, tired out with disappointments from medicine, and reduced to skin and bone, he came over to Britain, rather with a view to die among his relations than with any hopes of a cure. After trying sundry medicines here with no better success than abroad, I advised him to leave off the use of drugs, and to trust entirely to a diet of milk and fruits, with gentle exercise. Strawberries were the only fruit he could procure at that season. These he eat with milk twice, and sometimes thrice a-day. The consequence was, that in a short time his stools were reduced from upwards of twenty in a day, to three or four, and sometimes not so many. He used the other fruits as they came in, and was, in a few weeks, so well as to leave the part of the country where I was, with a view to return to America,

stomach, and by its antiseptic quality tends to prevent a mortification of the bowels.

MEDICINE.—At the beginning of this disease it is always necessary to cleanse the first passages. For this purpose, a vomit of ipecacoanha must be given, and wrought off with weak camomile-tea. Strong vomits are seldom necessary here. A scruple, or at most half a dram of ipecacoanha, is generally sufficient for an adult, and sometimes a very few grains will suffice. The day after the vomit, half a dram or two scruples of rhubarb must be taken. This dose may be repeated every other day for two or three times. Afterwards small doses of ipecacoanha may be taken for some time. Two or three grains of the powder may be mixed in a table-spoonful of the syrup of poppies, and taken three times a-day.

These evacuations, and the regimen prescribed above, will seldom fail to perform the cure. Should it, however, happen otherwise, the following astringent medicines must be used.

A clyster of starch or fat mutton-broth, with twenty or thirty drops of liquid laudanum in it*, may be administered twice a-day. At the same time, an ounce of gum-arabic, and half an ounce of gum-tragacanth, may be dissolved in an English pint of barley-water, over a slow fire, and a table-spoonful of it taken every hour.

If these have not the desired effect, the patient may take, four times a-day, about the bulk of a nutmeg of the *Japonic confection*, drinking after it a tea-cupful of the decoction of logwood; which may be thus made :

Boil three or four ounces of the shavings of logwood in two English quarts of water to one ; towards

* Laudanum, to have any salutary effect in this complaint, should be given in two or three times the quantity that is here mentioned.

wards the end, add two drams of cinnamon-bark. This decoction gives the stools a reddish colour, which is sometimes mistaken for blood. We mention this circumstance to prevent the patient from being alarmed at their appearance.

Some have treated dysenteries very successfully, by giving the patient white wax dissolved in milk. Others extol the virtues of the *Connessi* root, the *Simaruba* bark, &c. for the cure of this disease. When other medicines fail, these strong astringents may be tried; but we hope they will seldom be found necessary. At any rate, astringent, or binding medicines, never are to be used till proper evacuations have been premised, otherwise they will fix the disease instead of removing it.

Persons who have been cured of this disease are very liable to relapse; to prevent which, great circumspection with respect to diet is necessary. The patient must abstain from all fermented liquors, except now and then a glass of good wine; but he must drink no kind of malt-liquor. He must likewise abstain from animal food, as fish and flesh, and must live principally upon milk and vegetables.

Gentle exercise and wholesome air are likewise of importance. The patient should go to the country as soon as his strength will permit, and should take exercise daily on horseback, or in a machine. He may likewise use bitters infused in wine or brandy, and may drink twice a-day a gill of lime-water, mixed with an equal quantity of new milk.

When dysenteries prevail, we would recommend a strict attention to cleanliness, a spare use of animal food, and the free use of sound ripe fruits, and other vegetables. The night-air is to be carefully avoided, and all communication with the sick. Bad smells are likewise to be shunned, especially those

those which arise from putrid animal substances. The office-houses where the sick go are very dangerous. Nothing is more apt to occasion the disease than being greatly afraid of it.

When the first symptoms of the dysentery appear, the patient ought immediately to take a vomit, to go to bed, and drink plentifully of weak warm liquor, to promote a sweat. This, with a dose or two of rhubarb, would often carry off the disease at the beginning. In countries where dysenteries prevail, we would advise such as are liable to them to take either a vomit or a dose of physic every spring and autumn, as a preventive.

There are sundry other fluxes of the belly, as the LIENTERY and COELIAC PASSION, which, though less dangerous than the dysentery, yet merit consideration. These diseases generally proceed from a relaxed state of the stomach and intestines, which is sometimes so great, that the food passes through them without almost any sensible alteration; and the patient dies merely from the want of nourishment.

When the lientery or coeliac passion succeed a dysentery, they often prove fatal. They are always dangerous in old age, especially when the constitution has been broken by excess or acute diseases. If the stools be very frequent and quite crude, thirst great, with little urine, the mouth ulcerated, and the face marked with spots of different colours, the danger is very great.

The treatment of the patient is in general the same as in the dysentery *. In all obstinate fluxes of the belly, from whatever cause, the cure must be attempted, by first cleaning the stomach and
bowels

* It may be necessary to observe here, that in the lientery, purges, or even laxatives of the mildest quality, are absolutely pernicious; and that *opiates* and *astringents*, repeated according to the urgency of the case, are alone to be depended on.

bowels with gentle vomits and purges. Afterwards such a diet as has a tendency to brace and strengthen the bowels, with opiates and astringent medicines, will generally perfect the cure.

This observation likewise holds with respect to a TENESMUS, or frequent desire of going to stool. It resembles the dysentery so much, both in its symptoms and method of cure, that we think it needless to insist upon it.

OF A DIABETES, OR EXCESSIVE DISCHARGE OF URINE.

THE diabetes may be called a flux of the kidneys. It is seldom to be met with among young people; but I have often known it happen to labourers in the decline of life, especially those who followed the more violent employments, and who had been hard drinkers in their youth.

CAUSES.—A diabetes is often the consequence of acute diseases, as fevers, fluxes, &c. where the patient has suffered excessive evacuations; it may also be occasioned by excessive fatigue, as riding long journeys upon a hard-trotting horse, carrying heavy burdens, running, &c. It may be brought on by the use of strong stimulating diuretic medicines, as tincture of cantharides, spirits of turpentine, and such like. It is often the effect of drinking large quantities of mineral waters. Many imagine that these will do them no service unless they be drank in large quantities,
by

by which mistake it happens, that they often occasion worse diseases than those they were taken to cure. In a word, this disease may either proceed from too great a laxity of the organs which secrete the urine, from something that stimulates the kidneys too much, or from a thin dissolved state of the blood, which makes too great a quantity of it run off by the urinary passages.

SYMPTOMS.—In a diabetes the urine generally exceeds in quantity all the liquid food and drink which the patient takes. It is thin and pale, of a sweetish taste, and an agreeable smell. The patient has a continual thirst, with some degree of fever; his mouth is dry, and he spits frequently a frothy spittle. The strength fails, the appetite decays, and the flesh wastes away till the patient is reduced to skin and bone. There is a heat of the bowels; and frequently the loins, testicles, and feet are swelled.

This disease may sometimes be cured at the beginning; but after it has continued long, the cure becomes very difficult. In drunkards, and very old people, a cure is not to be expected.

REGIMEN.—Every thing that stimulates the urinary passages, or tends to relax the habit, must be avoided. The patient should live chiefly on solid food. His thirst may be quenched with acids, as sorrel, juice of lemon, or vinegar. The mucilaginous vegetables, as rice, sago, and salep, with milk, are the most proper food. Of animal substances, shell-fish are to be preferred, as oysters, crabs, &c.

The drink may be Bristol-water. When that cannot be obtained, lime-water with milk may be drank. This will be better, if an ounce of gum-arabic be dissolved in every pound of it. The white decoction, with isinglass dissolved in it,
is

is likewise a very proper drink. It is made by boiling two ounces of calcined hartshorn, and half an ounce of gum-arabic, in three English pints of water, to two, and afterwards straining it.

The patient ought daily to take exercise, but it should be so gentle as not to fatigue him. He should lie upon a hard bed or matress. Nothing hurts the kidneys more than lying too soft. A warm dry air, the use of the flesh-brush, and every thing that promotes perspiration, is of service. For this reason, the patient ought to wear flannel next his skin. A large strengthening plaster may be applied to the back; or, what will answer the same end, a broad girdle may be worn about the loins.

MEDICINE.—Gentle purges, if the patient be not too much weakened by the disease, have a good effect. They tend to promote a flux of the humours, towards the intestines, and of course to lessen the discharge by the kidneys. They may consist of rhubarb, with cardamum-seeds, or any other spiceries, infused in wine, and may be taken in such quantities as to keep the belly gently open.

The patient must next have recourse to astringents and corroborants. Half a dram of powder, made of equal parts of allum, and the gum called *dragon's blood*, may be taken four times a-day, or oftener if the stomach will bear it. The allum must first be melted in a crucible; afterwards they may both be pounded together. Along with every dose of this powder, the patient may take a tea-cupful of the tincture of roses. It is made by infusing in a stone-ware vessel, for four hours, an ounce of the dried leaves of red roses, with one dram of spirit of vitriol, in two English pints of boiling water. Afterwards the tincture may be filtered,

filtered, and four or five ounces of white sugar added to it.

If the patient's stomach cannot bear the allum in substance, whey may be made of it, and taken in the dose of three or four ounces, three times a-day. The allum-whey is prepared by boiling two English quarts of milk over a slow fire, with three drams of allum, till it be turned into whey.

Opiates are of service in this disease, even though the patient rests well. They take off spasm and irritation, and at the same time lessen the force of the circulation. Ten or twelve drops of liquid laudanum may be taken in a cup of the patient's drink, two or three times a-day.

The best corroborants which we know, are the Jesuits bark and wine. A dram of bark may be taken in a glass of red port or claret, three times a-day. The medicine will be more efficacious, and less disagreeable, if fifteen or twenty drops of the acid elixir of vitriol be added to every dose. Such as cannot take the bark in substance, may use the decoction, mixed with an equal quantity of red wine, and sharpened as above*.

There is a disease pretty incident to labouring people in the decline of life, called an *INCONTINENCY* of urine. This differs entirely from a diabetes, as the water passes off involuntarily by drops, and does not exceed the usual quantity. This disease is rather troublesome than dangerous. It is owing to a relaxation of the sphincter of the bladder, and is often the effect of a palsy. Sometimes it proceeds from hurts, or injuries occasioned by blows, bruises, preternatural labours, &c. Sometimes

* The most successful method of treating this disease at present seems to be, to restrict the patient solely to a diet of animal food, with as small a proportion of bread as possible. Of the different kinds of animal food, shell-fish, as oysters, seem particularly serviceable."

times it is the effect of a fever. It may likewise be occasioned by a long use of strong diuretics, or of stimulating medicines injected into the bladder.

This disease may be mitigated by the use of astringent and corroborating medicines, such as have been mentioned above; but we do not remember ever to have seen it cured*.

OF A SUPPRESSION OF URINE.

It has already been observed, that a suppression of urine may proceed from various causes, as an inflammation of the kidneys or bladder, small stones or gravel lodged in the urinary passages, hard *faeces* lying in the *rectum*, a spasm or contraction of the neck of the bladder, clotted blood in the bladder, a swelling of the hæmorrhoidal veins, &c.

Some of these cases require the catheter, both to remove the obstructing matter, and to draw off the urine; but as this instrument can only be managed with safety by persons skilled in surgery, we shall say nothing further of its use.

We would chiefly recommend, in all obstructions of urine, fomentations and evacuations. If the patient be young, of a full habit, and if his pulse be hard, frequent bleeding will be necessary, especially

* A machine made of tin, and properly adapted to the inside of the patient's thigh, may be worn without much inconvenience; and by serving as a receptacle to the urine, will contribute much to his ease in this complaint.

especially where there are symptoms of a topical inflammation. Bleeding in this case, not only abates the fever, by lessening the force of the circulation, but, by relaxing the solids, takes off the spasm or stricture upon the vessels, which occasioned the obstruction.

After bleeding, fomentations must be used. These may either consist of warm water alone, or of decoctions of mild vegetables; as mallows, camomile-flowers, &c. Cloths dipped in these may either be applied to the part affected, or a large bladder, filled with the decoction, may be kept continually upon it. Some put the herbs themselves into a flannel-bag, and apply them to the part, which is far from being a bad method. These continue longer warm than cloths dipped in the decoction, and at the same time keep the part equally moist.

In all obstructions of urine, the belly ought to be kept open. This is not, however, to be attempted by brisk purgatives, but by emollient clysters, or gentle infusions of senna and manna. Clysters in this case, not only open the belly, but answer the purpose of an internal fomentation, and greatly assist in removing spasms of the bladder, &c.

The food must be light, and taken in small quantities. The drink may be weak broth, or decoctions and infusions of mucilaginous vegetables, as marsh-mallow roots, lime-tree buds, &c. A tea-spoonful of the sweet spirits of nitre, or a dram of Castile soap, may be frequently put into the patient's drink; and if there be no inflammation, he may drink small gin-punch without acid.

In a suppression of urine, nature often attempts to relieve the patient by a sweat, looseness, spitting, gulping up of clear water from the stomach, &c. These discharges ought not to be suppressed,
but

but encouraged, as the patient's life often depends on them.

Persons subject to a suppression of urine, ought to live very temperate. Their diet should be light, and their liquor diluting. They ought to avoid all acids, and wines that abound with tartar; they should likewise take plenty of exercise, lie hard, and avoid study and sedentary occupations.

OF COSTIVENESS.

No person can long enjoy good health, who does not go regularly to stool. There is, however, a very great difference of persons in this respect, some being able to bear costiveness much longer than others. We do not here mean to treat of those affections of the bowels, which are the symptoms of diseases, as in the colic, the iliac passion, &c. but only to take notice of that infrequency of stools which sometimes happens, and which, in some particular constitutions, may occasion diseases.

Costiveness may proceed from drinking rough red wines, or other astringent liquors; too much exercise, especially on horseback: It may likewise proceed from a long use of cold insipid food, which does not sufficiently stimulate the intestines. Sometimes it is owing to the bile not descending to the intestines, as in the jaundice; and at other times it proceeds from diseases of the intestines themselves, as a palsy, spasms, tumors, a cold dry state of the intestines, &c.

When costiveness is constitutional, it may be borne a long time without any bad effects; but when it proceeds from an inflammation or tumor in the intestines, it is dangerous. Costiveness, when long continued, is apt to occasion pains of the head, vomiting, colics, &c. It is peculiarly hurtful to hypochondriac and hysteric persons, as it generates wind and other grievous symptoms.

Persons who are liable to be costive, should live upon a moistening and laxative diet, as roasted or boiled apples, pears, stewed prunes, raisins, gruels with currants, butter, honey, and sugar, &c. Green broths with spinage, leeks, and other soft pot-herbs, are likewise proper. Rye-bread, or that which is made of a mixture of wheat and rye together, ought to be eat. No person troubled with costiveness, should eat wheat-bread alone, especially that which is made of fine flower. The best bread for keeping the belly soluble is, what the English call *messin*. It is made of equal parts of wheat and rye; or more commonly of two parts of the former, to one of the latter.

Costiveness is increased by keeping the body too warm, and by every thing that promotes the perspiration; as wearing flannel, lying too long a-bed, &c. Intense thought, and a sedentary life, are likewise hurtful. All the secretions and excretions are promoted by moderate exercise without doors, and by a gay, chearful, sprightly temper of mind.

The drink should be of an opening quality. All ardent spirits, austere and astringent wines, as port, claret, &c. ought to be avoided. Malt-liquor that is fine, and of a moderate strength, is very proper. Butter-milk, whey, and other watery liquors, are likewise proper, and may be drank in turns, as the patient's inclination directs.

Those

Those who are troubled with costiveness, ought, if possible, to remedy it by diet, as the constant use of medicines for that purpose is attended with many inconveniences, and often with bad consequences*. I never knew any one get into a habit of taking medicine for keeping the belly open, who could leave it off. In time, the custom becomes necessary, and generally ends in a total relaxation of the bowels, indigestion, loss of appetite, wasting of the strength, and death.

When the belly cannot be kept open without medicine, we would recommend gentle doses of rhubarb to be taken twice or thrice a-week. This is not near so injurious to the stomach as aloes, jalap, or the other drastic purgatives so much in use. Infusions of senna and manna may likewise be taken, or half an ounce of soluble tartar dissolved in water-gruel. About the size of a nutmeg of lenitive electuary, taken twice or thrice a-day, generally answers the purpose very well†.

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* The learned Dr Arbuthnot advises those who are troubled with costiveness, to use animal oils, as fresh butter, cream, marrow, fat broths, especially those made of the internal parts of animals, as the liver, heart, midriff, &c. He likewise recommends the expressed oils of mild vegetables, as olives, almonds, pastaches, and the fruits themselves; all oily and mild fruits, as figs; decoctions of mealy vegetables, these lubricate the intestines; some saponaceous substances, which stimulate gently, as honey, hydromel, or boiled honey and water, unrefined sugar, &c.

The Doctor observes, that such lenitive substances are proper for persons of dry atrabilarian constitutions, who are subject to astringency of the belly, and the piles, and will operate when stronger medicinal substances are sometimes ineffectual; but that such lenitive diet hurts those whose bowels are weak and lax. He likewise observes, that all watery substances are lenitive, and that even common water, whey, sour milk, and butter-milk, have that effect:—That new milk, especially asses milk, stimulates more when it sours on the stomach; and that whey turned sour, will purge strongly:—That most garden-fruits are likewise laxative; and that some of them, as grapes, will throw such as take them immoderately, into a cholera morbus, or incurable diarrhoea.

† With those whose stomach will admit of an oily medicine, half an ounce, or six drams of *castor-oil*, is in general both an effectual
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OF INVOLUNTARY DISCHARGES OF BLOOD.

SPONTANEOUS, or involuntary discharges of blood, often happen from various parts of the body. They are seldom, however, attended with great danger, and prove often salutary. When such discharges are critical, which is frequently the case in fevers, they ought not to be stopped. Nor indeed is it proper at any time to stop them, unless they be so great as to endanger the patient's life. Most people, afraid of the smallest appearance of blood from any part of the body, fly immediately to the use of stiptic and astringent medicines, by which means an inflammation of the brain, or some other fatal disease, is occasioned, which, had the discharge been allowed to go on, might have been prevented.

Periodical discharges of blood, from whatever part of the body they proceed, must not be stopped. These are always the efforts of nature, to relieve herself; and fatal diseases have often been the consequence of obstructing them. It may indeed be sometimes necessary to check the violence of such discharges; but even this requires the greatest caution. Instances may be given, where the stopping of a small periodical flux of blood, from one of the fingers, has proved fatal to the person's health.

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and a mild laxative: a dram of the flowers of sulphur, taken in a spoonful of milk, will, in general, answer the same purpose; with this difference in their operation, however, that the last operates slowly, while the first operates soon after it is taken.

In the early period of life, bleeding at the nose is most common. Those who are farther advanced in life, are more liable to a hæmoptoe, or discharge of blood from the lungs. After the middle period of life, hæmorrhoidal fluxes are most common; and in the decline of life, discharges of blood from the urinary passages.

Involuntary fluxes of blood may proceed from very different, and often from quite opposite causes. Sometimes they are hereditary, or owing to a particular construction of the body, as a sanguine temperament, a lax or plethoric habit, &c. Sometimes they proceed from a determination of the blood towards one particular part, as the head, the hæmorrhoidal veins, &c. They may likewise proceed from an inflammatory disposition of the blood; in which case, there is generally some degree of fever: this likewise happens when the flux is occasioned by an obstructed perspiration, or a stricture upon the skin, the bowels, or any particular part of the system.

But a dissolved state of the blood will likewise occasion hæmorrhages. Thus, in putrid fevers, the scurvy, the malignant small pox, &c. there are often very great discharges of blood from different parts of the body. They may likewise be brought on by the use of any medicines which tend to dissolve the blood, as mercury, cantharides, and the volatile alkaline salts, &c. Food of an acrid or irritating quality may likewise occasion hæmorrhages; as also strong purges and vomits, or any thing that greatly stimulates the bowels.

Violent passions or agitations of the mind will also occasion hæmorrhages. These often cause bleeding at the nose; and I have known them sometimes occasion an hæmorrhage in the brain. Violent efforts of the body, by overstraining or hurting the vessels, may likewise bring on hæmor-

rhages, especially when the body is long kept in an unnatural posture, as hanging the head very low, &c.

The cure of an hæmorrhage must be adapted to its cause. When it proceeds from too much blood, or a tendency to inflammation, bleeding, with gentle purges and other evacuations, will be necessary. It will likewise be proper for the patient in that case to live chiefly upon a vegetable diet, to avoid all strong liquors, and food that is of an acrid, hot, or stimulating quality. The body should be kept cool, and the mind easy.

When an hæmorrhage is owing to a putrid or dissolved state of the blood, the patient ought to live chiefly upon acid fruits, with milk, and vegetables of a nourishing nature, as sago, salop, &c. His drink may be wine diluted with water, and sharpened with the juice of lemon, vinegar, or spirits of vitriol. The best medicine in this case is the Jesuits bark. It may be taken as already directed.

When a flux of blood is the effect of acrid food, or of strong stimulating medicines, the cure is to be effected by such soft and mucilaginous diet, as is recommended in the dysentery or bloody-flux. The patient may likewise take frequently about the bulk of a nutmeg of Locatelli's balsam, or the same quantity of spermaceti.

When an obstructed perspiration, or a stricture upon any part of the system, is the cause of an hæmorrhage, it may be removed by drinking warm diluting liquors, lying a-bed, bathing the extremities in warm water, &c.

OF BLEEDING AT THE NOSE.

A BLEEDING at the nose is commonly preceded by some degree of quickness of the pulse, a flushing in the face, pulsation of the temporal arteries, heaviness in the head, dimness of the sight, heat and itching of the nostrils, &c.

To persons who abound with blood, this discharge is very salutary. It often cures a vertigo, the head-ach, a phrenzy, and even an epilepsy. In fevers where there is a great determination of blood towards the head, it is of the utmost service. It is likewise beneficial in inflammations of the liver and spleen, and often in the gout and rheumatism. In all diseases where evacuations are necessary, a spontaneous discharge of blood from the nose, is of much more service than the same quantity let with a lancet.

In a discharge of blood from the nose, the great point is to determine whether it ought to be stopped or not. It is a common practice to stop the bleeding, without considering whether it be a disease, or the cure of a disease. This conduct proceeds from fear; but it has many bad and sometimes even fatal consequences.

When a discharge of blood from the nose happens in any inflammatory disease, there is always reason to believe that it may prove salutary; and therefore it should be suffered to go on, at least as long as the patient seems to bear it well.

When it happens to persons in perfect health, who are full of blood, it ought not to be stopped; especially if the symptoms of plethora, mentioned

above, have preceded it. In this case it cannot be stopped without risking the patient's life.

In fine, whenever bleeding at the nose relieves any bad symptom, and does not proceed so far as to endanger the patient's life, it ought not to be stopped. But when it returns frequently, or continues till the pulse becomes very low, the extremities begin to grow cold, the lips pale, or the patient complains of being sick, or like to faint, it must immediately be stopped.

The patient should be set nearly upright, with his head inclining a little backwards, and his legs immersed in water about the warmth of new milk. His hands ought likewise to be put in lukewarm water, and his garters may be tied a little tighter than usual, about three inches above the knee. Ligatures may likewise be applied to the arms, about the place where they are usually made for bleeding, and with nearly the same degree of tightness. These must be gradually slackened as the blood begins to stop, and removed entirely as soon as it gives over.

Sometimes dry lint put up the nostrils will stop the bleeding. When this does not succeed, dossils of lint dipped in strong spirits of wine may be put up the nostrils, or, if that cannot be had, they may be dipped in brandy. Roman vitriol dissolved in water may likewise be used for this purpose, or a tent, dipped in the white of an egg well beat up, may be rolled in a powder made of equal parts of white-sugar, burnt-allum, and white-vitriol, and put up the nostril from whence the blood issues.

Internal medicines can hardly take place here, as they have seldom time to operate. It may not, however, be amiss to give the patient half an ounce of Glauber's salts, and the same quantity of manna, dissolved in four or five ounces of barley-water. This may be taken at a draught, and repeated if
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it does not operate in a few hours. Ten or twelve grains of nitre may be taken in a glass of cold water and vinegar every hour, or oftener if the stomach will bear it. If a stronger medicine be necessary, a tea-cupful of the tincture of roses, made as before directed, with twenty or thirty drops of the small spirit of vitriol, may be taken every hour. When these things cannot be had, the patient may drink water, with a little common salt in it, or equal parts of water and vinegar.

If the genitals be immersed in cold water, it will generally stop a bleeding at the nose.—I have never known this fail.

Sometimes, when the blood is stopped outwardly, it continues to bleed inwardly. This is very dangerous, and requires particular attention, as the patient is apt to be suffocated with the blood, especially if he falls asleep, which he is very ready to do after losing a great quantity of blood *.

After the bleeding is stopped, the patient ought to be kept as easy and quiet as possible. He ought not to pick his nose, nor to take away the the tents or clotted blood, till they fall off of their own accord, and should not lie with his head too low.

Those who are affected with frequent bleeding at the nose, ought to bathe their feet often in warm-water, and keep them warm and dry. They ought

* When a hæmorrhage from the nose proves so violent as to threaten the life of the patient, the following method is recommended. Let a piece of catgut, or waxed thread doubled, be introduced at the anterior nostril, whence the blood issues, till the double appear in the throat; when being laid hold of and drawn out at the mouth, a piece of sponge must be introduced into it large enough to fill up the posterior nostril. The other end of the string must now be drawn till the sponge be applied with sufficient tightness to the passage; when another piece of sponge being adapted to the size of the anterior nostril, the two ends of the string must now be separated from one another, and a noose formed by these on the sponge, so tight as completely to fill up the opening.

ought to wear nothing tight about their necks, to keep their body as much in an erect posture as possible, and never to view any object obliquely. If they have too much blood, a vegetable diet, with now and then a dose of phyfic, is the safest way to lessen it.

But when the disease proceeds from a thin dissolved state of the blood, the diet should be rich and nourishing; as strong broths with bread, sago-gruel with wine and sugar, &c. Infusions of the Jesuits bark in wine ought likewise to be taken, and persisted in for a considerable time.

OF THE BLEEDING AND BLIND PILES.

A DISCHARGE of blood from the hæmorrhoidal vessels is called the *Bleeding piles*. When the vessels only swell, and discharge no blood, but are exceeding painful, the disease is called the *Blind piles*.

Persons of a loose spongy texture, of a bulky size, who live high, and lead a sedentary inactive life, are most subject to this disease. It is often owing to a hereditary disposition. Where this is the case, it attacks persons more early in life than when it is accidental. Men are more liable to it than women, especially those of a sanguine plethoric habit, or of a melancholy disposition.

The piles may be occasioned by an excess of blood, by strong aloetic purges, high-seasoned food, drinking great quantities of sweet-wines, the neglect

glect of bleeding, or other customary evacuations, much riding, great costiveness, or any thing that occasions hard or difficult stools. Anger, grief, and other violent passions, will likewise occasion the piles. I have often known them brought on by cold, especially about the *anus*. A pair of thin breeches will occasion the disorder in a person who is subject to it, and sometimes even in those who never had it before. Pregnant women are often afflicted with the piles.

A flux of blood from the *anus* is not always to be reckoned a disease. It is even more salutary than bleeding at the nose, and often prevents or carries off diseases. It is peculiarly beneficial in the gout, rheumatism, asthma, and hypochondriacal complaints, and often proves critical in colics, and inflammatory fevers.

In the treatment of this disease, regard must be had to the patient's habit of body, his age, strength, and manner of living. A discharge which might be excessive, and prove hurtful to one, may be very moderate, and even salutary to another. That only is to be esteemed dangerous, which continues so long, and in such quantity, as to waste the patient's strength, hurt the digestion, nutrition, and other functions necessary to life.

When that is the case, the discharge must be checked by proper regimen, and astringent medicines. The DIET must be cool, but nourishing, consisting chiefly of bread, milk, cooling vegetables, and broths. The DRINK may be chalybeate water, orange whey, decoctions or infusions of the astringent and mucilaginous plants, as the tormentil root, the marsh-mallow roots, &c.

Old conserve of red roses is a very good medicine in this case. It may be mixed with new milk, and taken in the quantity of an ounce, three or four times a-day. This medicine is in no great repute,

pute, owing to its being seldom taken in such quantity as to produce any effects; but when taken as here directed, and duly persisted in, I have known it perform very extraordinary cures, in violent hæmorrhages, especially when assisted by the tincture of roses; a tea-cupful of which may be taken about an hour after every dose of the conserve. The method of preparing this tincture is mentioned in a former part of this Work.

The Jesuits bark is likewise proper in this case, both as a strengthener and astringent. It may be taken, in the quantity of a dram, in a little red wine, sharpened with the spirit of vitriol.

The bleeding piles are sometimes periodical, and return regularly once a month, or once in three weeks. In this case, they are always to be considered as a salutary discharge, and by no means to be stopped. Some have entirely ruined their health, by stopping a periodical discharge of blood from the hæmorrhoidal veins.

In the *blind piles*, bleeding is generally of use. The diet must be light and thin, and the drink cool and diluting. It is likewise necessary that the belly be kept gently open. This may be done by small doses of flower of brimstone and cream of tartar. These may be mixed in equal quantities, and a tea-spoonful taken two or three times a-day, or as often as is necessary, to keep the belly easy. Or an ounce of flower of brimstone, and half an ounce of purified nitre, may be mixed with three or four ounces of the lenitive electuary, and a tea-spoonful of this taken three or four times a-day.

Emollient clysters are likewise beneficial; but there is sometimes such an astriction of the *anus*, that they cannot be thrown up. In this case, I have known a vomit have an exceeding good effect.

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When the piles are exceeding painful, and swelled, but discharge nothing, the patient must sit over the steam of warm water. He may likewise apply a linen-cloth, dipped in warm spirits of wine, to the part, or poultices made of bread and milk, or of leeks fried with butter. If these do not produce a discharge, and the piles appear large, leeches must be applied as near the piles as possible, or if they will fix upon the piles themselves, so much the better. When leeches will not fix, the piles may be opened with a lancet. The operation is very easy, and is attended with no danger.

Various ointments, and other external applications, are recommended in the piles; but I do not remember ever to have seen any effects from these worth mentioning. Their principal use is to keep the part soft, which may be done equally well by a soft poultice, or an emollient cataplasm*.

SPITTING OF BLOOD.

WE only mean here to treat of that discharge of blood from the lungs, which commonly goes by the name of an *hæmoptoe*, or *spitting of blood*. Persons of a slender make, and a lax fibre, who have long necks and strait breasts, are most liable to this disease. It is most common in the spring, and

* An ointment composed of equal parts of hog's lard, and galls finely powdered, has been recommended in affections of this kind.

and generally attacks people before they arrive at the prime or middle period of life. It is a common observation, that those who have been subject to bleeding at the nose when young, are afterwards most liable to an hæmoptoe.

CAUSES.—An hæmoptoe may proceed from excess of blood, from a peculiar weakness of the lungs, or a bad conformation of the breast. It is often occasioned by excessive drinking, running, wrestling, singing, or speaking aloud. Such as have weak lungs, ought to avoid all violent exertions of that organ, as they value life. They should likewise guard against violent passions, and every thing that occasions a rapid circulation of the blood.

This disease may likewise proceed from wounds of the lungs. These may either be received from without, or they may be occasioned by hard bodies getting into the wind-pipe, and so falling down upon the lungs, and hurting their tender vessels. The obstruction of any customary evacuation may occasion a spitting of blood; as the neglect of bleeding or purging at the usual seasons, the stoppage of the bleeding piles in men, or the menses in women, &c. It may likewise proceed from a polypus, schirrous concretions, or any thing that obstructs the circulation of the blood in the lungs. It is often the effect of a long and violent cough; in which case, it is generally the forerunner of a consumption. A violent degree of cold suddenly applied to the external parts of the body, will occasion an hæmoptoe. It may likewise be occasioned by breathing in air which is too much rarified, to be able properly to expand the lungs. This is often the case with those who work in hot places, as furnaces, glass-houses, &c. It may likewise happen to such as ascend to the top of very high mountains, as the Peak of Teneriff, &c.

Spitting

Spitting of blood is not always to be considered as a primary disease. It is often only a symptom, and in some cases not an unfavourable one. This is the case in pleurifies, peripneumonies, and sundry other fevers. In a dropſy, ſcurvy, or conſumption, it is a bad ſymptom, and ſhews that the lungs are ulcerated.

SYMPTOMS.—Spitting of blood is generally preceded by a ſenſe of weight, and oppreſſion of the breaſt, a dry tickling cough, hoarſeneſs, and a difficulty of breathing. Sometimes it is uſhered in with ſhivering, coldneſs of the extremities, coſtiveneneſs, great laſſitude, flatulence, pains of the back and loins, &c. As theſe ſhew a general ſtriſture upon the veſſels, and a tendency of the blood to inflammation, they are commonly the forerunners of a very copious diſcharge. Theſe ſymptoms do not attend a diſcharge of blood from the gums or fauces, by which means they may always be diſtinguiſhed from an hæmoptoe. Sometimes the blood that is ſpit up is thin, and of a florid red colour; and at other times it is thick, and of a dark or blackiſh colour; nothing, however, can be inferred from this circumſtance, but that the blood has lain a longer or ſhorter time in the breaſt, before it was diſcharged.

Spitting of blood, in a ſtrong healthy perſon, of a ſound conſtitution, is ſeldom dangerous; but when it attacks the tender and delicate, or perſons of a weak lax fibre, it is not eaſily removed. When it proceeds from a ſchirrus or polypus of the lungs, it is bad. The danger is greater, when the diſcharge proceeds from the rupture of a large veſſel, than of a ſmall one. When the extravafated blood is not ſpit up, but lodges in the breaſt, it corrupts, and greatly increaſes the danger. When the blood proceeds from an ulcer in the lungs, it is generally fatal.

REGIMEN.—The patient ought to be kept cool, and perfectly at rest. Every thing that heats the blood, or quickens the circulation, increases the danger. The mind ought likewise to be soothed, and every occasion of exciting the passions avoided. The diet should be soft, cooling, and slender; as rice boiled with milk, small broths, barley-gruels, panada, &c. The diet, in this case, can scarce be too low. Even water-gruel is sufficient to support the patient for some days. All strong liquors must be avoided. The patient may drink milk and water, barley-water, whey, butter-milk, and such like. Every thing should be drank cold, and in small quantities at a time. The patient must observe the strictest silence, or at least speak with a very low voice.

MEDICINE.—This, like the other involuntary discharges of blood, ought not to be suddenly stopped by astringent medicines. More mischief is often done by these, than if it were suffered to go on. It may, however, proceed so far as to weaken the patient, and even endanger his life; in which case proper means must be used for restraining it*.

The belly should be kept gently open by laxative diet; as roasted apples, stewed prunes, &c. If these should not have the effect, a tea-spoonful of the lenitive electuary may be taken twice or thrice a-day, as is found necessary. If the bleeding proves violent, ligatures may be applied to the extremities, as directed for the bleeding at the nose.

If the patient be hot or feverish, bleeding and small doses of nitre will be of use; a scruple or
half

* Blood-letting is highly necessary in this disease, and ought to be repeated according to the urgency of the symptoms, and the strength of the patient.

half a dram may be taken in a cup of his ordinary drink twice or thrice a-day. His drink may likewise be sharpened with acids, as juice of lemon, or a few drops of the spirit of vitriol; or he may take frequently a cup of the tincture of roses.

Bathing the feet and legs in lukewarm water, by taking off spasm, has a very good effect in this disease. Opiates too are sometimes beneficial for that purpose; but these must be given with the greatest caution. Ten or twelve drops of laudanum may be given in a cup of barley-water twice a day, and continued for some time, provided they be found beneficial.

The conserve of roses is likewise a very good medicine in this case, provided it be taken in sufficient quantity, and long enough persisted in. It may be taken to the extent of three or four ounces a-day; and, if the patient be troubled with a cough, it should be made into an electuary with balsamic syrup, and a little of the syrup of poppies.

If stronger astringents be found necessary, fifteen or twenty drops of the acid elixir of vitriol may be taken in a glass of water, three or four times a-day.

Those who are subject to frequent returns of this disease, should be careful to avoid all excess. Their diet should be light and cool, consisting chiefly of milk and vegetables. Above all, let them beware of vigorous efforts of the body, and violent agitations of the mind.

VOMITING OF BLOOD.

THIS is not so common as the other discharges of blood which have already been mentioned; but it is more dangerous, and requires the greatest attention*.

Vomiting of blood is generally preceded by pains in the stomach, sickness and nausea, and is accompanied with great anxiety, and frequent fainting-fits.

Vomiting of blood is sometimes periodical; in which case it is less dangerous. It often proceeds from an obstruction of the menses in women; and sometimes from the stopping of the hæmorrhoidal flux in men. It may be occasioned by any thing that greatly stimulates or wounds the stomach, as strong vomits or purges, acrid poisons, sharp or hard substances taken into the stomach, &c. It is often the effect of obstructions in the liver, the spleen, or some of the other viscera. It may likewise proceed from external violence, as blows or bruises, or from any of the causes which produce inflammation.

A great part of the danger in this disease arises from the extravasated blood lodging in the bowels, and becoming putrid, by which means a dysentery or putrid fever may be occasioned. The best way of preventing this, is to keep the belly gently open, by frequently exhibiting emollient clysters. Purges must not be given till the discharge is stopt, otherwise,

* This complaint, we believe, seldom occurs as a primary affection, it is more commonly only a symptom of some other disease, and is, notwithstanding of what our author here observes, not frequently attended with much danger.

otherwise they will irritate the stomach, and increase the disorder. All the food and drink must be of a mild cooling nature, and taken in small quantities. Even drinking cold water has sometimes proved a remedy. When there are signs of an inflammation, bleeding may be necessary; but the patient's weakness will seldom permit it. Astringents can seldom be used, as they stimulate the stomach, and of course increase the disease. Opiates may be of use; but they must be given in very small doses, as four or five drops of liquid laudanum twice or thrice a-day. After the discharge is over, as the patient is generally troubled with gripes, occasioned by the acrimony of the blood lodged in the intestines, gentle purges will be necessary.

OF BLOODY URINE.

THIS disorder is commonly called *pissing of blood*. It is a discharge of blood, with or without urine, from the vessels of the kidneys or bladder, which may be either enlarged, broken, or eroded. It is more or less dangerous according to the different circumstances which attend it.

When pure blood is voided suddenly, without interruption and without pain, it proceeds from the kidneys; but if the blood be in small quantity, of a dark colour, and emitted with heat and pain about the bottom of the belly, it proceeds from the bladder. When bloody urine is occa-

sioned by a large rough stone descending from the kidneys to the bladder, which wounds the *ureters*, it is attended with a sharp pain in the back, and difficulty of making water. If the coats of the bladder are hurt by a stone, and bloody urine follows, it is attended with the most acute pain, and a previous stoppage of urine.

Bloody urine may likewise be occasioned by falls, blows, the lifting or carrying of heavy burdens, hard riding, or any violent motion. It may also proceed from ulcers or erosions of the bladder, from a stone lodged in the kidneys, or from violent purges, or sharp diuretic medicines, especially cantharides.

Bloody urine is always attended with some degree of danger; but it is peculiarly so when mixed with purulent matter, as this shews an ulcer somewhere in the urinary passages. Sometimes this discharge proceeds from excess of blood, in which case it is rather to be considered as a salutary evacuation than a disease. If the discharge, however, be very great, it may waste the patient's strength, and occasion an ill habit of body, a dropsy, or a consumption, &c.

The treatment of this disorder must be varied according to the different causes from which it proceeds.

When it is owing to a stone in the bladder, the cure depends upon an operation, which it is not our business here to describe.

If it be attended with a plethora, and symptoms of an inflammation, bleeding will be necessary. The belly must likewise be kept open by emollient clysters, or cooling purgative medicines; as crystals of tartar, rhubarb, manna, or small doses of lenitive electuary.

When bloody urine proceeds from a dissolved state of the blood, it is commonly the symptom
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of some malignant disease; as the small-pox, a putrid fever, or the like. In this case, the patient's life depends on the liberal use of the Jesuits bark and acids, as has already been shewn.

When there is reason to suspect an ulcer in the kidneys or bladder, the patient's diet must be cool, and his drink of a soft, healing, balsamic quality, as decoctions of marshmallow-roots with liquorice, solutions of gum-arabic, &c. Three ounces of marshmallow-roots, and half an ounce of liquorice, may be boiled in two English quarts of water to one; two ounces of gum-arabic, and half an ounce of purified nitre, may be dissolved in the strained liquor, and a tea-cupful of it taken four or five times a-day.

The early use of astringents in this disease has often bad consequences. When the flux is stopped too soon, the grumous blood, by being confined in the vessels, may produce inflammations, abscess, and ulcers. If, however, the case be urgent, or the patient seem to suffer from the loss of blood, gentle astringents may be necessary. In this case the patient may take three or four ounces of * lime-water, with half an ounce of the tincture of Jesuits bark, three times a-day. Or he may take an ounce or two of the conserve of roses three or four times a-day, drinking a tea-cupful of the tincture of roses after it. If stronger styptics be necessary, a dram of Armenian bole may be taken in a cup of whey three or four times a-day.

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* Lime water is prepared by pouring two English gallons of water gradually upon a pound of quicklime; when the ebullition is over, let the whole stand to settle for two days, then filter the liquor through paper. It should be kept in vessels closely stopped.

OF VOMITING.

VOMITING may proceed from various causes; as excess in eating or drinking; a foul stomach; the acrimony of the aliments; the translation of the morbid matter of ulcers, the gout, the erysipelas, and other diseases, to the stomach. It may likewise proceed from a looseness, or flux of blood, being too suddenly stopped, or from the stoppage of any customary evacuation, as the bleeding piles, the *menfes*, &c. Vomiting may proceed from the weakness of the stomach, the colic, the iliac passion, a rupture, a fit of the gravel, worms, or from any kind of poison taken into the stomach. It is an usual symptom of hurts of the brain; as contusions, compressions, &c. It is likewise a symptom of wounds, or inflammations of the diaphragm, intestines, spleen, liver, kidneys, &c.

Vomiting may be occasioned by unusual motions; as riding backwards in a cart or coach, sailing, &c. It may likewise be excited by violent passions, or by the idea of nauseous objects, especially of such things as have formerly produced vomiting. Sometimes it proceeds from a regurgitation of the bile into the stomach; in this case, what the patient vomits is generally of a yellow or greenish colour, and has a bitter taste. Persons who are subject to nervous affections, are often suddenly seized with violent fits of vomiting. Lastly, Vomiting is a common symptom of pregnancy. In this case, it generally comes on about two weeks after the stopping of the *menfes*, and continues during the first three or four months.

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When vomiting proceeds from a foul stomach or indigestion, it is not to be considered as a disease, but as the cure of a disease. It ought therefore to be promoted, by drinking luke-warm water, or thin gruel. If this does not put a stop to the vomiting, a dose of ipecacuanha may be taken, and wrought off with weak camomile-tea.

When the retrocession of gouty matter, or the obstruction of customary evacuations, occasion vomiting, all means must be used to restore these discharges; or, if that cannot be effected, their place must be supplied by others, as bleeding, purging, bathing the extremities in warm water, opening issues, setons, perpetual blisters, &c.

When vomiting proceeds from pregnancy, it may generally be relieved by bleeding, and keeping the belly gently open. The bleeding, however, ought to be in small quantities at a time, and the purgatives should be of the mildest kind, as figs, stewed prunes, manna or senna. Pregnant women are most apt to vomit in the morning, immediately after getting out of bed, which is owing partly to the change of posture, but more to the emptiness of the stomach. It may generally be prevented, by taking a dish of tea, or some light breakfast in bed. Pregnant women who are afflicted with vomiting, ought to be kept easy both in body and mind. They should neither allow their stomachs to be quite empty, nor should they eat much at once. Cold water is a very good drink in this case; if the stomach be weak, a little brandy may be added to it. If the spirits be low, and the person apt to faint, a spoonful of cinnamon-water, with a little marmalade of quinces or oranges, may be taken.

If vomiting proceeds from weakness of the stomach, bitters will be of service, as the Gentian root, camomile and snake-root, infused in brandy

or wine. To these may be added as much rhubarb as will keep the belly gently open. The Jesuits bark is likewise an excellent medicine for bracing and strengthening the stomach. It may be drank in form of tea, or infused in wine or brandy, &c. The elixir of vitriol is also a good medicine in this case. It may be taken in the dose of fifteen or twenty drops, twice or thrice a-day, in a glass of wine or water.

A vomiting which proceeds from acidities in the stomach, is relieved by alkaline purges. The best medicine of this kind, is the *magnesia alba*, a teaspoonful of which may be taken in a dish of tea, or a little milk, twice or thrice a-day, or oftener if necessary, to keep the belly open.

When vomiting proceeds from violent passions, or affections of the mind, all kind of evacuations must be avoided, especially vomits. These are exceedingly dangerous. The patient, in this case, ought to be kept perfectly easy and quiet, to have the mind soothed, and to take some gentle cordial, as *negus*, or a little brandy and water. A few drops of liquid laudanum may likewise be taken, to calm the spirits, and take off the irritation upon the nerves.

When vomiting proceeds from spasmodic affections of the stomach, musk, castor, and other antispasmodic medicines, are of use. Aromatic plasters, have likewise a good effect. The stomach-plaster of the London or Edinburgh Dispensatory, may be applied to the pit of the stomach, or rather a little towards the left side, so as to cover a part of the false ribs. Aromatic medicines may likewise be taken inwardly, as cinnamon-tea, mint-tea, wine with spices boiled in it, &c. The region of the stomach may be rubbed with æther, or, if that cannot be had, with strong brandy, or other spirits. The belly should be fomented with
warm

warm water, or the patient immersed up to the breast in a warm bath.

I have always found the saline draughts most effectual in stopping a vomiting, from whatever cause it proceeded. These may be made by dissolving a dram of the salt of tartar, in an ounce and a half of fresh lemon-juice, adding to it an ounce of peppermint-water, and half an ounce of cinnamon-water. This draught may be sweetened with a little white sugar, and taken in the act of effervescence. It must be repeated every two hours, or every hour, if the vomiting be very violent. I do not remember to have seen this medicine, when duly persisted in, fail to stop a vomiting.

As the least motion will often bring on the vomiting again, even after it has been stopped, the patient must avoid all manner of action. His diet must be so regulated, as to sit easy upon the stomach; and he should take nothing that is hard of digestion. We do not, however, mean that the patient is to live upon slops. Solid food, in this case, often sits easier on the stomach than liquids.

OF THE HEAD-ACH

THE head-ach is produced by various causes, and attended with different symptoms, according to its different degrees, and the part where it is situated. When it is slight, and affects a particular

lar part of the head, it is called *Cephalalgia*; when the whole head is affected, *Cephalæa*; and when one side only, *Hemicrania*. A fixed pain in the forehead, which may be covered with the end of the thumb, is called *Clavis hystericus*.

There are also other distinctions. Sometimes the pain is internal, sometimes external; sometimes it is an original disease, and at other times only symptomatic. When the head-ach proceeds from a hot bilious habit, the pain is very acute and throbbing, with a considerable heat of the part affected. When, from a cold phlegmatic habit, the patient complains of a dull heavy pain, and has a sense of coldness in the part. This kind of head-ach is sometimes attended with a degree of stupidity or folly.

Whatever obstructs the free circulation of the blood through the vessels of the head, may occasion a head-ach. In persons of a full habit, who abound with blood, or other humours, the head-ach often proceeds from the suppression of customary evacuations; as bleeding at the nose, sweating of the feet, &c. It may likewise proceed from any cause that determines a greater flux of blood towards the head; as coldness of the extremities, hanging of the head, &c. Whatever prevents the return of the blood from the head, will likewise occasion a head-ach; as looking long at any object obliquely, wearing any thing tight about the neck, &c.

When a head-ach proceeds from the stoppage of a running of the nose, there is a heavy, obtuse, pressing pain in the fore-part of the head, in which there seems to be such a weight, that the patient can scarcely hold it up. When it is occasioned by the caustic matter of the venereal disease, it generally affects the skull, and often produces a *caries* of the bones.

Sometimes

Sometimes a head-ach proceeds from the repulsion, or retrocession of the morbid matter of the gout, the erysipelas, the small-pox, measles, itch, or other eruptive diseases. A *hemicrania* generally proceeds from crudities or indigestion.

There is likewise a most violent, fixed, constant, and almost intolerable head-ach, which occasions great debility, both of body and mind, prevents sleep, disturbs digestion, destroys the appetite, causes a *vertigo*, dimness of sight, a noise in the ears, convulsions, epileptic fits, and sometimes vomiting, costiveness, coldness of the extremities, &c.

The head-ach is often symptomatic in continual and intermitting fevers, especially quartans. It is likewise a very common symptom of hysteric and hypochondriac complaints.

An external pain of the head is seldom dangerous. When a head-ach attends an acute fever, with pale urine, it is an unfavourable symptom. In excessive head-achs, coldness of the extremities is a bad sign. When the disease continues long, and is very violent, it often terminates in blindness, an apoplexy, deafness, a *vertigo*, the palsy, epilepsy, &c.

The cool regimen, in general, is to be observed in this disease. The diet ought to consist of such emollient substances, as will correct the acrimony of the humours, and keep the belly open; as apples boiled in milk, spinage, turnips, and such like. The drink ought to be diluting; as barley-water, infusions of mild mucilaginous vegetables, decoctions of the sudorific woods*, &c. The feet
and

* The decoction of woods is thus made: Take shavings of guaiacum wood, three ounces; raisins of the sun, stoned, two ounces; sassafras wood, shaved, one ounce; liquorice sliced, half an ounce. Boil the guaiacum and raisins in an English gallon of water, over a gentle fire, to the consumption of one half; adding towards the end, the sassafras and liquorice. Strain the liquor, and having suffered it to settle for some time, pour off the clear liquor from the feces. This may be taken at pleasure for ordinary drink.

and legs ought to be kept warm, and frequently bathed in lukewarm water; the head should be shaved, and bathed with water and vinegar. The patient ought, as much as possible, to keep an erect posture, and not to lie with his head too low.

When the head-ach is owing to excess of blood, and in hot bilious constitutions, bleeding is necessary. The patient may be bled in the jugular vein, and the operation repeated, if there be occasion. Cupping also, or the application of leeches to the temples, and behind the ears, may be of service. Afterwards a blistering-plaster may be applied to the neck, or behind the ears, or to any part of the head that is most affected. In some cases it will be proper to blister the whole head. In persons of a gross habit, issues or perpetual blisters will be of service. The belly ought likewise to be kept open by gentle laxatives.

But when the head-ach proceeds from a copious vitiated *serum*, stagnating in the membranes, either within or without the skull, with a dull, heavy, continual pain, which will neither yield to bleeding nor gentle laxatives, then more powerful purgatives are necessary, as pills made of aloes, resin of jalap, or the like. It will also be necessary, in this case, to blister the whole head, and to keep the back-part of the neck open for a considerable time, by a perpetual blister.

When the head-ach is occasioned by a stoppage of the running of the nose, the patient should frequently smell to a bottle of volatile salts; he may likewise take snuff, or any thing that will irritate the nose, so as to promote a discharge from it; as the herb-mastich, ground-ivy, &c.

A *hemicrania*, especially a periodical one, is generally owing to a foulness in the stomach, for which gentle vomits will be beneficial, as also purges of rhubarb. After the bowels have been sufficiently

ficiently cleared, chalybeate waters, and such bitters as strengthen the stomach, will be necessary*.

When the head-ach arises from a vitiated state of the humours, as in the scurvy and venereal disease †, the patient, after proper evacuations, must drink freely of the decoction of woods, recommended above, or the decoction of sarsaparilla with raisins and liquorice ‡. These promote perspiration, sweeten the humours, and, if duly persisted in, will produce very happy effects. When a collection of matter is felt under the skin, it must be discharged by an incision, otherwise it will render the bone carious.

When the head-ach is so intolerable as to endanger the patient's life, or is attended with continual watching, delirium, &c. recourse must be had to opiates. These, after proper evacuation by clysters, or mild purgatives, may be applied both externally and internally. The affected part may be rubbed with Bate's anodyne balsam, or a cloth dipped in it may be applied to the part. The patient may, at the same time, take twenty drops of laudanum, in a cup of valerian or pennyroyal tea, twice or thrice a-day. This is only to be done in case of extreme pain. Proper evacuations ought always to accompany and follow the use of opiates §.

When

* The Peruvian bark is a valuable medicine in this case. Indeed it may almost be considered as a *specific*, in periodical head-achs.

† In this case, we believe, no medical practitioner would expect to cure the head-ach, till he had first cured the original disease by a complete course of mercury.

‡ This is made by boiling three ounces of fresh sarsaparilla, an ounce of raisins, and half an ounce of liquorice, in three English quarts of water to one. The liquor must be strained, and an English pint of it drank daily.

§ Æther applied on the palm of the hand, to the part affected, and held there till it evaporate, often relieves the pain.

When the patient cannot bear the loss of blood, his feet ought frequently to be bathed in lukewarm water, and well rubbed with a coarse cloth. Cataplasms with mustard or horse-radish ought likewise to be applied to them. This course is peculiarly necessary when the pain proceeds from a gouty humour affecting the head.

When the head-ach is occasioned by great heat, hard-labour, or violent exercise of any kind, it may be allayed by cooling medicines; as the saline draughts with nitre, &c.

OF THE TOOTH-ACH.

THIS disease is so well known, that it needs no description. It has great affinity with the rheumatism, and often succeeds pains of the shoulders and other joints.

It may proceed from various causes; as obstructed perspiration or catching cold; or from any of the common causes of inflammation. I have often known the tooth-ach occasioned by neglecting some part of the usual coverings of the head, by sitting with the head bare near an open window, or its being any how exposed to a draught of cold air. Food or drink taken either too hot or too cold, is very hurtful to the teeth. Great quantities of sugar, or other sweet-meats, are likewise hurtful. Nothing is more destructive to the teeth than cracking nuts, or chewing any kind of
hard

hard substances. Picking the teeth with pins, needles, or with any thing that may hurt the enamel with which they are covered, does great mischief; as the tooth is sure to be spoiled whenever the air gets into it. Pregnant women are very subject to the tooth-ach, especially during the first three or four months of pregnancy. The tooth-ach often proceeds from scorbutic humours affecting the gums. In this case the teeth are sometimes wasted, and fall out without any considerable degree of pain. The proximate or immediate cause of the tooth-ach is a rotten or *carious* tooth.

In order to relieve the tooth-ach, we must endeavour to draw off or divert the humours from the part affected. This may be done by mild purgatives, bleeding, and bathing the feet frequently in warm water. The perspiration ought likewise to be promoted, by drinking freely of weak wine-whey, or other diluting liquors, with small doses of nitre. Vomits too have often an exceeding good effect in the tooth-ach. It is seldom safe to administer opiates, or any kind of heating medicines, or even to draw a tooth, till proper evacuations have been premised; and these alone will often effect the cure.

Next to evacuations, we recommend fomenting the part with warm water, or decoctions of emollient vegetables. Bags filled with boiled camomile-flowers, flowers of elder, or the like, may be applied to the part affected, with as great a degree of warmth as the patient can bear, and renewed as they grow cool. The patient may likewise receive the steams of warm water into his mouth, through an inverted funnel, or by holding his head over the mouth of a porringer filled with warm water, &c.

Gargles are likewise of use to make a discharge from the part. Rob of elder dissolved in small
beer

beer makes a very proper gargle, or an infusion of sage or mulberry leaves.

Such things as promote the discharge of saliva, or cause the patient to spit, are always proper. For this purpose, bitter, hot, or pungent vegetables, may be chewed; as gentian, calamus-aromaticus, or pellatory of Spain. Allen recommends the root of *yellow-water flower de luce* in this case. This root may either be rubbed upon the tooth or chewed. Brookes says, he hardly ever knew it fail to ease the tooth-ach.

Many other herbs, roots, and seeds, &c. are recommended for curing the tooth-ach; as the leaves or roots of millefoil or yarrow chewed, tobacco smoaked or chewed, or the ashes put into the hollow tooth, staves acre, or the seeds of mustard chewed, &c. These bitter, hot, and pungent things, by occasioning a great flow of *saliva*, frequently give ease in the tooth-ach.

Opiates often relieve the tooth-ach. For this purpose, a little cotton wet with laudanum may be held between the teeth; or a piece of sticking-plaster, about the bigness of a sixpence, with a bit of opium in the middle of it, of a size not to prevent the sticking of the other, may be laid on the temporal artery, where the pulsation is most sensible. *De la Motte* affirms, that there are few cases wherein this will not give relief. If there be a hollow tooth, a small pill made of equal quantities of camphire and opium, put into the hollow, is often beneficial. When this cannot be had, the hollow-tooth may be filled with gum-mastich, wax, lead, or any substance that will stick in it, and keep the external air out.

Few applications give more relief in the tooth-ach than blistering-plasters. These may be applied betwixt the shoulders, but they have the best effect when put behind the ears, and made so
large

large as to cover a part of the lower jaw. Burning the nerve, within the affected tooth, with a hot iron, has frequently given ease; but this operation ought to be done with care. Applying a hot iron to the *antetragus*, or what is called *the inner bar of the ear*, is likewise a noted cure for the tooth-ach. Blistering, however, is more safe than either of these, and is not less efficacious.

Hoffman says, when every thing else failed, that he had often great success from the following pills.

Take of aromatic pill one dram, storax pill half a dram, extract of saffron six grains. Make them into nine pills; of which six or eight are to be taken at bed-time for a dose.

After all, when a tooth is carious, it is often impossible to remove the pain, without drawing the tooth; and, as a spoiled tooth never becomes sound again, it is prudent to draw it soon, lest it should affect the rest. Tooth-drawing, like bleeding, is very much practised by mechanics, as well as persons of the medical profession. The operation, however, is not without danger, and ought always to be done with care. A person unacquainted with the structure of the parts, will be in danger of breaking the jaw-bone, or of drawing a sound tooth, instead of a rotten one, &c.

When a sound tooth has been drawn, if it be replaced immediately, it will grow in again. It is now a common practice, to draw a rotten tooth, and put a sound one, taken from the mouth of some other person, in its place. It is likewise an easy matter to fix artificial teeth so neatly, as to answer most of the purposes of the natural; but these are matters which do not properly fall under our consideration.

When the tooth-ach returns periodically, and
the

the pain chiefly affects the gums, it may be cured by the bark.

Some pretend to have found great benefit in the tooth-ach, from the application of an artificial magnet to the affected tooth. We shall not attempt to account for its mode of operation, but, if it be found to answer, though only in particular cases, it certainly deserves a trial, as it is attended with no expence, and cannot do any harm.

Persons who have returns of the tooth-ach at certain seasons, as spring and autumn, might often prevent it by taking a dose of physic at these times.

Keeping the teeth clean, has no doubt a tendency to prevent the tooth-ach. The best method of doing this, is to wash them daily with salt and water, or with cold water alone. All brushing and scraping of the teeth is dangerous, and, unless it be performed with great care, must do mischief.

OF THE EAR-ACH.

THIS disorder chiefly affects the membrane which lines the inner cavity of the ear, called the *Meatus Auditorius*. It is often so violent, as to occasion great restlessness and anxiety, and even delirium. Sometimes epileptic fits, and other convulsive disorders, have been brought on by extreme pain in the ear.

The ear-ach may proceed from any of the causes which produce inflammation. It often proceeds
from

from a sudden suppression of perspiration, or from the head being exposed to cold, when covered with sweat. It may also be occasioned by worms, or other insects getting into the ear, or being bred there; or from any hard body sticking in the ear. Sometimes it proceeds from the translation of morbid matter to the ear. This often happens in the decline of malignant fevers, and occasions deafness, which is generally reckoned a favourable symptom.

When the ear-ach proceeds from insects, or any hard body sticking in the ear, every method must be taken to remove them as soon as possible. The membranes may be relaxed by dropping into the ear, oil of sweet almonds, or olive-oil. Afterwards, the patient should be made to sneeze, by taking snuff, or some strong sternutatory. If this should not force out the body, it must be extracted by art. I have seen insects, which had got into the ear, come out of their own accord, upon pouring in oil upon them, which is a thing they cannot bear.

When the pain of the ear proceeds from inflammation, it must be treated like other topical inflammations, by a cooling regimen and opening medicines. Bleeding at the beginning, either in the arm or jugular vein, or cupping in the neck, will be proper. The ear may likewise be fomented with steams of warm water, or flannel-bags filled with boiled mallows; and camomile-flowers, may be applied to it warm, or bladders filled with warm milk and water. An exceeding good method of fomenting the ear, is to apply it close to the mouth of a jug, filled with a strong decoction of camomile-flowers.

The patient's feet should be frequently bathed in lukewarm water, and he ought to take small doses of nitre and rhubarb, viz. a scruple of the

former, and ten grains of the latter, three times a-day. His drink may be whey, or decoctions of barley and liquorice, with figs or raisins, &c. The parts behind the ear ought frequently to be rubbed with camphorated oil, or the volatile liniment; and a few drops of the camphorated spirit of wine may be put into the ear, with wool or cotton*.

When the inflammation cannot be resolved, a poultice of bread and milk, or roasted onions, may be applied to the ear, and frequently renewed, till it breaks, or the abscess can be opened. Afterwards the humours may be diverted from the part by gentle laxatives, blisters, or issues; but the discharge must not be suddenly dried up by any external application.—I have often known the sudden drying of a running of the ear produce fatal consequences.

OF THE HEART-BURN.

WHAT is called the *Heart-burn*, is not a disease of that organ, but an uneasy sensation of heat, or acrimony about the pit of the stomach, which is sometimes attended with anxiety, nausea, and vomiting.

It may proceed from indigestion; from the acidity of the fluids, or contents of the stomach; or from bilious humours. Stale liquors, vinegar, greasy aliment,

* A blister, if applied early, behind the ear, will commonly remove this complaint.

aliment, wind, &c. will cause the heart-burn. In some constitutions, it is occasioned by the use of acids, and in others by aromatics. Pregnant women are very subject to it.

When the heart-burn proceeds from indigestion, or a foul stomach, the patient ought to take a vomit, and afterwards a purge. After the stomach has been cleansed, he may drink twice or thrice a-day, a cup of camomile tea, with fifteen or twenty drops of elixir of vitriol in it, in order to strengthen the stomach, and promote digestion.

When acidity or sourness of the stomach occasions the heart-burn, absorbents are the proper medicines. In this case, chalk and water, or what is called the Chalk-julep, often answers very well. It is made by mixing an ounce of powdered chalk, half an ounce of fine sugar, and a quarter of an ounce of gum-arabic, in two English pints of water. A tea-cupful of this may be taken at pleasure. When the gum-arabic cannot be had, the chalk may be mixed with milk, or taken in water alone. The testaceous powders are very proper here. A tea-spoonful of prepared oyster-shells, or the powder called crab's eyes, may be taken in a glass of peppermint water, or simple cinnamon-water, as often as there is occasion.

But the safest absorbent which we know is the *magnesia alba*. This not only acts as an absorbent, but, by its purging quality, cleanses the bowels; whereas the chalk, and other absorbents of that sort, are apt to lie in the intestines, and occasion obstructions. This powder is no way disagreeable, and may be taken in a cup of tea, a little milk, or a glass of peppermint-water. A large tea-spoonful is the usual dose, but there is no danger in taking a much greater quantity, and it may be repeated as often as is found necessary.

When the heart-burn proceeds from bilious hu-
Z 3 mours,

mours, a tea-spoonful of the sweat spirits of nitre, in a glass of water, or a cup of tea or coffee, will generally give ease. If it be caused by fat or greasy aliments, a dram of brandy, or rum may be taken.

If wind be the cause of this complaint, the medicines called Carminatives are proper; as aniseeds, juniper-berries, cardamom-seeds, &c. These may either be chewed, or a glass of their distilled waters taken at pleasure. These, and other warm aromatics, as ginger, cannella alba, &c. give ease; but they ought never to be used unless when necessary. They are only drams in a dry form, and very pernicious to the stomach. One of the safest medicines of this kind, is the tincture made by infusing an ounce of rhubarb, and a quarter of an ounce of the lesser cardamoms, in an English pint of brandy. This must digest for two days; afterwards it should be strained, and four ounces of white sugar-candy in powder added to it. It must stand to digest again, till the sugar be dissolved. A table-spoonful may be taken for a dose.

I have frequently known the heart-burn cured by the patient chewing green tea.

PAIN OF THE STOMACH.

THIS may proceed from various causes; as indigestion, wind, the acrimony of the bile, or from sharp, acrid, or poisonous substances taken into the stomach.

stomach. It may likewise proceed from worms, the stoppage of customary evacuations, or from a translation of gouty matter to the stomach, &c.

Women, in the decline of life, are very liable to this disease, especially such as are afflicted with hysteric complaints. It is likewise very common to hypochondriac men of a sedentary and luxurious life. In such persons, it often proves so extremely obstinate, as to baffle all attempts of medicine.

When the pain of the stomach is most violent after eating, there is reason to suspect, that it proceeds from some fault, either in the digestion or the food. In this case, the patient ought to change his diet, till he finds what kind of food agrees best with his stomach, and should continue chiefly to use that. If a change of diet does not remove the complaint, the patient may take a gentle vomit, and afterwards a dose or two of rhubarb. He ought likewise to take an infusion of camomile-flowers, or some other stomachic bitter, either in wine or water. I have often known exercise remove this complaint, especially sailing, or a long journey on horseback, or in a machine.

When a pain of the stomach proceeds from flatulencies, the patient is constantly belching up wind, and feels an uneasy distension of the stomach after meals. This is a most deplorable disease, and is seldom cured. In general, the patient ought to avoid all windy diet, and every thing that sours on the stomach, as greens, roots, &c. This rule, however, admits of some exceptions. I have known several instances of persons very much troubled with wind, who received great benefit from eating parched peas *, though that

Z 4

grain

* These are prepared by steeping or soaking peas in water, and afterwards drying them in a pot or kiln, till they be quite hard. They may be used at pleasure.

grain is well known to be of a windy nature. This complaint may likewise be greatly relieved by exercise, especially digging, walking, or riding, &c. I have found the elixir of vitriol answer very well in flatulencies. It may be taken as already directed.

When a pain of the stomach is occasioned by the swallowing of acrid or poisonous substances, they must be discharged by vomit; this may be excited by butter, oils, or other soft things, which sheath and defend the stomach from the acrimony of its contents*.

When pain of the stomach proceeds from a translocation of gouty matter, warm cordials are necessary. Some have drank a whole bottle of brandy or rum, in this case, in a few hours, without being in the least intoxicated, or even feeling the stomach warmed by it. Generous wines, however, are more safe, as genuine Madeira, &c. It is impossible to ascertain the quantities necessary upon these occasions. This must be left to the feelings and discretion of the patient. It is, however, the safer way not to go too far. When there is an inclination to vomit, it may be promoted by drinking an infusion of camomile-flowers, or *carduus benedictus*.

If a pain of the stomach proceeds from the stoppage of customary evacuations, bleeding will, in some cases, be necessary, especially in sanguine and very full habits. It will likewise be of use to keep the belly gently open, by mild purgatives; as rhubarb or senna, &c. When this disease affects women in the decline of life, after the stoppage

* The safest remedy in this case, is certainly a powerful emetic, half a dram, for instance, of white vitriol; or even half a dram of ipecacuanha, to be wrought off by instantly drinking an infusion of camomile-tea, or taking a basin of warm water, with a tea-spoonful of table-mustard diffused in it.

page of the *menfes*, making an iffue in the leg or arm will be of peculiar fervice.

When the difeafe is occafioned by worms, they muft be deftroyed, or expelled by fuch means as are recommended in the following fection.

OF WORMS.

THESE are chiefly of three kinds, viz. the *tania*, or tape-worm; the *teres*, or round and long worm, and the *ascarides*, or round and fhort worm. There are many other kinds of worms found in the human body; but as they proceed, in a great meafure, from fimilar caufes, have nearly the fame fymptoms, and require almoft the fame method of cure, we fhall not fpend time in enumerating them.

The tape-worm is white, very long, and all over jointed. It is generally bred either in the ftomach or fmall intefines. The round and long worm is likewise bred in the fmall guts, and fometimes in the ftomach. The round and fhort worms commonly lodge in the *rectum*, or what is called the End gut, and occafion a difagreeable itching about the *anus*.

The long round worms occafion squeamifhnefs, vomiting, an ill breath, gripes, loofenefs, fwelling of the belly, fwoonings, loathing of food, and at other times a voracious appetite, a dry cough, convulfions,

convulsions, epilectic fits, and sometimes a privation of speech. These worms have been known to perforate the intestines, and get into the cavity of the belly. The effects of the tape-worm are nearly the same with those of the long and round, but rather more violent.

ANDRY says, the following symptoms particularly attend the *solium*, which is a species of the tape-worm, viz. swoonings, privation of speech, and a voracious appetite. The round worms called *Ascarides*, besides an itching of the *anus*, cause swoonings, and tenesmus, or an inclination to go to stool.

CAUSES.—Worms may proceed from various causes; but they are seldom found, except in weak and relaxed stomachs, where the digestion is bad. Sedentary persons are more liable to them, than the active and laborious. Those who eat great quantities of unripe fruit, or who live much on raw herbs and roots, are generally subject to worms. There seems to be a hereditary disposition in some persons to this disease. I have often seen all the children of a family subject to worms of a particular kind. They seem likewise frequently to be owing to the nurse. Children of the same family, nursed by one woman, have often worms, when those nursed by another have none.

Children are more liable to this disease than adults, especially after two years of age. Infants, while on the breast, are seldom troubled with worms. To this, however, there are several exceptions. I lately saw an instance of a child who passed worms before it was three months old. They were indeed of a very particular kind, being real caterpillars. Some of them were above an inch long; they had red heads, and were so brisk, as to jump about; they lived several days after the child had passed them. Another child suckled by

by the same woman, passed the same kind of worms when upon the breast, and both children suffered extremely before the worms came away.

SYMPTOMS.—The common symptoms of worms are, paleness of the countenance, and, at other times, an universal flushing of the face; itching of the nose; (this, however, is doubtful, as children pick their noses in all diseases;) starting, and grinding of the teeth in sleep; the appetite sometimes bad, at other times quite voracious; looseness, a sour or stinking breath, a hard swelled belly, great thirst, the urine frothy, and sometimes of a whitish colour; griping, or colic pains; an involuntary discharge of *saliva*, especially when asleep; frequent pains of the side, with a dry cough, and unequal pulse; palpitations of the heart, swoonings, drowsiness, cold sweats, palsy, epileptic fits, with many other unaccountable nervous symptoms, which were formerly attributed to witchcraft, or the influence of evil spirits. Small bodies in the excrements, resembling melon or cucumber seeds, are symptoms of the tape-worm.

Though this is a very common disease, yet it is less so than is generally imagined. Nurses impute most of the diseases of children to worms, and often give medicine to kill these vermin, where they do not exist. Even physicians are often deceived with respect to worms. I have frequently opened children who were thought to have been killed by them, and found none. In short, there is no certain proof of worms existing in the intestines, but their being passed; and that will sometimes happen, where no previous symptoms appeared.

MEDICINE.—Though numberless medicines are extolled for killing and expelling worms *, yet

* A medical writer of the present age has enumerated upwards of fifty British plants, all famous for killing and expelling worms out of the body.

yet no disease more frequently baffles the physician's skill. In general, the most proper medicines for their expulsion, are strong purgatives; and to prevent their breeding, stomachic bitters, with now and then a glass of good wine.

The best purge for an adult, is jalap and calomel. Five and twenty, or thirty grains of the former, with six or seven of the latter, mixed in syrup, may be taken for a dose. This should be taken early in the morning. It will be proper, that the patient keep the house all day, and drink nothing cold. The dose may be repeated once or twice a-week, for a fortnight or three weeks. On the intermediate days, the patient may take a dram of the powder of tin, twice or thrice a-day, mixed with syrup, honey, or treacle.

Those who do not chuse to take calomel, may make use of the bitter purgatives; as aloes, hiera picra, tincture of senna and rhubarb, &c.

Oily medicines are likewise of use for expelling worms. An ounce of salad oil, and a table-spoonful of common salt, may be taken in a glass of red port-wine, thrice a-day, or oftener, if the stomach will bear it. But the more common form of using oil is in clysters. Oily clysters, sweetened with sugar or honey, are very efficacious in bringing away the short round worms, called *Ascarides*.

The Harrowgate water is an excellent medicine for expelling worms, especially the *ascarides*. As this water evidently abounds with sulphur, we may hence infer, that sulphur alone must be a good medicine in this case; this is found to be true in fact. Many practitioners give flowers of sulphur in very large doses, and with great success. It may be made into an electuary, with honey or treacle, and taken in such quantity as to purge the patient.

Where Harrowgate water cannot be obtained,
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sea-water may be used, which is far from being a contemptible medicine in this case. If sea-water cannot be had, common salt may be dissolved in water and drank. I have often seen this used by country-nurses, when they suspected their children were troubled with worms, with very good effect.

But worms, though expelled, will soon breed again, if the stomach remain weak and relaxed; to prevent this, we would recommend the Jesuits bark. Half a dram of bark in powder may be taken in a glass of red port-wine, three or four times a-day, after the above medicines have been used. Lime water is likewise good for this purpose, or a table-spoonful of the chalybeate wine*, taken twice or thrice a-day. Infusions or decoctions of bitter herbs, may likewise be drank: as the infusion of tansy, water-trefoil, camomile-flowers, tops of wormwood, the lesser centaury, &c.

The above directions are calculated for adults; but for children the medicines must be more agreeable, and given in smaller doses.

For a child of four or five years old, five grains of jalap, and two of calomel, may be mixed in a spoonful of syrup or honey, and given in the morning. The child should keep the house all day, and have nothing cold. This dose may be repeated twice a-week, for three or four weeks. On the intermediate days, the child may take a scruple of powdered tin, and ten grains of æthiops mineral, in a spoonful of treacle, twice a-day. These doses must be increased or diminished, according to the age of the patient.

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* The chalybeate wine is made by digesting three ounces of filings of iron, and half a dram of cochineal, in two English pints of Rhenish wine, for three weeks, frequently shaking the vessel. Afterwards the liquor must be filtered.

I have frequently known those big bellies, which in children are commonly reckoned a sign of worms, quite removed by giving them white soap in their pottage, or other food. Tanfy, garlic, and rue, are all good against worms, and may be used various ways. We might here mention many plants, both for external and internal use; but think the powder of tin, with æthiops mineral, and the purges of jalap and calomel, are much more to be depended on. It will not, however, be amiss to give a child who is troubled with worms, a glass of red wine, now and then, as every thing that braces and strengthens the stomach, is good both for preventing and expelling these vermin.

Parents who would preserve their children from worms, ought to allow them plenty of exercise in the open air, to see that their food be wholesome and sufficiently solid, and, as far as possible, to prevent their eating raw herbs, roots, or green trashy fruits *.

OF

* We think it necessary here to warn people of their danger who buy worm-cakes and powders at random from quacks, and give them to their children without proper care. The principal ingredient in most of these medicines is mercury, which is never to be trifled with. I lately saw a shocking instance of the danger of this conduct. A girl who had taken a dose of worm-powder, bought of a travelling quack, went out, and I believe might be so imprudent as to drink cold water, during its operation. She immediately swelled, and died that very day, with all the symptoms of having been poisoned.

OF THE JAUNDICE.

THIS disease is first observable in the white of the eye, which appears of a yellowish colour. Afterwards the whole skin puts on a yellow, and sometimes a blackish appearance. The urine too is of a saffron hue, and dyes a white cloth, if put into it, of the same colour.

CAUSES.—The immediate cause of the jaundice is an obstruction of the bile. The remote or occasional causes are, the bites of poisonous animals, as the viper, mad dog, &c. the bilious or hysteric colic; violent passions, as grief, anger, &c. Strong purges or vomits, will likewise occasion the jaundice. Sometimes it proceeds from obstinate agues, or from that disease being prematurely stopped by astringent medicines. In infants, it is often occasioned by the *meconium* not being sufficiently purged off. Pregnant women are very subject to it. It is likewise a symptom in several kinds of fevers. Catching cold, or the stopping of customary evacuations, as the *menfes*, the bleeding piles, issues, &c. will occasion the jaundice.

SYMPTOMS.—The patient at first complains of excessive weariness, and has great aversion to any kind of motion. His skin is dry, and he generally feels a kind of itching or pricking pain over the whole body. The stools are of a whitish or clay colour, and the urine, as was observed above, is yellow. The breathing is difficult, and the patient complains of an unusual load or oppression on his breast. There is a heat in the nostrils,

stirils, a bitter taste in the mouth, loathing of food, sickness at the stomach, vomiting, flatulency, and frequently all objects appear to the eye of a yellow colour.

If the patient be young, and the disease complicated with no other malady, it is seldom dangerous; but in old people, where it continues long, returns frequently, or is complicated with the drop-sy or hypochondriac symptoms, it generally proves fatal. The black jaundice is more dangerous than the yellow.

REGIMEN.—The diet should be cool, light, and diluting, consisting chiefly of ripe fruits and mild vegetables; as apples boiled or roasted, stewed prunes, preserved plumbs, boiled spinage, &c. Veal or chicken-broth, with light bread, are likewise very proper. The drink should be buttermilk, whey sweetened with honey, or decoctions of cool opening vegetables; as marsh-mallow roots, with liquorice, &c.

The patient should take as much exercise as he can bear, either on horse-back, or in a machine; walking, running, and even jumping, are likewise proper, provided he can bear them without pain, and there be no symptoms of inflammation. Patients have been often cured of this disease, by a long journey, after medicines had proved ineffectual.

Amusements are likewise of great use in the jaundice. The disease is often occasioned by a sedentary life, joined to a dull melancholy disposition. Whatever therefore tends to promote muscular motion, and to cheer the spirits, must have a good effect; as dancing, laughing, singing, &c.

MEDICINE.—If the patient be young, of a full sanguine habit, and complains of pain in the right side, about the region of the liver, bleeding will

will be necessary *. After this, a vomit must be administered; and if the disease proves obstinate, it may be repeated once or twice. No medicines are more beneficial in the jaundice than vomits, especially where it is not attended with inflammation. Half a dram of ipecacuanha in powder will be a sufficient dose for an adult. It may be wrought off with weak camomile-tea, or lukewarm water.

The belly must likewise be kept open by mild purgatives. Castile soap, if take in sufficient quantities, answers this purpose extremely well. It may be taken from half an ounce to an ounce daily, for a considerable time. As few people have resolution to swallow such large quantities of soap, I generally give pills made of soap, aloes, and rhubarb, which answer the same intention in a smaller dose. They may be prepared in the following manner:

Take socotrine aloes and Turkey rhubarb in powder, of each a dram. Castile soap an ounce. Beat them all together, with a little syrup, into a proper consistence for pills. Let them be formed into pills of an ordinary size, and five or six of them taken three times a-day. They must be continued for some time, and the quantity regulated by the patient's stools, of which he ought at least to have one or two every day.

Fomenting the parts about the region of the stomach and liver, and rubbing them with a warm hand or flesh-brush, are likewise beneficial; but it is still more so for the patient to sit in a vessel of warm water up to the breast. He ought to do this frequently, and should continue in it as long as his strength will permit.

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* Where the symptoms of pain and inflammation are violent, bleeding will be proper; but where these are moderate at first, or have been rendered so by bleeding, an opiate, given in a full dose, will seldom fail to give immediate relief.

Many dirty things are recommended for the cure of the jaundice; as lice, the millepedes, &c. But these do more harm than good, as people trust to them, and neglect more valuable medicines; besides, they are seldom taken in sufficient quantity to produce any effects. People always expect that these *out-of-the-way things* should act as charms, and consequently seldom persist in the use of them. Vomits, purges, fomentations, and exercise, will seldom fail to cure the jaundice when it is a simple disease; and when complicated with the dropsy, or other chronic complaints, it is hardly to be cured by any means.

Numberless British herbs are extolled for the cure of this disease. Dr Short, in his *Medicina Britannica*, mentions near a hundred, all famous for curing the jaundice. The fact is, this disease often goes off of its own accord; in which case, the last medicine is said to have performed the cure. I have, however, seen considerable benefit, in a very obstinate jaundice, from a decoction of hemp-seed. Four ounces of the seed may be boiled in two English quarts of ale, and sweetened with coarse sugar. The dose is half an English pint every morning. It may be continued for eight or nine days.

I have known Harrowgate water cure a very obstinate jaundice. I have known patients, after taking many medicines without effect, go thither in the middle of winter, and in a few weeks return quite well. They both drank the sulphur water, and bathed.

OF

OF THE DROPSY.

THE dropsy is a preternatural swelling of the whole body, or some part of it, occasioned by a collection of watery humour. It is distinguished by different names, according to the part affected, as the *anasarca*, or a collection of water under the skin; the *ascites*, or a collection of water in the belly; the *hydrops pectoris*, or dropsy of the breast; the *hydrocephalus*, or dropsy of the brain, &c.

CAUSES.—A very common cause of the dropsy is a hereditary disposition. It may likewise proceed from drinking ardent spirits, or other strong liquors. It is true, almost to a proverb, that great drinkers die of a dropsy. The want of exercise is also a very common cause of the dropsy. Hence it is justly reckoned among the diseases of the sedentary. It often proceeds from excessive evacuations, as frequent and copious bleedings, strong purges often repeated, frequent salivations, &c. The sudden stoppage of customary or necessary evacuations, as the *menfes*, the hæmorrhoids, or fluxes of the belly, may likewise cause a dropsy.

I have often known the dropsy occasioned by drinking large quantities of cold, weak, watery liquor after violent exercise, while the body was hot. A low, damp, or marshy situation is likewise a frequent cause of it. Hence it is a common disease in moist, flat, fenny countries. It may also be brought on by a long course of poor watery diet, of the use of viscous aliment that is hard of digestion. It is often the effect of other diseases, as

the jaundice, a schirrus of the liver, a violent ague of long continuance, a diarrhœa, a dysentery, an empyema, or a consumption of the lungs. In short, whatever obstructs the circulation of the blood, or prevents its being duly prepared, may occasion a dropsy.

SYMPTOMS.—This disease generally begins with a swelling of the feet and ankles towards night, which, for some time, disappears in the morning. In the evening the parts, if pressed with the finger, will pit. The swelling gradually ascends until the whole body at length becomes affected. Afterwards the breathing becomes difficult, the urine is in small quantity, and the thirst great, the belly is bound, and the perspiration is greatly obstructed. To these succeed torpor, heaviness, a slow wasting fever, and a troublesome cough. This last is generally a fatal symptom, as it shews the lungs to be affected*.

When the disease comes suddenly on, and the patient is young and strong, there is reason to hope for a cure, especially if medicine be given early. But if the patient be old, has led an irregular or a sedentary life, or if there be reason to suspect that the liver, lungs, or any of the viscera are unsound, there is great ground to fear that the consequences will prove fatal.

REGIMEN.—The patient must abstain, as much as possible, from all drink, especially weak and watery liquors, and must quench his thirst with acids, as juice of lemons, oranges, sorrel †, &c.
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* An ascites, beside more or less of the above symptoms, is attended with a distension and swelling of the belly, and with a sense of the fluctuation of a fluid upon pressure.

† This restriction in the use of drink being in itself a painful measure, and seldom also attended with any good effect, is now generally taken off. Indeed it has been often found, that an increase in the quantity of drink taken, has been attended with a proportional
increase

His aliment ought to be dry, of a heating and diuretic quality, as toasted bread, the flesh of birds, or other wild animals, roasted; pungent and aromatic vegetables, as garlic, mustard, onions, cresses, horse-radish, rocambole, shallot, &c. He may also eat sea-biscuit dipt in wine or a little brandy. This is not only nourishing, but tends to quench thirst. Some have been actually cured of a dropsy by a total abstinence from all liquids, and living entirely upon such things as are mentioned above. If the patient must have drink, the Spaw water, or Rhenish wine, with diuretic medicines infused in it, are the best.

Exercise is of the greatest importance in a dropsy. If the patient be able to walk, run, dance, or jump about, he ought to continue these exercises as long as he can. If he be not able to walk, &c. he must ride on horseback, or in a machine, and the more violent the motion so much the better, provided he can bear it. His bed ought to be hard, and the air of his apartments warm and dry. If he live in a damp country, he ought to be removed into a dry one, and, if possible, into a warmer climate. In a word, every method must be taken to promote the perspiration and to brace the solids. For this purpose, it will likewise be proper to rub the patient's body, two or three times a-day, with a hard cloth or the flesh-brush, and he ought constantly to wear flannel next his skin.

MEDICINE.—If the patient be young, his constitution good, and the disease has come on suddenly, it may generally be removed by strong vomits, brisk purges, and such medicines as promote a discharge of sweat and urine. For an adult,

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increase in the quantity of urine that is made: and whenever a cure of this disease is attempted by means of diuretics, liquids must be administered in considerable quantity to determine these with more certain effect to the kidneys.

half a dram of ipecacuanha in powder, and half an ounce of oxymel of squills, will be a proper vomit *. This may be repeated three or four times, if necessary, three or four days intervening betwixt each dose. The patient must not drink much after the vomit, otherwise he destroys its effect. A cup or two of camomile-tea will be sufficient to work it off.

Betwixt each vomit, on one of the intermediate days, the patient may take the following purge. Take jalap in powder half a dram, cream of tartar two drams, calomel six grains. These may be made into a bolus with a little syrup of pale roses, and taken early in the morning. The less the patient drinks after it the better. If he be much griped, he may take now and then a cup of chicken-broth.

The patient may likewise take every night at bed-time the following bolus: Take four or five grains of camphor, one grain of opium, and as much syrup of orange-peel as is sufficient to make them into a bolus. This will generally promote a gentle sweat, which should be encouraged by drinking now and then a small cup of wine-whey, with a tea-spoonful of the spirits of hartshorn in it.

The patient may take, three or four times a-day, a tea-cupful of the following infusion: Take juniper-berries, mustard-seed, and horse-radish, of each half an ounce, ashes of broom half a pound; infuse them in a quart of Rhenish wine or strong ale for a few days, and afterwards strain off the liquor. Such as cannot take this infusion, may use the decoction of seneka-root, which is both diuretic and sudorific.

As this disease is very apt to return; after the water has been drained off, to prevent its collecting again, the patient must continue to take exercise,

* These are certainly rather strong for *medium doses*; and should therefore be ventured on only by strong athletick people.

cise, to use a dry diet, and such medicines as strengthen and brace the solids, as wine with steel or bark infused in it; warm and aromatic bitters are likewise proper, as the Virginian snake-root, *canella alba*, orange-peel, &c. infused in wine or brandy: The patient must avoid all great evacuations, and ought, if he can, to make choice of a dry warm situation.

The above course will often cure an incidental dropsey, if the constitution be good; but when the disease proceeds from a bad habit, or an unsound state of the viscera, strong purges and vomits are not to be ventured upon. In this case, the safer course is to palliate the symptoms by the use of such medicines as promote the secretions, and to support the patient's strength by warm and nourishing cordials.

The discharge of urine may be greatly promoted by nitre. Brookes says he knew a young woman who was cured of a dropsey by taking a dram of nitre every morning in a draught of ale, after she had been given over as incurable. The powder of squills is likewise a good diuretic. Six or eight grains of it, with a scruple of nitre, may be given twice a-day in a glass of strong cinnamon-water. Ball says, a large spoonful of unbruised mustard-seed taken every night and morning, and drinking half an English pint of the decoction of the tops of green broom after it, has produced a cure, after other powerful methods had proved ineffectual*.

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* Cream of tartar has been lately used with great success in this disease. The best method of exhibiting it is in the form of a watery solution, to be used frequently, rather than in large quantities at a time, so as to lessen its purgative effect, and determine it with more certainty to the kidneys. It may be taken in the extent of from half an ounce to an ounce and a half, dissolved in from half a pound to a pound and a half of water, in the course of twenty-four hours. This must be continued for a length of time, or till the symptoms disappear.

To promote perspiration, the patient may use the decoction of seneka-root, as directed above; or he may take two spoonfuls of * Mindererus's spirit, in a cup of wine-whey, three or four times a-day. The saline draughts already recommended are likewise very proper in this case. These medicines, with the regimen mentioned above, if they do not cure, will at least alleviate the disease, which, in worn-out constitutions, is a safer course than attempting to extirpate it. When other means fail, recourse must be had to tapping, which is a very safe and easy operation, though it seldom produces a radical cure †.

OF THE GOUT.

THERE is no disease which shews the imperfection of the medical art more than the gout. Nor does any malady shew the advantages of temperance and exercise in a stronger light. Few who pay a proper regard to these are troubled with the
gout,

* This spirit is prepared by gradually pouring distilled vinegar upon any quantity of the volatile sal-ammoniac till the effervescence ceases; occasionally shaking the vessel to promote the action of the vinegar on the salt.

† When the swelling in an anasarca is so considerable as to occasion great uneasiness from the distension, relief may be obtained by means of punctures. These should be made with the point of a lancet, of a small size, and only through the skin into the cellular membrane. They should not be made too near one another, for fear of inflammation; nor too low on the extremities, for fear of mortification.

gout, unless when it is hereditary. This points out the true source from whence that pest originally sprung, viz. *excess* and *idleness*. Few persons are affected with the gout till the decline of life, except those who inherit it from their parents. Men are more liable to it than women, especially those of a full gross habit.

CAUSES.—One very common cause of the gout is a hereditary disposition. Persons who know themselves to be tainted this way, ought therefore to guard against its attack, by steadily pursuing a course directly opposite to that which occasions the disease. Full living, but especially indulging in rich, pungent, or stimulating sauces and generous wines, has a great tendency to bring on the gout. Intense thought, or application of the mind to obscure subjects, particularly night-studies, has likewise this effect. The plentiful use of acids, as sour punch, pricked wines, &c. are also hurtful; but nothing more certainly induces this disease than excess of venery, especially in the early period of life.

It may proceed from an obstruction or defect of any of the usual discharges, as the perspiration, sweating of the feet, the menses, &c. A sudden chilling of the feet after sweat, or drying them at the fire after being wet and cold, are likewise bad. The modern custom of eating a hot flesh-supper, drinking warm strong liquors after it, and sitting up the greater part of the night, is one very great cause of the gout, and indeed of many other diseases.

SYMPTOMS.—A fit of the gout is generally preceded by indigestion, drowsiness, belching of wind, a slight head-ach, sickness, and sometimes vomiting. The patient complains of weariness and dejection of spirits, and has often a pain in the limbs, with a sensation as if wind or cold water
were

were passing down the thigh. The appetite is often remarkably keen a day or two before the fit, and there is a slight pain in passing urine, and sometimes an involuntary shedding of tears. Sometimes these symptoms are much more violent, especially upon the near approach of the fit; and some observe, that as the fever which ushers in the gout is, so will the fit be; if the fever be short and sharp, the fit will be so likewise; if it be feeble, long, and lingering, the fit will be such also. But this observation can only hold with respect to very regular fits of the gout.

The regular gout generally makes its attack in the spring, or beginning of winter, in the following manner: About two or three in the afternoon, the patient is seized with a pain in his great toe, sometimes in the heel, and at other times in the ankle or calf of the leg. This pain is accompanied with a sensation, as if cold water were poured upon the part, which is succeeded by a shivering, with some degree of fever. Afterwards the pain increases, and fixing among the small bones of the foot, the patient feels all the different kinds of torture, as if the part were stretched, burnt, squeezed, gnawed, or torn in pieces, &c. The part at length becomes so exquisitely sensible, that the patient cannot bear to have it touched, nor even suffer any person to walk across the room.

The patient is generally in exquisite torture for twenty-four hours, from the time of the coming on of the fit: He then becomes easier, the part begins to swell, appears red, and is covered with a little moisture. Towards morning he drops asleep, and generally falls into a gentle breathing sweat. This terminates the first paroxysm, a number of which constitutes a fit of the gout; which is longer or shorter according to the patient's age, strength,
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the season of the year, and the disposition of the body to this disease.

The patient is always worse towards night, and easier in the morning. The paroxysms, however, generally grow milder every day, till at length the matter is discharged by perspiration, urine, and the other evacuations. In some patients this happens in a few days; in others it requires weeks, and in some months, to finish the fit. Those whom age and frequent fits of the gout have greatly debilitated, seldom get free of it before the approach of summer, and sometimes not till it be pretty far advanced.

REGIMEN.—As there are no medicines, yet known, that will cure the gout, we shall confine our observations mostly to regimen, both in and out of the fit.

In the fit, if the patient be young and strong, his diet ought to be thin and cooling, and his drink of a diluting nature; but where the constitution is weak, and the patient has been accustomed to live high, this is not a proper time to retrench. In this case he must keep nearly to his usual diet, and should take frequently a cup of strong negus, or a glass of generous wine. Wine-whey is a very proper drink in this case, as it promotes the perspiration without heating the patient. It will answer this purpose better if a tea-spoonful of *sal volatile oleosum*, or spirits of hartshorn, be put into a cup of it twice or thrice a-day. It will likewise be proper for the patient to take at bed-time a tea-spoonful of the volatile tincture of *guaiacum*, in a large draught of warm wine-whey. This will greatly promote perspiration through the night.

As we know no safe way of discharging the gouty matter but by perspiration, this ought to be kept up by all means, especially in the part affected. For this purpose the leg and foot affected should

should be wrapt in soft flannel, fur, or wool. The last is most readily obtained, and seems to answer the purpose as well, if not better, than any thing else. The people of Lancashire look upon wool as a kind of specific in the gout. They wrap a great quantity of it combed about the leg and foot affected, and cover it with a skin of shamoy leather. This they suffer to continue for eight or ten days, and sometimes for a fortnight or three weeks, or longer if the pain does not cease. I never knew any external application answer so well in the gout. I have often seen it applied when the swelling and inflammation were very great, with violent pain; and have found all these symptoms relieved by it in a few days. The wool which they use is generally greased, and carded or combed. They chuse the softest which can be had, and seldom or never remove it till the fit be entirely gone off.

The patient ought likewise to be kept quiet and easy during the fit. Every thing that affects the mind disturbs the paroxysm, and tends to throw the gout upon the nobler parts. For the same reason, all external applications that repel the matter are to be avoided as death. They do not cure the disease, but remove it from a safe to a more dangerous part of the body, where it often proves fatal. A fit of the gout is rather to be considered as Nature's method of curing a disease, than a disease itself, and all that we can do, with safety, is to promote her intentions, and to assist her in expelling the enemy in her own way. Evacuations by bleeding, stool, &c. are likewise hurtful. They do not remove the cause of the disease, and, by weakening the patient, they generally prolong the fit.

Many things will indeed shorten a fit of the gout, and some will drive it off altogether; but nothing has yet been found, which will do this
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with safety to the patient. In pain, we eagerly grasp at any thing that promises immediate ease, and even hazard life itself, for a momentary relief. This is the true reason why so many infallible remedies have been proposed for the gout, and why such numbers have lost their lives by them. It would be as prudent to stop the small-pox from rising, and to drive them into the blood, as to attempt to repel the gout. The latter is as much an effort of Nature, to free herself from an offending cause, as the former, and ought equally to be promoted. In fine, there is no disease which Nature makes a greater effort to cure, than the gout; nor is it difficult to see which way her endeavours tend. She always attempts to throw the disease upon the extremities, and when that is accomplished, her work is half done. It may safely lodge there, till it be gradually expelled by the vital powers; and it cannot lodge safely any where else, nor be expelled in any other way.

After the fit is over, the patient ought to take a dose or two of the bitter tincture of rhubarb, or some other warm stomachic purge. He should also drink a weak infusion of stomachic bitters, in small wine or ale, as Gentian, with cinnamon or Virginian snake-root, and orange-peel. The diet at this time should be light, but nourishing, and gentle exercise should be taken on horseback, or in a machine, &c.

Out of the fit, it is in the patient's power to do many things towards preventing a return of the disorder, or rendering the fit, if it should return, less severe. This, however, is not to be attempted by medicine. I have frequently known the gout kept off for several years, by the Jesuits bark, and other tonic medicines; but in all the cases where I had occasion to see this tried, the persons died suddenly, and, to all appearance, for want of a regular

regular fit of the gout. One would be apt, from hence, to conclude, that a fit of the gout, to some constitutions, in the decline of life, is rather salutary than hurtful.

Though it may be dangerous to stop a fit of the gout by medicine, yet, if the constitution can be so changed by diet and exercise, as to lessen, or totally prevent its return, there certainly can be no danger in following such a course. It is well known, that the whole humours may be so altered by a proper course of diet, as quite to eradicate this disease; and those only who have resolution enough to persist in such a course, have reason to expect a cure.

The course which we would recommend for preventing the gout, is as follows: In the first place, *universal temperance*. In the next place, plenty of *exercise*. By this, we do not mean sauntering about in an indolent manner, but labour, sweat, and toil. These only can render the humours wholesome, and keep them so. Going early to bed, and rising by times, are of great importance. It is likewise proper to avoid night studies, and all intense thought. The supper should be light, and taken early. All strong liquors, especially generous wines and sour punch, are to be avoided. Above all, we would recommend a milk-diet. The use of milk is not to be gone into all at once, but increased gradually, till it becomes the principal part of the diet.

We would likewise recommend some doses of *magnesia alba*, and rhubarb, to be taken every spring and autumn; and afterwards a course of stomachic bitters, as tansey, or water-trefoil tea, an infusion of gentian and camomile-flowers, or a decoction of burdock-root, &c. Any of these, or an infusion of any wholesome bitter that is more agreeable to the patient, may be drank for two or three weeks,

weeks, twice a-day. An issue, or perpetual blister, has a great tendency to prevent the gout. If these were more generally used in the decline of life, they would not only often prevent the gout, but also many other maladies. Such as can afford to go to Bath, will find great benefit from bathing and drinking the water. It both promotes digestion and invigorates the habit.

When the gout attacks the head or lungs, every method must be taken to draw it towards the feet. They must be frequently bathed in warm water, and acrid cataplasms applied to the soles. Blistering-plasters ought likewise to be applied to the ancles or calves of the legs. Bleeding in the feet or ancles, is also necessary, and warm stomachic purges. The patient ought to keep in bed, for the most part, if there be any signs of inflammation, and should be very careful not to catch cold*.

If it attacks the stomach, with a sense of cold, the most warm cordials are necessary; as strong wine warmed, with cinnamon or nutmeg in it, cinnamon-water, peppermint-water, and even brandy or rum. The patient should keep in bed, and endeavour to promote a sweat by drinking warm liquors; and if he should be troubled with a nausea, or inclination to vomit, he may drink camomile-tea, or small posset.

When the gout attacks the kidneys, and imitates gravel-pains, the patient ought to drink freely of a decoction of marsh-mallows, and to have the parts fomented with warm water. An emollient clyster ought likewise to be given, and afterwards an opiate. If the pain be very violent, thirty or
forty

* In either of these cases, beside the application here mentioned to the feet, bleeding and blistering, on the part affected, are highly necessary and important.

forty drops of laudanum may be taken in a cup of the decoction.

Persons who have had the gout, should be very attentive to any complaints that may happen to them about the time when they have reason to expect a return of the fit. The gout imitates many other disorders, and by being mistaken for them, and treated accordingly, is often diverted from its proper course, to the great danger of the patient's life.

Those who never had the gout, but who, from their constitution or manner of living, have reason to expect it, ought likewise to be very circumspect with regard to its first approach. If the disease, by wrong conduct or improper medicines, be diverted from its proper course, the miserable patient has a chance to be ever after tormented with head-achs, coughs, pains of the stomach and intestines; and generally falls, at last, a victim to its attack upon some of the more noble parts.

OF THE RHEUMATISM.

THIS disease has great affinity with the gout. It generally attacks the joints with exquisite pain, and is sometimes attended with inflammation and swelling. It is most common in the spring, and towards the end of autumn. It is usually distinguished into acute and chronic; or the rheumatism attended with a fever, and that which is not.

CAU-

CAUSES.—The causes of a rheumatism are frequently the same as those of an inflammatory fever, viz. an obstructed perspiration, the immoderate use of strong liquors, &c. Sudden changes of the weather, and all quick transitions from heat to cold, are very apt to occasion the rheumatism. The most extraordinary case of a rheumatism that I ever saw, where almost every joint of the body was distorted, was in a man who used to work one part of the day by the fire, and the other part of it in the water. Very obstinate rheumatisms have likewise been brought on by persons, not accustomed to it, allowing their feet to continue long wet. The same effects are often produced by wet clothes, damp beds, or lying upon the ground, especially in the night.

The rheumatism may either be occasioned by excessive evacuations, or the stoppage of usual discharges. It is often the effect of chronic diseases, which vitiate the humours; as the scurvy, the *lues venerea*, obstinate autumnal agues, &c.

The rheumatism prevails most in low, damp, marshy countries. It is likewise very common amongst the poorer sort of peasants, who are ill clothed, live in low cold houses, and eat coarse unwholesome food, which contains but little nourishment, and is not easily assimilated.

SYMPTOMS.—The *acute* rheumatism commonly begins with weariness, shivering, a quick pulse, restlessness, thirst, and other symptoms of fever. Afterwards the patient complains of flying pains, which are increased by the least motion. These at length fix in the joints, which are often affected with swelling and inflammation. If blood be let in this disease, it has generally the same appearance as in the pleurisy.

In this kind of rheumatism, the treatment of the patient is nearly the same as in an acute or inflam-

matory fever. If he be young and strong, bleeding is necessary, and must be repeated according to the exigencies of the case. The belly ought likewise to be kept open by emollient clysters, or cool opening liquors; as decoctions of tamarinds and liquorice, cream-of-tartar whey, &c. The diet should be light, and in small quantity, consisting chiefly of roasted apples, groat-gruel, or very weak chicken-broth. After the feverish symptoms have abated, if the pain still continues, the patient must keep his bed, and take such things as promote perspiration; as wine-whey with *spiritus Mindereri*, as before directed. The patient may likewise take, for a few nights, at bed-time, in a cup of wine-whey, a dram of cream of tartar, and half a dram of gum-guaiacum in powder*.

Warm bathing, after proper evacuations, has often an exceeding good effect. The patient may either be put into a bath of warm water, or have cloths wrung out of it applied to the parts affected. Great care must be taken that he do not catch cold after bathing.

The *chronic* rheumatism is seldom attended with any considerable degree of fever, and is generally confined to some particular part of the body, as the shoulders, the back, or the loins. There is seldom any inflammation or swelling in this case. Persons in the decline of life are most subject to the chronic rheumatism. In such patients it often proves extremely obstinate, and sometimes incurable.

In this kind of rheumatism the regimen should be

* The best and most effectual sudorific in this case, is an opiate joined with an antimonial, or with ipecacuanha, as in Dover's powder. If ten or twelve grains of this last be given, while the patient is carefully covered up with plenty of blankets, and a basin of warm drink given occasionally, it will seldom fail to produce a copious sweat. This ought to be kept up for twelve or fourteen hours at the least.

be nearly the same as in the acute. Cool and diluting diet, consisting chiefly of vegetable substances, as stewed prunes, coddled apples, currants or gooseberries boiled in milk, is most proper. Arbuthnot says, "If there be a specific in aliment for the rheumatism, it is certainly whey;" and adds, "That he knew a person subject to this disease, who could never be cured by any other method but a diet of whey and bread." He likewise says, "That cream of tartar in water-gruel, taken for several days, will ease rheumatic pains considerably." This I have often experienced, but found it always more efficacious when joined with gum-guaiacum, as directed above. In this case the patient may take the dose mentioned above twice a day, and likewise a tea-spoonful of the volatile tincture of gum-guaiacum at bed-time in wine-whey *.

This course may be continued for a week, or longer, if the case proves obstinate, and the patient's strength will permit. It ought then to be omitted for a few days, and repeated again. At the same time leeches or a blistering-plaster may be applied to the part affected. What I have ge-

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nerally

* The chronic rheumatism is certainly a very different disease from the acute, and therefore requires a very different method of cure. The acute, besides a general inflammatory disposition, is always attended with more or less local inflammation; while the chronic is attended with coldness and debility of the part affected, and is without the general inflammatory disposition. The intention in the first is to diminish the tone of the system in general, as well as of the parts affected, by general and topical evacuations, by sedatives, the antiphlogistic regimen, &c.; in the second, the intention is to restore the vigour of the system in general, and particularly of the parts affected, by tonics and stimulants, general as well as local. With this view, the applications to the part, are friction, exercise, electricity, the use of essential oils, &c.; or a combination of some oil with the volatile alkali, as in the volatile lineament; while, with a view to the system in general, we have recourse to tonics, as bark and stimulants; to large doses of essential oil, or of substances containing it, as turpentine, guaiac, &c.

nerally found answer better than either of these, in obstinate fixed rheumatic pains, is the *warm-plaster*. It is made by melting, over a gentle fire, an ounce of gum-plaster with two drams of blistering-plaster. This may be spread upon soft leather, and applied to the part affected. It should be taken off and wiped every three or four days, and may be renewed once a-fortnight. Cupping upon the part affected is likewise often very beneficial, and is greatly preferable to the application of leeches.

Though this disease may not seem in the least to yield to medicines for a long time, yet they ought still to be persisted in. Persons who are subject to frequent returns of the rheumatism, will often find their account in using medicines, whether they be immediately affected with it or not. The chronic rheumatism is similar to the gout in this respect, that the most proper time for using medicines to extirpate it, is when the patient is most free from it.

To those who can afford to go thither, we would recommend the warm baths of Buxton or Matlock in Derbyshire. These have often cured very obstinate rheumatisms, and are always safe either in or out of the fit. When the rheumatism is complicated with scorbutic complaints, which is not seldom the case, the Harrowgate waters and those of Moffat are proper. They should both be drank, and used as a warm bath.

There are several of our own domestic plants which may be used with advantage in the rheumatism. One of the best of them is the white *mustard seed*. A table-spoonful of this may be taken twice or thrice a-day, in a glass of water or small wine. The water-trefoil is likewise of great use in this complaint. It may be infused in wine or ale, or drank in form of tea. The ground-ivy,
camomile

camomile, and several other bitters, are also beneficial, and may be used in the same manner. No benefit, however, is to be expected from these, unless they be used for a considerable time. Excellent medicines are often despised in this case, because they do not perform a cure instantaneously; whereas nothing would be more certain than their effect, were they duly persisted in. The want of perseverance in the use of medicines is one great cause why chronic diseases are so seldom cured.

Cold bathing, especially in salt water, often cures the rheumatism. We would also recommend riding on horseback, and wearing flannel next the skin. A flannel-shirt, in an obstinate rheumatism, especially if the patient be old, is one of the best medicines we know. Issues are likewise very proper; they have often been known to cure a chronic rheumatism. If the pain affects the shoulders, an issue may be made in the arm; but if it affects the loins, it should be put in the leg or thigh. Rheumatic persons ought to make choice of a dry warm air, to avoid wet clothes as much as possible, and make frequent use of the flesh-brush.

OF THE SCURVY.

THIS disease prevails chiefly in cold northern countries, especially in low damp situations, near large marshes, or great quantities of stagnating water. Sedentary people, of a dull melancholy disposition, are most subject to it. It often proves

fatal to sailors in long voyages, particularly in ships that are not properly ventilated, and have many people on board.

CAUSES.—The scurvy is occasioned by cold moist air; by the long use of salted or smoke-dried provisions, or of any kind of food that is hard of digestion, and affords little nourishment. It may also proceed from excessive evacuations, or the suppression of customary discharges; as the *menfes*, hæmorrhoidal flux, &c. It is sometimes owing to a hereditary taint, in which case a very small cause will excite the latent disorder. Grief, fear, and other depressing passions, have a great tendency to produce this disease. It may likewise proceed from neglect of cleanliness, bad clothing, the want of proper exercise, confined air, excess in eating or drinking, or from any disease which greatly weakens the body or vitiates the humours.

SYMPTOMS.—This disease may be known by unusual weariness, heaviness of the body, and difficulty of breathing, especially after bodily motion, rottenness of the gums, which are apt to bleed on the slightest touch, a stinking breath, frequent bleeding of the nose, difficulty of walking, sometimes a swelling and sometimes a falling away of the legs, on which there are livid yellow or violet coloured spots; the face is generally of a pale or leaden colour. As the disease advances, other symptoms come on; as rottenness of the teeth, hæmorrhages, or discharges of blood from various parts of the body, foul obstinate ulcers, which no applications will cure; the patient complains of pains in various parts of the body, especially about the breast, and his body is covered with dry scaly eruptions. At last a wasting or hectic fever comes on, and the miserable patient is often carried off by a dysentery, a diarrhœa, a dropfy, the palsy, fainting-

fainting-fits, or a mortification of some of the bowels.

CURE.—We know no method of curing this disease, but by pursuing a course directly opposite to that which brought it on. It proceeds from a vitiated state of the humours, occasioned by errors in diet, air, or exercise; and this can be removed no other way than by a proper attention to these important articles.

If the patient has been obliged to breathe a cold, damp, or confined air, he should be removed, as soon as possible, to a dry, open, and moderately warm one. If the disease proceeds from a sedentary life, or depressing passions, as grief, fear, &c. the patient must take daily as much exercise in the open air as he can bear, and his mind should be diverted by chearful company and other amusements. Nothing has a greater tendency either to prevent or remove this disease, than constant chearfulness and good humour. But this, alas! is seldom the lot of persons afflicted with the scurvy; they are generally surly, peevish, sour, morose, and dull.

When the scurvy has been brought on by a long use of salted provisions, the proper medicine is a diet consisting chiefly of fresh vegetables; as oranges, lemons, apples, tamarinds, water-creffes, scurvy-grass, brook-lime, &c. The use of these, with milk, pot-herbs, new bread, and fresh beer or cyder, will seldom fail to remove a scurvy of this kind, if taken before it be too far advanced; but to have this effect, they must be persisted in for a considerable time. When fresh vegetables cannot be had, pickled or preserved ones may be used; and if these cannot be obtained, the chymical acids may be taken in their stead. All the patient's food and drink must be sharpened with

cream of tartar, elixir of vitriol, vinegar, or the spirit of sea-salt, &c.

These things, however, will more certainly prevent than cure the scurvy; for which reason, seafaring people, especially on long voyages, ought to lay in plenty of them. Cabbage, onions, gooseberries, and many other vegetables, may be kept a long time by *pickling*, *preserving*, &c. When these fail, the chymical acids, mentioned above, which will keep for any length of time, may be used. We have reason to believe, if ships were well ventilated, good store of fruits, greens, and portable soup, &c. laid in, and a proper regard paid to cleanliness and warmth, that sailors would be the most healthy people in the world, and would seldom suffer either from the scurvy or putrid fevers, which are so fatal to that useful set of men; but it is too much the temper of such people, to despise all precaution; they will not think of any calamity, till they find it, when it is too late to ward off the blow.

It must indeed be owned, that many of them have it not in their power to make the provision we are speaking off; but in this case, it is the business of their employers to make it for them; and no man ought to engage in a long voyage, without having this article secured.

I have often seen very extraordinary effects in the scurvy, from a milk-diet. This preparation of nature, is a mixture of animal and vegetable properties, which of all others is the most fit for restoring a decayed constitution, and removing that particular acrimony of the humours, which seems to constitute the very essence of the scurvy, and many other diseases. But men despise this wholesome and nourishing food, because it is cheap, and guzzle down flesh, and fermented liquors, while milk is only deemed fit for their hogs.

The

The most proper drink in the scurvy, is whey, or butter-milk. When these cannot be had, sound cyder or perry may be used. Wort has been found to be a proper drink in the scurvy, and may be used at sea, as malt will keep during the longest voyage. A decoction of the tops of the spruce-fir is also good. It may be drank in the quantity of an English pint, twice a-day. Tar-water may likewise be used for this purpose, or decoctions of any of the mild mucilaginous vegetables; as far-faparilla, marsh-mallow roots, &c. Infusions of the bitter plants, as ground-ivy, the lesser centaury, marsh-trefoil, &c. are likewise beneficial. I have seen the peasants in some parts of Britain express the juice of the last-mentioned plant, and drink it with good effects in those foul scorbutic eruptions with which they are often troubled in the spring-season.

The Harrowgate water is certainly an excellent medicine in the scurvy. I have often seen patients in the most deplorable condition, from that disease, greatly relieved by drinking the sulphur-water, and bathing in it. The chalybeate-water may also be used with advantage, especially with a view to brace the stomach, after drinking the sulphur-water, which, though it sharpens the appetite, never fails to weaken the powers of digestion.

A slight degree of scurvy may be carried off, by frequently sucking a little of the juice of a bitter orange, or lemon. When the disease affects the gums only, this practice, if continued for some time, will generally carry it off. We would, however, recommend the bitter orange, as greatly preferable to lemon. It seems to be as good an acid, and is not near so hurtful to the stomach. Perhaps our own sorrel may be little inferior to either of them. All kinds of salad are good in the scurvy, and ought to be eat in great plenty, as spinage, lettuce, parsley,

parsley, celery, endive, radish, dandelion, &c. It is amazing to see how soon fresh vegetables in the spring cure the brute animals of any scab or foulness which is upon their skins. Is it not natural to suppose, that their effects should be as great upon the human species?

The LEPROSY, which was so common in this country long ago, seems to have been near akin to the scurvy. Perhaps, its appearing so seldom now may be owing to the inhabitants of Britain eating more vegetable food than formerly, living more upon tea and other diluting diet, using far less salted meat, and being greatly more cleanly, and better clothed, &c.—Where this disease happens, we would recommend the same course of diet and medicine as in the scurvy.

OF THE SCROPHULA, OR KING'S EVIL.

THIS disease chiefly affects the glands, especially those of the neck. Children, and young persons of a sedentary life, are most subject to it. It is one of those diseases that may be removed by proper regimen, but seldom yields to medicine. The inhabitants of cold, damp, marshy countries, are most liable to the scrophula.

CAUSES.—This disease may proceed from a hereditary taint, infection, a scrophulous nurse, &c. Children who have the misfortune to be born of sickly parents, whose constitutions have been worn
out

out by the French-pox, or other chronic diseases, are apt to be affected with the scrophula. It may likewise proceed from such diseases as weaken the habit, or vitiate the humours; as the small-pox, measles, &c. External injuries, as blows, bruises, compressions, &c. sometimes produce scrophulous ulcers; but there is reason to believe, when this happens, that it is owing either to a predisposition in the habit to this disease, or to the confinement of the patient. In short, whatever tends to vitiate the humours, or relax the solids, predisposes to this disease, as the want of exercise, too much heat or cold, confined air, unwholesome food, bad water, the long use of poor, weak, watery aliments, the neglect of cleanliness, or suffering children to continue long wet, &c.

SYMPTOMS,——At first, small knots appear under the chin, or behind the ears, which gradually increase in number and size, till they form one large hard tumour. This often continues for a long time, without breaking; and when it does break, it only discharges a thin *sanies*, or watery humour. Other parts of the body are likewise liable to its attack, as the arm-pits, groins, feet, hands, eyes, breasts, &c. Nor are the internal parts exempt from it. It often affects the lungs, liver, or spleen; and I have frequently seen the glands of the mesentery greatly enlarged by it.

Those obstinate ulcers which break out upon the feet and hands with swelling, and little or no redness, are of the scrophulous kind. They seldom discharge good matter, and are exceedingly difficult to cure. The *white swellings* of the joints seem likewise to be of this kind. They can seldom be brought to a suppuration, and when opened they only discharge a thin ichor. There is not a more general symptom of the scrophula, than a swelling of the upper lip and nose. It likewise frequently

frequently begins in a single toe or finger, which continues long swelled, with no great degree of pain, till at length the bone becomes carious.

REGIMEN.—As this disease proceeds, in a great measure, from relaxation, the diet ought to be generous and nourishing, but at the same time light and of easy digestion; as good light bread, the flesh and broth of young animals, with now and then a glass of generous wine, or good ale. The air ought to be open, dry, and not too cold, and the patient should take as much exercise as he can bear. Exercise is here of the utmost importance. Children will seldom be troubled with the scrophula, who have enough of exercise; and if they be, it alone has the greatest chance to cure them.

MEDICINE.—The vulgar are remarkably credulous with regard to the cure of the scrophula, many of them believing in the virtue of the royal touch, that of the seventh son, &c. The truth is, we know but little either of the nature or cure of this disease; and where reason or medicines fail, superstition always comes in their place. Hence it is, that in diseases which are the most difficult to understand, we always hear of the greatest number of miraculous cures being performed. Here, however, the deception is easily accounted for. The scrophula, at a certain period of life, often cures of itself; and, if the patient happen to be touched about this time, the cure is imputed to the touch, and not to nature, who is really the physician. In the same way, the insignificant nostrums of quacks and old women, often gain applause when they deserve none.

There is nothing more pernicious than the custom of dosing children with strong purgative medicines in the scrophula. People imagine that it proceeds from humours, which must be purged off, without

without considering, that these purgatives increase the relaxation, and aggravate the disease. It has indeed been found, that keeping the belly gently open, especially with sea-water, has a good effect; but this should only be given in such quantity, as to procure one, or at most two stools every day. Bathing in the salt-water has likewise a very good effect, especially in the warm season. I have often known a course of bathing in salt-water, and drinking it in such quantities as to keep the belly gently open, cure a scrophula, after many medicines had been tried in vain. When salt-water cannot be had, the patient may be bathed in fresh-water, and his belly kept open by small quantities of salt and water, or some other mild purgative.

Next to cold bathing and drinking the salt-water, we would recommend the Jesuits bark. The cold bath may be used in summer, and the bark in winter. It may either be taken in substance, mixed with wine, or if the patient cannot be brought to use it in that form, a decoction of it may be drank. An ounce of the Jesuits bark, and a dram of Winter's bark, grossly powdered, may be boiled in an English quart of water to a pint; towards the end, half an ounce of sliced liquorice-root, and a handful of raisins, may be added, which will both render the medicine less disagreeable, and make it take up more of the bark. The liquor must be strained, and two, three, or four spoonfuls, according to the age of the patient, taken three times a-day. The patient ought at the same time to take, twice or thrice a-day, a glass of good wine, with ten, twenty, or thirty drops of volatile tincture of guaiacum in it. I have often given the bark in obstinate scrophulous cases, with very good effect. An adult may take at least two drams of it daily, and must continue to use it for several months.

The Moffat and Harrowgate waters are likewise very proper medicines in the scrophula, especially the latter. They ought not, however, to be drank in large quantities, but should be taken so as to keep the belly gently open, and must be used for a considerable time.

As to external applications, they are of little avail. Before the tumour breaks, nothing ought to be applied to it, unless a piece of flannel, or something to keep it warm. After it breaks, the sore may be dressed with some digestive ointment. What I have always found to answer best, was the yellow basilicon, mixed with about a sixth or eighth part of its weight of red precipitate. The sore may be dressed with this twice a-day; and if it be very fungous, and does not digest well, a larger proportion of the precipitate may be added.

Medicines which mitigate this disease, though they do not cure it, are not to be despised. If the patient can be kept alive, by any means, till he arrives at the age of puberty, he has a great chance to get well; but if he does not recover at this time, in all probability he never will. Persons afflicted with this disease, ought not to marry. There is no malady which parents are so apt to communicate to their offspring, as the scrophula; and surely it is a cruel thing to entail misery on posterity.

For the means of preventing this disease, we must refer the reader to the observations on nursing, at the beginning of the book.

OF THE RICKETS.

THIS disease generally attacks children betwixt the age of nine months and two years. It appeared first in England, about the time when manufactures began to be introduced, and still prevails most in towns where the inhabitants follow sedentary employments, and by that means neglect either to take proper exercise themselves, or to give it to their children. It has a great resemblance to the foregoing disease, both in its causes, and method of cure.

CAUSES.—One cause of the rickets in children, is diseased parents. Mothers of a weak relaxed habit, who neglect exercise, and live upon weak watery diet, can neither be expected to bring forth strong and healthy children, or to be able to nurse them after they are brought forth. Accordingly we find, that the children of such women generally die of the rickets, the scrophula, consumptions, &c. Children begotten by men in the decline of life, who are afflicted with the gout, the gravel, or other chronic diseases, or who have been often affected with the venereal disease in their youth, are likewise very liable to the rickets.

Any disorder that weakens the constitution, or relaxes the habit of children, as the small-pox, measles, teething, the whooping-cough, &c. predisposes them to this disease. It may likewise be occasioned by improper diet, as food that is either too weak and watery, or so viscid that the stomach cannot digest it. Too great a quantity of rich and
nourishing

nourishing diet may likewise vitiate the humours, and occasion the rickets. Bad nursing is often the cause of this disease. When the nurse is either diseased, or has not enough of milk to nourish the child, it must suffer. But children suffer oftener by want of care in nurses, than want of food. Allowing an infant to continue long wet, or not keeping it thoroughly clean in its clothes, &c. has the most pernicious effects. Wet shoes, stockings, and other clothes, relax the bodies of children, and greatly obstruct their growth. The want of free air is likewise very hurtful to children in this respect. A nurse who lives in a close, small house, where the air is damp and confined, and who is too indolent to carry her child abroad into the open air, will hardly fail to give it the rickets. But want of exercise is the chief cause of this disease. A healthy child should always be in motion, unless when asleep; but if it be suffered to lie, or sit, instead of being tossed and dandled about, it can hardly escape this baneful malady.

SYMPTOMS.—At the beginning of this disease, the child's flesh grows soft and flabby; its strength is diminished, it loses its wonted chearfulness, looks more grave and composed than is natural for its age, and does not care to be moved. The head and belly become too large in proportion to the other parts; the face appears full, and the complexion florid. Afterwards, the bones begin to be affected, especially in the more soft and spungy parts, or towards the ends. Hence the wrists and ancles become thicker than usual; the spine, or back bone, puts on an unnatural shape; the breast is likewise often deformed, and the bones of the arms and legs grow crooked. All those symptoms vary according to the violence of the disease. The pulse is generally quick, but feeble; the appetite and digestion, for the most part,

part, bad; the teeth come slowly, and with difficulty, and they often rot and fall out afterwards. Rickety children generally have great acuteness of mind, and an understanding above their years. Whether this be owing to their being more in the company of adults than other children, or the enlargement of the brain, we shall not pretend to determine.

REGIMEN.—As this disease is always attended with evident signs of weakness and relaxation, our chief aim in the cure must be, to brace and strengthen the solids, and to promote digestion and the due preparation of the fluids. These important ends will be best promoted by wholesome nourishing diet, suited to the age and strength of the patient, and often repeated; by open dry air, and plenty of exercise. If the child has a bad nurse, who either neglects her duty, or has not enough of milk, she should be changed. If the season be cold, the child ought to be kept warm; and when the weather is hot, it ought to be kept cool; as sweating is very apt to weaken it; and too great a degree of cold has the same effect. The limbs should be rubbed frequently with a warm hand, and the child should be kept as chearful as possible.

The diet ought to be light and dry, as good bread, roasted flesh, &c. Biscuit is generally reckoned the best bread; and pigeons, pullets, veal, rabbits, or mutton roasted or minced, are the most proper flesh. If the child be too young for flesh-meats, he may have rice, millet, or pearl-barley boiled with raisins, to which may be added a little wine and spice. His drink may be good claret*, of which he may take half a glass three or four times a-day. Those who cannot afford claret, may give

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* Good port would in our opinion be preferable in such a case.

the child now and then a wine glass of fine mild ale or porter.

MEDICINE.—Medicines are here of little avail. The disease may often be cured by the nurse, but seldom by the physician. In children of a gross habit, gentle purges or vomits may sometimes be of use; but they will never carry off the malady. That must depend upon bracing alone: For which purpose, besides the regimen mentioned above, we would recommend the cold bath, especially in the warm season. It must, however, be administered with prudence, as some rickety children cannot bear it. The best time for using the cold bath is in the morning, and the child should be well rubbed with a dry cloth, immediately after. If the child should be weakened by the use of the cold bath, it must be discontinued.

Sometimes issues have been found beneficial, both in this and the foregoing disease. They are peculiarly necessary for children who abound with gross humours. An infusion of the Jesuits bark, in wine or ale, is likewise of use; but it is scarce possible to bring children to take it. We might here mention many other medicines which have been recommended for the rickets; but, as there is far more danger in trusting to these, than in neglecting them altogether, we chuse rather to pass them over, and to depend entirely on regimen.

OF THE ITCH.

THE ITCH is a disease of the skin, and is generally communicated by infection. It seems originally to proceed from the want of cleanliness, bad air, or unwholesome diet; as the inmates of jails, hospitals, and such as live upon salted and smoked dried provisions, are most subject to it.

It generally appears in form of small watery pustules, first about the wrists, or betwixt the fingers, and afterwards it affects the arms, legs, and thighs, &c. These pustules are attended with an intolerable itching, especially when the patient is warm in bed, or sits near the fire. Sometimes the skin is covered with large blotches or scabs, and at other times with a white scurf, or scaly eruption. This last is called the Dry Itch, and is the most difficult to cure.

The itch is seldom a dangerous disease, unless when it is rendered so by neglect or improper treatment. If it be suffered to continue too long, it may vitiate the whole mass of humours; and, if it be suddenly drove in, without proper evacuations, it may occasion fevers, inflammations of the viscera, or other internal disorders.

The safest medicine for the itch is sulphur, which ought to be applied both externally and internally. The parts most affected may be rubbed with an ointment made of common sulphur and flowers of brimstone, each an ounce; crude sal-ammoniac, finely powdered, two drams; hog's lard,

lard, or butter, four ounces. A scruple, or half a dram, of the essence of lemon, may be added, to take away the disagreeable smell. About the bulk of a nutmeg of this may be rubbed upon the extremities, at bed-time, twice or thrice a-week. It is seldom necessary to rub any part but the extremities; and even these ought not to be all rubbed at the same time, but by turns, as it is dangerous to stop too many pores at once.

Before the patient begins to use the ointment, he ought, if he be of a full habit, to bleed, and take a purge or two. It will likewise be proper, during the use of it, to take every night and morning, as much of the flower of brimstone, in a little treacle or new milk, as will lie upon a shilling. He should beware of catching cold, should wear more clothes than usual, and take every thing warm. The same clothes, the linen excepted, ought to be kept on all the time of using the ointment; and such clothes as have been worn while the patient was under the disease, are not to be used again, unless they have been fumigated with brimstone, and thoroughly cleaned, otherwise they will communicate the infection anew.

I never knew brimstone, if used as directed above, fail to cure the itch; and I have reason to believe, that, if duly persisted in, it never will fail; but if it be only used once or twice, and cleanliness be neglected, it is no wonder if the disorder returns. The great secret both for preventing and curing the itch, is CLEANLINESS. Where it prevails, the itch will seldom approach; and if it should, it will soon be banished. The quantity of ointment mentioned above, will generally be sufficient for the cure of one person; but, if any symptoms of the disease should appear again, the medicine may be repeated. It is both more safe and efficacious, when persisted in for a considerable time,

time, than when a large quantity is applied at once. It will likewise be proper, that the patient, while he is using the ointment, should take a purge once a-week.

People ought to be extremely cautious, not to mistake other eruptions for the itch; as the stoppage of these may be attended with fatal consequences. Many of the eruptive diseases to which children are liable, have a near resemblance to the itch; and I have often known infants killed by being rubbed with greasy ointments, that made these eruptions strike suddenly in, which nature had thrown out to preserve the patient's life, or prevent some other disease.

Much mischief is likewise done by the use of mercury in this disease. I have known some persons mad enough to wash the parts affected with a strong solution of the corrosive sublimate, which had almost proved fatal. Others use the mercurial ointment, without taking the least care either to avoid cold, or observe a proper regimen. The consequences of such conduct may be easily guessed. I have known even the mercurial girdles produce tragical effects, and would advise every person, as he values his health, to beware how he uses them. Mercury ought never to be used as a medicine, without the greatest care. Ignorant people look upon these girdles as a kind of charm, without considering that the mercury enters the blood.

As sulphur is both the most safe and efficacious medicine for the itch, we shall not recommend any other. Other medicines may be used by persons of skill, but are not to be ventured upon by the ignorant. Those who would avoid this detestable disease, ought to beware of infected persons, to use wholesome food, and to study universal cleanliness.

OF THE ASTHMA.

THE asthma is a disease of the lungs, which seldom admits of a cure. Persons in the decline of life, are most liable to this disease. It is divided into the moist and dry, or humoural and nervous. The former is attended with expectoration or spitting; but in the latter, the patient seldom spits, unless sometimes a little tough phlegm, by the mere force of coughing.

CAUSES.—The asthma is sometimes hereditary. It may likewise proceed from a bad formation of the breast; the fumes of metals or minerals taken into the lungs*; violent exercise, especially running; the obstruction of customary evacuations, as the menses, hæmorrhoids, &c.; the sudden retrocession of the gout, or striking in of eruptions, as the small-pox, measles, &c. violent passions of the mind, as sudden fear or surprise. In a word, the disease may proceed from any cause that either impedes the circulation of the blood through the lungs, or prevents their being duly expanded by the air.

SYMPTOMS.—An asthma is known by a quick laborious respiration, which is generally performed with a kind of wheezing noise. Sometimes the

* I knew a person whose lungs were set in a manner stock-still, by the fumes of antimony. It happened in the night, after he had been preparing a great quantity of the regulus of antimony through the day. He was relieved by clysters, fomentations, and oily emulsions.

the difficulty of breathing is so great, that the patient is obliged to keep an erect posture, otherwise he is in danger of being suffocated. A fit or paroxysm of the asthma, is very apt to happen after a person has been exposed to cold easterly winds, or has been abroad in thick foggy weather, or has got wet, or continued long in a damp place under ground, or the like.

A fit of the asthma is generally ushered in with great listlessness, want of sleep, hoarseness, cough, belching of wind, a sense of heaviness about the breast, and difficulty of breathing. To these succeed heat, fever, pain of the head, sickness, and nausea, great oppression of the breast, palpitation of the heart, a weak, and sometimes intermitting pulse, an involuntary flow of tears, bilious vomitings, &c. All the symptoms grow worse towards night; the patient is easier when up than in bed, and is very desirous of cool air.

REGIMEN.—The food ought to be light, and of easy digestion. Boiled meats are generally preferred to roasted, and the flesh of young animals to that of old. All windy food, and whatever is apt to swell upon the stomach, is to be avoided. Light puddings, white broths, and ripe fruits baked, boiled, or roasted, are proper. Strong liquor of all kinds, especially malt-liquor, is hurtful. The patient should eat a very light supper, or rather none at all. His clothing should be warm, especially in the winter-season. A flannel-shirt or waistcoat, and thick shoes, are of great service, as all disorders of the breast are much relieved by keeping the feet warm, and promoting the perspiration.

But nothing is of so great importance in the asthma, as pure and moderately warm air. Asthmatic people can seldom bear either the close heavy air of a large town, or the sharp, keen atmosphere of a bleak hilly country; a medium be-

tween these, is therefore to be chosen. The air near a large town is often better than at a distance, provided the patient be removed so far as not to be affected by the smoke. Some asthmatic patients indeed breathe easier in town than in the country; but this is seldom the case, especially in towns where much coal is burnt. Asthmatic persons who are obliged to be in town all day, ought at least to sleep out of it. Even this will often prove of great service. Those who can afford it, ought to travel into a warmer climate. Many asthmatic persons who cannot live in Britain, enjoy very good health in the south of France, or in Spain, or Italy.

Exercise is likewise of very great importance in the asthma, as it promotes the digestion, and greatly assists in the preparation of the blood. The blood of asthmatic persons is seldom duly prepared, owing to the proper action of the lungs being impeded. For this reason, such people ought daily to take as much exercise, either on foot, horseback, or in a machine, as they can bear.

MEDICINE.—Almost all that can be done by medicine in this disease, is to relieve the patient, when seized with a violent fit. This indeed requires the greatest expedition, as the disease often proves suddenly fatal. In the paroxysm or fit, the body is generally bound, a clyster ought therefore to be administered; and if there be occasion, it may be repeated two or three times. The patient's feet ought to be put into warm water, and afterwards rubbed with a warm hand, or dry cloth. If there be a violent spasm about the breast or stomach, warm fomentations, or bladders filled with warm milk and water, may be applied to the part affected, and warm cataplasms to the soles of the feet. The patient must drink freely of diluting liquors, and may take a tea-spoonful of the tincture

ture of castor and saffron, mixed together, in a cup of valerian-tea, twice or thrice a-day. Sometimes a vomit has a very good effect, and snatches the patient, as it were, from the jaws of death. This will be more safe after other evacuations have been premised*.

Out of the fit. In the moist asthma, such things as promote expectoration or spitting, ought to be used; as the syrup of squills, gum-ammoniac, and such like. A common spoonful of the syrup or oxymel of squills, mixed with an equal quantity of cinnamon-water, may be taken three or four times a-day. Any quantity of gum-ammoniac, with an equal quantity of asafoetida, may be made into pills, and four or five of them taken every night at bed-time†.

In the convulsive or nervous asthma, antispasmodics and bracers are the most proper medicines. The patient may take a tea-spoonful of the pargoric elixir, twice a-day. The Jesuits bark is likewise proper in this case. It may be taken in substance, or infused in wine. In short, every thing that braces the nerves, or takes off spasm, may be of use in a nervous asthma. It is often relieved by the use of asses milk; I have likewise known cow's milk drank warm of a morning, have a very good effect in this case.

In every species of asthma, issues have a good effect; they may either be made in the back or side, and should never be allowed to dry up. We shall here, once for all, observe, that in most chronic

* Especially blood-letting, which, in the first attacks of this disease when violent, ought not to be omitted.

† After the violence of the attack has been moderated by evacuations, as bleeding, purging, &c. opiates will be found of great service in this disease.

nic diseases, issues are extremely proper. They are both a safe and efficacious remedy; and though they do not always cure the disease, yet they will often prolong the patient's life.

OF THE APOPLEXY.

THE apoplexy is a sudden loss of sense and motion, wherein the patient is to all appearance dead, only the heart and lungs still continue to move. This disease, by a little care, might often be prevented, but can seldom be cured. It chiefly attacks sedentary persons of a gross habit, who use a rich and plentiful diet, and indulge in strong liquors. People in the decline of life are most subject to the apoplexy. It prevails most in winter, especially in long rainy seasons, and very low states of the barometer.

CAUSES.—The immediate cause of an apoplexy is a compression of the brain, occasioned by an effusion of blood, or of watery humours on that part. The former is called a *sanguine*, and the latter a *serous apoplexy*. It may be produced by any cause that increases the circulation towards the brain, or prevents the return of the blood from the head; as intense study, violent passions*, viewing objects for a long time obliquely, wearing any thing too tight about the neck, a rich

* I knew a woman who in a violent fit of anger was seized with a sanguine apoplexy. She at first complained of extreme pain, as if
daggers

rich and luxurious diet, suppression of urine, suffering the body to cool suddenly after having been very hot, continuing long in a warm-bath; the excessive use of spices, or high-seasoned food; excess of venery, the sudden striking in of any eruption, suffering issues, setons, &c. suddenly to dry up, or the stoppage of any customary evacuation, a mercurial salivation suddenly checked by cold, wounds, or bruises on the head, long exposure to excessive cold, poisonous exhalations, &c.

SYMPTOMS, and method of cure.—The usual forerunners of an apoplexy are giddiness, pain, swimming of the head, loss of memory, drowsiness, noise in the ears, the night-mare, a spontaneous flux of tears, and laborious respiration. When persons of an apoplectic make observe these symptoms, they have reason to fear the approach of a fit, and should endeavour to prevent it by plentiful bleeding, low diet, and opening medicines.

In the sanguine apoplexy, if the patient does not die suddenly, the countenance appears florid, the face is swelled or puffed up, and the blood-vessels, especially about the neck and temples, are turgid, the pulse beats strong, the eyes are prominent and fixed, and the breathing is difficult, and performed with a snorting noise. The excrements and urine are often voided spontaneously, and the patient is sometimes seized with a vomiting.

In this case every method must be taken to lessen the force of the blood towards the head. The patient should be kept perfectly easy and cool. His head should be raised pretty high, and his feet suffered to hang down. His clothes ought to be loosened,

daggers had been thrust through her head, as she expressed it. Afterwards she became comatose and dull, her pulse sunk very low, and was exceeding slow. By the help of bleeding, blistering, and other evacuations, she was kept alive for about a fortnight. When her head was opened, a large quantity of extravasated blood was found in the left ventricle of the brain,

loosened, especially about the neck, and fresh air admitted into his chamber. His garters should be tied pretty tight, by which means the motion of the blood from the lower extremities will be retarded. As soon as the patient is placed in a proper posture, he should be bled pretty freely in the neck or arm; and, if there be occasion, the operation may be repeated in two or three hours. A laxative clyster with plenty of sweet oil, or fresh butter, and a large spoonful of common salt in it, may be administered every two hours, and blistering-plasters applied betwixt the shoulders, and to the calves of the legs*.

As soon as the symptoms are a little abated, and the patient is able to swallow, he ought to drink freely of some diluting opening liquor; as a decoction of tamarinds and liquorice, cream-tartar whey, or common whey with cream of tartar dissolved in it: Or he may take any cooling purge, as Glauber's salts, or manna dissolved in an infusion of senna, or the like. All spirits and other strong liquors are to avoided. Even volatile salts held to the nose do mischief. Vomits, for the same reason, ought not to be given, nor any thing that may increase the motion of the blood towards the head.

In the serous apoplexy, the symptoms are nearly similar, only the pulse is not so strong, the countenance is less florid, and the breathing less difficult. Bleeding is not so necessary here, as in the former case. It may however generally be performed once with safety and advantage; but should not be repeated. The patient should be placed in the
same

* These will be more effectual if applied to the part affected. Local bleeding, in this case, by means of leeches, or by scarifying and cupping the part, ought not to be omitted: and if a medical person of skill be at hand, opening the temporal arteries should be had recourse to.

same posture as directed above, and should have blistering-plasters applied, and receive opening clysters in the same manner. Purges are here likewise necessary, and the patient may drink strong balm-tea. If he be inclined to sweat, it ought to be promoted, by drinking small wine-whey, or an infusion of *carduus benedictus*. A plentiful sweat kept up for a considerable time, has often carried off a ferous apoplexy.

When apoplectic symptoms proceed from opium, or other narcotic substances taken into the stomach, vomits are necessary. The patient is generally relieved as soon as he has discharged the poison in this way.

Persons of an apoplectic make, or those who have been attacked by it, ought to use a very spare and slender diet, avoiding all strong liquors, spiceries, and high-seasoned food. They ought likewise to guard against all violent passions, and to avoid the extremes of heat and cold. The head should be shaved, and daily washed with cold water. The feet ought to be kept warm, and never suffered to continue long wet. The belly must, by all means, be kept open, either by food or medicine, and blood ought to be let every spring and fall*. Moderate exercise should likewise be taken; but it ought never to be continued too long. Nothing has a greater effect in preventing an apoplexy than issues or perpetual

* Regular blood-letting at stated seasons of the year, is certainly a very troublesome and even a dangerous habit. When a habit of this kind has been once established, the operation cannot be omitted without the utmost hazard, whilst its continuation produces more and more the necessity of a frequent repetition. Where the same end, therefore, can be obtained by a proper regulation of diet and exercise, it ought never to be had recourse to. This, though generally, is not always the case; and it is only where this precaution has been neglected or has failed, or when there are symptoms of an approaching attack, that we would recommend this operation. In this situation it becomes absolutely necessary, in order to avoid a much more immediate danger.

petual blisters; but great care must be taken never to suffer them to dry up, without opening others in their stead. Apoplectic persons ought never to go to sleep with a full stomach, nor to lie with their heads too low, or wear any thing tight about their necks.

OF THE PALSY.

THE Palsy is a loss or diminution of sense, or motion, or of both, in one or more parts of the body. It is more or less dangerous, according to the importance of the part affected. A palsy of the heart, lungs, or any part necessary for life, is mortal. When it affects the stomach, the intestines, or the bladder, it is highly dangerous. If the face be affected, the case is bad, as this shews that the disease proceeds from the brain. If the part affected feels cold, is insensible, or wastes away, there is small hopes of a cure, especially if the judgement and memory begin to fail.

CAUSES.—The immediate cause of palsy is whatever prevents the regular exertion of the nervous power upon any particular muscle or part of the body. The occasional and pre-disposing causes are various; as drunkenness, wounds of the brain or spinal marrow, pressure upon the brain or nerves, very cold or damp air, the suppression of customary evacuations, sudden fear, want of exercise, or whatever

ever greatly relaxes the system, as drinking much tea *, or coffee, &c. Wounds of the nerves themselves, or any thing that obstructs the regular action of that vital power contained in them, will occasion a palsy. It may likewise proceed from the poisonous fumes of metals or minerals ; as mercury, lead, arsenic, &c.

In young persons of a full habit, where there are symptoms of inflammation, the palsy must be treated in the same manner as the sanguine apoplexy. The patient must be bled, blistered, and have his belly opened by sharp clysters or purgative medicines. But in old age, or when the disease proceeds from relaxation or debility, which is generally the case, a quite contrary course must be pursued. The diet must be warm and attenuating, consisting chiefly of spicy and aromatic vegetables ; as mustard, horse-radish, &c. The drink may be generous wine, mustard-whey, or brandy and water. Friction with the flesh-brush, or a warm hand, is extremely proper, especially on the parts affected. Blistering-plasters may likewise be applied to the affected part with advantage. When this cannot be done, they may be rubbed with the volatile liniment, or the nerve-ointment of the Edinburgh Dispensatory. But the best external application is electricity. The shocks should be received on the part affected ; and they ought daily to be repeated for several weeks †.

Vomits

* Many people imagine, that tea has no tendency to hurt the nerves, and that drinking the same quantity of warm water would be equally pernicious. This however seems to be a mistake. I know many persons who daily drink three or four cups of warm milk and water without feeling any bad consequences ; yet the same quantity of tea will make their hands shake for twenty-four hours.

† Sparks should rather be drawn from the part, than strong shocks sent through it.

Vomits are very beneficial in this kind of palsy, and ought to be frequently administered. Cephalic snuff, or any thing that makes the patient sneeze, is likewise useful. Some pretend to have found great benefit from rubbing the parts affected with nettles; but this does not seem to be any ways preferable to blistering. If the tongue be affected, the patient may gargle his mouth frequently with brandy and mustard; or he may hold a bit of sugar in his mouth, wet with the palsy-drops or compound spirits of lavender. The wild valerian root is a very proper medicine in this case. It may either be taken in an infusion with sage-leaves, or half a dram of it in powder may be given in a glass of wine three times a day. If the patient cannot use the valerian, he may take of *sal volatile oleosum*, compound spirits of lavender, and tincture of castor, each half an ounce; mix these together, and take forty or fifty drops in a glass of wine, three or four times a-day. A table-spoonful of mustard-seed taken frequently is a very good medicine. The patient ought likewise to chew cinnamon-bark, ginger, or other warm spiceries.

Exercise is of the utmost importance in the palsy; but the patient must beware of cold, damp, and moist air. He ought to wear flannel next his skin; and, if possible, should remove into a warmer climate.

OF

OF THE EPILEPSY, OR FALLING SICKNESS.

THE epilepsy is a sudden deprivation of all the senses, wherein the patient falls suddenly down, and is affected with violent convulsive motions. Children, especially those that are delicately brought up, are most subject to it. It more frequently attacks men than women, and is very difficult to cure. When the epilepsy attacks children, there is reason to hope it may go off about the time of puberty. When it attacks any person after twenty years of age, the cure is difficult; but when after forty, a cure is hardly to be expected. If the fit continues only for a short space, and returns seldom, there is reason to hope; but if it continues long, and returns frequently, the prospect is bad. It is a very unfavourable symptom, when the patient is seized with the fits in his sleep.

CAUSES.—Sometimes the epilepsy is a hereditary disease. It may likewise proceed from a sudden fright of the mother when with child of the patient; from blows, bruises, or wounds on the head; a collection of water, blood, or serous humours in the brain; a polypus; tumours or concretions within the skull; excessive drinking; intense study; excess of venery; worms; teething; suppression of customary evacuations; too great emptiness or repletion; violent passions or affections of the mind, as fear, joy, &c.; hysteric affections; contagion received into the body, as the infection of the small-pox, measles, &c.

SYMPTOMS.—An epilectic fit is generally preceded by unusual weariness; pain of the head; dullness; giddiness; noise in the ears; dimness of sight; palpitation of the heart; disturbed sleep; difficult breathing; the bowels are inflated with wind; the urine is in great quantity, but thin; the complexion is pale; the extremities are cold; and the patient feels as it were a stream of cold air ascending towards his head.

In the fit, the patient generally makes an unusual noise; his thumbs are drawn in towards the palms of the hands; his eyes are distorted; he starts, and foams at the mouth; his extremities are bent or twisted various ways; he often discharges his seed, urine, and fœces, unvoluntarily; and is quite destitute of all sense and reason. After the fit is over, his senses gradually return, and he complains of a kind of stupor, weariness, and pain of his head; but has no remembrance of what happened to him during the fit.

Sometimes the fits return at stated periods, as at the full or change of the moon: at other times they are excited by violent affections of the mind, a debauch of liquor, excessive heat, cold, or the like.

This disease, from the difficulty of investigating its causes, and its strange symptoms, was formerly attributed to the wrath of the gods, or the agency of evil spirits. In modern times, it has often, by the vulgar, been imputed to witchcraft or fascination. It depends, however, as much upon natural causes as any other malady; and its cure can only be effected by persisting in the use of proper means.

REGIMEN.—Epileptic patients ought, if possible, to breathe a pure and free air. Their diet should be nourishing, but of easy digestion. They ought to drink nothing strong, to avoid swine's flesh, water-fowl, and likewise all windy and oily vegetables.

tables, as cabbage, nuts, &c. They ought to keep themselves chearful, carefully avoiding all occasions of violent passions, as anger, fear, &c.*

Exercise is likewise of great use; but the patient must be careful to avoid all extremes either of heat or cold, all dangerous situations, as standing upon precipices, riding deep waters, &c. Any thing that makes him giddy is apt to occasion a fit, as turning round, looking into a deep pit, or the like; all these ought therefore to be avoided with the utmost care.

MEDICINE.—The intentions of cure must vary according to the cause of the disease. If the patient be of a sanguine temperament, and there be reason to fear an inflammation in the brain, bleeding and other evacuations will be necessary. When the disease is occasioned by the stoppage of customary evacuations, these, if possible, must be restored; if this cannot be done, others may be substituted in their place. Issues or setons, in this case, have often a very good effect. When there is reason to believe that the disease proceeds from worms, proper medicines must be used to kill or carry off these vermin. When the disease proceeds from teething, the belly should be kept open by emollient clysters, the feet frequently bathed in warm water, and, if the fits prove obstinate, a blistering-plaster may be put betwixt the shoulders. The same method is to be followed, when epileptic fits precede the eruption of the small-pox, or measles, &c.

When the disease is hereditary, or proceeds from a wrong formation of the brain, a cure is not to be

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expected.

* It has already been observed, that epileptic fits are often the effect of fear, and are occasioned by that idle custom among young people of frightening one another. Though this be generally done out of mere frolic, it has many dreadful consequences, and ought by all means to be discouraged. It is surely a smaller crime to take away a person's life, than to render him at once miserable in himself, and a burden to society.

expected. When it is owing to too great a mobility of the nervous system, such medicines as tend to brace and strengthen the nerves may be used, as the Jesuits bark, Valerian root, mistletoe of the oak, snake-root, &c *.

Fuller recommends the following electuary as a most excellent *anti-epileptic*. Take Jesuits bark in powder three ounces, Virginian snake-root powdered one ounce, as much syrup of pæony or cloves as is sufficient to form it into a soft electuary. The dose to an adult is a dram, or about the size of a nutmeg, morning and evening. It must be continued for three or four months, and afterwards repeated, three or four days before the new and full moon, for some time.

Mead recommends an electuary against the epilepsy much of the same nature, only he uses Valerian-root in place of the snake-root. It must be taken in the same manner as the above. The patient ought always to be bled, and to take a purge or two, before he begins to use these medicines. They will likewise have a better effect if the patient drinks a tea-cupful of the decoction of *guaia-cum* after each dose. It may be made by boiling two ounces of guaiacum shavings, and one ounce of raisins of the sun stoned, in two English quarts of water to one. Strain the liquor, and afterwards let it stand to settle, then pour off the clear from the feces.

Musk has sometimes been found to answer very well in the epilepsy. Ten or twelve grains of it, with the same quantity of factitious cinnabar, may be

* It is the fossil tonics that are considered as affording the most powerful remedies in this species of the disease; as chalybeates, flowers of zinc, cuprum ammoniacum. Of these, the last in particular has been frequently used with success in this disease. It is given at first in the dose of a quarter or half a grain, according to the age of the patient, to be repeated twice a-day, and increased to what the stomach will bear without vomiting.

be made up into a bolus, and taken every night and morning.

Sometimes the epilepsy has been cured by electricity.

Convulsion-fits proceed from the same causes, and must be treated in the same manner as the epilepsy.

There is one particular species of convulsions, which commonly goes by the name of St Vitus's dance, wherein the patient is agitated with strange motions and gesticulations, which by the common people are generally believed to be the effects of witchcraft. This disease may be cured by repeated bleedings and purges* ; and afterwards using the medicines prescribed above for the epilepsy, viz. the Jesuit's bark, and snake-root, &c. Chalybeate waters are found to be beneficial in this case. The cold bath is likewise of singular service, and ought never to be neglected when the patient can bear it.

OF NERVOUS, HYSTERIC, AND HYPOCHONDRIAC DISORDERS.

Of all diseases incident to mankind, those of the nervous kind are the most complicated and difficult to cure. A volume would not be sufficient to point out their various symptoms. They imitate almost every disease ; and are seldom alike in two different persons, or even in the same person at different times. Like Proteus, they are continually

D d 3

changing

* Evacuations, especially repeated bleedings, are not in general adapted to the cure of this disease ; and the tonics, as bark and steel, are of more universal application.

changing shape ; and upon every fresh attack, the patient thinks he feels symptoms which he never experienced before. Nor do they only affect the body, the mind likewise suffers, and is often thereby rendered extremely weak and peevish. The low spirits, timorousness, melancholy, and fickleness of temper, which generally attend nervous disorders, induce many people to believe, that they are entirely diseases of the mind ; but this change of temper is rather a consequence, than the cause of nervous diseases.

CAUSES.—Every thing that tends to relax or weaken the body, predisposes it to nervous diseases, as indolence, excessive venery, drinking great quantities of tea, or other weak watery liquors, frequent bleeding, purging, vomiting, &c. Whatever hurts the digestion, or prevents the proper assimilation of the aliment, has likewise this effect ; as long fasting, excess in eating or drinking, the use of windy, crude, or unwholesome aliments, a bending posture of the body, &c.

Nervous disorders often proceed from affections of the mind, as grief, disappointments, anxiety, intense study, &c. Few studious persons are free from nervous diseases. Nor is this at all to be wondered at ; intense thinking not only preys upon the spirits, but prevents the person from taking proper exercise, by which means the digestion is impaired, the nourishment prevented, the solids relaxed, and the whole mass of humours vitiated. Grief and disappointment likewise produce the same effects. I have known more hysteric and hypochondriac patients, who dated the commencement of their disorders from the loss of a husband, a favourite child, or from some disappointment in life, than from any other cause. In a word, whatever weakens the body, or depresses the spirits, may occasion
nervous

nervous disorders; as unwholesome air, want of sleep, great fatigue, &c.

SYMPTOMS.—We shall only mention some of the most general symptoms of these disorders, as it would be both an useless and impracticable task to point out the whole. They generally begin with windy inflations or distensions of the stomach and intestines, especially under the false ribs of the left side, where a hard tumour may sometimes be perceived. The appetite and digestion are generally bad; yet sometimes there is an uncommon craving for food, and a quick digestion. The food often turns sour on the stomach; and the patient is troubled with vomiting of clear water, tough phlegm, or a blackish coloured liquor resembling the grounds of coffee. Excruciating pains are often felt about the navel, attended with a rumbling or murmuring noise in the bowels. The belly is sometimes loose, but more commonly bound, which occasions a retention of wind and great uneasiness.

The urine is sometimes in small quantity, at other times very copious, and quite clear. There is a great straitness of the breast, with difficulty of breathing; violent palpitations of the heart; sudden flushings of heat in various parts of the body; at other times a sense of cold, as if water were poured on them; flying pains in the arms and limbs; pains in the back and belly, resembling those occasioned by gravel; the pulse very variable, sometimes uncommonly slow, and at other times very quick; yawning, the hiccup, frequent sighings, and a sense of suffocation, as if from a ball or lump in the throat; alternate fits of crying and convulsive laughing; the sleep is unsound, and seldom refreshing; and the patient is often troubled with the night-mare.

As the disease increases, the patient is molested with head-achs, cramps, and fixed pains in various

parts of the body; the eyes are clouded, and often affected with pain and dryness; there is a noise in the ears, and often a dullness in hearing; in short, the whole animal functions are impaired.—The mind is disturbed on the most trivial occasions and is hurried into the most perverse commotions, inquietudes, terror, sadness, anger, diffidence, &c. The patient is apt to entertain wild imaginations, and extravagant fancies; the memory becomes weak, and the reason fails. Nothing is more characteristic of this disease than a constant dread of death. This renders the patients peevish, fickle, impatient, and apt to run from one physician to another, which is one reason why they seldom reap any benefit from medicine, as they have not sufficient resolution to persist in any one course till it has time to produce its proper effects. They are likewise apt to imagine that they labour under diseases from which they are quite free, and are very angry if any one attempts to laugh them out of their ridiculous notions.

REGIMEN.—Hysteric and hypochondriac persons ought never to fast long. Their food should be solid and nourishing, but of easy digestion. Fat meats and heavy sauces are hurtful. All excess should be carefully avoided. They ought never to eat more at a time than they can easily digest. Heavy suppers are to be avoided. If the patient feels himself weak and faint between meals, he ought to eat a bit of bread, and drink a glass of wine. Though wine in excess enfeebles the body, and impairs the faculties of the mind, yet, taken in moderation, it strengthens the stomach, and promotes digestion. Wine and water is a very proper drink at meals. If wine sours on the stomach, or the patient is much troubled with wind, brandy and water will answer better. Every thing that is windy or hard of digestion must be avoided. All
weak

weak and warm liquors are hurtful, as tea, coffee, punch, &c. People may find a temporary relief from these, but they always increase the malady, as they weaken the stomach, and hurt digestion. Above all things, drams are to be avoided. Whatever immediate ease the patient may feel from the use of ardent spirits, they are sure to aggravate the malady, and prove certain poisons at last. These cautions are the more necessary here, as hysteric and hypochondriac persons are peculiarly fond of tea and ardent spirits, to the use of which many of them fall a victim.

Exercise is of such importance in nervous disorders, that it is worth all other medicines. Riding on horseback is generally esteemed the best, as it gives motion to the whole body, without fatiguing it. I have known some patients, however, with whom walking agreed better, and others who were most benefited by riding in a machine. Every one ought to use that which he finds most beneficial. Long sea-voyages have an excellent effect; and to those who can afford to take them, and have sufficient resolution, we would recommend this course. Even change of place and the sight of new objects, by diverting the mind, have a great tendency to remove these complaints. For this reason a long journey, or a voyage, is of much more advantage than riding short journeys near home.

A cool and dry air is the best, as it braces and imparts vigour to the whole body. Nothing tends more to relax and enervate than hot air, especially that which is rendered so by great fires, or stoves in small apartments. But when the stomach or bowels are weak, the body ought to be well guarded against cold, especially in winter, by wearing a thin flannel waistcoat next the skin. This will keep up an equal perspiration, and defend the alimentary canal from many impressions, to which it would otherwise be subject, upon every

every sudden change from warm to cold weather. Rubbing the body frequently with a flesh-brush, or a coarse linen cloth, is likewise beneficial, as it promotes the circulation, perspiration, &c. Persons who have weak nerves ought to rise early, and take exercise before breakfast, as lying too long a-bed cannot fail to relax the solids. They ought likewise to be diverted, and to be kept as easy and chearful as possible. Nothing hurts the nervous system, or weakens the digestive powers, more than fear, grief, or anxiety.

MEDICINES.—Though nervous diseases are seldom radically cured, yet their symptoms may sometimes be alleviated, and the patient's life rendered at least more comfortable by proper medicines.

When the patient is costive, he ought to take a little rhubarb, or some other mild purgative*, and should never suffer his belly to be long bound. All strong and violent purgatives are, however, to be avoided, as aloes, jalap, &c. I have generally seen an infusion of fenna and rhubarb in brandy answer very well. This may be made of any strength, and taken in such quantity as the patient finds necessary.

When the digestion is bad, and the stomach relaxed and weak, bitters will be of service. The best of these are the Jesuits bark and gentian-root, which may be prepared and used in the following manner. Take Jesuits bark in powder, an ounce and a half, gentian-root and orange-peel bruised, of each half an ounce. Infuse these ingredients in a bottle of brandy or whisky, for five or six days, then

* The Castor-oil makes a very proper laxative in this case. A table-spoonful will commonly answer the purpose, to which, if the patient be squeamish, a tea-spoonful of rum may be added.

then strain the liquor, and take a table-spoonful in half a glass of water, an hour before breakfast, dinner, and supper.

Nothing tends more to strengthen the nervous system than cold bathing. This practice, if duly persisted in, will produce very extraordinary effects; but when the liver or other *viscera* are obstructed, or otherwise unsound, the cold bath is improper. The most proper seasons for it are summer and autumn. It will be sufficient, especially for persons of a spare habit, to go into the cold bath three or four times a-week. If the patient be weakened by it, or feel chilly for a long time after coming out, it is improper.

In patients afflicted with wind, I have always observed the greatest benefit from the acid elixir of vitriol. It may be taken in the quantity of fifteen, twenty, or thirty drops, twice or thrice a-day, in a glass of water. This both expels wind, strengthens the stomach, and promotes digestion.

Opiates are greatly extolled in these maladies; but as they only palliate the symptoms, and generally afterwards increase the disease, we would advise people to be extremely cautious in the use of them, lest habit render them at last absolutely necessary.

It would be an easy matter to enumerate many medicines which have been extolled for relieving nervous disorders; but whoever wishes for a thorough cure must expect it from regimen alone; we shall therefore omit mentioning more medicines, and again recommend the strictest attention to DIET, AIR, EXERCISE, and AMUSEMENTS*.

OF

* Under the general head of Nervous Disorders, our author has thought proper to consider hysterical and hypochondriac affections. These two diseases, however, though sometimes conjoined, and frequently

OF MELANCHOLY AND MADNESS.

MELANCHOLY and madness are nearly allied. They proceed both from the same origin, and may be considered as only different degrees of the same disease.

quently marked by several symptoms in common, yet are often distinct, and exhibit symptoms peculiar to each. Of this our author seems afterwards to have been sensible, as we observe in a later edition he has treated them separately. We shall therefore add a few observations on each of these diseases, in so far as they differ in respect of the symptoms, and especially in the method of cure; while we shall refer to the general head of nervous disorders, for the symptoms and treatment of the two diseases, in so far as they are similar. *The hysteric disease* is almost peculiar to the female sex. It occurs chiefly from puberty to the age of forty years; and then especially about the period of menstruation. Females of a sanguine plethoric habit are chiefly subject to this disease, and of these the unmarried and the barren, more than the married and breeding women. *The hypochondriac disease*, again, occurs in both sexes, though perhaps more frequently in the male; it occurs too, especially after the middle period of life, in those of a melancholy temperament, and of a firm and rigid habit. Stomachic affections, too, more frequently accompany this disease, while spasmodic affections more commonly attend the former. The hysteric affection, too, generally attacks in fits or paroxysms, beginning with a grumbling noise in the bowels, attended with the sensation of a ball rising from the under part of the belly towards the throat, occasioning a feeling of strangulation there; the patient is affected with stupor and insensibility, and the body suffers various convulsions. These symptoms may in general serve to distinguish this disease from the hypochondriac, which is a less violent, though more constant disease. As to the *method of treatment*, as hysteric affections seem to depend chiefly on a preternatural degree of mobility or sensibility in the system, and as this again appears to proceed either from too great a fulness of the system or from weakness, so our remedies ought principally to be directed to correct these. Fulness of the system may be obviated by evacuations, as blood-letting, &c. it is often more safely effected, however, by the use of a spare diet and plenty of exercise. Weakness of the system is to be corrected by the use of tonic and strengthening remedies, as bark, steel, and the cold bath, frequent exercise in the open air, a nourishing diet of animal food, with a moderate use of wine. As hypochondriacal affections, again, are generally accompanied with a rigid habit

disease. *A delirium without a fever* is the common definition of madness. Indeed it is not a very accurate one, but there is no great occasion to be solicitous about the definition of a disease which every body knows. It is of far greater importance to know how it is occasioned, and by what means it may be cured.

CAUSES.—It may proceed from a hereditary disposition, intense thinking, especially where the mind is long occupied about one object, violent passions or affections of the mind, as love, fear, joy, grief, overweening pride, and such like. It may also be occasioned by excessive venery, narcotic or stupefactive poisons, a sedentary life, solitude, the suppression of customary evacuations, acute fevers, or other diseases. Violent anger will change melancholy into madness; and excessive cold, especially of the lower extremities, will force the blood into the brain, and produce all the symptoms of madness. It may likewise proceed from the use of aliment that is hard of digestion, or which cannot be easily assimilated; from a callous state of the integuments of the brain, or a dryness of the brain itself. To all which we may add gloomy or mistaken notions of religion*.

SYMP-

habit and a tense fibre, so the tonic remedies are not so safe here; while the warm bath, and a free use of warm diluting drink, as tea, coffee, &c. so hurtful in the former disease, are frequently of the greatest advantage in this complaint. The management of the patient's mind in this disease, too, requires the utmost attention. Idleness and inactivity are carefully to be avoided; and such pursuits as may amuse and agreeably occupy the mind are to be diligently followed. Those, however, which sufficiently engage the attention at the same time that they require some bodily exertion, are to be preferred; as the country sports of hunting, shooting, travelling, &c. with agreeable society in the hours of relaxation.

* The mind, by dwelling too long upon the dark side of religion, is often, at length, overwhelmed with the deepest melancholy, which ends in madness. What a pity that *religion*, which was intended to alleviate

SYMPTOMS. — When persons begin to be melancholy, they are dull, dejected, timorous, watchful, fond of solitude, fretful, fickle, cap-tious, and inquisitive, solicitous about trifles, some times niggardly, at other times prodigal. The belly is generally bound, the urine thin, and in small quantity, the stomach and bowels inflated with wind, the complexion pale, the pulse slow and weak. The functions of the mind are also greatly perverted, insomuch that the patient often imagines himself dead, or changed into some other animal. Some have imagined their bodies were made of glass, or other brittle substances, and were afraid to move lest they should be broken in pieces. The unhappy patient, in this case, unless carefully watched, is apt to put an end to his own miserable life.

The signs of approaching madness are, redness of the eyes, with a tremulous and constant vibration of the eye-lids, a change of disposition and behaviour, supercilious looks, a haughty carriage, grinding of the teeth, unaccountable malice to particular persons, excessive watchfulness, violent headaches, quickness of hearing, noise in the ears, &c.

Persons actually mad are in an excessive rage when provoked to anger. Some wander about, others make a hideous noise. Some shun the sight of men, others, if permitted, would tear themselves or those whom they meet to pieces. Some, in the highest degree of the disorder, see images before their eyes, and fancy themselves struck with lightning. To these we may add incredible strength, and great insensibility to hunger and cold.

When the disease is owing to an obstruction of customary evacuations, or any bodily disorder, it is

alleviate the calamities of life, to keep the mind chearful, and to raise it above disappointments, should ever be perverted into the means of producing those very evils it was designed to cure!

is easier cured than when it proceeds from the mind. Madness attended with mirth is not so dangerous as that which is accompanied with sadness. A discharge of blood from the nose, a violent looseness, scabby eruptions, the bleeding piles, or the *menfes*, sometimes carry off this disease.

Diseases of the mind often intermit for several years, and return again. In some they return annually at the solstices; in others, about the time of the equinoxes. Sometimes the raving fits observe the lunar periods; in which case the disease is thought to have some affinity with the epilepsy.

REGIMEN.—The diet ought to consist chiefly of vegetables of a cooling and opening quality. Animal food, especially salted or smoke-dried fish or flesh, ought to be avoided. All kinds of shell-fish are bad. Aliments prepared with onions, garlic, or any thing that generates thick blood, are likewise improper. All kind of fruits that are wholesome may be eat with advantage. Boerhaave gives an instance of a patient who, by a long use of whey, water, and garden-fruits, evacuated a great quantity of black-matter, and recovered his senses. This seems to have been the method of cure practiced at the Assyrian Court; where we find the monarch himself, when seized with madness, was turned out to graze.

Strong liquors of every kind ought to be avoided as poison. The most proper drink is water, whey, or very small beer. Tea and coffee are improper. If honey agrees with the patient, it may be eat freely, or his drink sweetened with it. Infusions of balm-leaves, penny-royal, the roots of wild valerian, or the flowers of the lime-tree, may be drank freely, either by themselves, or sweetened with honey, as the patient shall chuse.

The patient ought to take as much exercise in the open air as he can bear. This helps to dissolve
the

the viscid humours; it removes obstructions, promotes the perspiration, and all the other secretions. Every kind of madness is attended with a diminished perspiration; all means ought therefore to be used to promote that necessary and salutary discharge. Nothing can have a more direct tendency to increase the disease, than the common method of confining the patient to a close apartment. Were a proper space allotted for him to run about in, where he could neither hurt himself nor others, it would contribute much to promote a cure. It would have still a better effect, if he were obliged to labour a piece of ground. By digging, hoeing, planting, sowing, &c. both the body and mind would be exercised.

A plan of this kind, with a strict vegetable diet, would be a more rational method of cure than confining the patient in Bedlam, or sending him to a private mad-house. These institutions, as they are generally managed, are far more likely to make a wise man mad, than to restore a madman to his senses. Even running about at large, though it may be attended with some bad consequences, is more likely to restore the patient than confining him in a mad-house. I have known several instances of persons cured by exercise, amusements, and a vegetable diet, who, in all probability, had they been confined, would have continued lunatics for life. A long journey, or a voyage, especially into a warmer climate, with agreeable companions, has often very happy effects.

MEDICINE.—In the cure of madness, great regard must be paid to the mind. When the patient is in a low melancholy state, his mind ought to be soothed and diverted with variety of amusements, as entertaining stories, pastimes, music, &c. This seems to have been the method of curing melancholy among the Jews, as we learn from the story

story of King Saul ; and indeed it is a very rational one. Nothing can remove diseases of the mind so effectually as applications to the mind itself, the most efficacious of which is music. The patient's company ought likewise to consist of such persons as are agreeable to him. People in this state are apt to conceive unaccountable aversions against particular persons ; and the very sight of such persons is sufficient to distract their minds, and throw them into the utmost perturbation. In all kinds of madness, it is better to sooth and calm the mind, than to ruffle it by contradiction.

When the patient is high, evacuations are necessary. In this case he must be bled, and have his belly kept open by purging medicines, as manna, rhubarb, cream of tartar, or the soluble tartar. I have seen the last have very good effects. It may be taken in the dose of half an ounce, dissolved in water-gruel every day, for sundry weeks, or even for months, if necessary. More or less may be given according as it operates. Vomits have likewise a good effect ; but they must be pretty strong, otherwise they will not operate.

Madness has sometimes been cured by camphor. Ten or twelve grains of it may be rubbed in a mortar with half a dram of nitre, and taken twice a-day, or oftener if the stomach will bear it. If it will not sit upon the stomach in this form, it may be made into pills with gum asafœtida and Russian castor, and taken in the quantity above directed. Musk has likewise been found efficacious in this case ; but to have any effect, it must be given in large doses. A scruple or twenty-five grains may be made into a bolus with a little honey or syrup, and taken twice or thrice a-day. The antimonial wine is by some extolled for the cure of madness. It may be taken in the dose of forty or fifty drops, twice or thrice a-day, in a cup of tea. The tincture

ture of hellebore has likewise been in great esteem; but I never saw any considerable effects from it. Each of the above medicines may be of service in some particular case, provided it be duly persisted in, and where one fails, it may not be amiss to try another.

As it is very difficult to induce patients in this disease to take medicines, we shall mention some outward applications which sometimes do good; the principal of these are issues, setons, and cold bathing. Issues may be made in any part of the body, but they generally have the best effect near the spine of the back. The discharge from these may be greatly promoted by dressing them with the mild blistering-ointment, and keeping what are commonly called the orrice-peas in them. The salt water is most proper for bathing in; but when that cannot be obtained, the patient may be daily immersed in fresh water. Some recommend bathing the body in warm water, and at the same time pouring cold water upon the head.

That kind of madness or delirium which proceeds from mere weakness, requires a quite different method of treatment. It is often the effect of fevers injudiciously treated, wherein the patient's strength has been exhausted by frequent bleedings and purgings. This must be removed by nourishing diet, exercise proportioned to the patient's strength, and cordial medicines. All evacuations are here carefully to be avoided. The patient may take frequently a glass of good wine, in which a little Jesuits bark has been infused.

OF POISONS.

EVERY person ought, in some measure, to be acquainted with the nature and cure of poisons. They are generally taken unawares, and their effects are often so sudden and violent, as not to admit of delay, or allow time to procure the assistance of physicians. Indeed no great degree of medical knowledge is here necessary, the remedies for most poisons being generally at hand, or easily obtained, and nothing but common prudence needful in the application of them.

The vulgar notion that every poison is cured by some counter poison, as a specific, has done much hurt. People believe they can do nothing for the patient, unless they know the particular antidote to that kind of poison which he has taken. Whereas the cure of all poisons taken into the stomach, without exception, depends on discharging them as soon as possible.

There is no case wherein nature points out the method of cure more clearly than in this. Poison is seldom long in the stomach before it occasions sickness, with an inclination to vomit. This shews plainly what ought to be done. Indeed common sense dictates to every man, that, if any thing has been taken into the stomach which endangers life, it ought immediately to be discharged. Were this duly regarded, most of the mischief occasioned by poison might be prevented. The method of cure is obvious, and the means of performing it are in the hands of every man,

Poisons either belong to the animal, vegetable, or mineral kingdom.

Mineral poisons are commonly of an acrid or corrosive quality, as arsenic, the corrosive sublimate of mercury, &c.

Those of the vegetable kind are generally of a narcotic or stupifactive quality, as poppy, hemlock, henbane, berries of the deadly night-shade, &c.

Poisonous animals communicate their infection, either by the bite or sting. This poison is very different from the former, both in its symptoms and cure.

MINERAL POISONS.—Arsenic is the most common of this class; and, as the whole of them are pretty similar both in their effects and method of cure, what is said with respect to it will be applicable to every other species of corrosive poison.

When a person has taken arsenic, he soon perceives a burning heat, and violent pricking pain, in his stomach and bowels, with vomiting and intolerable thirst. The tongue and throat feel rough and dry; and, if proper help be not soon administered, the patient is seized with great anxiety, hiccapping, faintings, and coldness of the extremities. To these succeed black vomits, foetid stools, with a mortification of the stomach and intestines, which are the immediate forerunners of death.

On the first appearance of these symptoms, the patient should drink large quantities of new milk and salad-oil, till he vomits; or he may drink warm water mixed with oil. Fat broths are also proper, provided they can be got ready in time. Where no oil is to be had, fresh butter may be melted and mixed with the milk or water. These things are to be drank as long as the inclination to vomit continues. Some have drank eight or ten English quarts

quarts before the vomiting ceased; and it is never safe to leave off drinking while one particle of the poison remains in the stomach.

These oily or fat substances not only provoke vomiting, but likewise blunt the acrimony of the poison, and prevent its wounding the bowels; but if they should not make the person vomit, half a dram or two scruples of the powder of ipecacoanha must be given, or a few spoonfuls of the oxymel of squills mixed with the water which he drinks. Vomiting may likewise be excited by tickling the inside of the throat with a feather.

If the tormenting pains are felt in the lower belly, and there is reason to fear that the intestines are attacked, clysters of milk and oil must be very frequently thrown up; and the patient must drink emollient decoctions of barley, oat-meal, marsh-mallows, and such like *.

After the poison has been evacuated, the patient ought, for some time, to live upon such things as are of a healing and cooling quality; to abstain from flesh and all strong liquors; and to live upon milk, broth, gruel, light puddings, and other spoon-meats of easy digestion. His drink should be barley-water, linseed-tea, or infusions of any of the mucilaginous vegetables.

VEGETABLE POISONS, besides heat and pain of the stomach, commonly occasion some degree of giddiness, and often a kind of stupidity or folly. Persons who have taken these must be treated in the same manner as for the mineral or corrosive.

Though the vegetable poisons, when allowed to remain in the stomach, often prove fatal; yet the

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danger

* In this case he ought likewise to take some gentle laxative by the mouth, as an ounce or ten drams of castor-oil, or an ounce and a half or two ounces of Glauber's salts, &c.

danger is generally over as soon as they are discharged. Not being of such a caustic or corrosive nature, they are less apt to wound and inflame the bowels than mineral substances; no time, however, ought to be lost in having them expelled the stomach.

Opium, being frequently taken by mistake, merits particular attention. It is used as a medicine both in a solid and liquid form, which latter commonly goes by the name of laudanum. It is indeed a valuable medicine when taken in proper quantity; but as an over dose proves strong poison, we shall point out its common effects, together with the method of cure.

Too great a quantity of opium generally occasions great drowsiness, with stupor and other apoplectic symptoms. Sometimes the person has so great an inclination to sleep, that it is almost impossible to keep him awake. Every method must, however, be tried for this purpose. He should be tossed, shaken, and moved about. Sharp blistering-plasters should be applied to his legs or arms, and stimulating medicines, as salts of hartshorn, &c. held under his nose. It will also be proper to let blood. At the same time every method must be taken to make him discharge the poison. This may be done in the manner directed above, viz. by the use of strong vomits, drinking plenty of warm water with oil, &c.

Mead, besides vomits, in this case recommends acid medicines with lixivial salts. He says, that he has often given salt of wormwood mixed with juice of lemon, in repeated doses, with great success.

If the body should remain weak and languid after the poison has been discharged, nourishing diet and cordials will be necessary; but when there is reason to fear that the stomach or bowels are

are inflamed, the greatest circumspection is necessary, both with regard to food and medicine.

ANIMAL POISONS.—We shall begin with the bite of a mad dog, as it is both the most common and dangerous animal-poison in this country.

The creatures naturally liable to contract the hydrophobia are, so far as we yet know, all of the dog-kind, viz. dogs, foxes, and wolves. Of the last we have none in this island; and it so seldom happens that any person is bit by the second, that they scarce deserve to be taken notice of. If such a thing should happen, the method of treatment is precisely the same as for the bite of a mad dog.

The symptoms of madness in a dog are as follow. At first he looks dull, shews an aversion to food and company: He does not bark as usual, but seems to murmur, is peevish, and apt to bite strangers: His ears and tail droop more than usual, and he appears drowsy. Afterwards he begins to loll out his tongue, and froth at the mouth, his eyes seeming heavy and watery. He now, if not confined, takes off, runs panting along with a kind of dejected air; and endeavours to bite every one he meets. Other dogs are said to fly from him. Some think this is a certain sign of madness, supposing that they know him by the smell; but it is not to be depended on. If he escapes being killed, he seldom runs above two or three days, till he dies exhausted with heat, hunger, and fatigue.

This disease is most frequent after long dry hot seasons; and such dogs as live upon putrid stinking carrion, without having enough of fresh water, are most liable to it.

When any person is bit by a dog, the strictest inquiry ought to be made, whether the animal be really mad. Many disagreeable consequences arise from neglecting to ascertain this point. Some

people have lived in continual anxiety for many years, because they had been bit by a dog which they believed to be mad; but, as he had been killed on the spot, it was impossible to ascertain the fact. This should induce us, instead of killing a dog the moment he has bit any person, to do all in our power to keep him alive, at least till we can be certain whether he be mad or not.

Many circumstances may contribute to make people imagine a dog mad. He loses his master, runs about in quest of him, is set upon by other dogs, and perhaps by men. The creature thus frightened, beat, and abused, looks wild, and lolls out his tongue as he runs along. Immediately a crowd is after him; while he, finding himself closely pursued, and taking every one he meets for an enemy, naturally attempts to bite in self-defence. He soon gets knocked on the head, and passes currently for a mad dog, as it is then impossible to prove the contrary.

This being the true history of by far the greater part of those dogs which pass for mad, is it any wonder that numberless whimsical medicines have been extolled for preventing the effects of their bite? This readily accounts for the great variety of infallible remedies for the bite of a mad dog, which are to be met with in almost every family. Though not one in a thousand has any claim to merit, yet they are all supported by numberless vouchers. No wonder that imaginary diseases should be cured by imaginary remedies. In this way credulous people first impose upon themselves, and then deceive others. The same medicine that was supposed to prevent the effects of the bite when the dog was not mad, is recommended to a person who has had the misfortune to be bit by a dog that was really mad. He takes it, trusts to it, and is undone.

To

To these mistakes we must impute the frequent ill success in preventing the effects of the bite of a mad dog. It is not owing so much to a defect in medicine, as to wrong applications. I am persuaded, if proper medicines were taken immediately after the bite is received, and continued for a sufficient length of time, we should not lose one in a thousand of those who have the misfortune to be bit by a mad dog.

This poison is generally communicated by a wound, which, nevertheless, heals as soon as a common wound: But afterwards it begins to feel painful, and as the pain spreads towards the neighbouring parts, the person becomes heavy and listless. His sleep is unquiet, with frightful dreams; he sighs, looks dull, and loves solitude. These are the forerunners, or rather the first symptoms, of that dreadful disease occasioned by the bite of a mad dog. But as we do not propose to treat the disease itself, but to point out the method of preventing it, we shall not take up time in shewing its progress from the first invasion to its commonly fatal end.

The common notion, that this poison may lie in the body for many years, and afterwards prove fatal, seems not to be well founded. It must render such persons as have had the misfortune to be bit very unhappy, and can have no good effects. If the person takes proper medicines for forty days after being bit, and feels no symptoms of the disease, there is reason to believe him out of danger. Some indeed have gone mad twelve months after being bit; but I never knew it happen later; and of this I only remember to have seen one instance.

The medicines recommended for preventing the effects of the bite of a mad dog, are chiefly such as promote urine and perspiration; to which may be added antispasmodics.

Dr Mead recommends a preventive medicine, which he says he never knew fail, though in the space of thirty years he had used it a thousand times.

The medicine is as follows :

“ Take ash-coloured ground liver-wort, cleaned, dried, and powdered, half an ounce ; of black-pepper powdered, a quarter of an ounce. Mix these well together, and divide the powder into four doses ; one of which must be taken every morning fasting, for four mornings successively, in half an English pint of cows milk warm.

After these four doses are taken, the patient must go into the cold bath, or a cold spring or river, every morning fasting, for a month ; he must be dipped all over, but not stay in (with his head above water) longer than half a minute, if the water be very cold. After this he must go in three times a-week for a fortnight longer.

The person must be bled before he begins to use the medicine *.”

We shall next mention the famous East-India specific, as it is called. This medicine is composed of cinnabar and musk. It is esteemed a great

* I was, some time ago, favoured with the following prescription for the bite of a mad dog, which had been long kept a secret in a gentleman's family in the north of England, and is said never to have failed, when given as a preventive, either to man or beast.—“ Take six ounces of rue clean picked and bruised, four ounces of garlic peeled and bruised, four ounces of Venice treacle, four ounces of scraped tin or pewter. Boil all these ingredients in two English quarts of the best ale, in a vessel close covered, over a slow fire, for the space of an hour ; then strain the liquor, and give eight or nine spoonfuls of it warm to an adult person every morning fasting, for three or four mornings running. Less may be given to a young person, or one of a weak constitution. Some of the ingredients may be bound upon the wound, if it can be conveniently done.” This is ordered to be given within nine days after the bite. No doubt, the sooner it is given the better. The dose ordered for a horse is twelve spoonfuls, the same quantity for a bullock ; and for a sheep, hog, or dog, four or five.

great antispasmodic, and by many thought to be an infallible remedy for preventing the effects of the bite of a mad dog.

“Take native and factitious cinnabar, of each twenty-four grains, musk sixteen grains. Let these be made into a fine powder, and taken in a glass of arrack or brandy.”

This single dose is said to secure the person for thirty days, at the end of which it must be repeated; but if he has any symptoms of the disease, it must be repeated in three hours.

The following is likewise a good antispasmodic medicine.

Take of Virginian snake-root in powder, half a dram, gum asafœtida twelve grains, gum camphor seven grains; make these into a bolus with a little syrup of saffron.

Camphor may also be given in the following manner:

Take purified nitre half an ounce, Virginian snake-root in powder two drams, camphor one dram; rub them together in a mortar, and divide the whole into ten doses.

Mercury is another medicine of great efficacy, both in the prevention and cure of this kind of madness. When used as a preventive, it will be sufficient to rub daily a dram of the ointment into the parts about the wound.

Vinegar is likewise of considerable service, and should be taken freely, either in the patient's food or drink.

These are the principal medicines recommended for preventing the effects of the bite of a mad dog. We would not, however, advise people to trust to any one of them; but from a proper combination of their different powers, there is the greatest reason to hope for success.

The great error in the use of these medicines lies in

in not taking them for a sufficient length of time. They are used more like charms than medicines intended to produce any change in the body. To this, and not to the insufficiency of the medicines, must we impute their frequent want of success.

Dr Mead says, that the virtue of his medicine consists in promoting urine. But how a poison should be expelled by urine, with only three or four doses of any medicine, however powerful, is not easy to conceive. More time is certainly necessary; and here the defect of the Doctor's prescription seems to lie.

The East-India specific is still more exceptionable on this account.

As these and most other medicines, taken singly, have frequently been found to fail, we shall recommend the following course.

If a person be bit in a fleshy part, where there is no hazard of hurting any large blood-vessel, the parts adjacent to the wound may be cut away. But if this be not done soon after receiving the bite, it will be better to omit it*.

The wound may be washed with salt and water, or a pickle made of vinegar and salt, and afterwards dressed twice a-day with yellow basilicon, mixed with some red precipitate.

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* We think it proper to observe here, that, notwithstanding of all the boasted specifics for preventing this disease, nothing hitherto discovered deserves in the smallest degree to be trusted to, but the cutting out the part. This ought therefore to be performed as soon after the accident as possible; but where it has unavoidably been delayed for hours, or even for some days after the accident, still it ought to be performed, as we are uncertain of the length of time necessary, in the application of this poison, to produce disease, and as it is probable from analogy, that this, like some other poisons, produces at first only a local disease, with inflammation and suppuration, and that the system becomes afterwards affected from absorption. As a farther security, after taking out the piece, an eschar may be formed on the part by means of a caustic, and when this falls off, the place may be kept open by dressing it with issue-ointment for some time.

The patient should begin to use either Dr Mead's medicine, or some of the others mentioned above. If he takes Mead's medicine, he may use it as the Doctor directs for four days successively. Let him then omit it for two or three days, and again repeat the same number of doses as before.

During this course, he must rub into the parts about the wound, daily, one dram of the mercurial or blue ointment, as it is called. This may be done for ten or twelve days at least.

When this course is over, he may take a purge or two, and then begin to use the cold bath. This must be used every morning for five or six weeks; but if the patient should feel cold and chilly for a long time after coming out of the cold bath, it will be better to use a tepid one, or to have the water a little warmed.

In the mean time, we would advise him not to leave off all internal medicines, but to take either one of the boluses of snake-root, asafœtida and camphor, or one of the powders of nitre, camphor, and snake-root, twice a-day. These may be continued for a fortnight or three weeks longer.

If the person has gone through the above course of medicine, and no symptoms of madness appear, he may be reckoned out of danger. It will nevertheless be advisable, for the greater safety, to take a dose or two of Dr Mead's medicine, at every full or change of the moon, for the three or four succeeding months.

During the use of the mercurial ointment, the patient must keep within doors, and take nothing cold.

A proper regimen must be observed during the whole course. The patient should abstain from flesh, and all salted and high-seasoned provisions. He must avoid strong liquors, and live mostly upon
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on a light and rather spare diet. His mind should be kept as easy and chearful as possible, and all excessive heat and violent passions avoided with the utmost care.

I have never seen this course of medicine, with proper regimen, fail to prevent the hydrophobia; and cannot help again observing, that the want of success must generally be owing either to the application of improper medicines, or not using proper ones for a sufficient length of time.

Mankind are extremely fond of every thing that promises a sudden or miraculous cure. By trusting to these they often lose their lives, when a regular course of medicine would have rendered them absolutely safe. This holds remarkably in the present case: Numbers of people, for example, believe if they or their cattle be once dipped in the sea, it is sufficient; as if the salt water were a charm against the effects of the bite. This and such like whims have proved fatal to many.

Some people believe, if a person be bit by a dog that is not mad, if he should go mad afterwards, that the person will be seized with the disorder at the same time. This notion is too ridiculous to deserve a serious confutation*.

The next poisonous animal that we shall mention is the VIPER. The grease of this animal rubbed into the wound is generally reckoned a cure for the bite. Though this is all that the viper-catchers commonly do when they are bit, I should hardly think it sufficient for the bite of an *enraged* viper. It would surely be more safe to have
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* It is surprising that no proper inquiry has ever been made into the truth of the common opinion, that a dog which has been wormed cannot bite after he goes mad. This circumstance not only merits the attention of physicians, but of the legislature. If the fact could be ascertained, and the practice rendered general, it would save both the lives and properties of many.

the wound well sucked *, and afterwards rubbed with warm salad-oil. A poultice of bread and milk, with plenty of salad-oil in it, should likewise be applied to the wound, and the patient ought to drink freely of wine-whey with some spirits of hartshorn; or if that be not at hand, of water-gruel with vinegar in it, to make him sweat. If the patient be sick, he may take a vomit. This course will be sufficient for the bite of any of the poisonous animals of this country.

With regard to poisonous insects, as the bee, wasp, hornet, &c. their stings are seldom attended with great danger, unless where a person happens to be stung by a number of them at once. In this case, something should be done to abate the pain and inflammation. Some, for this purpose, apply honey, others lay pounded parsley to the part. Some recommend a mixture of vinegar and Venice treacle; but I have always found rubbing the part with warm salad-oil succeed very well. Indeed, if the stings be so numerous as to endanger the patient's life, which is sometimes the case, he must not only have oily poultices applied to the part, but must likewise be bled and take some cooling medicines, as nitre, cream of tartar, &c. with plenty of diluting liquors.

It is the happiness of this island to have very few poisonous animals, and even these are not of the

* The practice of sucking out poisons is very ancient; and indeed nothing can be more rational. It is the most likely method of extracting the poison where the bite cannot be cut out. There is no danger in performing this office, as the poison does no harm unless it be taken into the body by a wound. The person who sucks the wound ought, however, to wash his mouth frequently with salad-oil, which will secure him from even the least inconveniency. The ancient Pnylli in Africa, and the Marfi in Italy, were famed for curing the bites of poisonous animals, by sucking the wound; and we are told, that the Indians in North America practice the same at this day.

the most virulent kind. Nine-tenths of the effects usually attributed to poison or venom are really other diseases, and depend upon quite different causes.

We cannot, however, make the same observation with regard to poisonous vegetables. These abound every where, and prove often fatal to the ignorant and unwary *. This indeed is, in a great measure, owing to carelessness. Children ought early to be cautioned against eating any sort of roots or berries which they do not know. We would likewise advise parents to destroy all poisonous plants in their gardens, &c. or else to keep them in places where their children can have no access.

But it is not children alone who suffer by eating poisonous plants: We have every year accounts of adults poisoned by eating hemlock-roots instead of parsnips, or some fungus which they gather for mushrooms, &c. These examples ought to put people upon their guard with respect to the former, and to put the latter entirely out of use.

OF

* The principal of these are, hemlock, henbane, monkshood, columbine, hellebore, berries of the deadly night-shade, thorn-apple, all the sparges, and most mushrooms, &c.

OF THE STONE AND GRAVEL.

WHEN small stones are lodged in the kidneys, or discharged along with the urine, the patient is said to be afflicted with gravel. If one of these stones happen to make a lodgement in the bladder for some time, it accumulates fresh matter, and at length becomes too large to pass off with the urine. In this case the patient is said to have the stone.

CAUSES.—This disease may be occasioned by high living; the use of strong astringent wines*; a sedentary life; lying too hot, soft, or too much on the back; the constant use of water which is impregnated with earthy or stony particles, aliments of an astringent or windy nature, &c. It may likewise proceed from an hereditary disposition. Persons in the decline of life, and those who have been much afflicted with the gout or rheumatism, are most subject to it.

SYMPTOMS.—Small stones or gravel in the kidneys occasion pain in the loins, sickness, vomiting, and sometimes bloody urine. When the stone descends into the *ureter*, and is too large to pass along with ease, all the above symptoms are increased; the pain extends towards the bladder; the thigh and leg of the affected side feel be-
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numbed;

* It is a common notion, that the tartar in wine generates the stone; but there is more reason to believe, that its astringency, together with the fixed air contained in it, produce this effect. I know many persons who never fail to pass less urine, and to complain of a pain in their kidneys for several days after drinking freely of red wine.

numbed ; the testicles are drawn upwards, and the urine is obstructed.

A stone in the bladder is known from a pain at the time, as well as before and after making water ; from the urine coming away by drops, or stopping suddenly when in a full stream ; by a violent pain in the neck of the bladder upon motion, especially on horseback, or in a coach, on rough road ; from a white, thick, copious, stinking, mucous sediment in the urine ; from an itching in the top of the *penis*, from an inclination to go to stool while the urine is discharged, from the patient's passing his urine more easily when lying than in an erect posture, and from a kind of convulsive motion occasioned by the sharp pain in discharging the last drops of the urine*.

REGIMEN.—Persons afflicted with the gravel or stone should avoid aliments of a windy or heating nature, as salt-meats, sour-fruits, &c. Their diet ought chiefly to consist of such things as tend to promote the secretion of urine, and to keep the belly open. Artichokes, asparagus, spinnage, lettuces, succory, parsley, purslane, turnips, potatoes, carrots, and radishes, may be safely eat. Onions, leeks, and cellery, are, in this case, reckoned medicinal. The most proper drink is whey, butter-milk, milk and water, barley-water, decoctions of the roots of marsh-mallows, parsley, liquorice, or of other mild mucilaginous vegetables, as linseed, &c. If the patient has been accustomed to generous liquors, he may drink small gin-punch without acid. But spirits must be used very sparingly, as every thing that heats is hurtful.

Gentle exercise is proper ; but if violent, it is apt to occasion bloody urine. We would therefore advise

* It can be known with certainty only by the introduction of a staff or sound.

advise that it should be taken in moderation. Persons afflicted with gravel often pass a great number of stones after riding on horseback, or in a machine; but those who have a stone in the bladder are seldom able to bear these kinds of exercise. Where there is a hereditary tendency to this disease, a sedentary life ought never to be indulged. Were people careful, upon the first symptoms of gravel, to observe a proper regimen of diet, and to take sufficient exercise, it might often be carried off, or at least prevented from increasing; but if the same course which occasioned the disease be persisted in, it cannot fail to become worse.

MEDICINE.—In what is called a fit of the gravel, which is commonly occasioned by a stone sticking in the *ureter*, or some part of the urinary passages, the patient must be bled, warm fomentations applied to the parts, emollient clysters administered, and diluting mucilaginous liquors drank, &c. The treatment of this case has been fully pointed out under the articles, *Inflammation of the kidneys and bladder*, to which we refer the reader.

Dr Whyte advises patients who are subject to frequent fits of gravel in the kidneys, but have no stone in the bladder, to drink every morning, two or three hours before breakfast, an English pint of oyster or cockle-shell lime-water. The Doctor very justly observes, that though this quantity might be too small to have any sensible effect in dissolving a stone in the bladder; yet it may very probably prevent its growth.

When a stone is formed in the bladder, the Doctor recommends Alicant soap, and oyster or cockle-shell lime-water *, to be taken in the following

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manner.

* Oyster-shell lime-water is prepared by pouring an English gallon and a half of boiling water upon a pound of oyster-shells reduced to quick-lime by being burnt. Where oyster or cockle-shells cannot
be

manner. The patient must swallow every day, in any form that is least disagreeable, an ounce of the internal part of Alicant soap, and drink three or four English pints of oyster or cockle-shell lime-water. The soap is to be divided into three doses; the largest to be taken fasting in the morning early, the second at noon, and the third at seven in the evening, drinking above each dose a large draught of the lime-water; the remainder of which he may take any time betwixt dinner and supper, instead of other liquors.

The patient should begin with a smaller quantity of the lime-water and soap than what is mentioned above; at first an English pint of the former, and three drams of the latter, taken daily, may be enough. This quantity, however, he may increase by degrees, and ought to persevere in the use of these medicines, especially if he finds any abatement of his complaints, for several months; nay, if the stone be very large, for years. It may likewise be proper for the patient, if he be severely pained, not only to begin with the soap and lime-water in small quantities, but to take the second or third lime-water instead of the first. However, after he has been for some time accustomed to these medicines, he may not only take the first water; but, if he finds he can easily bear it, heighten its dissolving power still more by pouring it a second time on fresh calcined shells*.

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he had, common quick-lime may be used in their stead. After the clear liquor has been poured off, the same quantity of lime will make a second or third quantity of water of nearly the same strength as the first.

* A more effectual remedy, at least a palliative, we believe, has lately been discovered in the *aerated alkaline water*, now in such universal use in these complaints. We say palliative, however; for though in innumerable instances it appears to have afforded relief, yet

The only other medicine which we shall mention is the *uva ursi*. It has been greatly extolled of late years both for the gravel and stone. It seems, however, to be, in all respects, inferior to the soap and lime-water; but as it is less disagreeable, and has frequently, to my knowledge, relieved gravelly complaints, it deserves a trial. It is generally taken in powder, from half a dram to a whole dram, two or three times a-day. It may be mixed in a cup of tea or gruel, or taken in any way that is most agreeable to the patient*.

OF THE HICCUP.

THE hiccup is a spasmodic or convulsive affection of the stomach and midriff, arising from any cause that irritates their nervous fibres.

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yet that in general has not been found permanent, when the medicine has been discontinued; so that to obtain benefit from it, it is necessary to continue its use, or at least to use it occasionally, perhaps for life. Another remedy proposed by Dr Beddoes has been found equally effectual, we believe, whilst it has the advantage of being much more easily prepared, and consequently of being much cheaper. This is the *mineral alkali*, or *sal sodæ*, taken from one to two scruples daily, either in solution, or made into pills with soap, after evaporating the water of its crystallization. As both these medicines are kept in the shops, and will be best procured thence, we forbear to say any thing farther of their preparation. Of the first, the aerated alkaline water, viz. about a mutchkin, more or less according to circumstances, may be taken daily.

* With regard to the *uva ursi*, we believe modern practice scarcely expects any benefit from it in calculous complaints. In affections of the neck of the bladder and prostate gland it has sometimes been used with advantage.

It may proceed from excess in eating or drinking, from a hurt of the stomach, poisons, inflammations of the stomach, intestines, bladder, midriff, or the rest of the *viscera*. In gangrenes, acute and malignant fevers, a hiccup is often the forerunner of death. I have known an obstinate hiccup proceed from a schirrous tumour of the *pylorus*, or right orifice of the stomach.

When the hiccup proceeds from excess, especially from aliment that is flatulent, or hard of digestion, a draught of generous wine, or a dram of any spiritous liquor, will generally remove it. If poison be the cause, plenty of milk and oil must be drank, as has been formerly recommended. When it proceeds from an inflammation of the stomach, &c. it is very dangerous. In this case the cooling regimen must be observed. The patient must be bled, and take frequently a few drops of the sweet spirits of nitre in a cup of wine-whey. His stomach must likewise be fomented with cloths dipped in warm-water; or bladders filled with warm-milk and water applied to it.

A hiccup proceeding from a gangrene or mortification is generally incurable. In this case the Peruvian bark, with other antiseptic medicines, are most likely to succeed. If the hiccup be a primary disease, and proceeds from a foul stomach, loaded either with a pituitous or a bilious humour, a gentle vomit and purge, if the patient be able to bear them, will be of service. If it arises from flatulencies, the carminatives directed for the heart-burn must be used.

When the hiccup proves very obstinate, recourse must be had to the most powerful aromatic and antispasmodic medicines. The principal of these is musk; fifteen or twenty grains of which may be made into a bolus, and repeated occasionally. Opiates are likewise of service; but they must be
used

used with caution. A bit of sugar dipped in compound spirits of lavender, or the volatile aromatic tincture, may be taken frequently. The Peruvian bark is likewise of use. External applications are sometimes also beneficial; as the stomach-plaster, or a cataplasm of the Venice treacle of the Edinburgh or London Dispensatory, applied to the stomach.

I lately attended a patient who had almost a constant hiccup for above nine weeks. It was frequently stopped by the use of musk, opium, wine, and other cordial and antispasmodic medicines, but always returned. Nothing indeed gave the patient so much ease as brisk small beer. By drinking freely of this, the hiccup was often kept off for several days, which was more than could be done by the most powerful medicines. He was at length seized with a vomiting of blood, which soon put an end to his life. Upon opening his body, a large schirrous tumour was found near the pylorus, or right orifice of the stomach.

CRAMP OF THE STOMACH.

THOUGH this, for the most part, is only a symptom of nervous or hystERIC disorders, we thought proper to treat it separately; as it often seizes people suddenly, is very dangerous, and requires immediate assistance.

If the patient has any inclination to vomit, he

ought to take some draughts of warm water, or weak camomile-tea, to clean his stomach. After this, if he has been costive, a laxative clyster must be given. He ought then to take some doses of laudanum. The best way of administering it is in a clyster. Sixty or seventy drops of liquid laudanum may be given in a clyster of warm water. This is much more certain than laudanum given by the mouth, which is often vomited, and in some cases increases the pain and spasms in the stomach.

If the pain and cramps return with great violence, after the effects of the anodyne clyster are over, another, with an equal or larger quantity of opium, may be given; and every four or five hours, a bolus with ten or twelve grains of musk, and half a dram of the Venice treacle. In the mean time, the stomach ought to be fomented with cloths dipped in warm water; or bladders filled with warm milk and water, should be constantly applied to it. I have often seen these produce the most happy effects. The anodyne balsam may also be rubbed into the stomach; and an antihysterical plaster worn upon it for some time after the cramps are removed, to prevent their return.

In very violent and lasting pains of the stomach, some blood ought to be let, unless the weakness of the patient make it improper. When the pain or cramps of the stomach proceed from a suppression of the *menfes*, bleeding is of great use. If they be owing to the gout, some of the warm cordial-waters, or a large dram of good brandy or rum, will be necessary. Blistering-plasters ought likewise, in this case, to be applied to the ankles.

WANT

WANT OF APPETITE.

This may proceed from a foul stomach, indigestible food, the want of free air and exercise, grief, fear, anxiety, or any of the depressing passions, excessive heat, living much upon strong broths, or fat meats, the immoderate use of strong liquors, tea, tobacco, opium, &c.

The patient ought, if possible, to make choice of an open dry air, to take exercise daily on horse-back, or in a machine, to rise betimes, and to avoid all intense thought. He should use a diet of easy digestion, avoiding every thing that is fat and oily; he ought to chuse agreeable company, and should avoid intense heat and great fatigue.

If want of appetite proceed from errors in diet, or any other part of the patient's regimen, it ought to be changed. If nausea, and reachings to vomit, shew that the stomach is loaded with crudities, a vomit will be of service. After this a gentle purge or two of rhubarb, or of any of the bitter purging salts, may be taken. The patient ought next to use an infusion in wine of any of the stomachic bitters; as Gentian-root, Jesuits bark, orange-peel, &c. He may also eat orange-peel or ginger candied.

Though gentle evacuations be necessary, all strong purges and vomits are to be avoided, as they tend to weaken the stomach, and hurt digestion. After proper evacuations, bitter elixirs and tinctures with aromatics may be used. The patient may take, twice a day, a common spoonful of the stomachic tincture; or, if he be costive, the same quantity of the bitter tincture of rhubarb. Elixir
of

of vitriol is an excellent medicine in most cases of indigestion, weakness of the stomach, or want of appetite. Twenty or thirty drops of it may be taken twice or thrice a-day in a glass of wine or water. It may likewise be mixed with the tincture of the bark, two drams of the former to an ounce of the latter, and a tea-spoonful of it taken in wine or water, as above.

The chalybeate waters are of great service in this case. I never knew these fail to sharpen the appetite, if drunk in moderation. The salt water has likewise this effect; but it must not be used too freely. The waters of Harrowgate, Scarborough, Moffat, and most other spaws in Britain, may be used with the same intention. We would advise all who are afflicted with indigestion and want of appetite, to repair to these places of public rendezvous. The very change of air, and the chearful company, will be of service, not to mention the exercise, dissipation, amusements, &c.

OF DEAFNESS.

DEAFNESS is sometimes owing to an original fault, or wrong formation of the ear itself. It may likewise be occasioned by wounds, ulcers, or any thing that destroys the fabric of the ear. It is often the effect of old age, of violent colds in the head, of fevers, of excessive noise, of hard wax in the ear, of too great moisture or dryness of the ear, &c.

Persons who are born deaf are seldom cured.
When

When deafness is the effect of wounds or ulcers in the ear, or of old age, it is not easily removed. If it proceeds from cold of the head, the patient must be careful to keep his head warm, especially in the night; he should likewise take a purge or two, and should keep his feet warm, and bathe them frequently in warm water. When deafness is the effect of fevers, it generally ceases of itself, after the patient recovers strength. If it proceeds from dry wax sticking in the ears, it must be softened by dropping oil into them for a few nights at bed-time; afterwards they must be syringed with warm milk and water, or milk and oil.

If deafness proceed from dryness of the ears, which may be known by looking into them, half an ounce of the oil of almonds, and the same quantity of liquid opodeldoch, or tincture of asafoetida, may be mixed together, and a few drops of it put into the ear every night at bed-time, stopping them afterwards with a little wool or cotton. I have often known this have good effects. When the ears abound with moisture, it may be drained off by an issue or seton, which must be made as near the parts affected as possible.

Many medicines are recommended for the cure of deafness, some of which, in obstinate cases, at least deserve a trial. Some recommend the gall of an eel mixed with spirit of wine to be dropped into the ear; others equal parts of Hungary water and spirits of lavender. Etmuler recommends amber and musk; and Brookes says he has often known hardness of hearing cured by putting a grain or two of musk into the ear with cotton-wool. But these and other applications must be varied according to the cause. We cannot conclude this article, without recommending the greatest attention to *warmth*. From whatever cause deafness proceeds

ceeds, the patient ought to keep his head warm. I have known more benefit from this alone, in the most obstinate cases of deafness, than from all the medicines I ever saw used.

OF THE NIGHT-MARE.

IN this disease the patient, in time of sleep, imagines he feels an uncommon oppression or weight about his breast or stomach, which he can by no means shake off. He groans, and sometimes cries out, though oftener he attempts to speak in vain. Sometimes he imagines himself engaged with an enemy, and, in danger of being killed, attempts to run away, but finds he cannot. Sometimes he fancies himself in a house that is on fire, or that he is in danger of being drowned in a river. He often thinks he is falling over a precipice, and the dread of being dashed to pieces suddenly awakes him.

This disorder has been supposed to proceed from too much blood; from a stagnation of blood in the brain, lungs, &c. But its general cause is indigestion. Persons of weak nerves, who lead a sedentary life, and live full, are most commonly afflicted with the night-mare. Nothing tends more to produce it than heavy suppers, especially if eat late, or the patient go to bed soon after. Wind is likewise a very frequent cause of this disease; for which reason those who are afflicted with it ought to avoid all flatulent food. Deep thought, anxiety, or any thing that oppresses the mind, ought also to be avoided.

Persons

Persons afflicted with the night-mare ought to eat very light suppers. They should never go to bed immediately after eating, nor lie upon their back with their head low. As they generally moan, or make some noise in the fit, they should be waked, or spoken to by such as hear them, as the uneasiness generally goes off as soon as the patient is awake. Dr Whyte says he generally found a dram of brandy, taken at bed-time, prevent this disease. That, however, is a bad custom, and in time loses its effect. We would rather have the patient depend upon chearfulness and exercise through the day, a light supper taken early, and the use of food of easy digestion, &c. than to accustom himself to drams. A draught of cold water will often promote digestion as much as a glass of brandy, and is much safer. After a person of weak digestion, however, has eat flatulent food, a dram may be necessary; in this case we would recommend it as the most proper medicine.

Persons who are young, and full of blood, if troubled with the night-mare, ought to purge, bleed, and use a spare diet.

OF SWOONINGS.

THE principal causes of swooning are, sudden transitions from cold to heat; breathing air that is deprived of its proper spring or elasticity; great fatigue; excessive weakness; loss of blood; long fasting; fear, grief, and other violent passions or affections of the mind.

It

It is well known, that persons who have been long exposed to cold often faint or fall into a swoon, upon coming into the house, especially if they drink hot liquor, or sit near a large fire. This might easily be prevented by people taking care not to go into a warm room immediately after having been exposed to the cold air, to approach the fire gradually, and not to eat or drink any thing hot, till the body has been gradually brought into a warm temperature.

When any one, in consequence of neglecting these precautions, falls into a swoon, he ought immediately to be removed to a cooler apartment, to have ligatures applied above his knees and elbows, and to have his hands and face sprinkled with vinegar. He should likewise be made to smell to vinegar, and should have a spoonful or two of water, if he can swallow, with about a third part of vinegar mixed with it, poured into his mouth. If the fainting-fits prove obstinate, it will be necessary to bleed the patient, and afterwards to give him a clyster.

As air that is breathed over and over loses its elasticity or spring, it is no wonder if persons who respire in it often fall into swooning or fainting fits*. They are, in this case, deprived of the very principle of life. Hence it is that fainting-fits are so frequent in all crowded assemblies, especially in hot seasons. Such fits, however, must be considered as a kind of temporary death; and, to the weak and delicate, they sometimes prove fatal in reality. They ought therefore to be avoided with the utmost care. The method of doing this is obvious. Let assembly-rooms, and all other places of public resort, be well ventilated; and let the weak and delicate avoid such places, particularly in warm seasons.

A person who faints in such a situation ought immediately

* See a former note on this subject.

mediately to be carried into the open air ; his temples should be rubbed with strong vinegar or brandy, and volatile spirits or salts held to his nose. He should be laid upon his back, with his head low, and have a little wine, or some other cordial, poured into his mouth, as soon as he is able to swallow it. If the person has been subject to hysterical-fits, castor or asafoetida should be applied to the nose, or burnt feathers, horn, or leather, &c.

When fainting-fits proceed from mere weakness or exhaustion, which is often the case after great fatigue, long fasting, loss of blood, or the like, the patient must be supported with generous cordials, as jellies, wines, spirituous liquors, &c. These, however, must be given at first in very small quantities, and increased gradually, as the patient is able to bear them. He ought to be allowed to lie quite still and easy upon his back, with his head low, and should have fresh air admitted into his chamber. His food should consist of nourishing broths, sago-gruel with wine, new milk, and other things of a light and cordial nature. These things are to be given out of the fit. All that can be done, while the person continues in the fit is, to let him smell to a bottle of Hungary water, *eau de luce*, or spirits of hartshorn, and to rub his temples with warm brandy, or to lay a compress dipped in it to the pit of his stomach.

In fainting fits that proceed from fear, grief, or other violent passions or affections of the mind, the patient must be very cautiously managed. He should be suffered to remain at rest, and only made to smell to some vinegar. After he is come to himself, he may drink freely of warm lemonade, or balm tea, with some orange or lemon peel in it. It will likewise be proper, if the fainting-fits have been long and severe, to clean the bowels, by throwing in an emollient clyster or two.

A FEW
OBSERVATIONS

ON
SOME DISEASES

OMITTED
BY THE AUTHOR, IN THIS EDITION,

AND
LIKEWISE ON SOME OTHERS, INSERTED IN FUTURE
EDITIONS.

OF FLATULENCE.

THIS, though a common complaint, yet cannot by any means be considered as a primary original disease; but is always symptomatic of some more general affection. It is a constant attendant on dyspepsia, or, as it is named in this Work, a want of appetite. Hysterical and hypochondriac affections are almost universally accompanied with more or less of this symptom. To the chapters on these diseases, therefore, we must refer for more full information on that subject, contenting ourselves with one or two general observations on this head at present.

Flatulence is universally connected with other symptoms of the stomach and bowels, denoting
weakness

weakness and debility, either local or general. Our attention, therefore, here, ought to be directed to the cure of the general weakness and debility, or the particular weakness and debility of the stomach. The first of these purposes will be best accomplished by a proper attention to diet and exercise; in particular, by a liberal use of animal food, and regular exercise in the open air, sea-bathing, &c.; the second of these will be best obtained by a cautious use of such medicines as strengthen these parts, as barks, steel, vitriolic acid, port wine, &c.

As this symptom of flatulence, however, is not constantly present in the debilitated state of the stomach and bowels, but occurs especially on using vegetable food; so this leads us to observe, that vegetable aliment may in general be considered as the exciting cause of this complaint.

Those who are subject to it, therefore, should avoid the use of vegetables as much as possible, especially such as are known to produce this affection, as cabbages, pease, &c.

OF LOW SPIRITS OR VAPOURS.

THIS also is only a symptom of some other more general affection, as the hysteric or hypochondriac disease.

To what has already been said on these subjects, we shall therefore entirely refer our readers for further information.

DISEASES OF THE EYE.

As the eye is the most important and most complicated organ of all our senses, so its diseases are in the same proportion the most interesting, and the most frequent. I consider it, therefore, as a defect in the author's plan, that, in the present edition, he has entirely omitted this subject; more especially too, as many of the slighter affections that afterwards terminate in the complete destruction of the mechanism of this beautiful organ, might, by a very little skill and attention at first, have been altogether prevented or removed.

Of all these, *inflammation* is the most frequent, and perhaps, in its consequences, the most important. In this disease, the eye is affected with pain and heat; and a sensation of motes, or some foreign body, betwixt the eye-lids and the ball of the eye. There is a discharge of tears from the eye, and, on looking into it, we observe more or less redness, or inflammation on the white part, often extending along the membrane that lines the eye-lids. When the affection is considerable, light becomes painful to the eye, and the patient has more or less of fever.

Inflammation of the eye may be induced by various causes, as blows or wounds of the eye; by the stimulus of external bodies, as motes, or dust introduced between the eye-lid and globe of the eye; by smoke, or acrid vapours applied to the eye; by the application of too much light, &c. It is frequently induced, in literary people, by too close an application to study, especially with candle-light; and still more frequently in drunkards, by frequent repeated intoxication.

This

This disease, by neglect, or improper treatment, frequently terminates in blindness: it requires, therefore, our utmost attention. When the disease is violent, and especially if attended with symptoms of fever, general bleedings are necessary; but local bleeding is in general more serviceable. This may be done, either by scarifying and cupping on the temples, or by leeches applied round the eye. Dividing the turgid vessels of the eye with a scalpel or lancet, is the most effectual method of drawing blood from the part affected. When the violence of the inflammation has been lessened by any of the means above mentioned, an astringent wash ought to be applied to the eye; and it ought to be defended from the light, by means of a shade made of a piece of silk. A solution of white vitriol, in the proportion of from three to six grains, according to circumstances, to the ounce of water, makes a very good wash for this purpose. The parts to be kept constantly moist with this, applied on a bit of soft rag fastened to the shade.

Speck or Film of the Eye.—This disease consists in a greater or less degree of opacity in the clear part of the eye. It is a common effect of inflammation, when that disease has either been neglected, or improperly treated; and occurs but too frequently, even under the best management. The remedies in this complaint are, escharotics or stimulants applied to the eye; or the diseased part may be removed at once by the knife. As the application of these remedies, however, requires both dexterity and judgement, they are not to be used without the assistance and advice of some medical gentleman.

Cataract.—This disease consists in an opacity,
G g 2 either

either of the Lens, or of its coats. It is distinguished by observing, on looking into the eye, an opaque body seated immediately behind the pupil. It can only be removed by an operation, which consists either in depressing or extracting this opaque body.

Amaurosis, or Gutta Serena.—In this disease, the appearance of the eye is perfectly natural; there is neither opacity of the cornea, nor of the lens. On examining the eye carefully, however, we perceive the pupil large and dilated; and if we cover the eye, and then expose it suddenly to a strong light, no contraction of the pupil takes place. This dilatation of the pupil, or want of contraction on exposure to light, constitutes, therefore, the characteristic symptom of the disease. This disease may often be prevented, and sometimes even cured. What we principally trust to for these purposes, is the introduction of a chord into the neck, along with a course of mercury properly conducted.

It were easy to enumerate here many other diseases of the eye; these, however, as they are less frequent, and especially as they seldom admit of a cure, or even much relief, by simple means, we rather chuse to omit in a popular Work of this nature.

OF

OF SCHIRROUS AND CANCEROUS AFFECTIONS.

THESE diseases, when once fairly formed, are never cured, and seldom even relieved, by means of medicines. Of the inefficacy of all these to accomplish a cure, however much they may have been extolled by those who invented or introduced them, every medical man, of any experience or observation, must unfortunately be but too much convinced. *Hemlock, arsenic, the carbonic acid gas,* have only raised the public expectation for a time, to make them feel more severely the bitterness of disappointment. In such a situation, therefore, to bring forward a long catalogue of medicines, with a great parade of observations and directions on the method of using them, and a full and particular account of the regimen to be observed, &c. were the grossest affectation on the part of the writer of these observations, and the greatest insult on the public. This, however, though the *truth*, is not the *whole truth*. Satisfied as he is of the inefficacy of every medicine hitherto discovered for the cure of this disease, he is no less so, that a cure may in general be accomplished by an operation, if properly performed, and in due time. Such being his firm belief, to impose upon any of his readers, in these unfortunate circumstances, with a long list of medicines and directions, that could at best only serve to amuse them, till the chance of a cure from an operation were either much diminished, or perhaps entirely gone, were at once the highest

cruelty and dishonesty. All that he shall here, therefore, propose to himself, will be to offer a few observations on the means of distinguishing Schirrus and Cancer from other complaints, that such as labour under them, aware of their danger, may have recourse to the operation in time; and where unfortunately this has been neglected, to offer a remark or two on the means of alleviating the distress they constantly produce.

Cancer and *Schirrus* are but different names for different states of the same disease. *Schirrus* is a hard, knotty, often painful swelling of some gland, the skin still remaining entire; when this breaks, and the gland ulcerates, it is called a *Cancer*. It is distinguished by the following marks. It appears most frequently in the breasts of women. The swelling is at first commonly small, hard, and moveable; it continues often long almost stationary, with little addition of size, and very little pain; at length, however, it begins to increase in size, and to get an irregular knotty feel. Severe shooting pains are felt darting through it. After continuing in this state for some time, more or less according to circumstances, the skin, which was hitherto sound, and moved easily on the swelling, now becomes red and painful, and cannot be made to slide on the parts beneath. If the *Schirrus* be not now removed, it commonly soon degenerates into cancer. The skin, where it was inflamed and painful, breaks, the edges retract, become hard and ragged, a thin foetid discharge takes place, and the whole surface of the sore gets a very knotty and irregular appearance.

This train of symptoms will in general serve sufficiently to point out this disease. It only remains, therefore, to be observed, that the earlier recourse is had to the operation, so much the greater the probability of a complete cure. When unfortunately

nately it has been allowed to proceed to a state of open cancer, still, however, where all the diseased parts can be safely removed, and where the patient is otherwise in good health, an operation ought to be advised, as the only chance the patient has of escaping a most painful lingering death.

When the disease has been allowed to proceed so far as to render an operation inadvisable, all that remains is, to endeavour to palliate the symptoms. For this purpose, a hemlock-poultice, along with the use of the same medicine internally, has sometimes been found useful. One of the most effectual applications, however, yet discovered, I believe, is the *carbonic acid gas*. This remedy, if it do not cure, often retards the progress of the sore, and for a time gives it a healing appearance, and at least seldom fails to alleviate the pain. Should it fail in this respect, recourse must be had to opiates in such quantities as to produce this effect. This is all that can, in such unfortunate circumstances, be accomplished by medicine.

OF THE VENEREAL DISEASE.

PRELIMINARY OBSERVATIONS.—It is not intended to enter here into any critical disquisition on the origin or history of this complaint, the period at which, or the country where, it first made its appearance. These questions, though in themselves

highly curious and interesting, seem not yet to have received any very satisfactory answer. I do not presume to have any thing new upon these subjects to offer; and even if I had, I believe most of my readers will agree with me in thinking such discussions here quite out of place.

Though I would thus avoid, however, to enter on these subjects, as being quite foreign to my plan, and to the general intention of this Work; yet another question of such importance in a practical view still remains, that I think it necessary, before going farther, to offer a few observations on it. This is the much-agitated question, Whether gonorrhœa and lues venerea, or a clap and pox, be the same disease? As the determination of this question has an intimate connection with the practice in the former of these diseases, and particularly with the propriety of administering mercury for its cure, I shall briefly state the arguments on either side, that I may with more confidence come to a conclusion.

It is alleged by those who maintain the two diseases to be the same, that gonorrhœa sometimes produces lues, and that gonorrhœa and chancre mutually produce one another. These assertions, as they have been made with confidence, if they were fully proved, would settle the matter beyond farther dispute. This, however, it must be observed, has not hitherto been done by any satisfactory experiments instituted for the purpose; while the few accidental cases (for they are allowed to be rare, even by those who support this doctrine) brought forward to establish the sameness of the matter in gonorrhœa and chancre, or the termination of the former in lues, admit at least of as easy an explanation, upon the opposite doctrine, of the two diseases being different.

Gonorrhœa and chancre, it is allowed on all hands,

hands, make their appearance at very uncertain intervals, sometimes days, for instance, sometimes weeks, from the period of infection. Now, as these two diseases often take place in the same person, and about the same time after infection, so it sometimes happens, that the one occurs a considerable time *after* the other. This circumstance, however, of the one's appearing some time *later* than the other, is certainly no proof of the one having produced the other; since it is well known also, that they both frequently appear together, and that either the one or the other may appear at a very different and uncertain period from the time of infection. The strength of this argument, therefore, cannot rest upon the general principle of the one's being caused by the other, because preceded by it in point of time; but must depend upon the particular evidence adduced, in each case instanced in, that only one form of the disease existed at the time in the subject whence it was derived. Satisfactory proof of this kind can scarcely be expected to occur in the common course of practice, and can only be had by experiments made on purpose, with subjects whose veracity we can rely on, and where we are certain no other cause of disease has been applied than what forms the subject of the experiment.

The same reasoning that has been used with respect to gonorrhœa and chancre, applies with equal, and indeed with greater force, to gonorrhœa and lues. The infection in a case of chancre may lie concealed for days, or even for a few weeks, before it breaks out; but in lues, the poison may remain latent for months, and even years, and at last show itself in the most unequivocal form. So that in this last case, in addition to the former difficulty of ascertaining with certainty, whether the patient was exposed only to one infection at the time, there is
over

over and above superadded, the very great chance of this disease previously existing in the system, unknown, unsuspected, even by the patient himself, or the surgeon.

Having thus set aside the principal arguments adduced on this side of the question, as inconclusive and unsatisfactory, let us now examine the arguments brought forward in support of the other. The chief of these are drawn from the different *symptoms* of the two diseases, their different *terminations* where they are allowed to proceed, as well as the different method of treatment necessary to their *cure*.

1. The symptoms are different. *Gonorrhœa* is never, in a natural state, attended with ulceration; *chancre* always is, either at first, or very soon thereafter: *Gonorrhœa* is merely an inflammation of the internal membrane of the urethra, with an increased discharge; a chancre may be said to be a phagedenic or corroding ulcer of the glans or prepuce*.

2. The

* To account for this marked difference in the symptoms of the two diseases, the external parts of the human body have been divided into *secreting* and *non-secreting surfaces*. Secreting surfaces have been defined to be "all the passages for extraneous matter, including also the ducts of glands, such as the mouth, nose, eyes, anus, and urethra;" non-secreting surfaces, again, have been defined to be "the external skin in general." This distinction, as it is simple and obvious, was certainly founded on actual observation. This, however, was too simple and too general to answer the purposes for which it was intended, as it was soon discovered, that one of these surfaces, without any assignable cause, would frequently assume properties and actions, which, according to the definition, belonged exclusively to the other. A more comprehensive discovery, however, was fortunately made, about this time, of a sort of *intermediate surface*, which, as it possessed the characters of neither of the former, (or, in other words, had none of its own), so was it at perfect liberty to assume either the one or the other, as occasion might require. One difficulty was thus avoided, at the expence, however, as sometimes happens, of incurring another. For this third surface, though intended only to assist one or other of the former two, as occasion might require, seemed to render the very existence of both problematical, and any attempt at distinction between them nugatory; like a true auxiliary, he seemed to threaten both the parties he was called to assist with utter destruction.

2. The *terminations*, too, of the two diseases, when left to themselves, are very different. Gonorrhœa is in general a mild disease, and, when not mismanaged by the patient, seldom fails to go off of itself, without leaving any bad consequences behind. Chancre is on all hands allowed to be a most obstinate complaint, that almost never goes off without the use of medicine; and when it does, for certain leaves a pox behind. This leads to the consideration of the third difference between these two diseases, namely, in the *method of cure*.

3. Gonorrhœa, it was already observed, often goes off of itself, without the use of any medicine, and even in more obstinate cases, where some medicine becomes requisite, mercury administered internally is never found of any use; and even in its local application, it is not so effectual as some other astringents or stimulants are found to be. Chancre, on the other hand, whilst it almost never goes off spontaneously, so it can be cured safely and effectually by a complete course of mercury alone.

Thus it appears, that the facts and the reasoning which would establish the identity of the two diseases, are both equally uncertain and fallacious; while the doctrine that maintains them to be different is supported by the most obvious and unequivocal proofs, the marked difference in the symptoms, as well as in the method of cure. Waving, therefore, any farther discussions on this subject, I now proceed to treat of the two diseases separately, beginning with gonorrhœa.

OF GONORRHOEA VIRULENTA.

By the term Gonorrhœa is understood a discharge of purulent matter from the urethra. When that discharge is the consequence of impure venereal intercourse, it is called virulent, to distinguish it from simple gonorrhœa, which may proceed from the application of any stimulus to the urethra, strong enough to produce inflammation.

This discharge occurs in different people, and even in the same person at different times, at very different periods from the time of exposure to the infection. We are not able to assign any general principle for the more or less early appearance of this complaint; nor does its future violence, so far as has hitherto been ascertained, bear any determined proportion to the period of its commencement. Sometimes the discharge takes place in the course of a few hours from exposure to infection; more frequently, however, it does not occur for some days; and in some instances, not till several weeks thereafter.

At some uncertain period, then, most frequently of three or four days, after being exposed to infection, the patient begins to feel some titillation or itching near the point of his yard, which by degrees proceeds to a sensation of pain and heat. His attention being now directed to the part, he commonly observes a degree of tension and fulness about the orifice of the urethra, and the opening of this canal appears contracted, and of a more florid colour. The discharge is still, however, trifling; and it is only by carefully pressing the urethra, and squeezing it, as it were, forwards, betwixt the finger and thumb, that

that he at last perceives a drop of a whitish fluid issue from its extremity; and on inspection, his linen is commonly found a little stained. Upon making water, too, the patient now feels a smart burning pain at a particular part of the urethra, commonly near its extremity.

These, as they are always the first, so in some cases they are the only symptoms attending this disease; more frequently, however, these, whilst they increase in violence, begin also to be accompanied with some others. The inflammation extending farther down the urethra, the whole canal often becomes tense and painful to the touch; and this affection being gradually communicated to the bladder, brings on a great degree of irritability of that organ. Hence the patient cannot retain his urine for any length of time; and hence too (such is the increased action of that organ, or at least its increased irritability) almost unawares, and before he is ready to receive it, the urine begins to flow, whilst at the same time, from the diminished size of the canal from inflammation, it flows only in a small stream, or almost drop by drop. This irritability, too, of the urinary organs, often extends to the rectum, and the muscles associated with it, which again produces a constant tenesmus or inclination to go to stool; and these two affections thus acting and reacting on one another, frequently produce the greatest misery and distress.

In this situation, rest in bed, which so often affords relief in other complaints, and to which at first eager recourse is commonly had in this, can seldom be freely indulged. No sooner is the patient warm in bed, and perhaps about to fall asleep, than he is seized with the most painful and excruciating chordee. This is an involuntary and painful erection of the penis, and is often so severe as either

ther to compel him, however reluctantly, to get out of bed, or at least entirely to break his rest.

Beside these, which are the more ordinary symptoms of this complaint, others likewise occasionally make their appearance, frequently indeed from imprudent management on the part of the patient. When the inflammatory symptoms have been severe, and the patient has used much freedom with himself in taking exercise, especially on horseback, without the precaution of suspending his testicles in a truss, he is often attacked with a violent *inflammation* of the *testicles*. Sometimes, too, this complaint proceeds from the use of too strong an injection; and in such as have had the complaint before, even a mild injection will produce a relapse.

Swellings of one or more of the *lymphatic glands* in the groin, frequently take place in this disease. On some occasions, they become considerably hard and enlarged, and are productive of some inconvenience and uneasiness in walking. They seem, however, to be merely sympathetic swellings of these glands, from the irritation of the acrid matter of gonorrhœa applied to the orifices of the lymphatics, and commonly subside of themselves without any particular attention.

The discharge in gonorrhœa commonly proceeds entirely from the membrane lining the inside of the urethra. It is not, however, always confined to this alone. In patients who have the prepuce tight, and where of course the glans is generally covered, there takes place a constant secretion from the membrane lining the prepuce, and which is afterwards reflected over the glans, similar to that afforded by the internal membrane of the urethra, of which the former seems merely a continuation. In such people, the inflammation, from the greater irritability of the parts, sometimes extending

tending over the whole outer surface of the glans, and the inner surface of the prepuce, a *discharge* similar in every respect to what proceeds from the urethra, *takes place* from the whole of *these surfaces*, especially about the *basis* of the *glans*. Sometimes this discharge occurs without any previous affection of the urethra, when it is named Gonorrhœa Spuria.

Excoriations very readily occur in this last mentioned situation, if the patient be not very careful to keep the parts clean by frequent washing. Sometimes a *phimosis*, at others a *paraphimosis*, according as the prepuce has been drawn over the glans, or retracted behind it, before the accession of the inflammation is produced by the same cause.

In women, gonorrhœa is attended with many of the symptoms that serve to distinguish this disease in men. In them, however, it is often a milder disease, and is frequently with difficulty distinguished from another complaint, to which these parts are liable, the fluor albus, or whites. Both complaints are attended with a discharge of a whitish purulent matter from the vagina; and in both cases this matter is sometimes so acrid as to irritate and inflame the neighbouring parts, and even to produce a similar discharge in a person of the other sex who may have had connection with them at the time. Though these circumstances, however, may sometimes, where the woman chuses to conceal the real disease, render this matter doubtful to the medical attendant, yet she herself can scarcely be mistaken as to the real nature of her complaint. The fluor albus is a chronic disease, generally of some continuance; at least in its earlier periods, it is so evidently connected with the *periodical discharge*, (occurring chiefly, either periodically, after each monthly evacuation,

evacuation, or in a more permanent form, after that discharge ceases), and has so few of the symptoms that distinguish gonorrhœa, such as pain and heat in making water, inflammation of the labia, &c. as to leave but little room for any mistake in such situations; while again, in its more advanced stages, when it is more apt to be severe, and to assume some of the appearances of the other, the continuance of the disease, and its gradual progress, must have served sufficiently to establish a distinction. This, at any rate, however, is of the less consequence, as the same remedies are equally applicable to both diseases.

OF THE METHOD OF CURE.

ON the cure of no other disease whatever, have a greater diversity of opinions been entertained by the Faculty of Medicine itself, as well as the vulgar, than on that of gonorrhœa. As this disease, from its seat and mode of infection, was for a long while believed to be only a symptom of lues, so it partook of all the medicines introduced for the cure of that complaint. Mercury, however, which, after various trials with other medicines, was at length found to be a complete specific for the lues, was not found possessed of similar powers in the cure of gonorrhœa; and thus, whilst it in a great measure superseded the use of other medicines in the cure of the former, it was only used in common with them in the cure of the latter disease: Nay, farther, this disease, it is now well known, will often, perhaps, if not improperly managed, would always terminate of itself; so that a variety of new medicines, which, in consequence of no particular specific having been discovered, were constantly introduced, easily procured the belief
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of producing a cure, which was only the natural termination of the disease.

It has just been observed, that this disease often terminates of itself without any medicines, and that no specific remedy for it has hitherto been discovered; it may therefore be alleged, that the use of medicines is altogether superfluous. This, however, is not the case; for though the disease, when left to itself, will go off spontaneously, yet it is apt to continue long, and, beside the anxiety and uneasiness which this produces, exposes the patient all the while to other injuries in consequence of this complaint, such as swelled testicles, phymosis, paraphymosis, &c.; and even when it does go off, it not unfrequently leaves a gleet behind; a complaint more difficult of cure than the original one. Nor, though a specific be unknown, are we without such medicines as will produce a cure much sooner than if the disease had been left to itself. These, therefore, we now proceed to mention.

In treating of the difference between gonorrhœa and lues, it was remarked, among other distinctions, that the two diseases required a perfectly different method of cure; that while the latter yielded to mercury only, the former might be always cured without the use of that medicine. Of this fact it is of the utmost importance for both the surgeon and the patient to be well convinced; otherwise the one will be disappointed in his expectation of a speedy cure, while the other will suffer the hardship of a protracted course of mercury, without the smallest benefit. Even when the surgeon is satisfied of this himself, he finds it often impossible to convince his patient, and is sometimes forced to administer mercury to him, to prevent his taking it privately. The author would therefore beg leave to repeat here, as he thinks attention to this

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circumstance

circumstance of great consequence, that in no variety of simple gonorrhœa, nor in any of those diseases that are the consequence of it, is the internal use of mercury, either in the slightest degree useful or necessary.

This prejudice in favour of the use of mercury for the cure of gonorrhœa, being founded on the old and popular opinion of the similarity of the two diseases, long continued, and even yet, in some measure, still continues to affect the practice in this complaint. As we find some late authors on this subject pretend, that though mercury be not always necessary in the cure of this disease, yet some cases occur which cannot be cured without the use of this medicine. These, however, are allowed, even by the advocates for the sameness of the two diseases, to be so rare, that, instead of serving as general principles to confirm their own doctrine, they rather tend to establish the opposite, by appearing like exceptions to a general rule. Mercury, however, seems to be daily less and less used in this complaint; and it may be hoped, from a more accurate and extensive information on this subject, will soon be laid aside altogether.

Beside *mercury*, several other general remedies were in use for the cure of this disease; such as *evacuants*, blood-letting, cathartics, &c.; *detergents*, as they were called, as the balsams and turpentine; *demulcents*, as decoctions of mucilaginous plants, marsh-mallows, &c. The use of all these was founded upon an erroneous idea of this being a general disease affecting the whole system. This, however, as has been already observed, is not the case; it is merely a local complaint, and therefore to be treated with local applications. These have accordingly of late been very generally employed, and have in some measure superseded the use

use of other medicines. They are used chiefly in a fluid state, or in the form of injections.

Injections may be of very different materials, according to the views of those who administer them, and the different purposes they are intended to serve. Gonorrhœa is sometimes attended with violent pain and inflammation all along the urethra, with frequent inclination to make water, as well as great pain and difficulty in the discharge. In this situation, anodyne and oily injections have been proposed, to allay the pain, and to defend the parts from the acrimony of the discharge. That these remedies, in particular cases, are altogether without their use, I am not disposed to assert; but think these cases occur seldom, and that remedies of a different nature are much more universally applicable.

Of all the remedies that have hitherto been tried for the cure of gonorrhœa, none in general answer so effectually as an *astringent injection*; at the same time that it is in general perfectly safe. The only situations where injections cannot be used with safety, are, where, from the extent or severity of the inflammation, not only a great part of the urinary canal, but even the bladder, or perhaps the testes, have been in some measure affected with pain and inflammation.

When much irritation takes place about the neck of the bladder, with constant inclination to make water, and some pain and swelling in one or perhaps both testes; when all or any of these symptoms occur in any considerable degree, astringent injections must be laid aside, till, by the application of leeches and a saturnine poultice, or one formed of crumb of bread and vinegar, with a plentiful use of some diluent drink, as water-gruel, whey, &c. and perhaps by the exhibition of an anodyne, with forty drops of laudanum, or (what

may in some cases, when the irritation about the bladder is severe, answer still better) an anodyne injection thrown up the rectum, composed of two or three ounces of water-gruel, and seventy or eighty drops of laudanum, the pain and other symptoms of inflammation have subsided. At the same time a little warm olive-oil may be thrown up the urethra with safety, often with advantage. Another situation ought perhaps also to be noticed, where injections ought either not to be used at all, or at least with great caution; namely, where the patient, either from particular circumstances, or from his profession, is obliged to take violent exercise, especially on horseback. In this case, it were perhaps better to omit injections, either till he has more leisure, or till the symptoms of inflammation subside; at any rate, they are to be used with great caution, neither too strong nor too frequently repeated; and the patient must take particular care, by the use of a suspensary, to prevent, as much as possible, the accident of a swelled testicle.

A great number of different astringents may be used in the form of injection for the cure of gonorrhœa. Indeed the principal difficulty seems to be to make a selection among such a variety. Different ones may perhaps succeed better in different cases; but there are two or three of almost universal application; these are *sugar of lead*, *alum*, and *white vitriol*; of which the last is perhaps in general the best. It may be used in the quantity of from two to five grains in the ounce of water. The other two, when it is intended to have recourse to them, may be used nearly in the same proportion.

Different constitutions differ very much in respect of the irritability of the urinary organs, and

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of course in respect of the strength they will both admit and require injections to be of, to produce a proper effect. As this, however, is only to be learned from trial, care should be taken always to have recourse to the weaker ones first, and to resort to the stronger only when the others have failed. One or other of these, of the strength here mentioned, will commonly, if properly employed, answer our purpose.

Beside using them separately, we may likewise combine them in particular cases. For instance, a scruple of white vitriol, and half a scruple of sugar of lead, dissolved in eight or nine ounces of water, make a very proper injection in an incipient gonorrhœa.

Injections composed of the best materials, and of a suitable strength, often fail to produce the effect expected from them, from mismanagement in their application. This happens chiefly in two ways; first, from their not being fairly applied to the diseased part; and, secondly, from that application not being often enough repeated. People not accustomed to use injections frequently think they have thrown them into the urethra, when on a more careful examination it will be found, that they are either still mostly in the syringe, or perhaps have run out at the opposite end. This is frequently the fault of the syringe, sometimes of the patient. The piston of the syringe ought to go smoothly and easily, at the same time that it completely fills the barrel; nor ought the point of the syringe to be too sharp, as it would thus more readily injure the urethra, and likewise, by its being more apt to be pressed against the sides of that canal, prevent the escape of the injection.

These things being previously attended to, the patient ought to take care, in using the injection, not to press the point of the syringe against the

sides of the canal, but by keeping the syringe in a straight line with this, to preserve the point disengaged; when, on gently pushing down the piston, he will be sensible of the injection gradually entering and distending the urethra. The injection ought now to be retained in this situation for a minute or two, before the syringe be withdrawn; and when this is done, if the operation has been properly performed, it will be observed to run out in considerable quantity.

The next thing to be attended to in the use of injections is, that they be frequently repeated. This is absolutely necessary to their producing any considerable effect. Injections are retained for so short a space in the urethra, that this defect from the nature of the application, can only be remedied by a frequent repetition. It were difficult, or perhaps impossible, to give here a general rule that might apply to each case, as they ought to be used oftener or seldom according to the effects produced. When an injection applied in the manner directed occasions considerable pain, it ought not to be repeated so soon as when it gives either no pain, or very little, on its first application. In the first case it ought not to be repeated till the pain subsides; in the last, the oftener it is repeated the better.

I have here declined to take notice of two directions that are commonly given on this subject, because I think them always unnecessary, and often troublesome. What I allude to are, the directions so generally given about *warming* the injection, and *preventing* its *extending* beyond the *seat* of the *disease*.

The first is often inconvenient, and, so far from being beneficial, I believe it rather prejudicial, as I think a cold application more likely to abate inflammation than a warm one; and the second, while it is difficult to execute, because it is often impossible

impossible to say exactly to what particular point the disease extends; and even if we could, not easy, when using an injection, to prevent some of it getting farther. It seems farther to be entirely needless, because, if it be allowed that a particular point, far down perhaps in the urethra, may be affected with this disease, while all the rest of this canal to the extremity, though constantly soaked in the discharge, shall remain sound, it seems absurd to suppose, that the same matter diluted with the injection, and applied only for an instant, should produce any bad consequences.

Nor is it enough to use injections merely till the running be stopped. These, however well composed, or however carefully applied, if given up as soon as the discharge disappears, that discharge will commonly in a very short time return again. Another very important caution, therefore, remains to be given, namely, that the injections should be continued for at least one week or two after the discharge has entirely ceased. This precaution is to be dispensed with only at the risk of losing all the advantage hitherto gained by the use of injections. Violent exercise of every kind ought also to be avoided for some time, and all excess in drinking, &c.

OF THE TREATMENT OF SOME OCCASIONAL SYMPTOMS OF GONORRHOEA.

THOUGH the remedies just now pointed out will in general be all that are requisite for the cure of gonorrhœa, yet it sometimes happens that some of the accidental symptoms of that disease become so violent as to require a particular method of treatment.

Chordee. This has already been defined to be a painful involuntary erection of the penis, attended with a particular curvature of that member, commonly downwards. In a slighter degree, it is a common symptom of gonorrhœa, and is particularly apt to occur in the night while the patient is warm in bed.

It has been considered as in some cases *inflammatory*, and in others *spasmodic*. I believe it to be neither more nor less than a violent erection, from the same causes which produce a natural erection, but having their effects increased from the greater irritability of the parts on which they act. The pain, curvature, permanence of this erection, &c. are merely symptoms of an increased irregular action in these parts.

When this symptom is moderate, it requires no particular treatment, at least scarcely any other than is necessary to abate the violence of the general disease. Living abstemiously, and carefully avoiding any thing heating or irritating in food or drink, as spices, spirits, &c. taking care to keep the belly open by gentle laxatives; avoiding as much as possible all those stimuli that are apt to excite natural erections; and especially lying on a hard bed or mattress, with few bed-clothes; will in general render this symptom so mild as to preclude the need of particular applications. Should it, notwithstanding of these precautions, prove violent; plunging the parts in very cold water; the effusion of cold water on the lower extremities, or the application of a cold saturnine solution to the part; will often give immediate relief. If the complaint prove obstinate, recourse should be had to blood-letting with leeches, an anodyne injection, or the application of a blister to the perineum.

Bleeding

Bleeding from the Urethra.—This is not a common symptom of gonorrhœa, at least to such an extent as to render any particular management necessary. When it occurs only in a slight degree, nothing should be done to stop it, as it commonly proves very effectual in taking off the inflammation of the urethra; and it is generally in cases attended with a good deal of inflammation that this symptom takes place. If it should prove so violent as to endanger either the life or the health of the patient, a little of some strong astringent injection, as ten or twelve grains of allum, dissolved in an ounce of water, should be immediately thrown up, as cold as possible; at the same time that the external parts are immersed in water, either naturally very cold, or rendered so by dissolving in it some of the neutral salts, as nitre, &c. Should this fail, pressure may be applied by introducing a bougie into the urethra; and as this may be increased at pleasure, by pressure externally with the fingers, we are thus certain of commanding any degree of hæmorrhagy that can take place.

Inflammation of the Bladder.—Slighter affections of this organ, as some little pain or irritation about the neck of the bladder, with a frequent desire to make water, very commonly take place in almost every case of gonorrhœa. These, however, seem to be merely sympathetic affections, as they commonly soon go off without any particular remedy. It is only when the affection is more severe and permanent, that it demands particular attention. In this case, indeed, it is frequently productive of the greatest distress. A severe constant pain is felt about the neck of the bladder, while, at the same time, the patient is harassed with an incessant desire to make water, and from the affection
extending

extending to the rectum, with a constant inclination to go to stool. The urine, when discharged, is thick and turbid, and on standing, deposits a copious mucous sediment.

In this case, which seems to be an inflammatory affection of the bladder communicated from the urethra, we trust chiefly to general and topical blood-letting with leeches, to lessen the inflammation, while we endeavour to take off the irritation of the parts by an anodyne injection, with eighty or ninety drops of laudanum. As this complaint seems often to proceed from the discharge in gonorrhœa being imprudently stopped, by using too strong an injection, or perhaps, while using a very proper injection, taking too much exercise, especially on horseback, or drinking too freely, we endeavour to bring back the running to the urethra, by throwing up occasionally some warm oily injection into the urethra. With a view to dilute the fluids, and to take off the acrimony of the urine, we at the same time recommend a plentiful use of some mucilaginous drink, as a gum-arabic emulsion, water-gruel, &c.

Swelling of the Testicles.—This affection, like the last, is frequently occasioned by imprudent conduct during gonorrhœa. Sometimes it is the effect of too strong an injection; more frequently, however, it proceeds from using too much exercise without a suspensary. In such as have once had this complaint, the most trifling cause will produce a relapse. It is merely an inflammation of the testicle communicated from the urethra along the vas deferens, and is therefore to be treated like other local inflammations.

We trust chiefly in this case to blood-letting with leeches, which ought to be repeated if necessary. If, as sometimes happens, it be attended
with

with considerable fever, as heat, thirst, &c. then it will be proper also to take away a quantity of blood from the arm, proportioned to the violence of the disease, and the habit of the patient. The most perfect rest is absolutely necessary in this complaint. Indeed the moment it appears, the patient ought to be laid upon his back, from which he is to be moved only when absolutely necessary, and then having his testicles carefully suspended in a truss.

After the parts have been well leeches, a cold saturnine solution should be kept constantly applied to them; and any irritation that might be communicated by hardened fœces collected in the rectum, should be prevented by the occasional use, either of some mild laxative, as a table-spoonful of castor-oil, or of an emollient glyster. If the discharge from the urethra has been suspended, warm fomentations may be applied externally, or an injection of warm olive-oil may be thrown up, with a view to its restoration.

OF THE TREATMENT OF THE CONSTITUTION IN GONORRHOEA.

IN the ordinary course of gonorrhœa, the management of the general health requires but little attention; all that is commonly requisite, in most cases, being to avoid as much possible exercise of every kind, as riding or walking; to live rather abstemiously in respect of animal food, and especially in the use of drink; avoiding every thing heating, as spices, spirits, wine, or even strong ale or porter; taking care to keep the bowels open by the use of some gentle laxatives, as cream of tartar, or castor-oil, if necessary; and using plenty of some weak diluent drink, as water-gruel with lemon-juice,

juice, or cream of tartar. The use of a suspensary bandage, at least by such as have occasion to go about, or have the disease considerably severe, is an easy, at the same time that it is a useful precaution. These attentions will in general be all that are necessary in most cases of gonorrhœa.

Sometimes, however, the symptoms of gonorrhœa are from the first uncommonly severe, probably depending upon peculiarity of constitution; at other times, though sufficiently mild at first, they are afterwards rendered severe by mismanagement or imprudence. In either case, when the general health becomes affected, it requires attention, as this again tends to excite and increase the local affection. When fever, therefore, to any considerable degree, as indicated by the quickness or hardness of the pulse, heat, thirst, &c. takes place, a quantity of blood should be taken from the arm, in proportion to the violence of the symptoms. The diet ought to be more spare than is otherwise necessary in this disease, and should consist of vegetables, or weak broths, with a plentiful use of ripe fruits, and of cooling diluent drinks, as before recommended. The most perfect rest in this case is necessary.

OF THE CURE OF GONORRHOEA IN WOMEN.

THIS disease, we have already had occasion to remark, is in general milder in women than in men. In women the part principally affected, the vagina, being simpler in its structure as well as functions, and of course less irritable than the urethra, the common seat of the disease in men, is not so liable to be affected with violent inflammation. Hence this disease in women, where the vagina only is affected, is often so mild as scarcely to

to be noticed, even by the patient herself. Where the urethra, however, is the seat of this disease, the symptoms of pain, inflammation, and heat in making water, are nearly the same as in the other sex.

As the symptoms of this disease in women are nearly the same as in men, the *indications of cure* here are likewise similar. To answer these purposes, we trust entirely to local applications, and particularly to the use of astringent injections. These are to be prepared and used nearly in the same way as recommended for the other sex. When the vagina alone is the seat of this disease, as this part is not possessed of much irritability, the injections to be used may be stronger than when they are intended to be thrown into the urethra, either in men or women. In this case, therefore, the injections to be used may be rendered stronger, by adding a grain or two more of the allum, sugar of lead, or white vitriol, (which ever we employ, though this last is perhaps the best here also), to each ounce of the water. When the disease is in the urethra, an injection cannot be used by the patient herself; and, at any rate, would, from the shortness of the urethra, be attended with great danger of injuring the bladder.

OF OTHER DISEASES INDUCED BY GONORRHOEA.

GONORRHOEA, when moderate, sometimes, as was remarked, goes off spontaneously, but more commonly when cured by the use of astringent applications, without leaving any troublesome symptoms behind. But this, though frequently, is not always the case. Even under the mildest form, and the most careful management, it will sometimes be succeeded by complaints more troublesome

some and obstinate than the original disease. This takes place more frequently where the disease has been originally violent, and where nothing has been done to moderate the symptoms, or where, though mild at first, it has been rendered severe by improper management. Of these affections I shall now proceed to consider some of the most frequent, as well as the most troublesome.

Gleet.—By this term is understood the continuance of a mucous discharge from the urethra, after the pain and other symptoms of gonorrhœa have subsided. This complaint is distinguished from gonorrhœa by the appearance of the discharge, as it is commonly thick and of a whitish colour; by the absence of pain and inflammation; and by its being incapable of communicating infection. Though gleet occasionally succeeds every variety of gonorrhœa, yet more generally it is a sequel of such as have been attended with more violent symptoms, or whose cure has been protracted by negligence or improper management.

Gleets may with propriety be divided into two kinds; such as proceed merely from *debility* or *relaxation* of the *vessels* of the *urethra*, and such as are *complicated* with other *affections* of that canal, as *obstructions* from strictures, caruncles, or a swelled prostate. This distinction is of the utmost importance, as by it we are to be directed in our future method of treatment; for what would prove a cure in one variety of the complaint, would be of no benefit in another, or perhaps tend to aggravate the disease.

In the first or *simple gleet*, no other symptom occurs but merely the discharge of a ropy matter. The urine continues to flow in as full a stream as usual. There is neither a more frequent inclination than usual to make water, nor is the
discharge

discharge attended with any pain. This is not the case in the other species of gleet, where it is accompanied with some *obstruction* of the urethra.

In this situation the stream of urine is always more or less diminished, and not unfrequently divided, as it were, into two; and in proportion as the complaint continues, the urine still flows in a smaller stream. In making water, some pain too is commonly felt at a particular part of the urethra, and sometimes a degree of swelling or fullness may be felt externally at this particular point.

But this *obstruction* may proceed from different causes; therefore, the most effectual way to ascertain its nature, as well as situation, is by the introduction of a bougie. If it depend on a stricture or a caruncle, examination with a bougie will commonly point out this with sufficient certainty. But sometimes, though neither stricture nor caruncle take place, a bougie cannot be introduced from a kind of spasmodic contraction of this canal. This, however, may be distinguished from the former, by its being only temporary, or one day severe, and another quite easy; whereas stricture or caruncle produces not only a more permanent obstruction, but one which is gradually becoming worse.

Beside those causes of obstruction just now enumerated, a *diseased prostate gland*, as already noticed, may produce this disease. This affection of the prostate gland is always accompanied with a considerable degree of pain and irritation about the neck of the bladder, and a frequent desire to make water. Like the other obstructions, it presents an impediment to the introduction of a bougie. In this case, however, the obstruction is seated lower down, being at the very neck of
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the bladder; and it may commonly be distinctly felt by introducing the fore-finger into the anus.

Of the cure of simple Gleet.—The distinctions just now pointed out, will, in general, serve to distinguish a simple gleet from one complicated with other diseases of the urethra. It now remains to treat of the method of cure. And, first, of a simple gleet. The remedies employed for the cure of this disease may be divided into two kinds, general and topical. As this disease is supposed often to proceed from general debility, or at least to be commonly connected with it, with a view to correct or remove this, it is customary to prescribe strengthening remedies, such as bark, steel, the cold bath, &c. But these remedies, though they may with propriety be joined with local applications, such as astringents and stimulants, as coinciding with the general intention of cure here, which is to strengthen or stimulate, yet ought not to be trusted to for producing a cure of themselves.

The disease is in general merely local, and therefore to be combated most successfully by local applications, or such general remedies as at the same time act locally. The *cold bath* may be considered as of this kind, which, acting both locally and generally at the same time, has often produced a cure when other remedies had failed. Analogous to this, too, seems to be the effect of some of the turpentine or balsams, as pure *Turpentine*, *Copaiba Balsam*, &c. which given internally to the extent of thirty or forty drops, twice a-day, produce a considerable local effect on the urinary organs, and thus have been of service as local stimulants in this disease.

The safest, however, as well as in general the most effectual remedies in this case, are the local applications, as *injections* or *bougies*. *Injections* are considered

considered as of two kinds, *astringent* and *stimulant*. I am inclined to think, however, that the action of both is the same, or stimulant; and that they do not differ essentially from one another in the *mode* of action, but only in the *degree*. I consider an astringent as a weak stimulant, and a weak stimulant as an astringent.

However we may reason with regard to their mode of action, the remedies to be employed are the same: First, The weaker stimulants, or, as they have been called, astringents. Of these the injections, mentioned before for the cure of gonorrhœa, are in this case also, in general, the most successful. As there are no symptoms of pain or inflammation here, however, as in the former case, some more freedom may be used in respect of their strength. This ought to be done gradually, beginning with them of the same strength at first, and adding a grain or a grain and a half of the white vitriol or the alum, whichever we employ, to each ounce of the injection, till they either remove the complaint, or produce so much pain and irritation, as to render any further increase, or even their repetition of the same strength, improper. In this case, or wherever any considerable pain or inflammation has been produced by an injection, it ought not to be repeated till that shall have mostly subsided.

Should these, after a careful trial for some time, and as strong as we dare venture to use them, fail to produce the effect, we must then have recourse to the stronger or more stimulant injections. Of these, as well as of the former, a variety might be enumerated here. But as they probably act all on the same principle, or by producing a certain degree of irritation, and as this effect may probably be produced by using any of them of a certain strength, there seems but little reason why we should either have recourse to variety here, or even

be very anxious about a selection. The corrosive sublimate of mercury affords as simple and manageable, and, from what has been said, perhaps as effectual a material, for an injection of this sort, as any of the rest, such as the volatile alkali, verdigrise, &c. It may be used from a grain or a grain and a half, to the extent of three or four grains, dissolved in eight ounces of water, taking care to begin with the weaker, and to proceed to the stronger only gradually as there may be occasion.

Beside injections, bougies were likewise mentioned as local applications for gleet. These, on being introduced into the urethra, act mechanically on the part, and by producing a degree of irritation and inflammation there, answer the same purpose as irritating injections. They are, however, of more difficult and dangerous management, and ought not to be used but under the eye or direction of some medical gentleman. Nor do I believe them to be at all necessary in this simple state of gonorrhœa I am now treating of; as I am persuaded, that all the advantages to be obtained from the use of bougies, may, in this case, be derived with as much certainty and more safety, from a proper management of injections.

OF THE CURE OF COMPLICATED GLEET.

GLEET, as has already been remarked, is frequently connected with other affections of the urethra, as obstructions from *stricture* or *caruncles*, obstructions from *spasm*, or from *diseased prostate*. The means of distinguishing these having been already pointed out, it is here intended to offer a few observations

servations on their treatment. And, first, of obstructions from stricture or caruncles.

Caruncles were long supposed to be a common cause of obstruction in the urethra. This idea probably originated from observing excrescences, or, as they were called, caruncles, frequently seated on the external parts of the urinary organs, as the glans, prepuce, labia pudendi. Though the external parts just mentioned, however, are frequently attacked with these caruncles, yet later and more accurate observations have discovered, that the internal part of the urethra is very seldom liable to similar affections. Indeed their occurrence here is so rare, and their method of treatment so perfectly similar to that for strictures, that they do not require, in a practical view, to be noticed separately. I shall therefore pass on to the cure of strictures, the observations to be made on this head applying with equal force to the cure of caruncles.

Strictures, as has already been remarked, are the most frequent cause of obstructions in the urethra. The most common seat of these is either about two or three inches, from the extremity, or low down in the perinæum, about the bulb of the urethra. The canal being naturally narrower about these two places, stricture is more readily induced; and where this occurs in one of these situations, it often takes place in the other at the same time. The complaint comes on so gradually, that it frequently takes place to a considerable degree, before it be perceived by the patient. The surgeon is often the first to discover it himself, on trying to introduce a bougie for the cure of an obstinate gleet, that had resisted every other remedy.

As in this case the discharge from the urethra, or the *gleet*, is only a symptom of the stricture, our principal attention here is directed to the cure of the stricture. For this purpose, different remedies have at different times been proposed; but the two in most general use at present, are the *bougie* and *caustic*.

Bougies of some kind or other, at least something that acted on a similar principle, as wax candles or pieces of lead, have been long known, and occasionally used in cases of stricture. But Daran, by improving their composition, was the first who brought them into more general use.

Though the introduction of a bougie, considered simply by itself, or in a sound state of the urethra, is perhaps scarcely a more difficult operation than throwing an injection up the same canal; yet the symptoms for which it is used are commonly so distressing, and so alarming, and the aversion that most people have to the introduction of any thing into the urethra, is such, that it probably never will come into use but under the direction and eye, if not under the immediate hand of a surgeon. Indeed the greatest judgement and experience is frequently requisite to conduct this remedy with caution and success; and its first introduction often requires no less dexterity and address. In the first stage of the business, therefore, the advice and assistance of a surgeon is absolutely necessary. But as the after management of it is often left to the patient himself, I shall offer a few remarks on the use of bougies.

In using bougies, the *degree of force* that may safely be employed, can be learned from experience alone; only it may be remarked in general, that in the situation we are now speaking of, (where a small-sized bougie is supposed to have already passed), it can never be proper to use so
much

much force as to give considerable pain; as this, in a great measure, defeats the intention of its introduction. It is therefore better, as well as safer, to use a smaller bougie, and to repeat this frequently, than, by using one that is too large, to give so much pain as to prevent its being introduced again for a considerable time.

The *length of time* that a bougie ought to remain in, cannot be determined beforehand, but must be regulated in a great measure by the feelings of the patient. So long as it occasions no uneasiness, it may be safely allowed to continue; but it should not be suffered to remain long after it produces considerable pain, because this would necessarily prevent its introduction again for some time.

The same kind of reasoning that has been used as to the *length of time* a bougie ought to continue, may be applied to the *frequency* of its *introduction*. Where its introduction gives no uneasiness, this ought to be repeated as often as the patient's opportunities will allow; where it gives considerable pain, the introduction must not be so frequent; and it should rather, if possible, be continued longer at a time.

The last thing to be attended to in the use of bougies is, that they be used gradually larger, in proportion as the stricture will admit. This ought to be continued till the stricture be distended, if possible, to the size of the rest of the canal. Even after the stricture seems to be entirely removed, bougies ought still to be continued for some time longer, to prevent, as much as possible, that disposition of the parts to contract.

These directions, however, apply only to those cases where bougies of a certain size can be passed. But unfortunately the stricture is sometimes so complete, as not to admit a bougie even of the

smallest size. In this distressing situation, the late ingenious Mr Hunter invented an instrument for applying *caustic* to the part. This invention has been so far improved and extended since, as to render the application of the caustic preferable to the bougie, even in many of those cases that admit of a bougie. This, however, is always a nice operation, and therefore only to be attempted by an expert surgeon. For further information on this head, see a late publication by Everard Home.

Spasmodic Strictures of the Urethra. These are distinguished from the permanent strictures treated of in the last section, by their coming on suddenly, and disappearing again in the same manner; while the permanent stricture is more constant in its effects, and is generally growing worse. The two affections, however, are usually in some measure conjoined, as the permanent stricture is commonly attended with some degree of spasmodic affection. When the stricture is purely spasmodic, the warm bath, warm fomentations to the part, the application of a blister to the perinæum, with an opiate internally, or an anodyne injection with eighty or a hundred drops of laudanum, will generally give relief. When this complaint is connected with permanent stricture, the cure will be obtained by removing the latter. In this situation the application of the caustic seems preferable to every other remedy.

Diseased prostate Gland. This, as has already been remarked, is another cause of obstruction in the urethra. It is distinguished by the symptoms of pain and irritation about the neck of the bladder, a frequent desire to make water, often accompanied with a degree of tenesmus, or inclination

nation to go to stool: and, on introducing the finger into the anus, the prostate gland is felt considerably enlarged. In this situation, leeches, and afterwards a blister, should be applied to the part; and if the patient be stout and of a full habit, or the disease accompanied with fever, blood may likewise be taken freely from the arm. Where the complaint has immediately succeeded a suppressed gonorrhœa, warm fomentations may be used to the penis, or a little warm oil may be thrown up the urethra, with a view to bring back the discharge. To relieve pain and irritation, opiates, especially in the form of injection, are particularly useful here. A dram of laudanum, mixed with two or three ounces of thick water-gruel, or starch, may be used for this purpose.

OF THE GONORRHOEA SPURIA.

THE discharge in Gonorrhœa for the most part proceeds entirely from the urethra. Sometimes, however, this discharge from the urethra is accompanied with a similar discharge from the internal surface of the prepuce, and the external surface of the glans. At other times, this discharge from the glans and prepuce takes place without any affection of the urethra, when it has obtained the name of Gonorrhœa Spuria.

As this complaint differs from true gonorrhœa, not in the nature, but only in the seat of the disease, the remedies before recommended for the cure of gonorrhœa, prove equally serviceable here. After uncovering the glans, the parts affected are to be frequently bathed in a solution of lead or white vitriol; such as was already recommended for injecting into the urethra. A solution of cor-

rosive sublimate, of about half a grain to the ounce of water, proves a very effectual remedy in such a situation.

To prevent *excoriations*, which very readily occur here, if the parts be not kept clean, the prepuce ought frequently to be drawn back, and any matter that may adhere to the parts carefully washed off. The prepuce is commonly tight in those who are subject to this disease; and if it be not drawn back frequently, and the parts kept clean and easy, it is apt to thicken and contract so much from inflammation, as to produce a *phymosis*, a disease that will be noticed hereafter. To prevent which, it will be farther requisite, after drawing back the prepuce, to introduce a bit of lint covered with a little saturnine ointment betwixt the prepuce and the glans.

OF WARTS.

Warts, or little cutaneous excrescences, are another common consequence of gonorrhœa. They occur chiefly in those who have the glans covered with the prepuce, and where the matter of gonorrhœa, if not carefully prevented, is apt to lodge betwixt them. They may originate in any part of the glans or prepuce, but, for the reason just mentioned, they occur most frequently about the basis of the glans, or where it is connected with the prepuce.

They seem to be produced by the parts being long stimulated, and consequently relaxed by the acrid matter of gonorrhœa. Whatever, therefore, tends to prevent this application, will in the same proportion prevent their growth. Thus, where the parts are kept accurately clean by frequent washing,

washing, and by the introduction of a bit of lint betwixt the glans and prepuce, to absorb the matter, warts will seldom take place. With the same intention, too, of preventing their formation, the parts should now and then be bathed with a solution of sugar of lead or white vitriol, or of corrosive sublimate, such as has already been recommended for the cure of gonorrhœa or gleet.

When they have already acquired a considerable bulk before any attention has been paid to them, which happens often enough from their giving no uneasiness but by their size, some escharotic application becomes necessary to destroy them. For this purpose, they may either be touched frequently with a bit of crude sal ammoniac, or a little blue vitriol. Where they are not large, touching them now and then with the lunar caustic, will answer more effectually as well as speedily. A little of the powder of Savine, sprinkled on the wart, is a very effectual application. As it readily induces considerable inflammation, it must be used with caution, however, and should be confined to the part by covering it with a little lint.

OF THE LUES VENEREA.

THIS disease puts on a variety of appearances, according as it is *local* or *constitutional*, according to the *difference* of the *parts affected*, and likewise according to *diversity of constitution*. The venereal

real poison, like the inoculated small-pox, commonly produces some local affection, as inflammation, suppuration, or ulceration, before it contaminates the constitution; like the same disease, however, communicated in the natural way, it sometimes shews its effects on the constitution, without any previous symptoms of local disease. Whether the constitution be primarily affected, however, or whether it suffer only from previous local disease, still, as the symptoms, and especially the method of treatment, are somewhat different, I shall consider the two apart, beginning with the *local*, and then proceeding to the *constitutional*, *form of the disease*. I shall afterwards consider these, in so far as they seem to be affected, either by a *difference* of the *parts* on which they are seated, or by a *diversity* of *constitution*; or, in other words, the *accidental varieties* of this disease.

OF THE LOCAL SYMPTOMS OF THE LUES VENEREA.

THIS disease is commonly communicated by the intercourse which takes place between the two sexes in the act of venery. It therefore necessarily appears in a local form, chiefly on the private parts, or in their neighbourhood. In these its first appearance is generally on the prepuce or glans, sometimes on different parts of the penis or testicles, or even on the parts contiguous to these, in the form of what is called a *chancre*. Sometimes, though rarely, the first appearance of this disease is in the form of what is called a *Bubo*; which in men is commonly seated in the groin.

Chancre. The common seat of this disease, as has been already observed, is the prepuce or glans, particularly in the angle between them, or on the
frenum,

frenum, which unites the two together. Its first appearance is commonly that of a small watery vesicle, which, after continuing for a day or two with little or no pain, but with some degree of heat or itching, at last bursts, producing a small ulceration, with a foul whitish-coloured base, and ragged edges.

Though a chancre in men generally appears upon the parts just mentioned, it is by no means confined to these alone. It appears occasionally on different parts of the penis and scrotum, and about the pubes, in the form of a little bile or pimple. This by degrees suppurates and breaks, and from the thinner parts being gradually evaporated, is formed into a crust or scab. When this falls off, or is removed, the parts beneath appear foul and ulcerated.

Chancres appear at very uncertain intervals from the period of infection. In some cases they have been observed as early as twenty-four hours after infection, while in others six or seven weeks have elapsed before they were perceived. They seem indeed to appear earlier on some parts, as the prepuce and frenum, than on others, as the glans, or other parts of the penis or scrotum covered with the common skin. And we often see new ones breaking out on the glans, when those on the prepuce or frenum had been for some time under cure. Some deception, however, it is obvious, may easily take place here; as the matter of sores on the frenum or prepuce can scarcely fail to be applied to the glans, when the prepuce is drawn over it; so that the sore on the glans may be only a secondary one from the primary affection of the prepuce. Of this I have been satisfied in different instances, from observing the sore that afterwards took place on the glans, exactly opposite to a former one on the prepuce. But the most frequent period

period of their appearance is, from two to six days after infection.

It is always of importance, either to a surgeon or patient, to ascertain as soon as possible the nature of any affection of these parts; to the first, that he may be able to act with confidence and decision; to the latter, that he may make the proper application in due time. From the appearance of the sore, connected with the history of the case, a surgeon of experience will not in general be long in suspense as to its nature. The appearance of the sore, however, is not always of itself sufficient to determine this; and sometimes the history of the case affords no additional light. Beside pimples and excoriations, which these, as well as other parts of the body, are liable to at any time, they not unfrequently suffer from mechanical injury during coition. Thus people who have the frenum short, or the prepuce tight, often suffer during coition slight lacerations of these parts. When these occur after a suspicious connection, they often give rise to great anxiety and doubt. No decisive opinion can be formed merely from inspecting the parts, which have the appearance of little sores, with considerable pain and inflammation; and the history of the case, from their having been observed soon after a suspicious connection, leads to the conclusion that they are really venereal.

Having repeatedly been consulted in cases of this kind, where the patient himself was satisfied he had got chancres, and was with difficulty prevented from entering immediately on a course of mercury, but soon got well, merely by keeping the parts clean, and applying to them a little of some softening ointment, I shall mention such circumstances as tend chiefly to distinguish the two complaints. Sores arising from laceration of the
parts

parts appear immediately after the accident; they have a more irregular or less defined appearance, (having neither the ulceration nor the margin so distinctly marked), are not so foul, or whitish coloured, and are attended with more pain and inflammation than chancres of the same standing. Upon inquiry at the patient, too, it will commonly be found, that he was sensible of considerable pain at the time, and perhaps perceived some blood upon his linen soon after the accident; and that he has been subject to similar accidents on former occasions. Even the situation of the sores will sometimes assist us in forming an opinion; as they more readily occur on the anterior and fore part of the prepuce or frenum, whereas chancres generally take place at the base. Where the case, from any or several of the circumstances just mentioned, appears doubtful, it is proper to delay the exhibition of mercury for a day or two, and to watch the appearance of the sores, keeping them clean, and applying a little cerate to them. Should they heal kindly and readily, we are satisfied of their being harmless; if, on the contrary, they become foul, and begin to spread, we are satisfied of their being venereal.

In women, chancres have much the same appearance as in men. They are seated chiefly on the inside of the labia, the nymphæ, clitoris, &c. Sometimes, however, they make their appearance on the outside of the labia, on the perinæum, and about the anus. In this situation, they resemble the chancres that take place in men on the penis, scrotum, and about the pubis.

OF THE CURE OF CHANCRE.

General observations on the cure of local venereal complaints. Venereal sores may be divided into two kinds, *general* and *local*; the first are effects produced from a general contamination of the system, the second are merely the result of the application of venereal matter to a particular part, neither depending on, nor necessarily connected with, a constitutional disease. The first, therefore, are merely *symptomatic*, the last *primary*.

According to this distinction, which is founded on the nature of the two diseases, the *indications* of *cure* in the two complaints ought to be different. In the first, our principal attention is directed to the cure of the constitution; in the second, to the cure of the local disease: while the cure of the local complaint in the first, and the safety of the constitution in the second, are, as it were, secondary objects of attention.

Chancre is always at first what we have denominated a local complaint. It is merely the venereal poison deposited on the surface, which, after producing inflammation and suppuration there, thence proceeds to contaminate the system. It is even of what may be called the first order of local venereal complaints, as a bubo may with propriety be said to be of the second. In this last, though the venereal matter is at first still confined to the gland, yet, as it is a stage farther advanced in its progress, there is more danger of a general affection of the constitution.

From what has been just said, it will appear evident, that our object in the cure of a chancre ought to be, either its *total destruction*, or at least
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the *destruction* of the *venereal poison*. These are in fact two different *indications*. The first can only be accomplished by such means as may remove the whole disease at once, as *excision* with the *knife*, or at least so far destroy its organization as to render it no longer an integral part of the living system, as by the *application* of *caustic*. The second, or the destruction of the venereal poison, is to be obtained only by a proper application of mercury.

Were a surgeon always consulted for a chancre immediately on its breaking out, the most effectual, and perhaps upon the whole the least troublesome method, would be, when it was seated on the prepuce or frenum, as it commonly is, to remove it at once with the knife. This would in general be a very simple operation: it would only be removing a bit of diseased skin, scarcely so large perhaps as a common pea; and there is every reason to think it would be completely successful; in the same way as cutting out the bite of a mad dog effectually secures the person against the effects of the poison.

But this operation could be done with safety and success, only where the disease had been noticed on its first breaking out, and where it was seated on the prepuce or frenum, or on the common skin. Where this operation, from the disease being seated on the glans, or from its continuance for some days, may not be adviseable, still we have it in our power, by the application of caustic, to destroy the part soon enough, at least to diminish very much the chance of a general contamination. So long, therefore, as the sore still continues small, this method ought to be employed, and the application of the caustic repeated from time to time, as the slough falls off, till the parts beneath look red and healthy.

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The first of these operations, the *excision* with the knife, however, is seldom in the surgeon's choice. He is not often consulted early enough; and if he were, few patients would submit to what they would consider an unnecessary severity, when they might be cured by gentler, though more tedious means. The second, the *extirpation* with *caustic* is oftener in his power, and more frequently practised. Still, however, it is seldom employed early enough; and even though it were, its operation is so slow, as to leave ground, almost in every instance, to suspect that the constitution would be affected. The same attention, therefore, to the constitution, becomes requisite *here*, as under the next mode of management, which I now proceed to consider.

When the former methods, from the extent of the sore, or the length of time it has continued, are either thought inadvisable or not submitted to, our attention is next directed to the destruction of the venereal poison. This, it was remarked, is only to be accomplished by a proper use of mercury. Mercury may be employed for this purpose in different ways: It may either be applied *locally* to the *sore*, or it may be given to affect the *system* in *general*, and *through* it the *sore*; or it may be given in *both ways* at the same time.

A chancre, it was observed, is at first, and for some time, always a local complaint; nor do we know how long it may take to contaminate the whole system. As long, however, as the communication betwixt the sore and the system, by means of the circulation, continues so imperfect, that the system does not sympathise, or is not affected with the diseases of the sore; *so long*, we may presume, on the other hand, the sore would not sympathise, or be affected with the cure of the system.

system. *Mercury*, therefore, *administered internally* for the cure of a local disease, can probably have no effect on that disease, so long as it continues local. As it is only by the communication between the *part* and the *whole*, that the *whole* became diseased, so it can only be by the same communication between the whole and the part, that the part can be cured. A chancre, therefore, at its first appearance, ought not to be trusted to the internal use of mercury, as that medicine can probably have no effect upon it in this way, till it becomes a general disease.

The administration of mercury internally for the cure of chancres had its origin in the opinion, that chancres, and all other venereal sores, were symptoms of a general affection of the constitution. So subtle a poison as the venereal, it was thought, could not be present in a part without contaminating the whole, and therefore mercury, which was known to be the antidote, was administered likewise to the whole. Nor were specious arguments, it must be acknowledged, wanting to support such a conclusion. Chancres, if not cured, never fail to produce the *lues*, which can be cured only by a general administration of mercury. The *lues*, again, generally appears in local complaints, very much resembling chancres, which yield only to a complete course of mercury. Nay, even chancres themselves very generally yield to a course of mercury. This, we have already seen, can only happen when chancres are no longer local complaints, but having contaminated the general system with their own disease, necessarily participate with it again in the general cure.

It was afterwards observed, however, that some chancres did not yield to a course of mercury, while they were cured by external local applications. This first led to the opinion, that chancres

plication of leeches here may likewise be of service in lessening the inflammation.

But the principal difficulty consists in the management of the sores when these are covered by the prepuce, as they cannot be got at to be dressed and managed in the usual way. When the sores are but small or superficial, and the stricture only moderate, we endeavour, by means of injections frequently thrown in between the glans and prepuce, to clean and heal the sore; whilst we, at the same time, administer a course of mercury internally, with a view to its local as well as constitutional effect. One of the best injections for this purpose, is a solution of corrosive sublimate in water, in the proportion of a grain to the ounce. When the chancre is not deep seated, and the stricture only moderate, we have it often in our power, by means of a probe, to apply mercurial dressings to the part, as a pledget of lint, covered with the common blue ointment, or any other preparation of mercury. This, whenever the situation of the sore and the state of the parts will allow, ought not to be neglected. By a combination of such applications to the part, as circumstances will admit, with a complete course of mercury internally, we may in general, in this situation, be able to accomplish a cure without having recourse to more violent means.

But when the chancre is extensive or deep, and the matter from the tightness of the stricture cannot be discharged externally, but is confined behind the glans; in this situation, the operation for phymosis is necessary, to prevent worse consequences; for the confinement of the matter will not only prevent the healing of the sores, and the subsiding of the inflammation, but, by the irritation which it excites, will soon force its way through the prepuce. This ought, therefore, to be always prevented,

prevented, by an operation which it would be foreign to our design to describe in this place, and for which we refer to writers on surgery.

Beside the disease just mentioned, these parts are liable, from the same cause, to another disease very similar. Both diseases are produced by inflammation and stricture of the prepuce, from whatever causes these may originate; and as chancre is perhaps one of the most frequent of these exciting causes, I have thought proper to consider the two diseases under this head. They may, however, be produced by a violent gonorrhœa, or even by external violence. When the inflammation and stricture of the prepuce take place *before* the glans, the disease, as we have already seen, gets the name of *phymosis*; when the inflammation and stricture take place behind the glans, it is called a *paraphymosis*. In the first, the prepuce cannot be drawn back so as to uncover the glans; in the last, it cannot be brought forward to cover it.

As *paraphymosis* is produced by the same causes nearly as *phymosis*, the means already pointed out for preventing this last, apply with equal propriety to the prevention of the former. One particularity, however, respecting *paraphymosis*, deserves to be mentioned. The disease is not unfrequently produced by the patient himself, in endeavouring to draw back the prepuce in an incipient *phymosis*. This, therefore, should never be attempted where any considerable stricture of the prepuce takes place, as this stricture is always attended with much more danger when seated behind the glans than before it. On the contrary, it is always safe, and proper, to endeavour, by every gentle means, to reduce a *paraphymosis*, even though at the risk of inducing a *phymosis*.

This, at the commencement of the complaint,

we have it often in our power to accomplish ; and, as little effect can be expected here from the application of remedies so long as the stricture continues, no time should be lost in waiting their operation. Only it may be proper, before we attempt the reduction, to bathe the glans for a few minutes in a cold solution of sugar of lead ; or if that be not at hand, in a little cold water or vinegar. The operator ought also to immerse his hands for a minute or two in the same cold solution. He must now take hold of the glans with the finger and thumb of one hand ; and, after squeezing the blood out of it as carefully as possible, he must push it gently backwards, whilst, with the finger and thumb of the other hand, he endeavours to draw forwards the prepuce. Though he should even fail in the first attempt, yet, by repeatedly bathing the parts, as well as his hands, in the solution, and carefully pressing out the blood from the glans, at the same time that he endeavours to push it gently back with one hand, and to draw forwards the prepuce with the other, he will often be able to succeed at last. In this manner, he may frequently remove a dangerous disease, or preclude a painful operation ; and as the means are neither difficult nor dangerous, they should always be employed in the first instance.

Sometimes, however, every endeavour to reduce a paraphymosis will prove unsuccessful. This frequently happens from the length of time the disease has been allowed to continue before any attempt was made to reduce it ; and sometimes it is the consequence of a great degree of previous inflammation of the parts. Indeed, wherever the disease has already continued for any considerable length of time, and is attended with a great degree of inflammation of the parts, very little time should

should be lost in endeavouring to reduce it ; as in this situation it can scarcely succeed, and handling the parts freely may aggravate the disease. The operation for paraphymosis in this case, becomes absolutely necessary to prevent mortification. This it is not my business here to describe ; I shall only observe, that in such circumstances, both decision and dispatch are necessary, as a little trifling or delay may render the operation too late to prevent mortification of the glans or prepuce.

OF BUBOES.

Buboes, it has already been remarked, as well as chancres, are at first merely local affections, not depending on, nor necessarily connected with, a general disease of the system. As chancres may occasionally occur on any part of the surface of the body, from the application of venereal matter, so *buboes*, which are merely the consequence of the absorption of that matter by the lymphatics, in its progress to the general circulation, may occur in any of the external lymphatic glands, seated between that surface and the heart. But as chancres, from the manner in which the venereal disease is usually communicated, are commonly seated on the parts of generation, buboes, from the same cause, are most frequent in the lymphatic glands of the groin.

groin. Sometimes, however, they occur on the inside of the elbow or in the arm-pit, from venereal sores on the hand or arm, or on the inside of the knee and the upper part of the thigh, from venereal sores on the foot and leg. When they are the consequence of venereal sores about the lips or tongue, they are seated beneath the under jaw, or on the neck.

A *venereal bubo* is a swelling of a lymphatic gland, from the absorption of venereal matter. This matter, on being applied to the skin, usually shows itself there, as we have already seen, in the form of ulceration or chancre. From this it is again taken up by the lymphatic vessels which arise from all parts of the body; and in its course to the circulation, the venereal matter commonly produces a swelling of the nearest lymphatic gland. Thus a bubo generally takes place in the groin from a chancre of the penis or parts contiguous; and if a chancre be seated on one side, the bubo commonly occupies the same. When a chancre occupies the middle, a bubo may be seated indifferently on either side.

But though the venereal poison, in entering the system, usually observes the progress which has been just noticed, appearing first in the form of chancre, and afterwards producing bubo, yet this succession of symptoms is by no means universal. Though a bubo be in general preceded by a chancre, yet as this last often occurs without producing bubo, a bubo sometimes occurs without any previous chancre. This, however, is allowed to be a rare occurrence even in appearance, and is perhaps still more so in reality, as slight venereal sores may easily be supposed to take place on some occasions unobserved.

In treating of gonorrhœa, I had occasion to remark, that swellings of the lymphatic glands of the groin sometimes occurred in that disease.

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They may likewise proceed from the acrid matter of a common sore. These have been denominated Sympathetic Buboës, and are carefully to be distinguished from the venereal bubo, of which I am now speaking. The venereal bubo is always the consequence of the absorption of venereal matter, while the sympathetic bubo proceeds from any thing acrid (usually the matter of gonorrhœa) irritating the lymphatic vessels. The first is mostly always either preceded by, or accompanied with, a venereal sore or chancre, and is usually confined to a single gland, which, as it increases gradually in size, is attended with considerable pain and inflammation. The last proceeds evidently either from the acrid matter of a gonorrhœa, or of some sore that is not venereal, usually affects several glands at the same time, which seldom increase to any considerable size, or are attended with much pain and inflammation.

Beside the sympathetic bubo just mentioned, the venereal bubo may be confounded with some other affections of these parts, as *lumbar abscess* or *hernia*. A venereal bubo may in general be distinguished from *lumbar abscess*, by the previous history of the two diseases; the *first* is usually preceded by a venereal sore or chancre, or occurs soon after some suspicious connection; the *last* is mostly always preceded by, or attended with pain, inflammation, and weakness of the small of the back and about the loins. The swelling in the first is for some time small, hard, and moveable, attended with considerable pain on pressure; and when a suppuration takes place, the skin appears thin and inflamed, with the matter superficial and the fluctuation distinct. The swelling in the second is never so small and circumscribed as in the first; is not a hard moveable tumor at its commencement; nor is the fluctuation of matter afterwards

wards so distinct, the abscess appearing deeper seated, and the skin, instead of being thin and inflamed, as in the former, often is sound and natural.

From a *hernia*, a *bubo* may be distinguished by the following marks. A *bubo* is at first, as has already been remarked, always hard and moveable; a *hernia*, on the contrary, has a soft doughy feel, and cannot be made to roll under the fingers; in a more advanced state, a *bubo* is attended with severe pain on handling, often with inflammation of the skin; while in *hernia*, in general the skin is neither inflamed, nor is handling attended with uneasiness. In the last stage of *bubo*, the fluctuation of matter serves sufficiently to distinguish it from *hernia*. The history of the two complaints, also, will in general sufficiently mark the two diseases. Venereal *bubo* is mostly always the consequence of some venereal sore or chancre; whilst *hernia*, without having any thing in common with *bubo* in its origin, has often a train of symptoms peculiar to itself, as sickness, vomiting, constipated bowels, &c.

OF THE CURE OF VENEREAL BUBOES.

As a venereal *bubo* is in general merely a local affection, independent of any general disease of the system, its cure must be conducted on the general principal laid down for the cure of local venereal diseases, and in particular for the cure of chancre. The general *intention* or the *end* being the same in both, it is required only that we should vary the means according to the particular circumstances of each. While, therefore, I refer to what has been already said on these subjects, for those principles on which the general treatment is founded, I shall
here

here consider only the management of bubo, in so far as it is particular.

The treatment of bubo, it is obvious then, from the principles already laid down, embraces two objects; *first*, the *cure* of the *local affection* or *bubo*, *secondly*, the *safety* of the *constitution*. And, *first*, Of the local affection.

The cure of bubo, like that of every other local venereal affection, must depend, in the first place, on the general principle, the application of mercury to the part; and in the next place, on the application of such other remedies as may remove these accidental affections, that may either have been excited by, or be connected with the general disease.

Though the cure of bubo, as of every other venereal sore, depends upon a proper application of mercury, yet this cure may be conducted in two different ways; that is, either by *resolution* or *suppuration*. Bubo was long considered as depending on a general disease of the system, and as an effort of nature, as it was termed, to throw off the morbid matter. As this could be accomplished only by suppuration, whatever tended to promote this, was considered as conducive to the cure; while, on the contrary, every thing of an opposite tendency was looked on as counteracting this salutary effect. While such ideas of the nature of this complaint prevailed, the practice necessarily turned solely on the most effectual means for bringing a bubo to suppuration. Even when this was accomplished, however, which, according to their idea of the disease, ought to have been sufficient for the cure, still mercury was thought indispensably necessary; so that, by this practice, nothing was saved to the patient in respect of the medicine necessary to be taken, while a great deal of time was necessarily lost in bringing forward
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the bubo, beside the great additional pain and hazard that was thereby incurred.

But if the practice of suppurating a bubo was wrong, even on the principles of those who followed it, it were certainly unnecessary to say much in refutation of it at present, when our ideas of the disease are so completely changed. Bubo is now generally allowed to be merely a local disease; instead of serving to mark an effort of nature of salutary tendency, which ought to be promoted, it is considered as the operation of a dangerous disease, in its progress from a local to a general affection, which ought to be resisted by every means in our power. This leads me, therefore, to the consideration of the most effectual means for discussing a bubo.

The discussion of a bubo is to be attempted on two general principles; first, by the destruction of the venereal poison, or the original *cause* of the disease; secondly, by obviating the *effects* already induced, as inflammation, &c.

Mercury may be used for destroying the venereal poison of a bubo in two ways: it may either be given internally, to affect the system, and through it the part; or it may be applied locally, to affect the part. The same general principles that led us, in considering the treatment of chancre, to prefer the local application of mercury combined with its internal use, would lead us to adopt a similar practice in this complaint. Fortunately, however, both these intentions may be accomplished in this complaint, by the same means; as the most effectual method of applying mercury locally, is here the best way to affect the system; that is, by inunction. Mercury, for the cure of bubo, ought always to be used in this way, as combining the advantages of a *local* with a *general effect*.

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When a bubo is seated in the groin, as it usually is, some of the common blue mercurial ointment ought immediately to be rubbed in. The quantity must be determined by the state of the disease, and the habit of the patient. In proportion as the bubo is farther advanced, the faster ought mercury, in general, to be rubbed in, to prevent suppuration. At the same time, regard must be had to the constitution, as a quantity of mercury perfectly safe and innocent in a sound healthy state of body, might prove highly dangerous in a weakly debilitated habit. In general, however, from half a dram to a dram, or near the size of a hazel-nut, more or less according to circumstances, of the strong blue ointment, may be rubbed in morning and evening. In this situation, or where the bubo is in the groin, the inunction should take place chiefly on the inside of the thigh and leg of the same side, and betwixt the bubo and the private parts, or the chancre, where this complaint preceded the other. And, in general, wherever a bubo is seated, when it is the consequence of chancre, the ointment is partly at least to be rubbed in betwixt the sore and the gland: I say partly, because, in the common situation of bubo in the groin, there is not space enough to rub in the necessary quantity of ointment betwixt that and the sore. In this case, therefore, the remainder must be rubbed in on the neighbourhood, as the inside of the leg and thigh of the same, or even of the opposite, side.

This operation of *inunction*, when confined always to the same spot, is apt to produce considerable pain and inflammation; to prevent which, some care and attention are necessary. The part on which the inunction is to be performed, ought to be first shaved, to prevent the fretting and rubbing of the hairs; and afterwards, well washed
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with soap and water, to facilitate the absorption of the ointment. The friction, too, should be gentle and slow, and ought to be performed by the patient himself, wherever this can be done. It should be continued each time, till the quantity of ointment already mentioned be consumed. This, in cold weather, will be considerably promoted by the heat of a fire.

The *length of time* this inunction should be continued, must be regulated chiefly by two circumstances, the effect produced on the bubo, and the operation of the mercury on the constitution. In general, however, it ought to be continued, either till the bubo be completely discussed, or if it suppurate, till it be completely healed, and for some time thereafter, as one or two weeks. Where the mercury, however, produces considerable effect on the system, before it shews its full operation on the bubo, by its discussion, it will be necessary, either to intermit the medicine altogether for a little, till its general effect subside, or at least to continue the rubbing very sparingly, so as not to increase it. When the mercury, on the contrary, produces a cure of the bubo, without shewing any effects on the system, it ought to be continued till some constitutional effects likewise appear, that we may be assured of the safety of the constitution, as well as of the cure of the bubo.

This method of exhibiting mercury by *inunction* for the cure of bubo, possesses manifest advantages over its internal exhibition. By thus bringing mercury immediately into contact with the local disease, we take the most effectual means in our power to prevent the contamination of the system; and should even this take place, still, as the medicine enters the body by the same channel with the disease, the smallest quantity of the medicine,
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as well as the shortest space of time, will be necessary for its cure.

While we thus use mercury, however, to destroy the venereal poison, the *cause* of this affection of the gland, we must at the same time not overlook the *effects* produced. Mercury is a specific for this affection of a gland, only so far as it is venereal; where other modes of action take place, other remedies become necessary. On this principle, therefore, in every case of inflamed bubo, we are careful to employ, along with mercury, such other means as we know to be most effectual in discussing inflammation. In the first place, absolute rest, or freedom from all motion, as far at least as the circumstances of the patient will admit, is indispensably necessary. At the same time, his diet should be low, consisting mostly of vegetables; and where much pain and inflammation take place, bleeding as well as purging may be proper. The best application to the part, is a cold saturnine poultice, or, where the inflammation is violent, a number of leeches.

By a careful combination of the means just pointed out for removing inflammation, with a due attention at the same time to the inunction with mercury, we usually have it in our power, when application has been made sufficiently early, to discuss a bubo; the pain and inflammation gradually subside, and the gland returns to its natural size; or, if it should continue a little enlarged for some time, as frequently happens, it is without pain or uneasiness. But in this method of curing a bubo, which is in every respect the easiest and shortest, we are not unfrequently disappointed. Frequently the disease is allowed to proceed too far before advice be taken; and still oftener after taking advice, the patient,

from obstinacy or negligence, sometimes from necessity, does not pursue the means necessary to ensure success. From all or any of these causes, buboes sometimes proceed to *suppuration*. Even then, we should not be in too great haste to make use of means to bring them forward. By a proper application of the remedies already pointed out for discussing a bubo, this may sometimes be accomplished after a partial suppuration has taken place.

When the formation of matter to any considerable extent has taken place in bubo, which will be known by the fluctuation, and especially when the skin becomes inflamed and tender, as resolution in this situation is hardly to be expected, a warm emollient poultice should be applied to bring it forward, and to thin the skin. At the same time, the mercurial inunction ought still to be continued, with a view both to the cure of the local complaint, and likewise to the safety of the constitution. In this way, less mercury will afterwards be necessary to heal the bubo when it does break, as well as to secure the constitution.

It has long been a matter of dispute, whether a bubo, after being fully suppurated, should be opened with a lancet, or allowed to break of its own accord. There seems to be nothing, however, in the nature of a bubo, more than of any other abscess, that should determine us in general to adopt the one mode in preference to the other. The choice of the one or the other, must depend solely upon the particular circumstances of the case. When a bubo is small and superficial, I believe it may be safely trusted to break of its own accord. Where the abscess is of more extent and deeper seated, there would seem to be more reason for laying it open. Yet even here, I believe, little is gained by the practice. For though the
abscess

abscess may be opened a considerable time before it would have broke of itself, it commonly afterwards heals more slowly in proportion. So that it is only when the abscess is already fully suppurated, and from the thinness of the skin appears ready to break, that this ought to be done; and even then, rather with a view to ensure a free exit to the matter, than to anticipate the period of its eruption.

A bubo, after breaking or being opened, is to be considered on the footing merely of any other primary venereal sore, and must be treated according to the directions already given for the management of chancre. The mercurial inunction ought still to be continued, with a view to its local effect on the sore, as well as its general effect on the constitution. The sore may be dressed with common cerate, or, what is perhaps still better, with the common blue mercurial ointment; and if due attention be at the same time paid to the management of the constitution, it will in general heal readily.

But this progress, as was already remarked in the case of chancre, is sometimes interrupted by the sore, after healing to a certain extent, becoming stationary at last. This will sometimes be got the better of, by changing the nature of the dressings to the sore, and altering the patient's mode of living. Instead of mild dressings, stimulant applications often answer better here. The sore, after being washed with a solution of corrosive sublimate in water, in the proportion of one or two grains to the ounce, according to the effect, may be dressed with some common basilican, combined with a dram or a dram and a half of red precipitate to the ounce. A little dry lint often makes a very good dressing to the bottom of the sore in this state; and where the

edges have become hard and callous, they should be touched occasionally with caustic. Attention at the same time should be given to the patient's general health, where this has already suffered from a protracted course of mercury. He should be allowed a little moderate exercise, with the enjoyment of fresh air. His diet should be good and nourishing, with a few glasses of sound port wine daily; and where the stomach will admit, one or two drams of the bark may be taken every forenoon. By combining thus, a due attention to the general health, with a judicious local management, we in general have it in our power to accomplish a cure of sores of this description, if not accompanied with some other disease of the constitution. Of this I mean to treat in the next section.

OF SOME OF THE CONSEQUENCES OF BUBOES.

THOUGH mercury be an effectual cure for bubo in every stage of the complaint, so far as it is strictly venereal; yet this disease is not unfrequently combined with other diseases of the constitution, or of the part on which mercury has no effect. The most frequent as well as the best marked instance of this, which alone I mean to notice here, is in the combination of bubo with scrophula. This shows itself, I think, in two different states of bubo, in the inflammatory and in the ulcerated state. And, first, of the inflammatory.

A simple venereal bubo seldom continues for any length of time of the same size. Where mercury has been properly applied in due time, and in sufficient quantity, the swelling gradually subsides till the gland be reduced to nearly its natural dimensions. On the contrary, where this has been too long

long delayed, or not properly applied, the gland commonly soon comes forward to suppuration. But in this conjunction of bubo with scrophula, which I am now speaking of, the gland, after coming to a certain size, remains stationary. Mercury and other topical applications have no effect in dissolving it ; nor are we more successful in our attempts to bring it to a suppuration.

As this complaint frequently occurs in patients who have never had any other symptoms of scrophula, it is often productive of great uncertainty, as well as uneasiness, both to the surgeon and patient. I believe, however, it will in general be found, upon a careful inquiry, that such patients are either descended of scrophulous parents, or have themselves the marks of a scrophulous disposition ; and upon this principle is founded our plan of treatment.

Wherever a bubo has resisted a complete mercurial course conducted in the manner recommended, and discutient and maturant applications have equally failed of effect, it should no longer be considered as venereal, but as scrophulous. Mercury therefore, and indeed all applications to the part, whether with a view to discuss or suppurate it, should be laid aside. The patient, if residing in town, should be sent to some healthy situation in the country, where he may at the same time enjoy the benefit of sea-bathing. This, with plenty of exercise, especially on horseback, with a good nourishing diet, and a moderate use of wine, will often succeed in dissolving a bubo that had resisted all the common means. I have known one instance in particular, where a bubo of this kind, after resisting nearly two years, every other means that could be thought of, yielded at last, during the course of the second winter, to severe exercise on horseback, particularly in fol-

lowing the hounds, which this gentleman did three or four times a-week, for a considerable part of the winter.

The other state of bubo, already taken notice of as sometimes connected with scrophula, is the ulcerated. A bubo in general, that has been allowed to come to a full maturation before being opened, heals readily, merely by continuing the mercurial inunction a little longer, and keeping up the effects of the medicine on the system for some time. But sometimes, instead of healing, the sore becomes stationary, and mercury, though rubbed in so as to effect the system completely, has no farther effect upon it. At other times, instead of continuing stationary, it becomes worse and worse; and though the system be completely loaded with mercury, the sore continues to spread daily; or if it heal up in one place, breaks out in another, presenting an irregular worm-eaten appearance.

Sores of this description we judge to be no longer venereal, from mercury ceasing to have any farther effect upon them; at the same time that we are inclined to think them scrophulous, from their occurring chiefly under the same circumstances with the indurated bubo we have just been mentioning. The same plan of treatment is therefore to be followed. Mercury is immediately to be laid aside. Country air and exercise, with a nourishing diet and a moderate use of wine, are to be enjoined. Sometimes, however, a milk-diet with vegetables has accomplished a cure in this situation. In some cases, the tepid bath, in others the cold bath, have been found useful; while in some, the use of hemlock internally in large quantities, with a hemlock-poultice to the part, have succeeded after every other means almost had been tried in vain. When the
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fore is accompanied with a copious discharge of thin matter, barks have been found serviceable; and where it is attended with considerable pain, opiates should be used freely.

OF LOCAL VENEREAL COMPLAINTS IN WOMEN.

CHANCRES and buboes in women correspond so perfectly, both in their appearance and method of treatment, with the same complaints in men, that I have judged it unnecessary to allot a separate section for their consideration. The only real difference between these complaints in men, and the same diseases in women, is in respect of their situation.

The common seat of chancre in women, is on the Labia Pudendi, Nymphæ, Clitoris. Sometimes, though more rarely, they occur on the Mons Veneris or Perinæum. Wherever they take place, they require nearly the same treatment as in men; only as dressings are with difficulty kept applied in the former situations, washes ought frequently to be used, as solutions of corrosive sublimate, of the same strength as before recommended for chancres in men. The parts affected here, too, being more simple in their structure and functions than those in men, chancres in women are not so often complicated with other diseases, and therefore in general more easily managed.

Buboes in women have precisely the same appearance as in men. They are usually seated on the round ligament, near to where it enters the abdomen. Sometimes they occur near the external labium, in the angle betwixt this and the thigh. Whatever be their situation, their treatment is so precisely similar to those in men, that I think it unnecessary to say any thing farther on this subject.

OF THE LUES OR POX.

THE complaints hitherto described, chancre and bubo, are always *primary* or original symptoms, produced by the external application of the venereal poison to the part affected. The symptoms which we are now to describe, are always *secondary*, depending upon a previous disease of the constitution. The first, though in their progress they become general or constitutional, are in their origin always local; the last, though in their progress they appear local, are in their origin always general.

The constitutional form of the disease is commonly preceded by the local. For the most part, the disease appears first in the form of chancres, sometimes in that of buboes, whence the system comes afterwards to be contaminated by absorption. Sometimes, however, though rarely, the disease appears first in a constitutional form without any previous local complaints. In which ever of these ways the disease has been received, it commonly proceeds to shew its effects in the same way upon the system. These I shall now consider in the order in which they usually appear;
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at the same time it must be remarked, that in this respect great variety occurs.

Venereal sores in the throat, and mouth.—If the local effects arising from the application of the venereal matter to the surface, were, as has been already observed, various in different individuals, in respect of the *time* as well as *form* of their appearance, the constitutional ones, after it has entered, are at least equally so in both respects. In particular instances, these have appeared in the course of two or three weeks from the period of infection, while in others, as is alleged, they have been observed at the distance of several years. The most frequent period, however, is about two or three months from the time of infection.

But if they vary in respect to the *time* of their appearance, they differ at least as much in respect of their *form*. Sometimes the disease appears first in the form of venereal blotches on the skin; at other times its first attacks are on the bones or periosteum; while ulcers of the *throat* are more generally the first symptoms of this disease.

Ulcers occur on various parts of the throat, as the uvula, the velum pendulum palati; most frequently, however, they are seated on one of the amygdalæ. On their first appearance, they are usually small, but deep for their size, and always foul, with a distinctly marked margin. As they are seldom attended with much pain, and indeed produce but little inconvenience, except a slight uneasiness on swallowing, they are often suffered to remain for a considerable time, without exciting much attention, being mistaken perhaps for a common sore throat. On inspecting the parts, however, a small foul ulcer is commonly observed on one of the amygdalæ. Sometimes, as was remarked, it is seated on the uvula, or velum

lum pendulum palati, the inside of the mouth, or on the tongue. As this is liable to be confounded with some other affections of these parts, I shall now point out the chief means of distinction.

The *venereal sore throat* may be distinguished from the common inflammatory sore throat, by the history of the two diseases. The first, as has already been remarked, commonly succeeds some local venereal affection, as chancre or bubo, where mercury either has not been given in sufficient quantity, or continued for a due length of time: the last, without being preceded by any other venereal affection, is usually the immediate effect of exposure to cold, and often accompanied with other symptoms of catarrh. The appearances of the two complaints are generally very different. In the first stage, the inflammatory sore throat is distinguished from the venereal by the absence of ulceration, which always accompanies the last; while this last, on the other hand, is without that general inflammation and tumefaction of the parts that commonly accompany the former. The second stage of inflammatory sore throat, or that which supervenes upon suppuration, is distinguished from the venereal, by the very different appearance of an abscess, with a small clean opening, and a considerable extent of inflammation and redness, from a foul venereal sore, with a well-defined margin, and but little general inflammation of the parts, as well as by the previous history of the case; an abscess, before it comes to a suppuration, being always attended with much more pain, inflammation, and swelling of the parts, than a venereal ulcer ever is.

The putrid sore throat, from its being attended with less inflammation and swelling of the parts, and from ulceration here immediately supervening

vening upon inflammation, without the formation of an abscess, might be liable to be mistaken for this complaint. But beside the symptoms of a putrid fever, which in general serve sufficiently to distinguish this disease from the venereal, the ulcerations in this disease are commonly numerous, extensive, and superficial; while in the venereal sore throat, there is commonly but one small deep ulcer.

Venereal sores, instead of occupying one or other of the amygdalæ, as usually happens, sometimes make their appearance on the cheeks, inside of the tongue, or on the palate. In this last situation the ulceration commonly spreads rapidly, and from the bones being but thinly covered here with soft parts, soon affect them with caries. Indeed, the appearance of the complaint here seems to render it probable, that the bones become first injured, and the soft parts only in a secondary way. The ulceration here does not proceed in a slow gradual manner from the surface till it reach the bone, but the soft parts become at once inflamed to some extent, and then drop out in patches, as it were, of considerable size.

Venereal sores of these parts have been mistaken for cancerous affections, to which, it must be allowed, they bear a great resemblance; but they may in general be distinguished from them by attention to their history, and by their being unattended with those severe lancinating pains, that almost constantly accompany cancerous affections.

Ulcerations arising from the use of mercury, have sometimes been mistaken for venereal sores. These, however, may in general be known by their occurring chiefly at the time the mercurial course is at its height, and from their taking place usually on those parts of the cheeks and
tongue

tongue which, when they become inflamed and swelled from mercury, are most exposed to be injured by the teeth. Nor have the fores, in this case, the foul, deep inflammatory appearance of venereal ulcers.

Venereal sores on the Nose.—When this disease is allowed to take its natural course, as sometimes happens among the lower class of people, it commonly, after affecting the throat for some time, proceeds to attack the nose. And even when mercury has been exhibited in sufficient quantity to cure the affection of the throat, yet if it have not been continued for a sufficient length of time afterwards to secure the constitution, the disease, on its return, usually appears first on the nose. This progress of the disease, however, though frequent, is not invariable; as it sometimes, on its return, re-appears on the parts before affected, while in other instances it returns in the form of blotches on the skin, or in nodes and swellings of the bones, periosteum, &c.

In the nose, the disease usually attacks first the membrane lining the inside of the nostrils. Perhaps the bones here, too, as was remarked of the palate, are the parts first affected, and the affection of the membrane only secondary; at least, similar appearances would seem to warrant a similar conclusion. At any rate, the internal membrane of the nose is first affected with inflammation and swelling. The patient usually complains for some time of a degree of fulness, and a stoppage of the nostril affected, which, on inspection, appears red and inflamed. This is afterwards attended with considerable pain at some particular part of the nostril. When this can be inspected, it commonly appears covered with a dry scurf or scab, which, on being removed, leaves the

the parts beneath ulcerated. But often the affection takes place so high in the nostril, that the part cannot be brought into view. The disease, however, continuing to advance, the bones soon appear carious. The discharge, which hitherto was moderate in quantity, becomes now copious, and from a whitish purulent appearance, changes to a black colour, with a highly foetid smell. Different portions of bone begin to separate, and come away with the matter; and the disease continuing to spread, the outside of the nose becomes inflamed and swelled. The tears, from the passage being inflamed and obstructed, run down the cheeks: and the sense of smelling becomes more or less affected. In this situation, the bone forming the partition of the nose often becomes carious and gives way, so that the nose falls almost flat upon the face.

Sometimes, however, this disease, instead of attacking the upper and bony part of the nose, affects its lower cartilaginous extremity. In this case, the disease appears first on the outside of one of the cartilaginous wings of the nose, in the form of a small scab or ulcer. This, as it continues to spread gradually, corrodes the parts on which it is seated, assuming much the appearance of a cancerous sore. So that both the alæ, or wings of the nose, are often completely destroyed, while the upper bony portion remains perfectly entire. The very different progress of the disease in this situation, from what it takes when seated on the upper and bony part of the nose, seems a farther confirmation of what was advanced in treating of the venereal affection of the palate. In both these situations, the disease advances so rapidly, that the soft parts seem to slough off, as it were, from the diseased bones beneath; while the disease usually

usually advances slowly on the cartilaginous part of the nose, or the amygdalæ, in the form of a phagedenic or cancerous sore, gradually corroding the soft parts, but often continuing long before any of the bones become affected.

Venereal sores, when seated on the under and fleshy parts of the nose, resemble very much, as was already remarked, cancerous affections of these parts. Indeed, they are to be distinguished from them, almost solely by a careful attention to their history, or by observing the effects produced on them by a course of mercury. Cancerous affections, too, are commonly attended with more severe darting pains, than almost ever accompany simple venereal sores.

Venereal blotches on the skin.—The venereal disease, after attacking the throat and nose, usually makes its appearance next on the skin, in the form of *blotches*. This is the common progress of the disease, whether it have been suffered to take its natural course, or where this may have been interrupted by the use of mercury, to the extent of curing the local symptoms, but not of securing the constitution. Venereal blotches appear occasionally on every part of the body. Though no external part be exempted from their attacks, yet they appear most frequently, or most early in the disease, on the upper part of the body, as the breast and arms, and afterwards on the lower extremities.

These blotches appear often at first in a sort of mottled spots up and down the body, disappearing in some places, while they continue or increase in others. Often, however, they appear under a more permanent form, like distinct inflamed patches, of the size of a sixpence or a shilling. These patches appear of a dull red colour, not sensibly elevated above the surface, with

with the skin still entire. A dingy copper-coloured scurf gradually forms upon each of these, which, after continuing for some time, falls off, and is succeeded by another of the same kind. These scurfs, as they are constantly renewed, become gradually thicker and thicker, till they assume the appearance of a common scab, which, when it falls off, leaves the parts beneath in a state of ulceration.

This is the common progress of a venereal blotch, from its first appearance till it terminate in an open ulcer. But sometimes the disease appears at the first like small flat pimples, which suppurate, scab, and then run together, till they form ulcers of various extent. The disease, too, in attacking various parts of the body, has its appearance somewhat varied from the nature of the part on which it is seated.

When it attacks the palms of the hands, and the soles of the feet, a scab in this situation is not formed, owing to the thickness of the cuticle. This therefore separates in successive layers, till the parts beneath at last become ulcerated.

The disease, too, sometimes attacks those parts of the hands and feet that are covered by the nails. In this case the parts beneath the nails become first red and inflamed, and, after the disease has continued for some time, the nail at last becomes loose, and then separates.

In some parts of the body, as in the arm-pits, betwixt the thighs, between the nates, or about the anus, where the skin, from the contact of the opposite surface, is preserved in a more thin and moist state, the eruptions seldom or never appear in the form of scurfs or scabs. In these situations the skin is commonly elevated into a sort of vesication, which at last breaks and discharges a whitish purulent matter.

Venereal blotches are liable to be confounded with other diseases of the skin, particularly with herpetic affections. From these they may in general be distinguished by attention to the history of the case, as venereal blotches seldom occur, but after some other symptom of this disease, whilst herpetic eruptions are apt to recur repeatedly in the same person. The appearances also of the two diseases are generally somewhat different. Venereal blotches, as was already remarked, commonly appear at first like so many dull red, or mottled spots, not perceptibly elevated above the surface; whilst herpetic eruptions almost constantly make their appearance in the form of little distinct pimples, which afterwards frequently run together into clusters. Venereal blotches are likewise in general of a more uniform figure and size, seldom exceeding the size of a shilling, whilst herpetic affections are more irregular in their size, as well as appearance, frequently assuming a circular form.

OF VENEREAL ULCERS.

As venereal ulcers are a common consequence of the complaint just now treated of, I shall offer a few observations here on their history, and the means of distinguishing them from other diseases with which they are liable to be confounded. In
treating

reating of chancres and buboes, I have already had occasion to describe local venereal sores, and shall therefore take no farther notice of them here. It is only the constitutional venereal ulcer, or that which depends upon a general contamination of the system, that I am now to describe.

This sort of ulcer, as has already been remarked, is very generally preceded by the venereal blotch. At other times, instead of being preceded by the true venereal blotch, it succeeds to those little flat, inflammatory tumors, or pimples, formerly described as a variety of the venereal blotch. In whichever way it may originate, the sore commonly puts on one uniform appearance, except in so far as it may be modified, either by a diversity of the parts on which it is seated, or by a connection with some other disease.

Venereal ulcers occur occasionally on almost every part of the surface. I have already had occasion to describe their appearance when seated in the throat, mouth, or nose. As they very usually succeed venereal blotches, they appear like these on every part of the body. They may in general be distinguished from other sores by the following appearances: They are always very foul and ill conditioned; nor does any medicine, except mercury, seem to produce any change on their appearance. The matter discharged is commonly of a green or yellowish colour, with a highly foetid smell; and it usually adheres so firmly, that it cannot be separated from the surface of the sore. Venereal sores are seldom either attended with much pain or inflammation, at least the inflammation is usually confined, in a great measure, to the margin of the sore, giving it a distinct circumscribed appearance. The edges of the sore commonly appear retracted and uneven, often hard and callous.

The venereal sore varies a good deal in its appearance, from the nature of the parts on which it is seated. When it occurs on any of the soft parts, as on the amygdalæ, or glans penis, it usually rather goes deep, than extends to any considerable breadth, presenting to us a deep sore, with a narrow orifice. On the contrary, when seated above any of the hard thin bones, as those of the palate or nose, it spreads so rapidly as to give reason to imagine, as has already been remarked, that the bones were primarily affected, and the soft parts only in a secondary way. The soft parts in this situation seem to slough off in spots or patches, as it were, from the parts beneath.

An exception, however, to this observation, seems to occur in those sores that succeed to suppurated buboes. These, especially when seated in the groin, spread sometimes to a great extent, without going to any considerable depth. In this situation, little sores, after breaking out here and there upon the sound skin, often run together, so as to cover a considerable extent of the lower part of the belly, or of the upper part of the thigh. This appearance of sore I believe to be generally owing either to some general disease of the constitution, as scrophula; or to some accidental complaint, as debility.

The above observations on *Venereal Sores* apply, in general, equally to the *local* and *constitutional* ulcer. Indeed it may be remarked, that these two affections, the local and the constitutional venereal sore, present so entirely the same appearance, that they are to be distinguished from one another only by the different seat of the disease in the two complaints, or by the history of the case. Local venereal sores are commonly, from the mode in which the infection
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is conveyed, seated on the private parts ; whilst constitutional sores of these parts very seldom occur. But sometimes local venereal sores appear on the lips, as in children ; or on the nipples, as in nurses, &c. The nature of these, however, may in general be determined with sufficient accuracy, by attending to the history of the case, for local affections appear only either on the part immediately exposed to the infection, or in some part of the lymphatic system in the neighbourhood.

Venereal ulcers, as has already been observed, are not confined to the soft parts ; they frequently affect the bones. This happens in two ways ; sometimes the bones are first affected, and the soft parts suffer only in a secondary way ; of this I shall treat more particularly in the next section, in speaking of nodes, and other diseases of the bones. But the bones likewise often suffer in a secondary way, from the destruction of the soft parts with which they are covered. These affections are easily to be distinguished from simple venereal ulcers of the soft parts, by the luxuriant growth of fungous flesh, with which they are usually filled, and by the carious bone being felt beneath by the probe. They are to be distinguished from simple caries of the bones, only by the previous history, or by the peculiar appearance of the ulceration in the soft parts ; as a caries of the bones, from whatever cause, assumes nearly the same appearance.

OF NODES AND OTHER AFFECTIONS OF THE
BONES AND PERIOSTEUM.

I HAVE already had occasion to remark, that the bones, as well as the periosteum, frequently become affected in venereal ulcers, from the soft parts which cover them having been previously destroyed. This secondary affection of these parts was taken notice of in the last section, as a variety of the venereal ulcer. Sometimes, however, the bones and periosteum, instead of becoming diseased in this *secondary* way, are the parts *primarily* affected. This primary affection of these parts, then, shall form the subject of the present section.

The bones and periosteum seem to be affected in two different ways, by the venereal poison. Sometimes it produces a simple enlargement and swelling, without any caries of the bone. In this case, one or more circumscribed tumors are the first symptoms of the complaint. This tumor is at first always small, seldom exceeding the size of a small bean, and perfectly firm and incompressible. On its first appearance, and for some time afterwards, it commonly produces but little uneasiness; as it increases, however, gradually in size, it frequently, by distending the periosteum, occasions very severe pain. This affection, which we have just described, constitutes the true venereal node. The bone, though enlarged, is not carious, and the skin still remains entire. But it does not long continue so where the disease is allowed to proceed. The soft parts at last inflame,

inflammation, and then ulcerate; and this ulceration of the soft parts is usually accompanied with a caries of the bones beneath.

The other affection to which these parts are liable, though a good deal resembling this in appearance, is yet of a very different nature. The tumor in this case has nearly the same appearance as in the former. It is commonly small when first perceived, and increases gradually to the size of a large bean. It is seldom attended with much pain or inflammation, till the latter stages of the complaint; when, upon being opened by an incision, or suffered to break of itself, it is found to consist of a slight effusion of a colourless fluid, between the periosteum and the bone, and the bone always more or less diseased, but without being enlarged.

It is to be distinguished from the bony tumor mentioned before, by its being less firm, and more compressible, and by the fluctuation of a fluid, being perceptible at least in the latter stage of the complaint.

These two affections occur occasionally on almost every bone of the body. But they are particularly frequent on such bones as are thinly covered, as the bones of the cranium, the sternum, the tibia, and different parts of the radius and ulna. Sometimes, too, they occur on the thigh bones, as well as on those of the hands and feet.

The only disease which these are in much danger of being confounded with, are the different rheumatic affections of these parts. But from rheumatism they may in general be distinguished by the following marks: Rheumatic swellings commonly occupy the joints, while venereal affections are almost confined to the hardest and firmest part of

each bone, or nearly to its center. Rheumatism, too, commonly occupies a considerable part of the limb or joint on which it is seated; while the venereal affection is generally limited to a single small spot, where, on examination, a small circumscribed tumor is usually found, perfectly different from that soft diffused swelling that usually accompanies rheumatism.

OF THE CURE OF THE CONSTITUTIONAL VENEREAL DISEASE.

UNDER whatever form this disease may appear, whether *local* or *constitutional*, so far as it is strictly venereal, mercury proves an infallible specific. It is only when this disease is connected with other diseases, either of the constitution or of the part, that we are disappointed in our expectations from the use of mercury. But if we can succeed, by medicine or otherwise, in removing those constitutional or local diseases, which are superadded to the venereal disease, mercury, we find, recovers again its usual specific power over the complaint. This has already been observed to be the case in local venereal complaints; and it is equally effectual in the constitutional form of the disease. Indeed, if there be any difference in respect of the specific power of mercury over the two forms of this disease, it seems less decisive still with regard to the local than the constitutional form. Sometimes local venereal complaints, as chancre, for example, may be completely cured
by

by caustic or strong escharotics ; while the constitutional lues, so far as we hitherto know, can be with certainty cured only by mercury.

In treating of the cure of local venereal complaints, I took occasion, along with the general administration of mercury to secure the constitution, to recommend the local application of it to the parts affected. This I did with a view to cure the local disease as soon as possible, by bringing the medicine more immediately into contact with the poison, and thus to prevent, as much as we can, a general contamination of the system ; as the danger of a general contamination of the system is always in proportion to the continuance and extent of the local disease. In constitutional lues, it is obvious, however, that the same reason no longer exists. Here the constitution is already contaminated, and the particular *local effects* originate only in a more general disease of the *whole*. The first object of our care here, therefore, is the *general* or *primary disease* ; after which the *local effects* or *symptoms* next demand our attention. This division naturally leads me to consider, in the first place, the most proper method of exhibiting mercury for the cure of the general disease, and then to take notice of such peculiarities as occur in the treatment of particular local complaints.

Mercury may be given to affect the system in two different ways ; it may either be given internally, so as to enter by the absorbents of the stomach and intestines, or it may be applied externally to the absorbents of the surface. For external application, too, the medicine has been used in different forms, sometimes in the form of vapour, and at other times in the form of an ointment.

As mercury was at first introduced for the cure of the venereal disease, from the resemblance of

this complaint to some other cutaneous affections, for which mercury applied externally had been found a remedy, we find, that on its first introduction it was used only in the form of external applications. These were either *fumigations* or *inunctions*. Fumigation was in use for the cure of this disease as early as the beginning of the sixteenth century, or, in other words, in a few years after the disease first appeared, or at least was noticed and described. Even at this period, however, though there can be no question of fumigation having frequently succeeded, it was looked upon both as a dangerous and uncertain remedy. From the arsenical and other poisonous fumes mixed with the mercury, and inhaled by the lungs, the most deleterious effects sometimes ensued. This danger was afterwards in a great measure obviated, by using only the milder preparations or purer ores of this mineral. Still, however, the effects of the remedy, either from its own nature, or the mode in which it was administered, were not found permanent, and the disease, notwithstanding every attention, frequently returned. From this cause, fumigations, though still used sometimes with a view to their local effects, are now almost universally laid aside when we wish to affect the constitution.

Inunction, which was one of the first modes of applying mercury for the cure of this disease, is still perhaps the safest and the most effectual, and combines the most advantages with the fewest inconveniences. From the extent of the surface to which we can apply it at the same time, we can in this way throw in a greater quantity in a given time, than by the mouth, at the same time that we run less risk of injuring the stomach or bowels by the medicine, or of having it run off
by

by stool. Whenever, therefore, from the particular situation of the patient, or the state of the disease, we wish to charge the system with mercury as speedily as possible, or when the internal exhibition of mercury, from the debilitated state of the patient, or the irritability of his bowels, might be attended with some risk, in all these situations the method by inunction is greatly preferable.

Another situation of the same description must not be omitted, where we wish to combine, for instance, the local effect of mercury on a particular part, with its general effect on the constitution; for example, in bubo. Inunction in this situation has the advantage of acting both locally and constitutionally at the same time. For the rules necessary to be observed in the management of this operation, I refer to what was already said on this subject, on the cure of bubo.

The advantages of the method by *inunction* are so important, that we need not be surprised to find it sometimes attended with inconveniences. The most considerable of these, in general, are the trouble and nastiness of the operation itself. The friction must be continued for a considerable length of time every day, to rub in the proper quantity of the ointment, which often wearies and fatigues the patient; and as the operation is not only rather disagreeable of itself, but even leaves the patient in a nasty uncomfortable state after it is over, (for it is scarcely possible for him to keep himself quite clean and comfortable during the inunction), this in general creates an aversion to the practice. Any little inconvenience of this kind, however, is amply compensated by the superior safety, as well as expedition, of this process;
so

so that it ought to be universally practised, wherever it suits the situation of the patient.

Patients labouring under this disease are sometimes in circumstances, however, where the employment of this method is altogether impracticable, or might be attended with the most unpleasant consequences. In such circumstances, therefore, we are under the necessity of having recourse to the internal exhibition of mercury. For this purpose, the common blue pills of the Edinburgh Dispensary are perhaps one of the best preparations. Of these one may be given, two or three times a-day, till the intended effect be produced. When they affect the bowels, as is often the case, especially at first, one grain of opium may be given along with each. Keeping the body warmly clothed, and taking the medicine soon after meals, instead of taking it on an empty stomach, will contribute to the same effect.

OF THE CONTINUANCE OF A MERCURIAL COURSE,
AND THE QUANTITY OF THE MEDICINE
THAT SHOULD BE GIVEN.

THE *length of time* during which a course of mercury should be continued, and the *quantity of the medicine* to be administered, cannot in any particular instance be determined beforehand, and must be regulated solely by the effects produced on the disease. In general, however, it may be observed, that as we trust chiefly to the operation of mercury on the system for the cure of the constitutional symptoms of lues, it ought usually to be continued for a considerable time after these have disappeared. By continuing the
medicine

medicine for two or three weeks after those symptoms of the disease for which it was administered have been entirely removed, we may in general be assured of the safety of the constitution.

But this rule, though it may apply with tolerable accuracy to those diseases where the soft parts only are concerned, by no means extends to affections of the bones and periosteum. These parts, as they enter slowly into disease, recover also slowly; and caries, and other affections of the bones, often remain long after the venereal virus which produced them has been entirely eradicated. The continuance, therefore, of a mercurial course during the whole process of the exfoliation of a bone, (which is frequently very tedious), would not only be unnecessary, but even hurtful; as, by weakening the system too much, it would retard the very operation it was meant to promote. In this situation, after keeping the system, for six or eight weeks perhaps, (more or less according to the particular circumstances of the case), completely under the influence of mercury, we then suffer the process of exfoliation to take its natural course; and if, after this has taken place, the sore should refuse to heal, or should put on a venereal appearance, we treat it like any other venereal sore.

The *quantity of mercury* necessary to the cure of any particular venereal complaint, can still less, perhaps, than the duration of a mercurial course, be determined beforehand. This will depend not only on the very different effect produced by the same quantity of the medicine on different constitutions, and even on the same constitution at different times, but likewise on the more or less complete preparation of the medicine that is used. Any general rule, therefore, with regard to

to the quantity, must be vague and uncertain; it must depend always on the effect produced; and that again will vary with different constitutions, or different preparations of the medicine. It may be observed, however, in general, that the local venereal complaints require less mercury than the constitutional forms of this disease; and of these last, such as occur earliest in the disease, as ulcers of the throat and mouth, &c. in general require less than those that occur later in the disease, as affections of the bones and periosteum.

But it is not on the *duration* of a *mercurial course*, or the *quantity* of the medicine administered, that the cure of venereal complaints altogether depends. A course of mercury may be continued for a sufficient length of time, and much of the medicine may be given, while yet the cure shall remain incomplete, from the system either not having been sufficiently affected with mercury, or from that effect not having been continued for a sufficient length of time. In the management, therefore, of a mercurial course, our first object is to bring the system completely under the influence of mercury, and then to keep it in this situation during the continuance of the course. For this purpose, mercury should be given in small doses at first, till once we have in some measure ascertained the patient's capacity for bearing the medicine, when it ought to be given in doses proportioned to the extent of this, till the system be completely affected. Thus, in giving the common blue pill, we begin with one morning and evening; or, in administering the common blue mercurial ointment, we begin with half a dram or two scruples, morning and evening, so as to rub in one ounce of the ointment in the first six or seven days; after continuing

tinuing this course for a week, if we find the patient bears the medicine well, we increase the quantity one third, or even a half, according to circumstances; if it be the blue pill, we give one three times a-day for a while; and if he bear that, then four times; or if it be the common ointment, we increase the quantity, first to a dram, or a dram and a half, and if he bear that easily, then to two drams, morning and evening. This course must be continued till some degree of salivation, or at least considerable soreness and inflammation of the mouth, take place. When this rises to any considerable degree, the mercury should be discontinued for a day or two, till it begin to subside, and should then be renewed in smaller doses, so as to keep the system fully loaded during the whole cure. In this way a complete cure will be soonest obtained, and with the smallest quantity of mercury.

The directions so commonly given on the head of *Regimen* during a mercurial course, I believe to be in general superfluous, and often hurtful. Mercury, after being continued for some time, commonly induces some degree of heat and thirst, with other symptoms of increased action in the vascular system. With a view to moderate this, low living, or abstinence from all animal food, especially during the beginning of the course has been commended. To show the fallacy of this kind of reasoning, however, I presume it will be sufficient to observe, that these febrile symptoms, from the use of mercury, are generally most conspicuous in the weak and debilitated, while they are either altogether wanting, or less observable, in such as enjoy strong vigorous health. I am of opinion, therefore, that any attempt to lower the system, with a view to diminish the action of mercury upon it, has commonly a contrary effect, by increasing

creasing the irritability; and therefore that the same regimen that conduces to the most perfect state of health, is most favourable to the action of mercury. But as the continuance of a mercurial course for any great length of time, is apt to weaken and exhaust the patient, care should be taken to support him, with nourishing broths and soups, jellies, &c. A moderate use of bark and wine, in this situation, is likewise peculiarly proper.

The only thing that requires particular attention in this respect, is the article of clothing; mercury, especially when taken internally, being apt, to pass off by stool, and thus to lose its general operation on the system. In this situation, we observe the same consent between the vessels of the surface and those of the stomach, that is so conspicuous in many other instances. Thus, whatever determines more powerfully to the surface, takes off from the internal parts in the same proportion, as external heat, or that which is induced by accumulating the heat of the body on the surface by means of warm clothing, as flannel or woollen. When mercury, therefore, is to be taken internally, especially in cold weather, the patient should take care to keep himself warm, and particularly to wear warm clothing, as flannel or woollen. At the same time, however, that he should avoid all exposure to severe cold, and particularly to dampness or moisture, it is not absolutely necessary for him to confine himself to his chamber, and still less to keep his apartment in a high degree of temperature. Provided he be properly clothed, a patient may be occasionally abroad in the open air during the day; and, at any rate, his apartment should be large and well aired, and not kept too hot.

OF

OF THE LOCAL TREATMENT OF CONSTITUTIONAL VENEREAL COMPLAINTS.

As we depend in general, as before observed, for the cure of constitutional venereal complaints, on the proper management of a mercurial course, which has, we hope, been fully explained, there remains but little to be said on their *local treatment*. I am now to offer a few observations on this, so far as it requires any particular attention.

OF THE LOCAL TREATMENT OF VENEREAL ULCERS OF THE THROAT, MOUTH, AND NOSE.

VENEREAL ulcers of these parts frequently spread with great rapidity, destroying not only the soft parts where they appear, but likewise the bones above which they are seated. As a sound state of these, however, is absolutely necessary, if not to the patient's existence, at least to his future comfort and happiness, their treatment demands our utmost attention. In this situation, then, while we administer mercury with as much freedom as the patient's constitution will admit, for the radical cure of the disease, we at the same time endeavour to retard its progress by applications to the parts affected. With this view, we make use of the different escharotics recommended for the cure of chancre, when the disease is seated externally, as on the nose; and when the internal parts, as the mouth and throat, are affected, we have recourse to the use of caustic. This may be applied

applied freely, and should be repeated occasionally, till the parts put on a clean and healthy appearance; when they will commonly heal with ease, provided a sufficient quantity of mercury has been given, to cure the constitutional disease. This circumstance, it must be observed, requires particular attention in those cases where the cure of constitutional affections have been hastened by local applications. In such circumstances, mercury ought to be continued for three or four weeks after the venereal symptoms have entirely disappeared.

OF THE TREATMENT OF VENEREAL BLOTCHES.

VENEREAL blotches, except when they are allowed to ulcerate, scarcely require any particular local treatment. As they commonly appear later in the disease, however, than the symptoms last enumerated, they not unfrequently prove more obstinate in their removal. When the usual preparations of mercury, as the common blue ointment or pill, have failed to produce this effect, the corrosive sublimate has in some instances been found to succeed. The best form of administering this medicine, is dissolved in a large quantity of some mucilaginous fluid, so as to dilute and sheath its acrimony. The common decoction answers well for this purpose. About half a grain of the medicine, dissolved in a pound of the decoction, should be taken daily for some time. This may afterwards, if the patient can bear it, be increased to one grain dissolved in two pounds of the fluid, to be taken in equal quantities, at three or four different times, in the course of twenty-four

four hours ; and to be continued for one month, at least, after the venereal symptoms have disappeared.

OF THE TREATMENT OF NODES, AND SWELLINGS
OF THE BONES AND PERIOSTEUM.

AFFECTIONS of the bones and periosteum being usually one of the last symptoms of this disease, are in general among the most difficult of cure. These firmer and more permanent parts are brought but slowly, and as it were with difficulty, to consent with the rest of the system, either in its disease or recovery. A well-regulated course of mercury, continued for a great length of time, is usually requisite in this situation. Along with this, much attention is often necessary to the local treatment.

The venereal node or swelling of the bone, as well as that tumor which is found by an effusion between the periosteum and the bone, are frequently attended with violent pain from the distension of the periosteum. When this is not relieved by the exhibition of mercury, an incision must be made through that membrane down to the bone.

This operation will, in general, afford effectual relief from the pain, and, where the bone is not spoiled, will commonly be all that is requisite ; where the bone has become carious, an exfoliation must take place, which is to be conducted according to the principles laid down in books of surgery.

DISEASES OF WOMEN.

THE diseases peculiar to women arise chiefly from their monthly evacuations, pregnancy, and child-birth. Females generally begin to menstruate about the age of fifteen, and leave it off about fifty, which renders these two periods the most critical of their lives. About the first appearance of this discharge, the constitution undergoes a very considerable change, generally indeed for the better, but sometimes for the worse. The greatest care is now necessary, as the future health and happiness of the female depends, in a great measure, upon her conduct at this period. If a girl about this time of life be confined to the house, kept constantly sitting, and neither allowed to romp about, nor employed in some active business, which gives exercise to the whole body, she becomes weak, relaxed, and puny; her blood not being duly prepared, she looks pale and wan; her health, spirits, and vigour decline, and she sinks into a valetudinary for life. Such is the fate of numbers of those unhappy females who, either from the indulgence of mothers, or their own narrow circumstances, are, at this critical period of life, denied the benefit of exercise and free air.

A lazy indolent disposition proves very hurtful to girls at this period. One seldom meets with complaints from obstructions amongst the more active and laborious part of the sex; whereas the indolent and lazy are seldom free from them. These are, in a manner, eat up by the *chlorosis*, or green sickness, and other diseases of this nature. We would therefore recommend it to all who wish to escape these calamities, to avoid indolence and inactivity,
at

as their greatest enemies, and to take as much exercise, especially in the open air, as possible.

Another thing that proves very hurtful to girls about this period of life, is unwholesome food. Fond of all manner of trash, they often eat every out-of-the-way thing they can get, till their blood and humours are quite vitiated. Hence ensue indigestions, want of appetite, and a whole train of evils. If the fluids be not duly prepared, it is utterly impossible that the secretions should be properly performed: Accordingly, we find that such girls as lead an indolent life, and eat great quantities of trash, are not only subject to obstructions of the *menfes*, but likewise to glandular obstructions; as the scrophula or king's-evil, &c.

A dull disposition is likewise very hurtful to girls at this period. It is a rare thing to see a sprightly young girl who does not enjoy good health, while the grave, moping, melancholy creature, proves the very prey of vapours and hysterics. Youth is the season for mirth and cheerfulness. Let it therefore be indulged. It is an absolute duty. To lay in a stock of health in time of youth, is as necessary a piece of prudence, as to make provision against the decays of old age. While, therefore, wise Nature prompts the happy youth to join in sprightly amusements, let not the severe dictates of hoary age forbid the useful impulse, nor damp with serious gloom the seasons destined to mirth and innocent festivity.

Another thing very hurtful to females about this period of life is strait clothes. They are fond of a fine shape, and foolishly imagine, that this can be acquired by strait clothes. Hence, by squeezing their stomach and bowels, they hurt the digestion, and occasion many incurable maladies.

This error is not indeed so common as it has been ; but, as fashions change, it may come in again ; we therefore, think it not improper to mention it. I know many females who, to this day, feel the direful effects of that wretched custom which prevailed some time ago, of squeezing every girl into as small a size in the middle as possible. Human invention could not possibly have devised a practice more destructive to health.

After a female has arrived at that period of life when the *menfes* usually begin to flow, and they do not appear, but, on the contrary, her health and spirits begin to decline, we would advise, instead of shutting the poor girl up in the house, and dosing her with steel, asafoetida, and other nauseous drugs, to place her in a situation where she can enjoy the benefit of free air and agreeable company. There let her eat wholesome food, take plenty of exercise and amusements, and we have little reason to fear but Nature, thus assisted, will do her proper work. She seldom fails, unless where the fault is on our side.

When the *menfes* have once begun to flow, the greatest care should be taken to avoid every thing that may tend to obstruct them. Females ought to be exceedingly careful of what they eat or drink at the time they are out of order. Every thing that is cold, or apt to sour on the stomach, ought to be avoided ; as fruit, butter-milk, and such like. Fish, and all kinds of food that are hard of digestion, are also to be avoided. As it is impossible to mention every thing that may disagree with individuals at this time, we would recommend it to every female to be very attentive to what disagrees with her own stomach, and carefully to avoid it.

Cold is extremely hurtful to females at this particular

particular period. More of the sex date their disorders from colds, caught while they were out of order, than from all other causes. This ought surely to put them upon their guard, and to make them very circumspect in their conduct at such times. A degree of cold that will not in the least hurt them at another time, will, at this period, be sufficient to ruin their health and constitution altogether.

The greatest attention ought at this time to be paid to the mind, which should be kept as easy and chearful as possible. Every part of the animal œconomy is influenced by the passions, but none more so than this. Anger, fear, grief, and other affections of the mind, often occasion obstructions of the menstrual flux, which prove absolutely incurable.

From whatever cause this flux is obstructed, unless the female be pregnant, proper means should be used to restore it. For this purpose we would recommend plenty of exercise, in a dry, open, and rather cool air; wholesome diet, and, if the body be weak and languid, generous liquors; also chearful company, and all manner of amusements. If these fail, the following medicines may be tried.

If the obstructions proceed from a weak relaxed state of the solids, such medicines as tend to promote digestion, to brace the solids, and assist the body in preparing good blood, ought to be used. The principal of these are iron, the Jesuits bark, and other bitter and astringent medicines. Filings of iron may be infused in wine or ale, two ounces to an English quart, and after it has stood in a warm place twenty-four hours, it may be strained, and a small cupful drank three or four times a-day; or they may be reduced to a fine powder, and taken in the dose of half a dram,

mixed with a little honey or treacle, three or four times a-day. The bark and other bitters may either be taken in substance or infusion, as is most agreeable to the patient.

When obstructions proceed from a viscid state of the blood, and the patient is of a gross full habit, evacuations, and such medicines as attenuate the humours, are necessary. The patient, in this case, ought to be bled, to bathe her feet frequently in warm water, to take now and then a dose of cooling physic, and to live upon a spare thin diet. Her drink should be whey, water, or small beer, and she ought to take plenty of exercise.

When obstructions proceed from affections of the mind, every method should be taken to amuse and divert the patient. And that she may the more readily forget the cause of her affliction, she ought, if possible, to be removed from the place where it happened. A change of place, by presenting the mind with a variety of new objects, has often a very happy influence in relieving it from the deepest distress. A soothing, kind, and affable behaviour, to persons in this situation, is also of the last importance. This would often prevent the fatal consequences which proceed from a *harsh* treatment of females, who are so unfortunate as to be crossed in their inclinations, or who meet with disappointments in love, &c.

Though many diseases proceed from obstruction, it is not always to be considered as the cause, but often as the effect of other maladies. When that is the case, instead of giving medicines to force down the *menfes*, which might be dangerous, we ought, by all means to endeavour to restore the patient's health and strength. When that is effected, the other will return of course.

But the menstrual flux may be too great, as well as too

too small. When that is the case, the patient becomes weak, the colour pale, the appetite and digestion are bad, and œdematous swellings of the feet, dropries and consumptions, often ensue. This frequently happens to women about the age of forty-five or fifty, and is very difficult to cure. It may proceed from a sedentary life; a full diet, consisting chiefly of salted, high seasoned, or acrid food; the excessive use of spiritous liquors; too much exercise; violent passions of the mind, &c.

To restrain this flux, the patient ought to be kept quiet and easy both in body and mind. If it be very violent, she ought to lie in bed with her head low; to live upon a cool and slender diet, as eal or chicken-broths, with bread; and to drink decoctions of nettle-roots, or the greater comfrey. If these be not sufficient to stop the flux, stronger astringents may be used, as alum, dragons blood, &c. As much powdered alum as will lie on a sixpence may be taken in a glass of red wine twice or thrice a-day, or oftener if the patient's stomach can bear it. Such as cannot take alum in substance may use the alum-whey. Females who have frequent returns of this complaint, ought to use the Jesuits bark for a considerable time. Half a dram of bark may be mixed in a glass of red wine three or four times a-day, or it may be taken in common water, and sharpened with spirits of vitriol.

But the *uterine flux* may offend in quality as well as in quantity. What is usually called the *fluor albus*, or whites, is a very common disease, and proves extremely hurtful to delicate women. This discharge is not always white, but sometimes pale; yellow, green, or of a blackish colour; sometimes it is sharp and corrosive; sometimes foul and foetid, &c. It is attended with a pale complexion, pain in the spine of the back, loss of appetite,

swelling of the feet, &c. It generally proceeds from a relaxed and debilitated state of the body, arising from indolence, the excessive use of tea, coffee, or other weak and watery diet.

To remove this disease, the patient must take as much exercise as she can bear without fatigue. Her food must be solid and nourishing, but of easy digestion; and her drink pretty generous, as red port or claret wine. These may be drank pure, or mixed with water, as the patient inclines. Tea and coffee are to be avoided. I have often known strong broths have an exceeding good effect in this case. The patient ought not to lie too long a-bed. When medicine is wanted, we know none preferable to the Jesuits bark, which, in this case, ought always to be taken in substance.

That period of life at which the *menfes* cease to flow, is likewise very critical to the sex. The stoppage of any customary evacuation, however small, is sufficient to disorder the whole frame, and often to destroy life itself. Hence it comes to pass that so many women either fall into chronic disorders, or die about this time: Such of them, however, as survive it, without contracting any chronic disease, often become more healthy and hardy than they were before, and enjoy strength and vigour to a very great age.

If the *menfes* cease all of a sudden, in women of a full habit, they ought to abate somewhat of their usual quantity of food, especially of the more nourishing kind, as flesh, eggs, &c. They ought likewise to take plenty of exercise, and to keep the belly open. This may be done by taking, once or twice a-week, a little rhubarb, or an infusion of hiera-picra in wine or brandy.

It often happens that women of a gross habit, at this period of life, have ulcerous sores break
out

out about their ancles, or in other parts of the body. Such ulcers ought to be considered as critical, and should either be suffered to continue open, or artificial drains should be opened in their stead. Women who will needs have such sores dried up, are often soon after seized with acute or chronic diseases, of which they die.

Persons of either sex ought to be very cautious in drying up sores which break out towards the decline of life. We would lay it down as a rule, wherever such sores appear, that before any attempts be made to heal them, an issue or seton should be set in some part of the body. Few things bid fairer for preserving health, or prolonging life, especially in persons who live full, than an issue, or some other drain, constantly kept open in the decline of life. This is imitating Nature, who often, at this period, endeavours to relieve herself by a fistula, the hæmorrhoidal flux, &c.

OF PREGNANCY.

PREGNANCY is not a disease ; but as it subjects women to several ailments, it may not be improper to point out the methods of preventing or relieving them.

Pregnant women are often afflicted with the heart-burn. The method of treating this complaint has already been pointed out. They are likewise, in the more early periods of pregnancy, often harassed with sickness and vomiting, especially in the morning. These complaints may generally be relieved by carefully observing the directions already given on this subject. The head-ach and tooth-ach are also very troublesome symptoms

symptoms of pregnancy. The former may generally be removed by keeping the belly gently open, by the use of prunes, figs, roasted apples, and such like. When the pain is very violent, bleeding may be necessary. For the treatment of the latter, we must refer the reader to what was before said on that article.

Every pregnant woman is more or less in danger of abortion. This should be guarded against with the greatest care, as it not only weakens the constitution, but renders the woman liable to the same misfortune afterwards. Abortion may happen at any period of pregnancy, but it is most common in the second or third month. Sometimes, however, it happens in the fourth or fifth. If it happen within the first month, it is usually called a false conception; if after the seventh month, the child may be often kept alive by proper care.

The common causes of abortion are, the death of the child; weakness or relaxation of the mother; great evacuations, violent motion, raising great weights, reaching too high, vomiting, coughing, convulsion-fits; strokes on the belly, falls, fevers, disagreeable smells, excess of blood, indolence, high living, or the contrary, violent passions or affections of the mind, as fear, grief, &c.

The signs of approaching abortion are, a pain in the loins, or about the bottom of the belly; a dull heavy pain in the inside of the thighs, a slight degree of coldness or shivering, sickness, palpitation of the heart; the breasts become flat and soft, the belly falls, and there is a discharge of blood or watery humours from the womb.

To prevent abortion, we would advise women of a weak or relaxed habit to use solid food, avoiding great quantities of tea, and other weak and watery liquors; to rise early, and go soon to bed,
to

to shun damp houses, to take frequent exercise in the open air, but to avoid fatigue; and never to go abroad in damp foggy weather, if they can shun it. Women of a full habit ought to use a spare diet, avoiding strong liquors, and every thing that may tend to heat the body, or increase the quantity of blood. Their diet should be of an opening nature, consisting principally of vegetable substances. Every woman with child ought to be kept chearful and easy in her mind. All violent passions hurt the *fœtus*, and endanger an abortion.

When any signs of abortion appear, the woman ought to be laid in bed on a mattress, with her head low. She should be kept quiet, and her mind soothed and comforted. She ought not to be kept too warm, nor to take any thing of a heating nature. Her food should consist of broths, rice and milk, jellies, or gruels with a very little wine in them.

If she be able to bear it, she should lose at least half a pound of blood from the arm. Her drink ought to be barley-water sharpened with cream of tartar; or she may take half a dram of powdered nitre, in a cup of water-gruel, every five or six hours. If the woman be seized with a violent looseness, she ought to drink the decoction of calcined hartshorn prepared. If she be affected with vomiting, let her take frequently one of the saline draughts before recommended.

Sanguine robust women, who are liable to miscarry at a certain time of pregnancy, ought always to be bled a few days before that period arrives. By this means, and observing the regimen above prescribed, they may often escape that misfortune.

Though we recommend due care for preventing abortion, we would not be understood as restraining
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ing pregnant women from their usual exercises. This would generally operate the quite contrary way. Want of exercise not only relaxes the body, but induces a plethora, or too great a fulness of the vessels, which are the two principal causes of abortion.

OF CHILD-BIRTH.

MANY diseases proceed from the want of due care in child-bed. The more hardy part of the sex are apt to despise the necessary precautions after delivery. They think, when the labour-pains are ended, the danger is over; but in truth it may only then be said to be begun. Nature, if left to herself, will seldom fail to expel the fœtus; but proper care and management are certainly necessary for the recovery of the mother. No doubt, mischief may be done by too much as well as by too little care. Hence it is, that females who have the greatest number of attendants in child-bed, generally recover worst. But this is not peculiar to the state of child-bed. Excessive care always defeats its own intention, and is generally more dangerous than none at all.

During actual labour, nothing of a heating nature must be given. The woman may now and then take a little panada, and her drink ought to be toast and water, or thin groat-gruel. Spirits, wines, cordial waters, and other things, which are given with a view to strengthen the mother, and promote the birth, for the most part tend only to increase the fever, inflame the womb
and

and retard the labour. Besides, they endanger the woman afterwards, as they often occasion violent and mortal hæmorrhages, or predispose her to eruptive and other fevers.

When the labour proves tedious and difficult, to prevent inflammations, it would be proper to bleed, an emollient clyster ought likewise frequently to be administered; and the patient should sit over the steams of warm water. The passage ought to be gently rubbed with a little soft pomatum or fresh butter, and cloths wrung out of warm water applied over the belly. If nature seem to sink, and the woman be greatly exhausted with fatigue, a draught of generous wine, or some other cordial, may be given, but not otherwise. These directions are sufficient in natural labours, and in all preternatural cases, a skilful surgeon, or man-midwife, ought to be called as soon as possible.

We cannot help taking notice of that ridiculous custom, which still prevails in some country-places, of collecting a number of women together upon such occasions. These, instead of being useful, serve only to crowd the house, and obstruct the necessary attendants. Besides, they hurt the patient with their noise; and often, by their untimely and impertinent advice, do much mischief.

After delivery, the woman ought to be kept as quiet and easy as possible. Her food should be light and thin, as gruel, panada, &c. and her drink weak and diluting. To this rule, however, there are some exceptions. I have known several hysteric women, whose spirits could not be supported in child-bed without solid food and generous liquors; to such a glass of wine and a bit of chicken must be allowed.

Sometimes an excessive hæmorrhage, or flooding,

ing, happens after delivery. In this case, the patient should be laid with her head low, have ligatures applied above her knees and elbows, and be in all respects treated as for an excessive flux of the *menfes*. If the flooding prove violent, linen cloths, which have been wrung out of a mixture of equal parts of vinegar and water, should be applied to the belly, the loins, and the thighs: These must be changed as they grow dry; and may be discontinued as soon as the flooding abates.

If there be violent pains after delivery, the patient ought to drink plentifully of warm diluting liquors, as tea with a little saffron; or an infusion of camomile-flowers; and to take small broths, with carroway-seeds or a bit of orange-peel in them: an ounce of the oil of sweet almonds may likewise be frequently taken in a cup of any of the above liquors; and if the patient be restless, a spoonful of the syrup of poppies may now and then be mixed with a cup of her drink. If she be hot or feverish, one of the following powders may be taken in a cup of her usual drink, every five or six hours. Take of crabs-claws prepared half an ounce, purified nitre two drams, saffron powdered half a dram, rub them together in a mortar, and divide the whole into eight or nine doses. When the patient is low spirited, or troubled with hysterical complaints, she ought to take frequently twelve or fifteen drops of the tincture of asafœtida in a cup of penny-royal tea.

An inflammation of the womb is a dangerous, and not unfrequent disease after delivery. It is known by pains in the lower part of the belly, which are greatly increased upon touching; by the tension or tightness of the parts; great weakness; change of countenance; a constant fever, with a weak and hard pulse; a slight *delirium* or raving;

raving; sometimes incessant vomiting; a hiccup; a discharge of reddish stinking sharp water from the womb; an inclination to go to stool; a heat, and sometimes total suppression of urine.

This must be treated like other inflammatory disorders, by bleeding and plentiful dilution. The drink may be thin gruel or barley-water; in a cup of which half a dram of nitre may be dissolved, and taken three or four times a day. Clysters of warm water must be frequently administered; and the belly should be fomented by cloths wrung out of warm water, or by applying bladders filled with warm milk and water to it.

A suppression of the *lochia*, or usual discharges after delivery, and the milk fever, must be treated nearly in the same manner as an inflammation of the womb. In all these cases, the safest course is plentiful dilution, gentle evacuations, and fomentations of the parts affected. In the milk-fever, the breasts may be embrocated with a little warm lint seed oil, or the leaves of red cabbage may be applied to them. The child should be often put to the breast, or it should be drawn by some other person.

Nothing would tend more to prevent the milk-fever, than putting the child early to the breast. The custom of not allowing children to suck for the first two or three days, is contrary to nature and common sense, and is very hurtful both to the mother and child. Every mother who has milk in her breasts ought to suckle her own child, or to have her breasts frequently drawn, at least for the first month. This would prevent many of the diseases which prove fatal to women in child-bed.

When an inflammation happens in the breast, attended with redness, hardness, and other symptoms of suppuration, the safest application is a
poultice

poultice of bread and milk, softened with oil or fresh butter. This may be renewed twice a-day, till the tumor be either discessed or brought to suppuration. Afterwards it may be dressed with yellow basilicon, or any other digestive ointment. The use of repellants, in this case, is very dangerous; they often occasion fevers, and sometimes cancers: Whereas, a suppuration is seldom attended with any danger, and has often the most salutary effects.

When the nipples are fretted or chapt, they may be anointed with a mixture of oil and bees-wax, or a little gum-arabic may be sprinkled on them. I have seen Hungary-water applied to the nipples have a very good effect. Should the complaint prove obstinate, the nurse ought to be purged, which generally removes it.

The miliary fever is a disease very incident to women in child-bed. But as it has been treated of already, we shall take no farther notice of it here, than only, with the celebrated Hoffman, to observe, that this fever of child-bed women might generally be prevented, if they, during their pregnancy, were regular in their diet, used moderate exercise, took now and then a gentle laxative of manna, rhubarb, or cream of tartar; not forgetting to bleed in the first months, and avoid all sharp air. When the labour is coming on, it is not to be hastened with forcing medicines, which inflame the blood and humours, or put them into unnatural commotions. Care should be taken, after the birth, that the natural excretions proceed regularly; and if the pulse be quick, a little nitrous powder should be given, &c.

We shall conclude our observations on child-bed women, by recommending it to them, above all things, to beware of cold. Poor women,
whose

whose circumstances oblige them to quit their bed too soon, often contract diseases from cold, of which they never recover. It is pity the poor are not better taken care of in this situation. But the better sort of women run the greatest hazard from being kept too hot. They are generally kept in a sort of bagnio for the first eight or ten days, and then dressed out to see company. The danger of this conduct must be obvious to every one. The superstitious custom of obliging women to keep the house till they go to church, is likewise a very common cause of catching cold. All churches are damp, and most of them cold; consequently they are the very worst places to which a woman can go to make her first visit, after being confined in a warm room for a month. We make this observation from experience, having often had occasion to attend women whose disorders were the effect of cold caught in this way.

AS PUERPERAL, or CHILD BED FEVER, though here omitted by our author, is one of the most fatal complaints to which women at this period are liable, I shall, with a view to supply, in some measure, that omission, offer a few observations on this disease. In doing this, I shall endeavour to show, how the disease may be avoided, by pointing out those causes which contribute to its production, or at least how it may be distinguished, by enumerating particularly its symptoms, so that recourse may be had, as early as possible, to the best medical assistance, rather than enter into any discussions on the nature of the disease or how it may be cured.

SYMPTOMS.—Puerperal fever usually takes place on the second, third, or fourth days after delivery; sometimes later, sometimes earlier, ac-

according to circumstances. It usually begins its attack with some slight degree of shivering, which by and by gives place to a hot fit. Along with this, the patient is commonly seized with severe pain of the fore-head, immediately above the eyes. To this succeeds a degree of soreness or uneasiness of the belly, sometimes rising to an acute pungent pain. This sometimes occupies one part, sometimes another, of the abdomen: it in general, however, feels sore to the touch, and can scarcely bear even the weight of the bed-clothes. The pulse at first is rather hard and full, without much increase of its frequency. This, however, afterwards increases, while the hardness and fulness are succeeded by weakness and softness. The breathing, though not oppressed, is quick, and frequently repeated. Together with these, the patient is frequently oppressed with great anxiety, and a sense of weight about the præcordia, sometimes accompanied with squeamishness, nausea, and vomiting. The belly, for some days at first, is generally bound; a diarrhœa usually attends the remainder of this disease.

CAUSES.—These are in general of two kinds; they are either such as, by their effect on the constitution before delivery, dispose it to this disease, such as indolence, want of exercise, impure air, immoderate evacuations of any kind, severe labour or fatigue, with poor diet, &c. in short, whatever produces considerable debility; or they are such as, in particular constitutions, produce the disease by their immediate operation; such as, immoderate fear, anxiety, grief, nastiness, cold, constipation, heating-drinks, contagion, &c. By carefully avoiding these two sets of causes, this disease may in general be prevented: a circumstance of the utmost importance, - to be deeply im-
pressed

pressed on the public mind, as the disease is of the most dangerous nature, and but too often baffles every assistance. Next in importance to the belief of the power of avoiding it, is the persuasion of the dangerous nature of this disease ; so that the earliest recourse may always be had to medical advice.

OF BARRENNESS.

BARRENNESS may be very properly reckoned among the diseases of females, as few married women who have not children enjoy a good state of health. It may proceed from various causes ; but we shall only take notice of two, viz. high living and relaxation. It is very certain, that high living vitiates the humours, and prevents fecundity. We seldom find a barren woman among the labouring poor, while nothing is more common among the rich and affluent. The inhabitants of every country are prolific in proportion to their poverty ; and it would be an easy matter to adduce instances of women who, by being reduced to live entirely upon a milk and vegetable diet, have conceived and brought forth children, though they never had any before. Would the rich use the same sort of food and exercise as the better sort of peasants, they would seldom have cause to envy their poor vassals and dependents the blessing of a numerous and healthy offspring, while they pine in sorrow for the want of even a single heir to their extensive dominions.

Affluence begets indolence, which not only vitiates the humours, but induces a general relaxation of the solids ; a state highly unfavourable to procreation. As we have the greatest reason to believe, that relaxation is one of the most com-

mon causes of barrenness, we would recommend the following course for removing it : First, plenty of exercise in the open air ; secondly, the use of the cold bath ; and, lastly, astringent medicines. It is well known, that many women who had been long barren, have, by the use of the cold bath, not only become mothers, but have afterwards enjoyed a much better state of health. This should induce all barren women, not only to try the cold bath, but to persist in the use of it for a long time, otherwise it cannot be expected to produce any considerable effects.

Though a vegetable diet, plenty of exercise, and the cold bath, are the medicines most to be relied upon, we shall mention one more, which has sometimes proved effectual, viz. common *allum*. About the third or fourth day of the menstrual flux, the woman must take as much powdered allum at bed-time, in a cup of wine or negus, as will lie upon sixpence. This must be repeated for three or four nights running. If it has not the desired effect, it may be taken in the same manner next time the *menfes* return. I have known several women who always conceived after taking this medicine, and never without it.

The above observations on diet, air, and exercise, are applicable to men as well as to women. Dr Cheyne avers, that want of children is oftener the fault of the male than of the female, and strongly recommends a milk and vegetable diet to the former as well as the latter ; adding, that his friend Dr Taylor, whom he calls the Milk Doctor of Croyden, had brought fundry opulent families in his neighbourhood, who had continued some years after marriage without progeny, to have several fine children, by keeping both parents, for a considerable time, to a milk and vegetable diet.

DISEASES OF CHILDREN.

THE nursing and management of children having been pretty fully treated of in the first part of this book, we shall only here take notice of such of their diseases as have not been already mentioned.

RETENTION OF THE MECONIUM.

THE stomach and bowels of a new-born infant are filled with a blackish-coloured matter, of the consistence of syrup, commonly called the *meconium*. This is generally passed soon after the birth by the mere effort of nature, in which case it is not necessary to give the infant any kind of medicine. But if it should be retained, or not sufficiently carried off, it may occasion wind, gripes, jaundice, restlessness, convulsions, &c.

The most proper medicine for expelling the meconium is the mother's milk, which is always at first of a purgative quality. But if the mother do not give suck, or if her milk happen not to be sufficiently purgative, a little of the syrup of pale roses may be given, or a small quantity of the syrup of rhubarb diluted with water, and sweetened with honey or coarse sugar. If these

are not at hand, a common spoonful of whey, sweetened with a tea-spoonful of honey, may be given.

All kind of oils are to be avoided; they are quite indigestible by infants, and tend only to load their stomachs and make them sick.

THE APHTHÆ OR THRUSH.

THE aphthæ are little whitish ulcers affecting the whole inside of the mouth, tongue, throat, and stomach of infants. Sometimes they reach through the whole intestinal canal; in which case they are very dangerous, and often put an end to the infant's life.

If the aphthæ be of a pale colour, pellucid, few in number, soft, superficial, and fall easily off, they are not dangerous; but if opake, yellow, brown, black, thick, or running together, they are bad.

It is generally thought, that the aphthæ owe their origin to acid humours; but we have reason to believe that these, and several other eruptive diseases of infants, are, in a great measure, owing to too hot a regimen both of the mother and child. It is a rare thing to find a child who is not dosed with wine, punch, cinnamon-waters, or some other hot and inflaming liquors, almost as soon as it is born. It is well known, that these will occasion inflammatory disorders even in adults: Is it any wonder, then, that they should heat and inflame the tender bodies of infants, and set, as it were, the whole constitution on a blaze?

The most proper medicines for the aphthæ are those of a cooling and gently opening nature. Five grains of rhubarb, and a dram of *magnesia alba*,

alba, may be rubbed together, and divided into six doses, one of which may be given to the child every five or six hours. These powders may either be given in the child's food, or a little of the syrup of pale roses, and may be repeated as often as is found necessary to keep the belly open.

Many things have been recommended for gargling the mouth and throat in this disease; but it is not easy to apply these in very young infants: We would therefore recommend it to the nurse, to rub the child's mouth frequently with a little borax and honey, or with the following mixture. Take fine honey an ounce, borax a dram, burnt alum half a dram, rose-water two drams; mix them together. These may be applied with the finger, or by means of a bit of soft rag tied to the end of a probe.

OF ACIDITIES.

THE food of children being, for the most part, of an acedent nature, it readily turns sour upon the stomach, especially if the body be any how disordered. Hence it comes to pass, that most diseases of children are accompanied with evident signs of acidity, as green stools, gripes, &c. These appearances have induced many to believe, that all the diseases of children were owing to an acid abounding in the stomach and bowels; but whoever considers the matter attentively, will find, that these symptoms of acidity are oftener the effect than the cause of diseases.

Nature evidently intended that the food of children should be acedent; and until the body be disordered, or the digestion hurt, from some other cause, we will venture to say, that the acedent quality of their food is seldom injurious to

them. Acidity, however, is often a symptom of infantile disorders; and, as it is a very troublesome one, we shall point out the method of relieving it.

When green stools, gripes, purgings, &c. shew that the bowels abound with an acid, the child should have a little small broth instead of milk, with light white bread in it; and should have plenty of exercise, in order to promote the digestion. It has been customary in this case, to give the pearl-julep, chalk, crabs-eyes, and other testaceous powders. These, indeed, by their absorbent quality, may correct the acidity; but they are attended with this inconveniency, that they are apt to lodge in the bowels, and occasion a costiveness, which may prove very hurtful to the infant. For this reason, they should never be given, unless mixed with purgative medicines; as rhubarb, manna, or such like.

The best medicine which we know, in all cases of acidity, is that fine insipid powder called *magnesia alba*. It purges, and at the same time corrects the acidity; by which means, it not only removes the disease, but carries off its cause. It may be given in any kind of food, from ten grains to a tea-spoonful, according to the age of the patient. I have often known it have good effects when given in the following manner. Take of *magnesia alba* two drams, fine rhubarb in powder half a dram, peppermint-water and common water, of each two ounces, as much syrup of sugar as will make it agreeable. Shake the bottle, and give the child a table-spoonful three or four times a-day.

When an infant is troubled with gripes, it ought not to be dosed with brandy, spiceries, and other hot things, but should have its belly opened with an emollient clyster, or the medicine mentioned

tioned above; and, at the same time, a little brandy may be rubbed on its belly with a warm hand before the fire. I have seldom seen this fail to ease the gripes of infants. It is often more effectual, and always more safe, than brandy taken inwardly.

GALLING AND EXCORIATION.

THESE are very troublesome to children. They happen chiefly about the groin and wrinkles of the neck, under the arms, behind the ears, and in other parts that are moistened by the sweat or urine.

As these complaints are, in a great measure, owing to want of cleanliness, the most effectual means of preventing them are, to wash the parts frequently with water, to change the linen often, and, in a word, to keep the child in all respects thoroughly clean. When this is not sufficient, the excoriated parts may be sprinkled with absorbent or drying powders; such as burnt hartshorn, tutty, chalk, crabs-claws prepared, &c. Any of these may be tied in a rag, and the powder shook out on the disordered places.

When the parts affected are very sore, and tend to a real ulceration, it will be proper to add a little sugar of lead to the powders, or to anoint the place with a little camphorated ointment. If the parts be washed with spring-water, in which a little white vitriol has been dissolved, it will dry and heal them very powerfully.

STOPPAGE OF THE NOSE

THE nostrils of infants are often plugged up with a gross *mucus*, which prevents their breathing freely, and likewise renders it difficult for them to suck or swallow.

Some, in this case, order, after a suitable purge, two or three grains of white vitriol, dissolved in half an ounce of marjoram water, and filtered, to be applied now and then to the nostrils with a linen rag. Wedelius says, If two grains of white vitriol, and the same quantity of *elaterium*, be dissolved in half an ounce of marjoram-water, and applied to the nose, as above directed, that it brings away the *mucus* without sneezing.

In obstinate cases, these things may be tried; but we have never found any thing else necessary, than to rub the nose at bed-time with a little oil of sweet almonds, or a bit of fresh butter. This resolves the filth, and renders the breathing more free.

OF ERUPTIONS.

CHILDREN, while on the breast, are seldom free from eruptions of one kind or other. These, however, are not often dangerous, and ought never to be stopped but with the greatest caution. They tend to free the bodies of infants from hot and acrid humours, which, if retained, might produce fatal disorders.

The eruptions of children are chiefly owing to the following causes, viz. improper food, and neglect of cleanliness. If a child be stuffed at all
hours

hours with food that his stomach is not able to digest, such food, not being properly assimilated, instead of nourishing the body, fills it with gross humours. These must either break out in form of eruptions upon the skin, or remain in the body, and occasion fevers and other internal disorders. That neglect of cleanliness is a very general cause of eruptive disorders, must be obvious to every one. The children of the poor, and of all who despise cleanliness, are almost constantly found to swarm with vermin, and are generally covered over with the scab, itch, and other eruptions.

When eruptions are the effect of improper food, or want of cleanliness, a proper attention to these alone will generally be sufficient to remove them. If this should not be the case, some drying medicines will be necessary; but they should never be applied without the greatest caution. If drying medicines are applied, the belly ought at the same time to be kept open; and cold is carefully to be avoided. We know no medicine that is more safe for drying up cutaneous eruptions, than sulphur, provided it be sparingly used. A little of sulphur may be mixed with the white ointment, or hog's-lard, and the parts affected frequently touched with it.

The most obstinate of all the eruptions incident to children are, the *tinea capitis*, or scabbed head, and chilblains. The scabbed head is often exceeding difficult to cure; and sometimes, indeed, the cure proves worse than the disease. I have frequently known children seized with internal disorders, of which they died, soon after their scabbed heads had been healed by the application of drying medicines *. The cure

* I some time ago saw a very striking instance of the danger of substituting drying medicines in the place of cleanliness and wholesome food.

cure ought always first to be attempted by keeping the head very clean, cutting off the hair, combing and brushing away the scabs, &c. If this be not sufficient, let the head be shaved once a-week, and washed daily with soap and warm water, or with lime-water. Should these fail, a plaster of black pitch may be applied, in order to pull out the hair by the roots. And if there be proud flesh, it should be touched with a bit of blue vitriol, or sprinkled with a little burnt allum. While these things are doing, the patient must be kept to a regular light diet; his belly should be kept gently open; and cold, as far as possible, ought to be avoided. To prevent any bad consequences from stopping this discharge, it will be proper, especially in children of a delicate habit, to make an issue in the neck or arm, which may be kept open till the patient becomes more strong, and the constitution be somewhat confirmed.

Chilblains commonly attack children in cold weather. They are generally occasioned by the feet or hands being kept long wet or cold, and afterwards suddenly heated. When children are cold, instead of taking exercise to warm themselves gradually, they run to the fire. This occasions a sudden rarefaction of the humours, and an infarction of the vessels; which being often repeated, the vessels are, at last, over distended, and forced to give way.

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Being consulted for the children of a certain Hospital in England, who were grievously afflicted with scabbed heads, and other cutaneous disorders, I found, upon inquiry, that the children were fed upon potatoes, and other crude vegetables, through the whole year, and that cleanliness was totally neglected. My advice was, to give them more wholesome food, and to keep them thoroughly clean. This advice, however, was not followed. It was too troublesome to the servants, superintendents, &c. The business was to be done by medicine; which was accordingly attempted, but had like to have proved fatal to the whole house. Fevers and other internal disorders immediately appeared, and, at length, a putrid dysentery broke out, which carried off a great many of the children.

To prevent it, violent cold and sudden heat must be equally avoided. When the parts begin to look red, and swell, the patient ought to be purged, and to have the affected parts frequently rubbed with mustard and brandy, or something of a warm nature. They ought likewise to be covered with flannel, and kept warm and dry. Some apply warm ashes betwixt cloths to the swelled parts, which frequently help to reduce them. When there is a sore, it must be dressed with Turner's cerate, or some other drying ointment; as the ointment of tuty, the plaster of cerufs, &c. These sores are indeed troublesome, but seldom dangerous. They generally heal as soon as the warm weather sets in.

OF DIFFICULT BREATHING.

CHILDREN are often seized very suddenly with a great difficulty of breathing, which, if not quickly relieved, proves mortal. This disease is known by various names in different parts of the country. In the East coast of Scotland, it is called the *croup*. On the West they call it the *chock* or *stuffing*. In some parts of England, where I have met with it, the good women call it the *rising of the lights*. It seems to be a species of *asthma*, attended with very acute and violent symptoms.

This disease generally prevails in cold and wet seasons. It is most common upon the sea-coast, and in low marshy countries. Children of a gross and lax habit are most liable to it. I have sometimes known it hereditary. It generally attacks children in the night, after having been much exposed to damp cold easterly winds through the day. Damp houses, wet feet, thin shoes, wet clothes, or any thing that obstructs the perspiration, may occasion this disease.

It is attended with a frequent pulse, quick and laborious breathing, which is performed with a peculiar kind of croaking noise, that may be heard at a considerable distance. The voice is sharp and shrill, and the face is generally much flushed, though sometimes it is of a livid colour.

When a child is seized with the above symptoms, his feet should be put into warm water. He ought likewise to be bled, and to have a laxative clyster administered as soon as possible. He should be made to breathe over the steams of warm water, or an emollient decoction, and emollient cataplasms or fomentations may be applied round his neck. If the symptoms do not abate, a blistering-plaster must be applied round the neck, or betwixt the shoulders, and the child may take frequently a table-spoonful of the following julep. Take penny-royal water, three ounces, syrup of althea and balsamic syrup, each one ounce; mix them together.

Some, in this case, recommend asafœtida. It may both be given in form of clyster, and taken by the mouth. Two drams of asafœtida may be dissolved in one ounce of Mindererus's spirit, and three ounces of penny-royal water. A table-spoonful of this mixture may be given every hour, or oftener if the patient's stomach be able to bear it. If the patient cannot be brought to take this medicine, two drams of the asafœtida may be dissolved in a common clyster, and administered every six or eight hours, till the violence of the disease abates.

To prevent a return of this disease, all those things which occasion it must be carefully avoided; as wet feet, cold, damp easterly winds, &c. Children who have had frequent returns of this disease, or whose constitution seems to predispose them to it, ought to have their diet properly regulated; all food that is viscid or hard of digestion,
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and all crude, raw trashy fruits, are to be avoided. They ought likewise to have a drain constantly kept open in some part of their body, by means of a seton or issue. I have sometimes known a Burgundy-pitch plaster, worn continually betwixt the shoulders for several years, have a very happy effect in preventing the return of this dreadful disorder.

OF TEETHING.

DR ARBUTHNOT observes, that above a tenth part of infants die in teething, by symptoms proceeding from the irritation of the tender nervous parts of the jaws, occasioning inflammations, fevers, convulsions, gangrenes, &c. These symptoms are, in a great measure, owing to the great delicacy and exquisite sensibility of the nervous system at this time of life. But this natural sensibility of the nerves in infancy is too often increased by an effeminate education. Hence it comes to pass, that children who are delicately brought up, always suffer most in teething, and often fall by convulsive disorders.

About the sixth or seventh month, the teeth generally begin to make their appearance; first the *incisores*, or fore-teeth; next the *canini*, or dog-teeth; and, lastly, the *molares*, or grinders. About the seventh year, there comes a new set; and about the twentieth, the two inner grinders, called *dentes sapientiæ*, the teeth of wisdom.

Children, about the time of cutting their teeth, flaver much, and have generally a looseness, which is no bad sign; but when the teething is difficult, especially when the dog-teeth begin to make their way through the gums, the child has startings in his sleep, tumours of the gums, inquietude, watchings,

watchings, gripes, green stools, the thrush, fever, difficult breathing, convulsions, and epilepsies, which often end in death.

Difficult teething is, in all respects, to be treated as an inflammatory disease. If the belly be bound, it must be opened either by emollient clysters or gentle purgatives; as manna, *magnesia alba*, rhubarb, fenna, &c. The food should be light, and in small quantity; the drink plentiful, but weak and diluting, as infusions of balm, or of the lime-tree flowers; to which about a third or fourth part of milk may be added.

If the fever be very high, bleeding will be necessary; but this, in very young children, ought always to be sparingly performed. It is an evacuation which they bear the worst of any. Purging, vomiting, or sweating, agree much better with them, and are generally more beneficial. Dr Harris, however, observes, that, when an inflammation appears, the physician will labour in vain, if the cure be not begun with applying a leech under each ear. If the child be seized with convulsion-fits, a blistering-plaster may be applied betwixt the shoulders, or one behind each ear.

Dr Sydenham says, that in fevers occasioned by teething, he never could find any remedy so effectual as two, three, or four drops of spirits of hartshorn, in a spoonful of simple water, or other convenient vehicle, given every four hours. The number of doses may be four, five, or six. I have often prescribed this medicine with success, but always found a larger dose necessary. It may be given from five drops to fifteen or twenty, according to the age of the child.

In Scotland, it is very common, when children are cutting their teeth, to put a small Burgundy pitch plaster between their shoulders. This generally eases the tickling cough which attends teething,

teething, and is by no means an useless application. When the teeth are bred with difficulty, it ought to be kept on during the whole time of teething. It may be enlarged as occasion requires, and ought to be renewed, at least, once a-month.

Several things have been recommended for rubbing the gums, as oils, mucilages, &c.; but from these much is not to be expected. What we would recommend for this purpose is virgin-honey. A little of this may be rubbed on with the finger three or four times a-day. Children are generally at this time disposed to chew whatever they get into their hands. For this reason they ought never to be without somewhat that will yield a little to the pressure of their gums, as a crust of bread, a wax-candle, a bit of liquorice-root, or such like. These are far more proper than coral, ivory, silver, or any other impenetrable substance.

With regard to cutting the gums, we have seldom known it of any advantage.* In obstinate cases, it ought, however, to be tried; but as it is generally performed by a surgeon, we shall not spend time in describing the operation.

In order to render the teething less difficult, parents ought to take care that their children's food be light and wholesome, and that their nerves be braced by plenty of exercise without doors, and the use of the cold bath, &c. Were these things duly regarded, few children would die of teething.

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* If this be the result of the author's own particular experience on this head, we must observe, that it is very different from the general belief of medical men, as well as my own particular experience. Most medical people in this country, trust more to this than to any other remedy, or indeed to all the other remedies for this complaint put together: And I have myself seen the most alarming convulsions removed in an instant, by this simple operation.

As the limits of this performance will not permit us to treat the diseases of infants at more length, we shall only observe, that, if properly nursed, their diseases would be very few, and would seldom prove fatal. The nurse may, for the most part, do the business of the physician; but the physician can never do that of the nurse.

The diseases of children are far less complicated than those of adults, and consequently much easier understood; the method of curing them is likewise very simple, and cannot readily be mistaken. In all the acute diseases of children, cool air, diluting liquors, and gentle evacuations, are almost the only things needful; and in their chronic diseases, restorative diet, free air, and proper exercise, are what the cure must chiefly depend upon.

CONVULSIONS.

THOUGH convulsions in children be seldom a primary disease, and therefore scarcely fall to be noticed in a scientific Work, but as a symptom of some more general disease, on which they depend; yet, as they occur very frequently in infancy, and especially as they often give great alarm to the friends, they certainly merit a place in a popular Work of this kind, though here omitted by the author.

Convulsions in children may proceed from a variety of different causes: I shall notice here only a few of the most common. They are sometimes the consequence of external injuries, as pricks from pins, strait clothes, &c. When convulsions

vulsions occur, therefore, without any other cause being obvious, our first care should be to remove the clothes, and to examine carefully whether they proceed from any thing of this kind. If they do, they will commonly subside on the cause being removed. Should they continue after this, the child may be put into the warm-bath for some minutes, and then have one, two, or three drops of laudanum, in proportion to its age and strength.

Convulsions, however, are more frequently the effect of some internal stimulus, as of acrid food, irritating the tender coats of the stomach and intestines. In this situation, a gentle vomit, of two or three grains, (more or less according to the age), of ipecacuan, may be given to clear the stomach; and a few grains of magnesia alba, should then be given to clear the bowels.

When convulsions are the consequence of teething, the most effectual remedy is a free incision upon the tooth. Should this fail to give immediate relief, recourse may be had to the warm-bath, or a drop or two of laudanum, as before directed.

Those convulsions that precede the small-pox, measles, &c. commonly subside immediately upon the eruption taking place. They are not an unfavourable symptom of the disease that is to follow; nor do they in general require any particular attention. Where they continue longer, or are more severe than usual, the tepid bath, or a blister, may be had recourse to.

OF WATER IN THE HEAD.

As this is not only a frequent, but a fatal disease among children, though omitted in this edition, by the author. I shall offer a few observations on it here, chiefly with the view to assist parents and friends in distinguishing the disease, and by putting them on their guard to induce them to have recourse to medical assistance as early as possible.

SYMPTOMS.—The disease, though not confined to infancy, attacks in a particular manner such as are under the age of puberty: And of these more frequently the younger, than such as are farther advanced. The child at first becomes heavy, indolent, neglects his usual exercise, and loses his appetite; by and by, some degree of fever takes place, the pulse becomes quicker, the strength fails, the child looks puny, and then he complains commonly of violent head-ach, at the same time that he is harassed with frequent nausea and vomiting. With these symptoms the fever usually goes on to increase: The face, from being pale, is now frequently flushed; sometimes, however, this occurs on one cheek only: the eyes cannot bear the light, the patient frequently becomes delirious, and either sleeps ill, or, when he does fall asleep, soon awakens in a fright.

These are the first symptoms of this disease, which are afterwards changed, or varied, as the disease advances. The pulse, which was at first quick and regular, becomes afterwards irregular
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and flow; and again, towards the end of the disease, regular, but so quick as scarcely to admit of being counted. The head-ach and vomiting now cease; the pupils become dilated, and the patient, while he sees objects double, usually squints. The patient becomes now lethargic, and sometimes one side, sometimes another, is affected with paroxysms.

METHOD OF CURE.

THIS disease, when once fairly formed, has been but seldom cured; I have been anxious, therefore, to mark the first symptoms of its approach, that medical assistance may be called as early as possible; as it is at this period, alone that any benefit is to be expected from that quarter. The remedies at this period that seem to promise most success, are blistering and bleeding, with the use of mercury, internally, as well as externally.

OF SURGERY.

To those who are already acquainted with the extent, as well as difficulty of the subject, any attempt to explain to the public the principles of Surgery in a few pages, (to which, from the nature of the present Work, it must necessarily be limited), may at first sight appear either ignorance or presumption. The attempt, however, may perhaps appear somewhat more reasonable, when it is understood to be confined to some directions on a few of the more simple and common cases only, where the public have either long ago ventured to take the management on themselves, or where, from the urgency of the case, medical assistance cannot be procured in time. The question here, then, is not about the propriety of every man becoming his own surgeon in general; but only is, since there are certain cases, which the public have long ago taken under their own management, or where professional assistance cannot be had, whether in such situations, even a small degree of information be not preferable to absolute ignorance?

OF BLEEDING.

BLEEDING is so universally prescribed, as well as practised, by the most illiterate and awkward that it might seem superfluous to offer any directions on the subject, did we not almost every day see melancholy instances of the danger both of the prescription and of the operation.

With regard to bleeding, it may be observed, in general, that it is by much too often practised. An unfortunate prejudice prevails among the common people, that almost every disease requires bleeding. Nor is this all; the operation is not confined to those merely who are unwell. It is perhaps used still oftener as a preventative, with such as are in perfect health. In both instances, the practice, I believe, proceeds in some measure from a very erroneous idea, that the operation is quite harmless, or that, if it do no good, it will at least do no harm. Now, no opinion can be more false nor unfounded than this. To suppose, indeed, that a remedy so active as bleeding, the most powerful means that we are acquainted with of reducing the system, should be used either in health or disease, with impunity, that is, without any effect at all, is perfectly absurd.

Bleeding is necessary in all those fevers that have been called inflammatory, as pleurifies, rheumatisms, fevers from cold, &c. In the more violent local inflammations, bleeding alone is to be depended on; as inflammation of the brain, inflammation of the stomach, bowels, bladder, &c. It is likewise proper, after severe injuries of the head, breast, belly, or of any of the larger joints, as blows, bruises, falls, &c.; or in wounds which penetrate any of the cavities, as the chest, the belly, or any of the principal joints. The

symptoms that in general indicate bleeding, are a hard, full, frequent pulse, attended with much heat, thirst, &c. Bleeding is improper in all low, nervous, hysterical, or hypochondriac diseases; in short, in all those diseases that are attended with a small, weak, and at the same time a frequent pulse, and with but little heat, thirst. Though proper in inflammatory diseases of the head, breast, or belly, or great joints, it is dangerous to bleed in intermittent fevers; and it is death to bleed in the low fevers so frequent in this country, or in putrid fore throat, in dysentery, in the latter stage of the small pox, &c.

Bleeding is of two kinds, *general* and *topical*. It is called *general*, when, by means of the lancet, we open any considerable vein or artery, so as to abstract a considerable quantity in a short time. *Topical*, again, is when by means of leeches, or by scarifyng and cupping, we draw off more or less from the vessels of the part affected, or from their neighbourhood. The first is used in all the more violent inflammations, attended with a hard full pulse, heat, thirst, &c. The last is used chiefly in the milder local inflammations, ophthalmias, for instance, where there is but little affection of the general system, or where, from some particular circumstance, as age, debility, or some other disease, we are afraid of taking away much blood.

Bleeding with the lancet, though daily practised by the most ignorant and awkward people, is really a nice, as well as a dangerous operation. Indeed, considering the frequency of this operation, and what sort of people are in general, at least in country-places, the operators, it is truly astonishing that so few accidents happen from it; and yet in hospitals we very often see patients with ananiasm, or with the whole arm swelled like a post, from awkwardness or unskilfulness in the manner

manner of performing this operation or from the coarseness of the lancet. Bleeding with the lancet, therefore, in our opinion, ought never to be practised by any but *professional men*, except in these cases of emergency, as in apoplexy, or in violent injuries of the head, breast, &c. where the danger from delay is greater than the danger from the operation.

As the practice, however, is too ancient, as well as too general, to be laid aside at once, I shall here offer two cautions, with a view to diminish the risk attending it. In the first place, every operator, before opening the vein, ought to examine carefully with his finger, if there be any artery immediately contiguous. When this is the case, which is easily known by the pulsation, he ought unquestionably to take some other vein. Secondly, in introducing the lancet, let him take care not to plunge it, as is too commonly done, right downwards, but to introduce it in a slanting direction, so as to cut the vein horizontally, instead of perpendicularly. It is not the sharpness, but the bluntness of a much used lancet, that makes it plunge too deep.

The quantity of blood to be taken at one time, or the number of times the operation should be repeated, must be regulated by the age and strength of the patient, the violence of the disease, or the effects produced by the operation. In some diseases, however, as in peripneumonies, which generally requires repeated bleedings; and severe injuries of the head, trunk, or any of the larger joints; if the patient be young, and of tolerable strength, the first bleeding ought generally to be a free one, to the extent of a pound, for instance, at least. The frequency of the bleedings to be regulated by the effects of this, the state of the disease, &c. This may often be distinguished, by the factor of the breath, or of the stools.

OF INFLAMMATION AND ITS CONSEQUENCES.

As inflammation is not only a troublesome disease of itself, but usually the symptom of most surgical complaints, I shall here offer a few observations on the management of it. These will be confined chiefly to external inflammation.

Symptoms. Inflammation is distinguished by some degree of heat, pain, redness, more or less of swelling, and a throbbing or pulsation of the part. Though at first merely local, yet, after continuing for some time, if the part affected be extensive, it commonly produces some degree of fever, as quick pulse, heat, and thirst.

Consequences. Inflammation may terminate in three different ways, by discussion, suppuration, or mortification.

Discussion. When the redness, swelling, and throbbing of a tumor, instead of continuing, or increasing for some time, soon begin to abate, without symptoms either of suppuration or gangrene, the tumor is said to be discussing. As this is both the speediest and safest termination of inflammation, our endeavours, in the first instance, should always be directed to this end. With this view, the best applications to the part, where the swelling or inflammation is considerable, are a number of leeches, or scarifying and cupping, and afterwards some Gowlard, or a solution of lead, cold; or when this is not at hand, a cold crumb of bread-poultice with vinegar. If there be any considerable degree of fever at the same time, ten or twelve ounces of blood should be taken from the arm; some opening medicine should be administered,

ministered, and a low cooling diet must be enjoined.

Suppuration. When the pain, swelling, and particularly the throbbing, notwithstanding our endeavours to disperse it, continue to increase, along with the symptoms of general fever, there is reason to expect the tumor will suppurate. In this case, the applications before recommended to the tumor, as well as all evacuations from the system, must now be laid aside. Warm fomentations, or a warm bread-and-milk poultice, frequently renewed, must be kept constantly applied to the part; while we at the same time endeavour to restore the strength of the system, if it have been weakened by the previous evacuations. Should the suppuration advance but slowly, it may be promoted by the application of a gum-plaster to the part. When the matter is fairly formed, which will be known by a remission of the former symptoms, particularly of the throbbing pain, and by the tumor now becoming soft, and pointing at some particular place, where a fluctuation may generally be perceived, if the tumor do not soon break of itself, it must be opened with a lancet.

Mortification. This is the third and the most unfortunate termination of inflammation. If the pain and heat of a tumor continue to increase, with but little throbbing or pulsation, while symptoms of general fever, as quick pulse, heat, thirst, &c. continue likewise, or even get worse, mortification will probably ensue. That it has actually taken place, is known from the tumor, instead of continuing red, painful, and tense, as in the first state, or becoming soft and pointed, with an evident fluctuation, as in the second, becoming of a dull red, or even of a livid colour,

lour, with a flaccid feel, and small watery vesicles dispersed over its surface, while at the same time the pulse, from being hard and full, becomes weak and feeble, as well as more frequent. The best applications to the part, in this situation, I believe to be warm dressings with turpentine, some of the tinctures or balsams, as tincture of myrrh, or bark, spirit of wine, &c. Much attention at the same time is usually necessary, to support the patient with good nourishing diet, and particularly with wine and barks, which must be given in such quantities as the patient can bear, or the disease may require.

OF WOUNDS.

No part of medicine has been more mistaken, than the treatment and cure of wounds. Mankind in general believe, that certain herbs, ointments, and salves, are possessed of wonderful healing virtues, and imagine that no wound can be cured without the application of them. It is, however, a fact, that no external application whatever contributes towards the cure of a wound, any other way than by keeping the parts soft, and defending them from the external air, which may be as effectually done by soft lint, as by the most pompous applications, while it is exempt from many of the bad consequences attending them.

The same observation holds with respect to internal applications. These only promote the cure of wounds, in so far as they tend to prevent a fever, or to remove any cause that might obstruct
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or impede the operations of nature. It is nature alone that cures wounds; all that art can do is to remove obstacles, and to put the parts in such a condition as is the most favourable to nature's efforts.

With this simple view, we shall consider the treatment of wounds, and endeavour to point out such steps as ought to be taken to facilitate their cure.

The first thing to be done, when any person has received a wound, is to examine whether any foreign body be lodged in it, as wood, stone, iron, lead, glass, dirt, bits of cloth, &c. These, if it can be easily done, ought to be extracted, and the wound cleaned, before any dressings be applied. When that cannot be effected with safety, on account of the patient's weakness, or loss of blood, &c. they must be suffered to remain in the wound, and be afterwards extracted when the patient is more able to bear it.

When a wound penetrates into any of the cavities of the body, as the breast, the bowels, &c. or where any considerable blood-vessel is cut, a skilful surgeon ought immediately to be called, otherwise the patient may lose his life. But sometimes the discharge of blood is so great, that if it be not stopped, the patient may die, even before a surgeon, though at no great distance, can arrive. In this case, something must be done by those who are present. If the wound be in any of the limbs, the bleeding may generally be stopped by applying a tight ligature or bandage round the member, a little above the wound. The best method of doing this, is to put a strong broad garter round the part, but so slack as easily to admit a small piece of stick to be put under it, which must be twisted in the same manner as a country-man does a cart rope, to secure his loading, till the bleed-
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ing stops. Whenever this is the case, he must take care to twist it no longer, as straining too tight might occasion an inflammation of the parts, and endanger a gangrene.

In parts where this bandage cannot be applied, various other methods may be tried to stop the bleeding, as the application of styptics, astringents, &c. Cloths dipped in a solution of blue vitriol in water, or the *styptic water* of the dispensatories, may be applied to the wound. When these cannot be obtained, strong spirits of wine may be used. Some recommend the *agaric* * of the oak as preferable to any of the other styptics; and indeed it deserves considerable encomiums. It is easily obtained, and ought to be kept in every family in case of accidents. A piece of it must be laid upon the wound, and covered with a good deal of lint, above which a bandage must be applied so tight as to keep it firmly on.

Though spirits, tinctures, and hot balsams, may be used in order to stop the bleeding when it is excessive, they are improper at other times. They do not promote, but retard the cure, and often change a simple wound into an ulcer. People
imagine,

* Dr Tissot, in his *Advice to the People*, gives the following directions for gathering, preparing, and applying the agaric.—“Gather in autumn, while the fine weather lasts, the agaric of the oak, which is a kind of fungus or excrescence issuing from the wood of that tree. It consists at first of four parts, which present themselves successively: 1. The outward rind or skin, which may be thrown away. 2. The part immediately under this rind, which is the best of all. This is to be beat well with a hammer, till it becomes soft and very pliable. This is the only preparation it requires, and a slice of it, of a proper size, is to be applied directly over the bursting open blood-vessels. It constringes and brings them close together, stops the bleeding, and generally falls off at the end of two days. 3. The third part adhering to the second may serve to stop the bleeding from the smaller vessels; and the fourth and last part may be reduced to powder, as conducing to the same purpose.—That agaric which springs from those parts of the tree from whence large boughs have been lopped, is generally reckoned the best.

imagine, because hot balsams congeal the blood, and seem as it were to folder up the wound, that they therefore heal it; but this is only a deception. They may indeed stop the flowing blood, by searing the mouths of the vessels; but, by rendering the parts callous, they obstruct the cure.

In slight wounds, which do not penetrate much deeper than the skin, the best application is a bit of the common black sticking-plaster. This keeps the sides of the wound together, and prevents the air from getting into it, which is all that is necessary. When a wound penetrates deep, it is not safe to keep its lips quite close; this keeps in the matter, and is apt to make the wound fester. In this case the best way is to fill the wound with soft lint, commonly called *caddis* *. This, however, must not be stuffed in too hard, otherwise it will do hurt. It may be covered over with a cloth dipped in oil, or spread with common wax-plaster†; and the whole must be kept on by a proper bandage.

We shall not spend time in describing the different bandages that may be proper for wounds
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* This direction, though it may be proper enough in wounds attended with a considerable discharge of blood, which are sometimes crammed with lint, and then bandaged firmly, with a view to stop the hæmorrhage, is certainly very wrong when applied to wounds in general. Wherever we have a clear wound, of whatever depth, our first care should be, after removing any foreign substances, and carefully washing out the blood, to bring the lips of the wound as neatly and closely together as possible, and endeavour, by means of a bandage, if not by a stitch, to retain them exactly in the same situation. In this way, we shall often succeed in healing the wound, by what is called the first intention, that is, without the formation of matter, and, as it can do no harm, it should always be attempted.

† The wax-plaster is made by melting together over a slow fire, a pound of yellow wax; white resin, and mutton suet, of each half a pound. This not only supplies the place of melilot-plaster, formerly so much in vogue, but makes a very proper application to slight wounds, and to large ones after they are nearly heal.

in different parts of the body; common sense will generally suggest the most commodious method of applying a bandage; besides, descriptions of this kind are not easily remembered.

The first dressing ought to continue on for at least two days; after which it may be removed, and fresh lint applied as before. If any part of the first dressing sticks so close that it cannot be removed with ease or safety to the patient, it may be allowed to continue, and fresh lint dipped in sweet oil laid above it. This will soften it, so as to make it come off easily at next dressing. Afterwards the wound may be dressed every day in the same manner till it be quite heal. Those who are fond of salves or ointments, may, after the wound is become very superficial, dress it twice a-day with the yellow *basilicum* ointment*; and if fungous, or what is called *proud flesh*, should rise in the wound, it may be checked, by mixing with the ointment a little burnt allum or red precipitate.

When a wound is greatly inflamed, the most proper application is a poultice of bread and milk, softened with a little sweet oil or fresh butter. This must be applied instead of the plaster, and should be changed two or three times a day.

If the wound be large, and there is reason to fear an inflammation, the patient must be kept on a very low diet. He must abstain from flesh strong liquors, and every thing that is of a heating nature. If he be of a full habit, and has lost but little blood from the wound, he must be bled; and,

* The yellow *basilicum* ointment is prepared in the following manner: Take of olive oil an English pint, yellow wax, yellow resin, and Burgundy pitch, of each one pound; common turpentine, three ounces. Melt the wax, resin, and pitch, along with the oil, over a slow fire; after taking them from the fire, add the turpentine, and, whilst the mixture remains hot, strain it.

and, if the symptoms be urgent, the operation may be repeated. But when the patient has been greatly weakened by loss of blood from the wound, it will be dangerous to bleed him, even though a fever should ensue. Nature should never be too far exhausted. It is always more safe to allow her to struggle with the disease in her own way, than to sink the patient's strength by excessive evacuations.

Wounded persons ought to be kept very quiet and easy. Every thing that ruffles the mind, or moves the passions, as love, anger, fear, excessive joy, &c. are very hurtful. They ought, above all things, to abstain from venery. The belly should be kept gently open by laxative clysters, or by cool vegetable diet, as roasted apples, stewed prunes, boiled spinage, &c.

OF BURNS.

IN slight burns which do not break the skin, it is customary to hold the part near the fire for a competent time, to rub it with salt, or to lay a compress upon it dipped in spirits of wine and brandy. But when the burn has penetrated so deep as to blister or break the skin, it must be dressed with some emollient and gently drying ointment, as the ointment of calamine, commonly

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called *Turner's cerate* *. This may be mixed with an equal quantity of fresh olive-oil, spread upon a soft rag, and applied to the part affected. When this ointment cannot be had, an egg may be beat up with about an equal quantity of the sweetest fallad oil. This will serve very well till a proper ointment can be prepared. When the burning is very deep, after the first two or three days, it should be dressed with equal parts of yellow *basilicum* ointment and Turner's cerate, mixed together.

When the burn is violent, or has occasioned a high degree of inflammation, and there is reason to fear a gangrene or mortification will ensue, the same means must be used to prevent it as are recommended in other violent inflammations. The patient, in this case, must live low, and drink freely of weak diluting liquors. He must likewise be bled once, and, if occasion requires, a second time. His belly should be kept open, and, if the burnt parts become livid or black, with other symptoms of mortification, it will be necessary to bathe them frequently with warm camphorated spirits of wine, tincture of myrrh, or other antiseptics, mixed with a decoction of the bark. In this case the bark must likewise be taken internally.

OF

* Turner's cerate may be prepared by dissolving half a pound of yellow wax in an English pint of olive-oil, over a gentle fire. As the mixture cools, and begins to grow stiff, half a pound of calamine prepared must be sprinkled into it, keeping constantly stirring them together till the cerate is grown quite cold.

OF BRUISES.

BRUISES are generally productive of worse consequences than wounds. The danger from them does not appear immediately, by which means it often happens that they are neglected till past cure. It is needless to give any definition of a disease so universally known; we shall therefore proceed to point out the method of treating it.

In slight bruises it will be sufficient to bathe the part with a mixture of equal quantities of vinegar and water, and to keep cloths wet with this mixture constantly applied to it. This is far more proper than rubbing it with brandy, spirits of wine, or other ardent spirits, which are commonly used in such cases.

In some parts of the country, the peasants apply to a recent bruise, a poultice of fresh cowdung, with very happy effects.

When a bruise is very violent, the patient ought immediately to be bled, and put upon a proper regimen. His food should be light and cool, and his drink weak, and of an opening nature; as whey sweetened with honey, decoctions of tamarinds, barley, cream-tartar-whey, and such like. The bruised part must be bathed with vinegar and water, as directed above; and a poultice made by boiling crumbs of bread, elder-flowers, and camomile-flowers, in equal quantities of vinegar and water, applied to it. This poultice is peculiarly proper when a wound is joined to the bruise. It may be renewed two or three times a-day.

As the structure of the vessels is totally destroyed by a violent bruise, there often ensues a great loss of substance, which produces an ulcerous sore

very difficult to cure. If the bone be affected, the sore will not heal before an exfoliation takes place, that is, before the diseased part of the bone separates, and comes out through the wound. This is often a very slow operation, and may even require several years to be completed. Hence it happens, that these sores are frequently mistaken for the king's-evil, and treated as such, though, in fact, they proceed solely from the injury which the solid parts receive from the blow.

Patients in this situation are pestered with different advices. Every person who sees them proposes a new remedy, till the sore is, in a manner, poisoned with various and opposite applications, and is often at length rendered absolutely incurable. The best method of managing such sores is, to take care that the patient's constitution does not suffer by confinement, or improper medicine, and to apply nothing to them but some simple ointment spread upon soft lint, over which a poultice of bread and milk, with boiled camomile-flowers, or the like, may be put, to nourish the part, and keep it soft and warm. Nature, thus assisted, will generally in time operate a cure by throwing off the diseased part of the bone, after which the sore soon heals.

OF

O F U L C E R S.

ULCERS may be the consequence of wounds, bruises, or tumors, improperly treated; but they generally proceed from an ill state of the humours, or what may be called a bad habit of body.

When this is the case, they ought not to be hastily dried up, otherwise it may prove fatal to the patient. Ulcers happen most commonly in the decline of life; and persons who neglect exercise, and live full, are most liable to them. They might often be prevented, by retrenching some part of the solid food, or by opening artificial drains, as issues, setons, or the like.

An ulcer may be known from a wound by its discharging a thin watery humour, which is often so acrid as to inflame and corrode the skin, by the hardness and perpendicular situation of its sides or edges, and by the time of its duration, &c.

It requires considerable skill to be able to judge when an ulcer ought to be healed, and when not. In general, all ulcers which proceed from a bad habit of body should be suffered to continue open at least till the constitution be so far changed by proper regimen, or the use of medicine, that they seem disposed to heal of their own accord. Ulcers which are the effect of malignant fevers, or other acute diseases, may generally be healed with safety after the health has been restored for some time. The cure ought not, however, to be at-

tempted too soon, nor at any time without the use of purging medicines and a proper regimen. When wounds or bruises have by wrong treatment degenerated into ulcers, if the constitution be good, they may generally be healed with safety. When ulcers either accompany chronical diseases, or come in their stead, they must be cautiously healed. If an ulcer conduces to the patient's health, it ought never to be healed; but if, on the contrary, it wastes the strength, and consumes the patient, by a slow fever, it should be healed as soon as possible.

We would earnestly recommend a strict attention to these particulars, to all who have the misfortune to labour under this disorder, as we have frequently known people throw away their lives by the want of it, while they were extolling and generously rewarding those whom they ought to have looked upon as their murderers.

The most proper regimen for promoting the cure of ulcers, is to avoid all spices, all salted and high-seasoned food, all strong liquors, and to lessen the usual quantity of flesh-meat. The belly ought to be kept gently open by a diet consisting chiefly of cooling laxative vegetables, and by drinking butter-milk, or whey sweetened with honey or the like. The patient ought to be constantly chearful, and should take as much exercise as he can easily bear.

When the bottom and sides of an ulcer seem hard and callous, they may be sprinkled twice a day with a little red precipitate of mercury, and afterwards dressed with the yellow *basilicum* ointment. Some chuse to have the edges of the ulcer scarified with a lancet; but this operation ought to be performed by a surgeon.

Lime water has frequently been known to have very happy effects in the cure of obstinate ulcers.

It

It may be used in the same manner as directed for the stone and gravel.

My late learned and ingenious friend, Dr Whytt, strongly recommends the use of a solution of the corrosive sublimate of mercury in brandy, for the cure of obstinate ill-conditioned ulcers. I have frequently found this medicine, when given according to the Doctor's directions, prove very successful; but it should never be administered without the greatest care. It is made by dissolving four grains of the corrosive sublimate of mercury in eight ounces of the best French brandy. The dose is a table-spoonful night and morning; at the same time washing the sore twice or thrice a-day with it. In a letter which I had from the Doctor a little before his death, he informs me, "That he observed washing the sore thrice a-day with a solution of a triple strength was very useful." This medicine ought always to be prepared with the greatest care, and ought never to be administered but under the eye of some person of skill in physic *.

OF

* Ulcers continue perverse only on the leg; it is there indeed that they are found, and almost no where else. Ulcers happen there from the dependent position of the part, and there are only two ways of preventing the bad effects of that gravitation of the humours which makes ulcers incurable; either the limb must be laid in a horizontal position on a stool on the level of the body, which, by preventing the blood falling down upon the weakened vessels, gives effect to the corrosive sublimate, or any other medicine that is used for the cure. But if the patient must walk, either for health or on account of his business, the weakened vessels must be supported, which is best done by plasters and rollers applied in the following manner, which we consider as one of the most important improvements of modern inquiry: The ulcer must first of all be very perfectly cleaned; and if it be very large and foul, it should even be scraped with a paper-folder, to clear it of all the mucous stuff, just as you would clean a scurfy tongue. Next you take a long strap of that kind of adhesive plaster which is recommended by Dr Baynton; you lay the middle of the strap upon the back-part of the leg where it is found, and holding the two ends in your

OF IMPOSTHUMES OR BOILS.

Boils are generally the efforts of nature, to expel noxious humours out of the body. Their suppuration ought, therefore, by all means to be promoted. I do not remember ever to have seen one instance of the constitution being hurt by them, but have often known it greatly mended, especially when care was taken to promote a full and free suppuration.

Imposthumes may proceed from the use of trashy fruits, or any other unwholesome food, from hunger, excessive labour, or the like. They are attended with acute pain, hardness, redness of the part, and all the symptoms of inflammation.

Bleeding and purging will sometimes discuss these tumors at the beginning; but as soon as it is evident that matter is collecting, it will be proper to apply a poultice of bread and milk, with a little oil or fresh butter. This may be renewed
twice

hands, you brace them round the leg; you draw in the ends of the strap in proportion as you bring them forward. By this drawing you make the two edges of the sore approach each other, and finally, you make the two ends of the strap cross each other over the face of the ulcer; you use one, two, or three straps, according to the length of the ulcer; you support the straps by a roller, which you begin at the toes, and roll all the way up the leg, gradually and carefully, so as to leave no part unsupported; and this manner of bandaging must be renewed every morning, as the plasters and rollers infallibly slacken, and the leg swells at night. By this process, skilfully conducted, ulcers, within the borders of which you could lodge your flattened hand, are reduced to the size of a half-crown in a week or ten days, and perfectly cured at last.

twice a-day ; and if the suppuration goes slowly on, a raw onion may be cut into small pieces, or bruised in a mortar, and spread upon the top of the poultice. This will promote the suppuration more in one day, than a simple poultice will do in three or four.

When the boil turns soft, appears of a white or yellowish colour, and is quite full of matter, if it does not break of itself, it should be opened with a lancet. This operation is nowise dangerous, and is very little painful, as the skin is very thin, and greatly distended. If no other instrument be at hand, it may be opened with a large needle ; but it is always better to make use of a lancet, or some instrument that will make a pretty large wound, in order that the matter may be discharged freely.

After the imposthume has broke, or been opened, it may be dressed twice a-day with yellow *basilicum* ointment, spread upon lint, or a bit of soft rag. It will still, however, be proper to keep the poultice applied to it, till such time as the matter be entirely discharged. After the matter has been discharged, the patient ought to be purged.

When boils return frequently, it shews a bad state of the humours, and merits particular attention. The patient ought to be peculiarly attentive to his diet ; and if the disease proceeds from any error in it, it should be changed as soon as possible. Repeated purges are generally necessary in this case ; and infusions of the bitter plants, as water-trefoil, camomile-flowers, &c. ought to be drank freely. Those who are able to afford it, should take a course of the purging mineral waters.

OF

OF WHITLOWS.

A WHITLOW is a painful tumor appearing near the end of a finger, the humour of which is often so sharp as to corrode the tendons and nerves, and sometimes even the bone itself.

These tumors sometimes proceed from the puncture of a sharp body, as a thorn, a pin, a splinter, or the like. But their most general causes, as was formerly observed, are sudden changes from cold to heat, or the contrary. Hence the disease is very common among milk-maids, especially at that season of the year when they go a-milking in a cold nipping frosty morning, and, as soon as they get home, plunge their hands into warm water, or hold them near the fire.

The pain of a whitlow is commonly so great as to render the patient exceeding restless. It is attended with an inflammation, and often with an evident pulsation. When the humour lies deep, the inflammation spreads over the whole hand, and sometimes it extends up the arm even to the shoulder. The pain, inflammation, and fever, have sometimes been so violent, in this case, as to prove mortal.

Many things are recommended for discussing the inflammation; as bleeding, blistering, the patient holding the part in distilled vinegar, dipping it frequently in scalding-hot water, and such like. These may sometimes succeed at the beginning, but they do no good afterwards. The safest course is to promote the suppuration, by applying cataplasms,

cataplasms, or poultices of bread and milk, with boiled camomile-flowers. Or, if a more active and ripening poultice be necessary, the white-lilly root, or a little honey may be added; but these should not be applied till there be evident signs of a suppuration.

When the inflammation and fever run very high, it will be necessary to bleed the patient, and to keep him upon a low diet, allowing him to drink freely of diluting liquors.

When the matter is lodged deep, it is not safe to wait till the tumor breaks and discharges itself. In this case the matter must be let out by making a deep incision, otherwise it will corrode and destroy the bone. This operation should always be performed by a surgeon, if one can be had. I have frequently seen one bone of the finger lost by the matter remaining too long in contact with it. Indeed, whenever the inflammation begins very deep, it is hardly possible to save the bone.

After the tumor has burst, or been laid open, it may be dressed with the yellow *basilicum* ointment, or some other digestive, and a poultice applied over it. If proud flesh appears, it may be kept down by sprinkling a little burnt allum over it.

If any symptoms of a gangrene or mortification appear, as a black, pale, or lived colour of the parts, &c. the patient must have immediate recourse to the bark, a dram of which must be taken every two or three hours. The part must also be scarified, and fomented with a strong decoction of the bark or camomile-flowers, to which some spirit of sea-salt or strong vinegar may be added.

As whitlows and mortifications of the extremities are often the effects of violent cold, we
would

would advise people who have been exposed to an excessive degree of it, if their hands and feet are greatly benumbed, to wash them in cold water, or rub them for some time with snow, and to keep at a distance from the fire. This would not only prevent whitlows, but is the only method of restoring frozen limbs, and of preventing a mortification from extreme cold.

OF RUPTURES.

THIS disease happens most frequently to children and old people. Men are greatly more liable to it than women, especially those who are naturally of a weak and relaxed habit. In infants it is generally occasioned by excessive crying, violent coughing, repeated efforts to vomit, &c. In adults it is commonly the effect of blows, violent exertions of the strength, as leaping, carrying great weights, &c. An oily or very moist diet, by inducing a general relaxation of the solids, is commonly thought to predispose the body to ruptures.

On the first appearance of a rupture in an infant, it ought to be laid upon its back, with its head very low. While in this posture, if the gut does not return of itself, it may easily be put up by gentle pressure. After it is returned, a piece of sticking

sticking plaster may be applied over the part, and a proper truss or bandage must be constantly worn for a considerable time. The method of making and applying these rupture-bandages for children, is pretty well known. The child must, as far as possible, be kept from crying, and from all violent motion, till the rupture is quite healed.

In adults, when the gut has been forced down with great violence, or happens from any cause to be inflamed, it is often very difficult to return it, and sometimes quite impracticable, without an operation which it is not our business to describe. As I have been fortunate enough, however, always to succeed in my attempts to return the gut, without having recourse to any other means than what are in the power of every man, I shall very briefly mention the method which I generally pursue. After the patient has been bled, he must be laid upon his back, with his head very low, and his breech raised high with pillows. In this situation flannel cloths wrung out of a decoction of mallows and camomile-flowers, or, if these are not at hand, of warm water, must be applied for a considerable time. A clyster made of this decoction, with a large spoonful of butter and a little salt, may be afterwards thrown up. If these should not prove successful, recourse must be had to pressure. If the tumor be very hard, considerable force will be necessary; but it is not force alone which succeeds here. The operator, at the same time that he makes a pressure with the palms of his hands, must with his fingers conduct the gut in by the same aperture through which it came out. The manner of doing this can be much easier conceived than described. Should all these endeavours prove ineffectual, clysters of the smoke of tobacco must be tried. These have
been

been often known to succeed where every other method failed. An adult, after the gut has been returned, must wear a steel-bandage. It is needless to describe these, as they are only to be had from the artists who make them. They are generally uneasy to the wearer for some time, but by custom they become quite easy. No person who has had a rupture after he arrived at man's estate, should ever be without one of these bandages.

Persons who have a rupture ought carefully to avoid all violent exercise, carrying great weights, leaping, running, and the like. They should likewise avoid windy aliment and strong liquors, and should carefully guard against catching cold.

OF DISLOCATIONS.

DISLOCATIONS are generally occasioned by falls, blows, or the like. They are always dangerous, and sometimes, unless immediately reduced, they prove fatal. A person who has the misfortune, by a fall from his horse or the like, to dislocate his neck, is often left to perish, while it is in the power of every person present to do all that is necessary for his recovery. But people are seized with a kind of panic upon these occasions, and are often so much afraid of doing wrong, that they
do

do nothing at all. This is, in fact, allowing a person to die for fear of hurting him.

When the neck is dislocated, or put out of joint, the patient is immediately deprived of all sense and motion; his countenance soon turns bloated and blackish; his neck swells; and his face is generally turned towards one shoulder. He should immediately be laid upon his back on the ground; and the operator must place himself behind him, in such a manner as to be able to lay hold of his head with both his hands, while he makes a resistance, by placing his knees against the patient's shoulders. In this position, with one hand under the chin, and the other under the hinder-part of the head, he must pull with considerable force, gently twisting it at the same time, if the face be turned to one side, till he perceives that the joint is replaced. This is easily known, from the noise which the bones generally make upon one another in the very act of reduction, from the patient's beginning soon after to breathe, and from the head continuing in its proper position, &c. This operation, like many others, is easier performed than described, and requires only common prudence and sufficient resolution in the operator. I have known instances of its being happily performed even by women, and frequently by men of no medical education.

Though dislocations of the limbs are less dangerous, they ought, nevertheless, to be reduced as soon as possible. When the operation is long delayed, it becomes very difficult, and sometimes even impracticable. Besides, when a bone has been dislocated for a considerable time, it can seldom be kept in its place after it has been reduced. A mechanical genius, with a very slight notion of the structure of the human body, will enable any person to reduce a dislocated bone.

All

All that is necessary is, to make a proper extension, and, at the same time, to push the head of the bone towards the socket *.

After the bone has been reduced, a roller wet with equal parts of vinegar and water may be applied round the joint. The member ought to be placed in the most natural and easy posture, and kept so for some time, till the parts recover their wonted strength and tone †.

OF

* We intended here to have treated of the various kinds of dislocations, and to have shewn the method of reducing them; but this the limits of our performance will not permit.

† It is chiefly desirable for a person unacquainted with surgery, to know the most frequent luxations, the signs of them, and the way in which they should be reduced; and though many luxations are mentioned, there are three only that are peculiarly frequent. The luxation of the shoulder, the luxation of the hip, and the luxation of the elbow.

When a man falls on the back of his head, as in hunting, and lies stunned with the blow, becoming at the same time black in the face and insensible, it is supposed that he has dislocated his neck; and it is imagined, especially by country-people, that by placing him upon his breast, and by pressing against his shoulders with the knees, and pulling his head, by taking hold on the chin and back-head, and turning it, that the neck is reduced. But it is not so. There is no dislocation. The best surgeons doubt whether there ever were a dislocation of the neck. When the ligaments of the bones of the neck are actually torn with the force of the fall, and its bones displaced, the man, as we usually say, has broken his neck, and the accident is irrecoverable; the spinal marrow is compressed; and the man inevitably dies. But in common cases, the person is nearly stunned with the fall, and recovers in due time without this ceremony of twisting the head to reduce the luxation. In such cases the best thing that can be done, is to bleed him in the arm, to dash some cold water on his face and breast, as
if

OF BROKEN BONES.

THERE are, in most country-villages, some persons who pretend to the art of reducing fractures. Though in general such persons are very ignorant, yet some of them are very successful; which evidently

if he were in a faint, and to give him a little hartshorn and water, or spirits and water, as soon as he can swallow.

When a man dislocates his shoulder, it is in general not by a blow upon the shoulder, but by putting out his hand to save himself from a fall, and then the weight of the body falls all upon the shoulder-joint, and it is twisted out. The signs of this dislocation are, a hollowness in the shoulder, where the top of the shoulder-bone should be; the one shoulder is higher, and, as it were, narrower than the other; the person's fore-arm is bent, the elbow sticks out from the body, he cannot raise his arm in the slightest degree; and when the surgeon tries to carry his elbow upwards, it gives excruciating pain in the joint.

To put in the shoulder, two things are required: *First*, to draw the arm a little; and, *2dly*, To push up the head of the shoulder-bone from the arm-pit where it lies. When a surgeon has this to do, he knows of various ways of performing it; but when an ordinary person tries it, there is but one way that is safe and adviseable. Lay the patient down upon his back on the carpet; sit down by him, with your haunch touching his haunch; set some of his friends to hold his body down to the ground; then, having put off your shoe, put your heel deep into the arm-pit, take a strong hold of the patient's hand with both yours, then throw yourself backward, and pull strongly with your hands to draw out the bone, and at the same time push with all your strength with your heel, to

dently proves, that a small degree of learning, with a sufficient share of common sense, will enable a man to be useful in this way. We would, however, advise people never to trust such operators

push the head of the bone out of the hollow of the arm-pit up into its socket. You must use all your strength. You can do no possible harm, whether the shoulder be or be not dislocated: if you do not find the shoulder crack and go into its place, then lose no time in carrying the person to the nearest surgeon; for if a shoulder remain out a month, it is difficult to reduce; if it remains out two months, it is impossible.

The *thigh-bone* is often dislocated by falls, by the falling in of quarries, by a horse falling backwards upon his rider, by any load falling upon the haunch, when the leg is stretched out. The thigh-bone is either luxated upwards or downwards; if it be luxated downwards, then the dislocated leg is longer than the other, the toe is turned out, and the leg is kept straddling away from the body, and is entirely fixed in that lame and awkward position.

When the thigh-bone is luxated upwards, which is much more frequent, the round head of the thigh-bone mounts upwards upon the back of the haunch-bone, and the leg is shortened; it is not slightly shortened, so as to leave any doubt in the mind even of an ignorant person, the whole limb is shortened four inches, the heel of the dislocated leg is higher than the ankle of the sound one, the toe is turned remarkably inwards, the knee of the dislocated limb is turned inwards, and lies over the knee of the sound one, and the whole limb is crooked, short, and perfectly stiff and immoveable.

In a country-place, the best way of reducing this dislocation, is to lay the patient on his back in a bed with big and strong posts. One of the bed-posts should be surrounded with towels, so as to make it soft, not to hurt him. Then he should be brought down to the foot of the bed. His share-bone should rest against the bed-post, three or four hand-towels should be made firm about his knee, and three or four people should pull strongly upon them, while the share-bone and the body are resisted by the bed-post. In
reducing

tors when an expert and skilful surgeon can be had ; but when that is impracticable, they must be employed. We shall therefore recommend the following hints to their consideration.

When

reducing this luxation, the success in general depends upon the force with which you extend the limb, and not upon any cunning or curious motion for putting in the head of the bone.

When the *elbow* is *dislocated*, both bones are put out, the arm is remarkably shortened ; it remains in somewhat of a straight position, or is a very little bent with the heel, like part of the elbow, sticking out very far, like the long heel of a dog. This kind of dislocation is the most frequently neglected of all, it is the easiest to reduce, and yet it is the seldomest reduced, because it is generally imagined that this, like other dislocations, is to be reduced by extension. Those who understand the structure of the bones are well aware, that it can be reduced in no other way than by bending the fore-arm upon the arm, without extending it at all. This dislocation will resist the pulling of six or eight assistants, and will go in at once, with a loud snap, when it is dextrously bended.

The *wrist* is no doubt often luxated, but there is seldom what is called a simple luxation ; generally the wrist is broken as well as dislocated ; and it is this complication of injury that makes so many lame and deformed wrists. If the wrist be broken, as well as luxated, if you can feel the crepitation, as it is called, or grating of broken bones, especially if the bones be so broken that their points protrude through the flesh, the fracture must not be meddled with by an ignorant person, but the patient laid in bed, and the hand and arm laid gently out upon a pillow, and kept easy by a fomentation, with flannel wrung out of warm water, till the surgeon arrive. But when the joint is only luxated, as sometimes happens, then the bones, or ball of the wrist, is seen projecting either towards the palm, or towards the back of the hand, the hand meanwhile hanging from the arm-bones in a very awkward and unnatural posture. But as there are in this case no pro-

When a large bone is broken, the patient's diet ought, in all respects, to be the same as that of a person in a fever. He should likewise be kept quiet and cool, and his belly should be kept gently open, either by emollient clysters, or, if these cannot be conveniently administered, by food that is of an opening quality, as stewed prunes, apples boiled in milk, boiled spinage, &c. It ought, however, to be here remarked, that persons who have been accustomed to live high are not all of a sudden to be reduced to a very low diet. This might have fatal consequences. There is often a necessity of indulging bad habits, in some measure, even where the nature of the disease might require a different treatment.

It will generally be necessary to bleed the patient after a fracture, especially if he be young, of a full habit, or has, at the same time, received any bruise or contusion. This operation should be performed as soon after the accident happens as possible, and if the patient be very feverish, it may be repeated next day. When several of the

jecting processes to prevent the bones of the wrist going easily back into their place, the luxation can be easily reduced, by gently extending the hand, grasping it, drawing it firmly with both hands, while an assistant holds the arm, and pushes in the ball of the wrist with the thumbs.

When joints have been dislocated, and are immediately and perfectly reduced, they require no bandages. The bone keeps its place by the hold of its muscles. If the joint continue swelled for some time, warm fomentations or poultice should be applied to it; but in general it requires cold water to be poured upon it from a tea-kettle every morning, to strengthen it. And if it turns rheumatic, and becomes painful in moist weather, as luxated joints are very apt to do, it should be rubbed with soap and spirits, or opodeldoc, or rubbed well with the flesh-brush, and wrapped up well in flannel or fleecy hosiery.

the ribs are broken, bleeding is peculiarly necessary.

If any of the large bones which support the weight of the body be broken, the patient must keep his bed for several weeks. It is by no means, however, necessary that he should lie all this while, as is customary, upon his back. This situation sinks the spirits, galls and frets the patient's skin, and renders him very uneasy. After the second week, he may be gently raised up, and may sit several hours, supported by a bed-chair, or the like, which will greatly relieve him. Great care, however, must be taken in raising him up, and laying him down, that he exert no strength of his own, otherwise the action of the muscles may pull the bone out of its place.

It is of great importance to keep the patient dry and clean while in this situation. By neglecting this, he is often so galled and excoriated, that he is forced to keep shifting places for ease. I have sometimes known a fractured thigh-bone, after it had lain straight for above a fortnight, displaced by this means, and continue bent for life, in spite of all that could be done.

Bone-setters ought carefully to examine whether the bone be not shattered, or broken into a great many pieces. In this case it will generally be necessary to have the limb taken off, otherwise a gangrene or mortification may ensue. The horror which attends the very idea of an amputation often occasions its being delayed in such cases till too late. I some time ago saw a shocking instance of this in a mason, who had the misfortune to fall from the third story of a house. In one of his legs, which had struck a beam, the bones were shattered and split near the ankle, that they felt almost like a bag of small stones. Some of their sharp points had likewise penetrated the

skin. It was advised that the leg should immediately be taken off; but to this the patient's friends would not consent. After taking three or four days to consider of it, the operation was at last determined upon, and was accordingly performed; but, alas! it was in vain. The mortification had already proceeded too far to be stopped, and the miserable patient died in two days.

When a fracture is accompanied with a wound, it must be dressed in all respects as a common wound.

All that art can do towards the cure of a broken bone, is to lay it perfectly straight, and to keep it quite easy. All tight bandages do hurt. They had much better be wanting altogether. Great many of the bad consequences which proceed from fractured bones are owing to tight bandages. This is one of the ways in which the excess of art, or rather the abuse, does more mischief than would be occasioned by the want of it. Some of the most sudden cures of broken bones which were ever known, happened when no bandages were applied at all. Some method, however, must be taken to keep the member steady; but this may be done many ways without bracing it with a tight bandage. We are not, however, against the use of bandages altogether; it is only the wrong application of them which we find fault with.

In fractures of the ribs, where a bandage cannot be properly used, an adhesive plaster may be applied over the part. The patient in this case ought to keep himself quite easy, avoiding every thing that may occasion sneezing, laughing, coughing, or the like. He ought to keep his body in a straight posture, and should take care that his stomach be constantly distended, by taking frequently

ly

ly some light food, and drinking frequently of weak watery liquors.

The most proper external application for a fracture is *oxycrate*, or a mixture of vinegar and water. The bandages should be wet with this at every dressing, before they be applied, and the part may be frequently sprinkled with it.*

OF

* *Bone-setting*, like blood-letting, has in most country-places become a particular profession of itself, under the management of those who are equally ignorant of anatomy and the most common principles of surgery. We should be astonished at the impudence of such *self-taught doctors*, did we not see the credulity of the public marching hand in hand along with it. Rather, however, than continue to inveigh against a practice which, from the sanction of time immemorial, as well as the confidence of the public in its favour, cannot at present be altogether eradicated, I believe I shall do a more acceptable favour to the public, by pointing out to them those cases which, from the ease with which in general they are managed, may safely be entrusted to the care of such rude artists, and enabling them to distinguish such from those more important fractures which often require the boldest and most skilful surgery, as well as the most correct anatomy, to their thorough cure.

In the *first* place, then, fractures are always of more difficult management, from their being at the same time accompanied with a *corresponding wound* or laceration of the *soft parts*. If, along with this external wound, the bone be not simply broken in one place, but *shattered*, as it were, into a *number of different fragments*, the case becomes still more difficult and dangerous. This kind of injury occurs most frequently from wains or loaded carts passing over limbs, or stones or other hard substances falling upon them, while a simple fracture is more frequently the consequence of a fall from some height, or merely on level ground. Beside being accompanied with *wounds of the soft parts*, or a number of *shattered bones*, fractures become difficult to manage, and often dangerous, from the *situation* merely of

OF STRAINS.

STRAINS are often attended with worse consequences than broken bones. The reason is obvious; they are generally neglected. When a bone is broken, the patient is under the necessity of

the *fracture* or the *size* of the *bone fractured*. Thus, all fractures that happen at the extremities of any of the bones near the large joints, are attended with more danger from the risk of the inflammation extending to the joint, than such as take place towards their middle. The size of the bone likewise adds considerably to the danger attending its fracture. Thus, fractures of the thigh-bone, especially towards its neck, are the most difficult of all, either to distinguish or to manage. When both the bones of a limb, too have been broken, the case is always more troublesome than when one only has been injured, because, in this last situation, the sound bone serves as a splint to keep the broken one in its situation.

Fractures, therefore, of all these descriptions, ought never to be entrusted to a common bone-setter, where a surgeon of tolerable abilities can be had at any moderate distance. The last circumstance, the distance, and consequently the expence, frequently operates as a motive with the common people, to give the preference to a bone-setter who is at hand, to a surgeon of the first abilities, who is somewhat farther off. Even in this respect, however, we believe they are generally mistaken, as there is much less chance of their being overcharged or imposed upon by a man of character and responsibility; beside, the greater probability of their being soon well under his care, as well as more completely cured.

For the benefit of those, however, who having only a simple

of keeping it easy, because he cannot make use of it; but when a joint is only strained, the person, finding he can still make a shift to move it, is sorry to lose his time for so trifling an ailment. In this

way

A simple fracture of some of the small bones, may chuse to take the management of it themselves, or to intrust it to a common bone-setter, we would offer the following hints. First, with respect to what has been called the *setting*, or replacing of the bone. To those who are unacquainted with anatomy, the best direction that can be given for setting the bone is, after placing the sound limb exactly in the same position, to take care that the broken bone correspond perfectly with it in figure and length. When a bone has been set, it is generally necessary to use a splint and bandages to retain it in its place. One of the best splints is a bit of common pasteboard, of which two are commonly required for a fracture. The first should be of the full length of the limb, and of a breadth nearly equal to one half of it. This, after being wet, to make it assume the shape of the member, should be placed on the under side, and one somewhat shorter, and considerably narrower, should now be placed on the upper side; and, while an assistant retains them in this position, the *many-tailed bandage* should be used to fix them. This, though it must not be applied so tight as to give much pain, should yet be so firm as to produce some slight degree of swelling in the lower part of the limb. The limb should now be laid on a firm smooth pillow, either of hair or wool, to which it ought likewise to be fixed by passing two or three straps across it, and tying them to the pillow on each side. It should then be put into a gently-bending position, so as to place the different sets of muscles as much as possible at their ease. This, in the leg, is best effected by turning the patient towards the broken limb, and then laying it on the outside, with the knee a little bent, and the foot gently extended. In the arm the same intention may be answered, by suspending it with the splints and bandage, either in a sling, or in a leather-box made on purpose, and tied round the opposite shoulder. The best applications to fractures of this description, where they are attended with much

pain

way he deceives himself, and converts into an incurable malady, what might have been removed by only keeping the part easy for a few days.

Country-people generally immerse a strained limb in cold water. This is very proper, provided it be done immediately, and not kept in too long. But the custom of keeping the part immersed in cold water for many hours together, is certainly dangerous. This relaxes, instead of bracing the part, and is more likely to produce a disease, than remove one.

Wrapping a garter, or some other bandage, pretty tight about the strained part, is likewise of use. It helps to restore the proper tone of the vessels, and prevents the action of the parts from increasing the disease. It should not, however, be applied too tight. I have frequently known bleeding near the part, in violent strains, have a very good effect.

But what we would recommend above all things for a strain, is *ease*. It is more to be depended upon than any medicine, and seldom fails to remove the complaint.

pain and swelling, are at first a number of leeches, proportioned to the violence of the symptoms, and afterwards some cold saturnine solution.

OF CASUALTIES.

As it is often impracticable to obtain even the smallest degree of medical assistance in many of those accidents which endanger life, we shall conclude with a few observations upon some of the most common and hazardous of them.

OF SUBSTANCES STOPPED IN THE GULLET.

THE first we shall name is, *The Stoppage of Substances between the Mouth and the Stomach*. Tho' accidents of this kind are unavoidable, yet, generally speaking, they are the effect of carelessness. Children have a strong inclination to put every thing in their mouths which they get hold of. This ought to make nurses careful in keeping every thing from them that they can swallow, which would be hurtful. Even adults are far less careful in this respect than they ought to be. Nothing should ever be held in the mouth which it would be dangerous to swallow, as a fit of coughing, or some other accident, may force it over. Notwithstanding the numberless accidents which are daily occasioned by holding pins in the mouth, many women have their mouths, for the most part, full of them through the day, and some of them even sleep with them all night.

When a pin, or any other sharp body, is swallowed, it will generally descend into the stomach,
if

if its head or blunt end goes foremost; but if the point goes foremost, it is apt to stop, and when that happens, every effort to force it down will only serve to fix it faster in. In this case, the best way is to make the patient vomit, either by tickling his throat with a feather, or giving him a vomit. I have frequently known pins which had stuck in the gullet for several days, brought up by swallowing a bit of tough meat tied to a strong thread, and drawing it quickly up again.

All hard or sharp substances, which might hurt or wound the bowels, ought, if possible, to be discharged upwards. Substances that will dissolve in the stomach, if they cannot be brought up, may be pushed down. When a mouthful of solid food stops in the gullet, it may often be forced up by giving the person a blow on the back betwixt the shoulders. If this should not succeed, the throat may be tickled with the finger or a feather. I lately saw a halfpenny, which had stuck fast in the gullet of a boy about eight years old, thrown by only thrusting a finger down his throat*.

OF

* When a substance sticks in the gullet, we endeavour to remove it in two different ways. We either try to extract it by the mouth, or, where this fails, we endeavour to push it down into the stomach. The first method being the safest, ought always to be attempted first. This is especially the case, when the substance lodged happens to be a hard sharp body, as pins, bits of glass, or sharp bones, &c. In this situation, as it is of the utmost importance to extract the substance by the mouth, we should, without loss of time, use every effort for that purpose. In the first place, the patient ought not to be allowed to continue his own efforts, either by retching, or vomiting, too long without assistance. If he fail to bring it up after a few gentle trials, he should not obstinately persevere, as there is but little chance after this of their succeeding, while there is

OF SUSPENDED ANIMATION.

UNDER this title, I mean to comprehend all those accidents, which, by a sudden and violent operation produce a cessation of the powers of life, without any material local injury, such as *drowning*,

is much risk of his either forcing it farther down, or fixing it deeper. Any person, therefore, of resolution enough, who may happen to be present, should at once, after taking a firm hold of the head betwixt his left arm and his body, and desiring him to open his mouth wide, boldly thrust his two fingers down his throat, till he reach, if possible, the substance; when he may, either by laying hold of it betwixt them, or by putting one finger under it, be able to extract it. As the operation, though a very disagreeable one, is not attended with any danger, he ought not to be deterred from persevering by the intreaties, or even the cries and struggles of the patient; where a first or second attempt may have failed, a future one may be successful. He should therefore persevere till he be satisfied that the substance is not within reach of his fingers. In this situation, if a pair of small crooked forceps or pincers be at hand, they may be used with perfect safety, and sometimes perhaps with success. They should be introduced down the throat till they touch the substance; when, being gently opened, the substance must be laid hold off, and extracted. In a case so urgent as what we are at present supposing, perhaps a common knitting wire, where nothing better is at hand, may be employed with success. One extremity which should be perfectly blunt or round, must be bent somewhat in the form of a fishing-hook, with the point turned inward; then, after giving a gentle bend to the handle, to accommodate it to the passage, we pass it down the throat, so as, if possible, to get beneath the substance, when we endeavour, by withdrawing it in a direction somewhat different from that

ing, hanging, suffocation from noxious vapours. On a first view of the subject, these accidents appear so different from one another, that we do not readily perceive how they can agree in producing one common effect on the human body. A more careful investigation of the subject will, I am satisfied, convince us that they do. In the *first* place, we know, that submerſion under water in animals that reſpire, deſtroys life, by preventing them from receiving a freſh ſupply of air. That air is abſolutely neceſſary to all breathing animals, is a fact ſufficiently known; but not only is air neceſſary, but a conſtant freſh ſupply of pure air, or air that has not been breathed, as we know that air, after being once breathed, becomes unfit for the purpoſes of reſpiration. Upon this principle, then, it is eaſy to ſee how ſubmerſion, by preventing a ſupply of air, muſt neceſſarily induce death. Let us now ſee whether hanging may not act in a ſimilar manner. That hanging produces death by ſtopping reſpiration, is rendered extremely probable, from the manner in which ſuſpension takes place. This

that in which it was introduced, to catch the body, and thus make the extraction.

The other method taken notice of for removing ſubſtances that lodge in the gullet, was to push them down into the ſtomach. Where the body lodged is neither ſharp-pointed nor poiſonous, nor ſuch as, by the action of the fluids of the ſtomach and inteſtines may become ſo, like ſome of the metals, as copper; this method, if cautiously performed, may be uſed with great ſafety. The beſt inſtrument for this purpoſe is a bit of whalebone, or ſmall flexible cane, gently curved, with a ſmall piece of ſponge firmly fixed to the ſmaller extremity; this may be introduced down the throat till it reach the obſtruction, when, by a moderate but firm preſſure, we try to push it down to the ſtomach.

This is always by fixing a rope round the throat, and suspending the animal by it. That the weight of the animal, when thus suspended, must produce a compression of its wind-pipe, can scarcely, I think, be doubted. But we have likewise positive proof of this. As it has been found by experiment, that if an opening be made into the wind-pipe below where the rope is tied, an animal may be suspended for a considerable length of time without injury. This, then, proves, in the clearest manner, that the want of fresh air is likewise the cause of death in hanging. That *noxious airs* act in the same manner, seems extremely probable from this, that all of them, except atmospheric air, and even of this last more than two thirds of the whole volume, that is, all except that part which has been called vital air, seem to produce precisely the same effect, or almost instant death, in animals that respire them. Now, this is easily explained upon the supposition, that they all act from a property common to all the gases, that is, merely by excluding vital air, in other words, that they act merely *negatively*. But it is almost impossible to conceive, how so many different airs should agree in producing any one *positive* effect upon the animal body. And it were equally reasonable to suppose, that submersion in different kinds of fluids, as water, milk, wine, &c. produced death each by some specific operation, and not by that negative property common to all fluids, of excluding the common air. Having thus, then, settled this preliminary point, we now proceed to offer some directions for the management of such unfortunate accidents. And here it may be observed, that these in general apply equally to them all, except it be particularly specified otherwise.

Our

Our first care, when a person has been drowned, is to have the body, the moment it is taken from the water, conveyed to the nearest house, to have a proper degree of heat applied. The body ought to be carried either in a horizontal, or in a somewhat erect posture, not, as is often done, with the head hanging down. The body should instantly be stripped of the wet clothes, and after being well rubbed with warm towels till it be perfectly dry, it should then be laid in a bed previously prepared, with the head somewhat elevated, and either wrapt in warm flannel or in blankets.

Heat. Even heat, however necessary, must be applied with caution, or it will more readily do harm than good. If a high degree of heat be at once applied to a body that has remained long under water, and whose temperature has perhaps been still farther reduced by exposure for some time to the intense cold of a keen frosty day, it will most probably destroy at once any little remains of vitality it may still possess, in the same manner as plunging a frost-bitten limb into warm water brings on instant mortification. Two general rules may be given for regulating the degree of heat to be applied. In the *first* place, the lower the temperature of the body, or, in other words, the longer it has remained under water, or the greater the cold it has been afterwards exposed to, so much the less in proportion ought to be the degree of heat at first applied. *2dly*, The degree of heat ought always to be moderate at first, and should be gradually increased.

Respiration. As soon as the body has been placed in a situation to receive a proper degree of heat, our first care must be, to endeavour to restore the respiration. This is indeed our first object, and the other only, as it were, accidental,

Various

Various methods have been proposed, as well as used, for effecting this purpose. The most common method has been, for an assistant, after applying his mouth to one of the nostrils, or to the mouth of the subject, to blow strongly with his lungs, till he inflate the chest. This, however, is generally both a disagreeable and not an easy operation. Wherever a pair of bellows can be had, they ought therefore to be used in preference. The best way of using them is with a tube, fitted at one end to receive the muzzle of the bellows, and at the other adapted to the size of the nostril. Where this tube is wanting, however, the muzzle of the bellows must just be introduced into one of the nostrils; and while the other nostril, together with the mouth, are firmly compressed by an assistant, air must now be blown forcibly into the lungs of the subject, till the chest be distended. When this is observed to take place, the pressure should be removed from the mouth and nostrils, and we should endeavour, by gently compressing the chest, to assist in expelling the air again. This process should be continued either till natural respiration be restored, or till there be no longer any hopes of recovery. As a general direction on this head, it may be observed, that instances of final success are not wanting, after three or four hours continuance of the usual methods for recovery. This should encourage us to persevere in our endeavours for at least three or four hours in every instance.

Friction.—After *beat* and *artificial respiration*, friction is perhaps one of the most powerful means of exciting the system. It should therefore be begun as soon as the body is in a situation where it can be properly applied. Like other stimulants, however, it requires to be cautiously managed.

It ought always to be used very gently at first, and increased gradually afterwards, in proportion to the return of heat or other symptoms of animation. The best method of applying friction is by means of a flesh-brush or hair-cloth. Where these cannot be had, a bit of flannel or woollen cloth will answer the same purpose. To increase the effect of these still farther, some stimulating substances, as alcohol or spirit of hartshorn, may be applied at the same time along with the friction to the part.

Internal Stimulants.—Beside being applied externally, stimulants may likewise be used internally. In this last way, they may be applied to different parts of the body, as the *stomach*, the *intestines*, *inside* of the *nostrils*, &c. For the purpose of conveying them into the stomach, an elastic tube, with a syringe or gum-bottle, is requisite. The best stimulants for this purpose, are warm wine, with a little cinnamon or nutmeg, ardent spirits diluted, ether, volatile alkali, &c. These, however, like other stimuli, must be sparingly administered at first. The stimulants applied to the intestines are, irritating injections of different kinds; among which tobacco-smoke has been considered as one of the most powerful. For my own part, however, I should be inclined to prefer any simple irritating injection, as an infusion of senna, or a solution of Glauber's salts, to a substance so highly narcotic and poisonous as tobacco-smoke. Or if we should wish for one still more irritating, we may beat up half an ounce or an ounce of turpentine with some yolk of egg, which forms perhaps as stimulating an injection as we can employ. Beside being applied to the stomach and intestines, stimulants may also be applied to the internal nostrils, the tongue, palate, &c. and, as these parts possess much sensibility,
with

with considerable effect. The substances that are commonly used to stimulate the nostrils, are volatile salts or spirit of hartshorn. Strong snuff may likewise be blown up the nostrils for the same purpose. With a view to irritate the tongue and palate, some strongly irritating substance, as mustard or horse-radish, may be rubbed on them.

Beside the remedies just mentioned for the recovery of suspended animation, some others are usually recommended, which therefore require to be noticed here. Of these the first we shall mention is *blood-letting*. Though this remedy has been frequently administered in almost every variety of suspended animation, it continues still on as equivocal a footing as at first; the number of those who condemn its use being at least equal to the number of those who approve of it. Now, where a remedy has been so often used as bleeding in cases of suspended animation, without any such decisive advantage as to stamp a value on it, this of itself appears to be ground enough for rejecting it as useless. But this is not all; for if we may allowed to conjecture on a subject where experience has hitherto afforded no positive conclusion, scarcely any remedy can be more inconsistent with the general plan of cure, which is to stimulate, or more opposite to the most generally approved remedies, viz. stimulants of different kinds, than blood-letting. Thus, then, both from theory and practice, this remedy should, in our opinion, be laid entirely aside, not merely as useless, but as being in some measure dangerous.

The only other remedy I shall notice here, is *electricity*. This remedy cannot be objected to on the same principle as the last, as inconsistent with the general plan of cure, or incompatible with the other remedies employed. On the contrary, it is perhaps one of the most powerful stimuli that can be applied

plied to the animal fibre. From this very cause, however, the principal danger here is to be apprehended. It is too powerful, as well as unmanageable, to be employed in general with advantage, or even with safety. It ought, therefore, never to be had recourse to but under the most skilful management, and even then only after the more gentle stimuli have failed.

These observations on *suspended animation* from *drowning*, apply with equal force to the *suspension of animation* from *hanging*, or from *noxious vapours*. In this last situation, when the body still continues warm, and respiration has been suspended only for a few seconds perhaps, the body, instead of being carried in and laid on a bed, ought instantly to be carried out into the fresh air. This of itself will frequently be sufficient to restore the patient to life; but if it should fail, the other means already recommended must instantly be employed. One of the most powerful remedies in this case, where it can be procured, will probably be found in the inhalation of *pure or vital air*. This air, indeed, ought certainly to be preferred to common air in every case of suspended animation, provided a process for procuring it, sufficiently easy and expeditious to be generally used, could be any how contrived. Though a suspension of the vital powers be most generally induced by the causes first enumerated, yet the same effect is not unfrequently the consequence of some other powers, as cold, lightning, a profuse discharge of blood, convulsions, &c. Of these I mean to offer a few observations on such as require any peculiarity in their method of treatment.

Suspension of the vital powers from cold.—Cold, it is well known, applied to the animal body to a certain extent, or, to speak more philosophically, the
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the subtraction of a certain proportion of the matter of heat from the animal body, produces absolute death. When the degree of heat subtracted is not sufficient to produce death, it may induce a suspension of the vital powers, which, without assistance, would terminate in death. The chief peculiarity in the mode of treatment required here, respects the degree of heat that ought to be applied to the body. This should be regulated by the external heat of the body, or the degree of cold to which it may have been exposed, as ascertained, if possible, with a thermometer, and ought to exceed this at most but two or three degrees at first. Where a traveller, for instance, losing his road among snow, or perhaps smothered with the drift, has been exposed all night, or for any considerable length of time, to the cold of an atmosphere a good deal under freezing, and has been taken up apparently dead, the best thing to be done in this situation, is to convey the body instantly to some sheltered place, or at least some apartment without a fire, and to have it well rubbed in the first place all over with snow. It may after this be conveyed to some apartment with a small fire, but at a great distance from it, where the frictions may be renewed with flannels, and the other remedies already mentioned had recourse to; only taking care that the heat, as well as the other stimuli employed, be applied in a very gentle and gradual manner.

Frost-bitten limbs.—When treating on this subject, it may not be improper to take notice of another effect of cold, which, if not so dangerous as the former, is at least much more frequent. People, in this country at least, except from some accident or misfortune, are seldom exposed to severe cold long enough to have the vital powers entirely suspended. It often happens, however, that

particular parts, as the extremities where the circulation is more languid and the heat less, have their vital powers so far interrupted, as to be what we call *numbed* or *frost-bitten*. Sometimes this injury is irreparable, and the part unavoidably falls into gangrene and mortification. This commonly proceeds from the intensity of the cold, or the length of its application, on the one hand, or from the debility of the patient, or of the part exposed, on the other. At other times, however, the accident may be completely got the better of by the use of proper means. In every such situation, the principal danger to be apprehended is from the too sudden application of heat. The part, therefore, must neither be held near the fire, nor have any thing warm applied to it. The best application at first to the part, is to rub it well with snow; or where this cannot be had, it may be dipped for some time in water about the freezing point. It should afterwards be gently rubbed till it be dry, but must neither be brought near the fire, nor have any thing heating applied to it. Where farther application to the part may be necessary, some cold saturnine solution, or a crumb-of-bread poultice with vinegar, may be used.

SUSPENDED ANIMATION FROM PROFUSE BLEEDING.

A PROFUSE discharge of blood, from whatever cause, it is well known, often proves at once fatal; not unfrequently, however, it induces a previous state of syncope, in which, indeed, the patient seems to all appearance dead; he is perfectly insensible to all external impressions, and neither pulse nor respiration are in the slightest degree to be distinguished. In this situation, however, we
not

not unfrequently have it in our power, by the use of proper means, to restore the suspended animation. For this purpose, the first thing to be done is, to take care to prevent, if possible, all farther evacuation of blood. This will be most effectually done by securing the vessels with a ligature, wherever their situation is such as to admit of its application. Where this is impracticable, we may sometimes, by the proper application of a tourniquet, or a compress, be able to command the hæmorrhage. This point once secured, we immediately proceed to the means for restoring the suspended animation. The body ought to be placed in a horizontal position, or with the head somewhat lower than the rest of the body. Water, as cold as can be procured, should then be dashed repeatedly over the whole body. Cold here probably acts in two ways: *1st*, By that general shock or concussion which it gives the nervous system, it may excite or rouse the body; and, *2dly*, By producing a contraction of the vessels of the surface, it may propel the blood to the heart, and thus excite it to action. Besides this, artificial respiration, frictions, and the other stimuli already recommended, are equally beneficial and necessary in the present situation.

SUSPENDED ANIMATION FROM LIGHTNING,
CONVULSIONS.

THESE cases are to be conducted on the general principles already laid down for the management of suspended animation from drowning; and as I have nothing particular to offer in the treatment of either, I decline to take any farther notice of them at present.

PERSONS who have the misfortune to fall into the water are often given up for dead, when it is certain they might, by proper care, be recovered. The great intention which should be kept in view is, to restore the natural *warmth*, and renew the *circulation* and *breathing*. Though cold is by no means the cause of the person's death, yet it will prove an effectual obstacle to his recovery. For this reason, after stripping him of his wet clothes, if he had any on when the accident happened, his body must be strongly rubbed for a considerable time with coarse linen cloths as warm as they can be made. As soon as a bed can be got ready and well heated, he may be laid in it, and the rubbing still continued. Warm cloths should be laid to his stomach and bowels, and hot bricks or bottles filled with warm water, to the soles of his feet. He should likewise be bled. The most proper part for this operation is in the jugular vein, both because it is most likely to bleed, and affords the most sudden relief to the head.

In order to renew the breathing, a strong person may blow his own breath into the patient's mouth with all the force he can; or what will succeed better, the smoke of tobacco may be blown into the lungs, by means of a pipe or funnel. I have known a pig drowned and restored to life two or three times successively, by blowing air into its mouth with a pair of bellows. It will likewise be proper to throw up the smoke of tobacco into the intestines, in form of a clyster, by means of a proper pipe. Strong volatile salts ought also to be applied to the nose, or spirits of hartshorn, burnt feathers, &c. The nose ought likewise to be tickled with a feather dipped in volatile spirits,
and

and warm spirits of wine should be rubbed upon the temples, pit of the stomach, &c.

If these do not succeed, the person may be put into a warm bath, or laid among warm ashes. Dr Tiffot mentions an instance of a girl who was restored to life, after being taken out of the water to all appearance dead, by laying her naked body upon hot or warm ashes; by covering her with others equally hot; by putting a bonnet round her head, with a stocking round her neck stuffed with the same, and heaping coverings over all.

The same method must be pursued for the recovery of persons strangled, as for those who are drowned. Such as have the misfortune to be stunned by a fall, a blow, or the like, must also be treated nearly upon the same principles. Every method must be taken to keep up the genial warmth, and to restore the vital functions. Nor ought we to despair too soon of success. I have been happy enough to recover a person who was taken up for dead by a fall from a horse, after six hours endeavours, during the greater part of which time he hardly shewed any signs of life.

Nothing is more certain than that life, when seemingly lost, might often be restored by persisting for a sufficient time in the use of proper means; and that many of those unhappy persons who perish by accidents, are really lost for want of due care. Surely all the laws of religion and humanity call upon us to do every thing in our power to save the lives of our fellow-men. Who would not chuse to be the happy instrument of preserving an useful member of society, and perhaps of preventing the ruin of an innocent family?

OF COLD-BATHING.

THIS subject, though entirely omitted in the original Work, is certainly well entitled to find a place in a New Edition, not only from its importance in many cases as a very active and powerful remedy, but also from its being almost universally used without any previous medical advice. Unfortunately a prejudice prevails very generally in respect of the cold bath, similar to what has already been taken notice of with regard to blood-letting. From its being so universally used, and seldom attended with any immediate or very obvious effects, people foolishly imagine, that it must be an innocent remedy; and that, if it do no good, as they say, it will at least do no harm.

This kind of argument, however frequent, is certainly very childish, and, as it may be productive of the worst consequences, ought to be universally exploded. No remedy, it may be observed, that possesses active powers of any kind upon the human body is, or indeed can be, in any situation, perfectly innocent, that is, do neither good nor hurt. The very power of any remedy to produce a beneficial effect upon the system, necessarily implies the power of doing harm under a change of circumstances; and these two powers, it is farther to be observed, are always in exact proportion the one to the other; the greater the power to do good, the greater also the power to do evil. So that to say of any remedy, it is perfectly innocent, or that it can do no harm,

harm, is only saying in other words, it is perfectly useless.

But beside this error originating from false reasoning, there is likewise here a mistake in point of fact. The effects of cold-bathing, good as well as bad, it is true, are commonly slow, and thus often escape observation; they are not, however, on that account the less real. The greatest changes, as is well known, are often produced upon the constitution by means the most imperceptible, in the same manner as the most decisive effect on the appearance is produced by a course of years, though the alteration of a day or a month entirely escapes observation. But even the sensible effects of the cold bath are not always so slow in showing themselves. Nor are instances wanting, and these not a few, of its being attended with the most obvious as well as fatal consequences. It becomes therefore an object of importance, to point out the effects of this useful remedy, and to distinguish such diseases and constitutions, where it may be used with safety and advantage, from those where its use might produce the most dangerous effects.

The first and most obvious effect of immersion in cold water, is to diminish the frequency of the pulse, and in general to lower the actions of the system. The skin is corrugated, the body becomes pale and shrinks, especially towards the extremities, and the person feels chilly and cold. These symptoms continue for a longer or shorter time, according to the strength or vigour of the person, the previous force of the circulation, and the degree of cold possessed by the water in which the immersion takes place. In general, however, they soon give place to others, which mark a very different and opposite affection of the system. The person, after continuing for some
time

time in the water, and more certainly still on coming out, feels a kind of glow gradually diffusing itself over his whole body, first over the trunk, and then the extremities. The body becomes full and plump, the skin smooth and of a lively red colour, and all the marks of an increased and vigorous circulation, with a full strong pulse, now actually take place.

It is not intended to enter here into any discussion on the much-agitated question of the operation of cold in general, or of the cold bath in particular, upon the living body; or whether cold acts as a *sedative* or a *stimulus*. Such a discussion in a Work of this kind, intended merely for practical observations, would certainly be improper. The author would only observe in a few words, that since cold, when applied in a certain degree to the human body, is universally allowed to be *sedative*, and heat, in a certain degree, universally allowed to be *stimulating*. And since cold is now understood to be merely a negative quality, or in other words, only an inferior degree of heat, the question, in his opinion, respects *words* rather than *things*; and when once the advocates for these seemingly opposite doctrines, shall have once fairly defined their terms, what they understand by cold on the one hand, and heat on the other, or distinctly marked their line of separation, they will probably find themselves nearer to an agreement of opinion than they imagined.

However this dispute respecting the operation of cold may be settled, it appears to me, that the cold bath, or, in other words, immersion in water of the medium temperature of our atmosphere, is, in the first instance, always more or less directly sedative. This sedative effect is particularly to be observed where the immersion is gradual, and where the difference of temperature betwixt the patient

patient and the water is not very considerable. This, however, is soon succeeded by its stimulant operation, which, on the contrary, is in proportion to the suddenness of the immersion, and the temperature of the patient above the water. When these circumstances take place to any considerable degree, the sedative power of cold is scarcely to be perceived, or is almost instantaneous, and is immediately followed by its stimulant or tonic power. As this, therefore, is the only permanent effect of the cold bath, as the other is merely temporary, in many cases almost instantaneous, it alone deserves our attention, in considering the application of this remedy to the various diseases or predispositions of the human body.

As the cold bath is one of the most powerful strengthening remedies with which we are acquainted, it is peculiarly serviceable in all the cases of *mere debility*, which succeed a convalescence from any of the more violent diseases, as well as in those *cabexies* or depraved habits of body, which usually lay the foundation of the diseases that are called chronic. Wherever the body has been debilitated, either by previous disease, excess, or intemperance of any kind, or merely by want of exercise, from sedentary employments, or the like, in all these situations, the cold bath, when properly managed, is a most valuable remedy. Nor is it confined in its action, as might be supposed, to the external parts of the body, where it is more immediately applied; it has likewise a powerful effect upon the internal. It improves the appetite, and strengthens digestion; hence, its singular utility in all sorts of *stomachic complaints*. It gives tone and vigour to the action of the heart and arteries; and hence its utility in those cases of *debility* that are attended

attended with languid circulation and cold extremities. In all those cases, however, where the debility is considerable, it requires to be used with caution. In particular, it should not be used either where the person is chilly, or after much fatigue; in such cases it is found safest after moderate exercise, such as to quicken the circulation a little, without fatiguing the patient.

In *scrophula* and *rickets*, the cold bath is one of the most powerful remedies with which we are acquainted. In the advanced stages of these complaints, this no doubt, as well as every other remedy, frequently fails; when employed early in those diseases, it is however often of singular efficacy. Nor is its efficacy in these complaints confined to its operation on them after their commencement. It is perhaps still more useful as a preventive than a remedy; and where the cold bath has been carefully administered during infancy and childhood, these diseases but seldom make their appearance, unless under other circumstances highly favourable to their production.

The cold bath likewise proves useful in most of those diseases commonly called *nervous*, as in *hysterical*, *hypochondriacal* complaints, &c.; in short, in all those diseases that depend on debility, or a particular irritability of constitution.

In that species of low contagious fever, usually called the nervous, or, when attended with particular symptoms, the putrid, where the heat is considerably above the natural standard of health, the cold-bath, or the effusion of cold water over the body, has lately been found a most powerful means of diminishing the heat of the body, as well as reducing the frequency of the pulse, and not unfrequently of stopping altogether the progress of the fever. For this purpose, however, it should be used early in the disease, and only in the exacerbation

cerbation or paroxysm of the fever, and when the heat of the body is considerably above natural. As this remedy, however, can only be used with safety under the direction and eye of a medical practitioner, I shall say nothing farther of it in this place.

Beside these diseases already enumerated, the cold bath proves useful in a variety of others, either by itself or combined with other remedies. In *incipient dropfies*, before the system be too much debilitated, it often proves of singular service, combined with other tonic medicines, as bark, steel, &c. Nor is it less useful in that *chronic* state of *rheumatism*, that often takes place after the inflammatory symptoms of the first stage have gone off. Wherever strengthening remedies, in short, are required, the cold-bath may generally, either by itself or with others of the same class, be employed with much advantage.

The beneficial effects of the cold bath are not confined to such merely as labour under disease. Its almost universal introduction into the nursery, in this country at least, may be ranked among the great improvements of modern times in the rearing and management of children. It will not, it is true, supply the place of fresh air, exercise, proper food, &c. but, in conjunction with these, it certainly has a powerful effect in strengthening the system, and fortifying it against the attacks of many diseases, as well as the various accidents of life. It should not be limited, however, in its use to the nursery, but should be continued during the whole period of childhood and adolescence. This becomes especially necessary where children are brought up, for the most part, in large towns and cities, as it contributes, in some measure, to counteract the bad effects arising, particularly at this period of life,

life, from the want of fresh air, plenty of exercise, &c. as well as those more pernicious consequences that proceed from early dissipation and premature indulgences.

To the indolent and sedentary of every description, to all those whose situation in life, or whose occupation, either does not require, or perhaps entirely precludes from, the full benefit of fresh air and exercise, and therefore to a great part of the inhabitants of large cities, who, at the same time that they live luxuriously, seldom bestow the necessary attention on recreation and exercise, as well as the inhabitants of manufacturing towns, whose occupations prevent them, even if they had the inclination; to all such, the cold bath is of the utmost service. It braces up the soft and relaxed solids, strengthens the weak nerves, promotes digestion and the different secretions, and communicates a new tone and vigour to the whole system.

As most females are, either from their way of life or their occupations, more subjected to these causes of debility, and of course to the diseases thence arising, so to them, in proportion, the use of the cold bath is perhaps of still more importance than to the other sex. This is particularly true, in respect of females of better condition, and such as reside commonly in cities, whose inactivity and want of exercise require, in a special manner, the stimulating effects of the cold bath.

If cold-bathing, however, be thus powerful as a remedy in certain diseases, and thus beneficial in its effects on certain constitutions, it is no less dangerous, as well as pernicious, in other diseases, and on other constitutions. These, therefore, as far as the limits of this undertaking will permit, are now to be pointed out.

In the first place, then, the cold bath is highly dangerous

dangerous in all *inflammatory diseases*, where the pulse is hard and full, as well as frequent. Hence it ought not to be used in those febrile diseases that are attended with local inflammation, as pleurisy, acute rheumatism, &c. The benefit derived, however, from cold applications to the part affected, in cases of local inflammation, as well as from the general exposure of the body to cold, in some of the eruptive diseases, as small-pox, would seem to point out these as exceptions at least to the general rule, if indeed they do not absolutely contradict it *.

In all *catarrhal complaints*, or in *complaints* of the *chest*, as well as in confirmed *consumption* of the *lungs*, the use of the cold bath, though even here it has been recommended, is attended with the utmost danger. In all these complaints where the circulation is already too rapid, and where the lungs are commonly loaded with blood, any farther accumulation of blood upon this delicate organ must be extremely dangerous. That this is the immediate effect of the cold bath, however, can scarcely be denied. By contracting every where the vessels on the surface, that are more immediately exposed to its action, it must necessarily throw a larger quantity of blood on the internal parts, and especially on the lungs, which,

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* No subject, perhaps, in medicine, presents greater difficulties than an attempt to explain the operation of cold on the human body, either in a state of health or disease. This difficulty, however, seems greatly increased by the inaccurate manner in which observations on this subject are usually made, (commonly without a thermometer), as well as by the want of precision in the use of the term *cold*. From the accuracy and ingenuity of Dr Currie, whose attention is now turned to this subject, and who has already ascertained the utility of the cold bath in nervous fever, we shall anxiously expect farther information.

from the delicacy of their structure, are less capable of resistance. Besides, the balance established between the general circulation in the rest of the body, and the particular circulation through the lungs, throws the quantity that is taken out of the circulation of the former entirely upon the latter. Hence spitting of blood, and other affections of the lungs, from the increased circulation, have sometimes been the immediate consequence of immersion in cold water.

It must be confessed, however, that in some cases of what may be called *habitual catarrh*, and which have frequently been mistaken for an incipient consumption, the cold bath has unquestionably proved serviceable. As this disease commonly takes place in weak habits, probably from the want of a free perspiration by the skin, in consequence of the weaker action of the heart and arteries, and where, of course, a greater quantity of the circulating fluids is thrown upon the lungs; so the cold bath, by its general strengthening effect on the system at large, and especially by its powerful operation on the skin and the cutaneous vessels, often proves, in this situation, an effectual remedy. This disease, however, it must be observed, ought carefully to be distinguished from true consumption, which not only usually occurs at an earlier period of life, but likewise in constitutions marked by what has been called the phlogistic or inflammatory diathesis; a habit very different, and almost opposite to that which commonly accompanies the former.

Beside being hurtful, as we have just seen, in many *diseases*, the cold bath is likewise injurious in particular *constitutions* and *predispositions*. Where the habit of the body is hard and meagre, and the solids already too firm and dense, with an apparently small proportion of fluids, the cold bath,

bath, instead of promising benefit, is likely, by still farther increasing the firmness and density of the body and the rigidity of the habit, to do harm. Hence, in what is called the *melancholic temperament*, where the habit is dry and meagre, and the solids firm and dense, the hair and eyes usually dark, &c. this remedy has a tendency to produce those diseases to which this habit is particularly disposed, as melancholy, the hypochondriacal affections, &c. In this situation, the *tepid* or the *warm bath* might, from its relaxing effects, be used with more prospect of advantage.

It is chiefly in an opposite state of body, or what has been called the *sanguine temperament*, that the cold bath proves beneficial. This temperament is distinguished by a fine skin, a ruddy complexion, light hair and eyes, with a soft and succulent habit of body, commonly after a certain period of life disposed to obesity. In this temperament, the cold bath, by its strengthening and tonic powers, is often extremely serviceable; at the same time it requires, in particular cases, to be used with great caution. Whenever this habit is attended with considerable plethora or fulness of the vessels, to which it is naturally disposed, and especially when, along with this general fulness of the system, there is at the same time a particular fulness of the blood-vessels of the head, as indicated by the bulk of that organ, the turgescency of the vessels, or the shortness of the neck, &c. or of those of the lungs, as indicated by the smallness of the chest, the increased frequency of breathing from exercise, &c.; in both these situations, the cold bath ought either not to be employed at all, or if it be absolutely necessary for some other complaint, it ought to be used only under the care and direction of a well-informed medical practitioner, as its use is always attended with

more or less hazard, in proportion to the extent of the predisposition.

The use of the cold bath is likewise not without danger in infirm and gouty habits, especially towards the time when a paroxysm of this disease is expected; as, by preventing a regular attack on the extremities, it may throw the disease on some of the vital parts, and thus prove fatal. And it may here be observed with regard to the use of this remedy in general, that it is commonly safer, as well as more effectual, in the diseases and predispositions of young people, where the constitution still retains its strength and vigour, than in those of advanced life, where the system in general is not only less vigorous, and therefore less able to co-operate with the remedy, but where there is always more danger of other diseases or predispositions being already formed, in which it might be hurtful.

Nor ought the *manner* of using so powerful a remedy as the cold bath to be neglected. From want of attention to this circumstance, not only the benefit that might otherwise have been expected from it, has not been derived, but many diseases induced, as well as some valuable lives lost.

Going into the cold bath warm, or after being heated in the smallest degree with exercise, has long been considered as the height of imprudence. It has therefore been customary, in this situation, to delay going in, perhaps after the clothes had been thrown off, till the body were perfectly cool. This, it must be observed, however, is a more dangerous practice than even the former. When the body is only warmed with exercise, and neither fatigued nor under profuse perspiration, the cold bath may be used not only with perfect safety, but with the utmost propriety. In this situation, indeed, the shock which it gives the constitution on the
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the first immersion is more powerful than where the temperature of the body is previously reduced nearer to that of the water, by exposure to cold air, rest, or otherwise. But even this shock, which is of itself highly beneficial in most of those complaints for which the cold bath is commonly used, by exciting and rousing the system, has a powerful effect in hastening as well as increasing that returning glow of the system which depends on its re-action; while, on the contrary, if the body be cold and chilly before immersion, and especially where this succeeds to a state of heat, the shock, and of course the benefit, is not only in a great measure lost, but, from the weaker re-action of the system, its returning heat and glow are less considerable, as well as more uncertain. Hence arises a rule of great importance, especially in weakly delicate constitutions, *not to go into the cold bath when cold and chilly*, but rather after being *warmed* a little with *moderate exercise*, that they may thus with more certainty ensure that re-action or glow of the system on coming out. The exercise, however, must not be carried the length of inducing fatigue or a considerable perspiration; as in either of these situations immersion in cold water is attended with the utmost danger.

Another general rule respecting the use of the cold bath is, that the immersion be *sudden*, and not *long continued*. The suddenness of the immersion, by increasing the violence of the shock, produces a more powerful re-action of the whole system, particularly of the heart and arteries; while its short continuance, as it removes the first or sedative effect of the cold bath, gives additional vigour to its second or stimulant operation, at the same time, by lessening the effect which habit would otherwise produce, it ensures the longer continuance of this beneficial operation.

Attention to these directions is peculiarly necessary in weak constitutions.

It has long been a question among medical people, as well as others, What was the most proper time of using the cold bath? some preferring the morning, others the mid-day, and some the evening. Were I to give my own opinion on this subject, I would alledge, that provided it be not after much fatigue, or under considerable perspiration, or after a full meal, a person in tolerable health and vigour may use the cold bath at any time of day that may be most convenient for him in other respects. With weakly and delicate people, however, the time of using the cold bath is a matter of more importance; and to all such I would unquestionably recommend the morning, in preference to every other. The sooner after repose the cold bath is used, in this situation, so much the better, as the system is then more strong and vigorous, and therefore fitter to withstand the shock of the bath, as well as to produce that proper re-action on which its beneficial effects, in a great measure, depend.

Though these observations on the use of the cold bath chiefly regard *sea-bathing*, yet they apply almost equally to the use of the *fresh-water bath*. It has been alledged indeed, that salt water possessed powers very different, in this respect, from fresh water, and some physicians have not even scrupled to speak of its superior *gravity*, &c. That an impregnation with salt may communicate to water properties different from those of simple water, it were perhaps rash altogether to deny, as experience and observation seem to shew that immersion in salt water may be continued for a length of time with less danger than in fresh. This has been attributed with some probability to the greater stimulating power of the former. However this may apply to immersion

sion in water when continued for any considerable time, I hold, it may be almost, or indeed altogether overlooked, when the immersion is practised in the way here recommended, that is, when it is *sudden* and almost *instantaneous*. In this situation, it is not from the particular qualities of the water, as impregnated with salt or otherwise, that we are to look for advantage, it is solely from the *degree* of *cold*, or the *suddenness* of its application, or, in other words, from the powerful shock which, in consequence of that, it communicates to the whole system. In this respect, however, sea-water possesses some advantage over river-water, that it is generally of a more uniform temperature, and neither so liable to be affected by the heats of summer nor the cold of winter. Upon the whole, then, though *sea-bathing* should perhaps be preferred to bathing in *fresh water*, when both are equally convenient; yet wherever, from situation or other circumstances, the use of the former becomes impracticable, the latter may commonly supply its place with nearly the same benefit.

The *shower-bath*, from the sudden and instantaneous manner in which it is applied, and as it may be used of water impregnated with salt, possesses all the advantages of the others, while it has one advantage peculiar to itself, that it may be employed at all times and seasons with equal safety, and almost in every situation. The only attention required here, respects the degree of temperature that should be given to the water employed. This ought to vary with the object in view, from its use. In general, however, when its *tonic* and *strengthening* effects are wanted, it should not be used of a temperature above 60° or 62° of Fahrenheit; or if it may sometimes be necessary, in cases of great debility, to use it of a higher

temperature at first, it may be afterwards gradually reduced to this, and even to a lower temperature. The safest range for the cold bath in general is from 40° to 60° .

OF DRINKING THE MINERAL WATERS.

As this is a class of remedies of considerable diversity, and at the same time possessed of extensive powers over the human body, it has been thought proper to add a few observations here respecting their variety, and the means of distinguishing them, and to point out the chief of those complaints where they may be used with safety and advantage. This becomes so much the more necessary, as patients very commonly have recourse to their use without any medical advice, and merely on their own judgement of the nature of the disease, as well as the remedy. Whatever, therefore, may contribute in any degree to remove prejudice or to correct opinion, on questions of such moment as respect life or health, cannot be deemed foreign to the object of the present undertaking.

Mineral Waters are such as from their impregnation with foreign matters, are capable of producing effects on the human body different from those of common water. As this could not fail to be observed even in the earliest ages of society, it must have drawn the attention of medical people almost as soon as medicine became a distinct science, and engaged them in inquiries into the nature

nature of those qualities on which this peculiarity depended. Though assured of this, however, from reasoning as well as from fact, we at the same time know, that no distinct or accurate knowledge was procured on this subject, till towards the middle of the last century, and that it is within the æra of the *present* only that Chemistry has lent her *magic wand* to unvail those mysteries which seemed to be for ever excluded from human observation.

Mineral waters may be arranged into four great classes, according to the substances which they contain: *Gaseous* or *acidulated waters*, *saline* or *salt waters*, *sulphurous waters*, and *ferruginous waters*.

OF GASEOUS WATERS.

Gaseous waters have long been known to be impregnated with an air or gas; though the particular nature of this gas has been but lately discovered. It is now ascertained to be that particular species of air, denominated by Dr Black *fixed air*, and which, from its acid properties, and the nature of its composition, has since been called *carbonic acid*. These waters are distinguished by their sour and poignant taste, by the air-bubbles which they constantly emit, particularly when shaken, and by the facility with which they boil. They redden the tincture of turnsole, precipitate lime water, &c. These waters, however, never contain this acid singly in a pure or simple state, but always combined with some other substances, as some of the alkalies, iron, &c.; and it is only when they contain it in excess, or in an unsaturated state, that they exhibit all the properties above enumerated. But as it is chiefly on those other substances which they contain, or at least on

on their combination with these by means of the carbonic acid, that their medicinal virtues depend, they come naturally to be considered, in this respect, under some of the other classes to be treated of afterwards. I therefore say nothing farther of them here.

OF SALINE OR SALT WATERS.

THE name of *saline* or *salt* waters is confined to those merely that contain this principle in sufficient quantity to produce a sensible effect upon the human body. They are distinguished by their general saline taste, diversified however according to the nature of the particular salt which they contain. The salts most generally found in these waters, are sulphate of magnesia, or Epsom salt; sulphate of soda, or Glauber's salt; muriate of soda, or marine salt; muriate of lime, or calcarous marine salt; muriate of magnesia, or marine salt with base of magnesia.

These waters are merely natural solutions of the different neutral salts, and differ from those prepared in our laboratories only in this, that they scarcely ever contain any of the salts in a pure or separate state, but always combined, sometimes to the extent of three, four, or even five, with one another in the same menstruum. Their properties, therefore, it might be supposed, as depending upon the number of these salts, and likewise upon their different proportions, (for they are as different in respect of the quantity as the number of the salts which they contain), would vary in a great measure with these. These waters, however, we find, have most of them nearly the same properties, and they differ less in respect of the *mode* than the *strength* of their action. Thus, it may be observed in general, that mostly all of them prove more or less

less purgative, and that they increase the discharges by the skin or the kidneys, in proportion to their dose, and the temperature of the patient. When taken in considerable quantity at a time, they scarcely ever fail to prove purgative; in smaller doses, if combined with exercise in the open air, or if their action be promoted by external heat or warm clothes, they commonly act as diaphoretics; while, if they be taken in small doses, at the same time that the body is kept cool, and without motion, they will more generally pass off by the kidneys, or act as diuretics.

Saline waters are to be found in great abundance in most countries; for, beside that prodigious collection of salt waters which is denominated sea, and which is so universally diffused over our globe, there are few mineral waters that do not contain more or less of a saline matter. Thus most of the sulphureous or ferruginous waters are likewise impregnated with salts. But as these are to be considered under the next two classes, I shall here only offer one or two observations on the salt waters strictly so called, that is, those whose virtues depend on their saline impregnation, and I shall take *sea-water* as an example, both as being most generally diffused, and in most frequent use, and likewise because most of the other salt waters differ from this only in containing more or less of some of the other purging neutral salts, which seems to affect the *degree* rather than the *manner* of their operation.

Sea-water, in addition to that salt so generally known, and used under the name of common salt, and which it contains in greater or less quantity, in proportion to the latitude of the place, (for the nearer to the equator, the greater the quantity of this salt), likewise contains a considerable proportion

tion of an *Epsom* or *bitter purging salt*, and some calcareous earth.

The *external* application of this water has been already noticed under the former article of Sea-bathing ; it is, however, sometimes used in a more partial manner, as an application to scrophulous swellings and sores, old ulcers, and in some inveterate cutaneous diseases, which have been called, improperly I believe, *scorbutic*. In these cases, along with its external application, it has commonly been used at the same time internally, and often with the best success. It generally requires, however, to be continued for a great length of time, to obtain all the benefit from it which its use is capable of administering.

When taken *internally* in considerable quantity, sea-water acts as a purgative. If taken in moderation, however, it is not attended with the debilitating effects that commonly arise from the use of most other purgatives. While it stimulates the stomach and intestines, it at the same time improves the appetite, and promotes digestion ; it increases the different secretions, produces thirst, and seems to warm and stimulate the whole system. From these effects, and particularly from our being able to continue its use for a great length of time, not only without weakening the constitution, but while we were evidently improving and strengthening it, it has been found serviceable in several of those chronic complaints where other remedies had either failed of success, or where their continuance might have been attended with danger.

In speaking of sea-bathing, I had already occasion to take notice of the use of that remedy in that various tribe of complaints called *stomachic* or *dyspeptic*. It may here, however, be proper to observe, that the action of the cold bath, in this situation,

tuation, is greatly promoted by the use of the water *internally*. It should not be taken in such quantity as to produce much purging, but merely to the extent of keeping the bowels rather lax and open. Used in this way, it proves highly serviceable in most dyspeptic complaints, not merely by stimulating the stomach and bowels, and thus promoting digestion, but likewise by removing that obstinate costiveness, which is one of the most troublesome symptoms of this disease.

In those *full gross habits*, where, from too great a quantity of nourishment being taken in, or from too little exercise being used, the whole system becomes at last foul and bloated, and as it were oppressed with its own support, the use of this remedy proves of great service. By its irritating and purgative effects on the alimentary canal, it acts like a kind of drain on the constitution, by carrying off its superfluous humours, while its general stimulating and heating effects on the system tend to prevent their farther accumulation. Used in this view, it may be taken more freely than in dyspeptic complaints, and may with safety and propriety be carried the length of producing considerable purging. When once the superabundant humours have in a great measure been evacuated in this way, the internal use of this remedy is then to be combined with its external application in the form of sea-bathing. Here again, as we look rather to its *stimulating* and *tonic* powers than to its *purgative quality*, it may be used in smaller doses.

Sea-water has likewise been found beneficial in some cases of *worms*. From the advantage derived from the use of other purgatives in expelling worms, the use of sea-water in this complaint may be easily explained. It is probable, however, that its beneficial effects here may with more propriety

priety be imputed to its bracing and strengthening the alimentary canal, and thus preventing their production. At any rate, as it acts in both these ways, it may be easily imagined to be a useful remedy in this troublesome disease.

Of all those diseases, however, in which sea-water has been found useful, there are perhaps none where its use has been attended with more remarkable benefit, than in the earlier stages of scrophula. Even here, like every other remedy, it no doubt often fails; but in general it is still our chief dependence, our first as well as our last resort.

As it often requires, to produce its full effect here, to be continued for a great length of time, frequently for years together, it should be taken only in moderate doses, sufficient to keep the bowels open, without producing purging. With its internal use, too, its external application, in the form of cold bath, ought never to be omitted, where the strength and other circumstances of the patient admit. It is likewise frequently used as an application to the sore or swelling; and as I believe it to be just as effectual as any other application, I see no impropriety in continuing the practice. It may be just observed here, that, along with this course, the occasional use of the *bark*, with plenty of exercise in the open air, are very properly conjoined, as conducing to the general indication of bracing and strengthening the system.

OF SULPHUREOUS WATERS.

THESE waters, as their name imports, have long been supposed to contain a real sulphur in solution, from the smell they emit, and from the property they possess of tinging silver. A more careful examination of their contents, however, has ascertained

ascertained that they never contain pure sulphur. This substance indeed is not capable of being dissolved in water; and it is only in combination with alkaline substances, or in the state of a *liver* of *sulphur*, that it is ever found dissolved in mineral waters. But more commonly these waters owe their sulphureous qualities and appearance, not to an alkaline sulphur, but to a *sulphurated hydrogenous gas*, which they hold in solution. It is to this gas that the highly fetid smell which they emit, somewhat resembling rotten eggs, is to be attributed, and likewise that deposition of sulphur in their neighbourhood, which is produced in consequence of a decomposition of this gas. Beside the alkaline sulphurs, or sulphurated hydrogenous gas, with which these waters are all more or less impregnated, they likewise mostly contain some of the neutral salts. The celebrated wells of Moffat in Scotland, and of Harrogate in England, contain a considerable quantity of sea-salt, and a small portion, as is supposed, of a calcareous Glauber's salt. As St Bernard's well near Edinburgh seems to be possessed of nearly the same properties with these, it probably holds similar matters in solution, though I do not know that any analysis of this water, sufficiently accurate to put this matter beyond doubt, has ever been accomplished.

The sulphureous waters possess nearly the same properties, and are used mostly in the same diseases, with the saline. Taken in considerable quantity they commonly prove purgative; in smaller doses they more easily pass off by the skin and kidneys. They have been found equally serviceable with the last in a variety of *dyspeptic* or *stomachic* complaints; in various cases of *worms*, and where the stomach and intestines have been loaded with a viscid slime. They are
daily

daily used with the greatest success in a number of the different *cutaneous affections*; nor have their good effects been less conspicuous than the former, in those full gross habits, where luxury and indolence have jointly conspired to oppress the constitution, and to undermine the health. In *scrophula* likewise, the use of these waters has often been attended with the happiest effects; in short, in all those complaints where the saline have proved beneficial, the use of these has in general been attended with nearly the same success. As these waters, especially the Harrowgate, are considerably purgative, they should not be taken in large doses; we trust more to their slow and gradual operation, when continued for a length of time, than to their violent purgative effects. In general, they may be used from one pint to two or three daily, more or less according to the age and strength of the patient.

OF FERRUGINOUS WATERS.

FORTUNATELY these waters, as they are perhaps more extensively useful, are likewise more generally diffused, than either the saline or the sulphureous. There is scarcely a parish in this country that does not contain a water impregnated with iron, and but few districts where it may not be met with, not only in great plenty, but often of different qualities.

Waters are known to contain iron, or to be chalybeates, from their astringent taste, from their striking a dark colour with an infusion of galls, which is generally more or less deep in proportion to the quantity of iron contained in the water; and from their exhibiting a blue colour with a solution of prussiate of lime. The iron contained
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in these waters was formerly believed to be kept in solution by means of the sulphuric acid; and they were all supposed to contain true sulphates of iron. Later discoveries, however, have given us more accurate ideas of their nature. From them we learn, that chalybeate waters seldom, though they do sometimes, contain sulphates of iron; and that the iron, instead of being rendered soluble in the water by means of the *sulphuric acid*, is commonly held dissolved by the *carbonic*. Of this last class of waters, again, or of such as contain *carbonates of iron*, we find two different kinds. In the one, the acid exists only in combination with the iron, and in sufficient quantity merely to hold that metal in solution; in the other, it exists likewise in a separate uncombined state, so as to communicate some degree of poignancy or sourness to the waters. Beside the metallic impregnations with which all of these waters are charged, many of them likewise contain different neutral salts in solution, as sea-salt, a calcareous Glauber's salt, &c. The mineral waters of Dunse in Scotland, and of Tunbridge, Buxton, &c. in England, are of the first sort; those of Scarborough, Cheltenham, &c. in England, are of the latter.

These waters are all of them, more or less in proportion to the quantity of the metal they contain, astringent and stimulant. Sometimes, however, the saline matters contained in them are in such abundance as to produce a purgative effect. But their operation, as chalybeates, is always more or less astringent. They stimulate the stomach and bowels, increase the appetite, and promote digestion; they quicken and invigorate the circulation, give additional tone and vigour to the muscular fibres, and warm and strengthen the whole system. Hence they are found beneficial in com-

plaints of the stomach and bowels arising from debility, and, in general, in most dyspeptic complaints. In many of those diseases that are peculiar to the female sex, the use of these waters is attended with great advantage. In all immoderate discharges of blood from the uterus, that are at the same time accompanied with symptoms of general debility, and likewise in that ferous or puriform discharge, the *whites*, these waters may, in general, from their astringent and tonic effects, be used with much benefit. They are likewise employed with equal efficacy in another female complaint, that would, at first sight at least, seem directly opposite to the first of these diseases. In what is called a *retention* of the menses, or when the menses do not appear about the usual period, at the same time that a number of other symptoms occur, (known to depend upon a *retention*, from their being commonly relieved when menstruation is restored), as head-ach, pain of the back and loins, loss of appetite, with other symptoms of dyspepsia, paleness and flaccidity of the whole body, with other symptoms of general debility, constituting what is called *chlorosis*, or *green sickness*;—in this state of the system, the use of chalybeate waters, joined with exercise and country-air, often prove highly beneficial. By removing that debility on which a *retention* in this case, as well as a *preternatural discharge* in the former, depended, these waters contribute equally to the cure of both diseases; which, however different or even opposite they may seem in their effects, yet depend upon the same general cause. These waters, in short, may be used with great advantage in all cases of general debility, which require the use of tonic remedies, and where the general indication is to brace and strengthen the system: while, on the other hand, they are equally dangerous in all those

those diseases that are accompanied with any degree of fever or inflammation, or wherever the indication in general is to lessen the force of the circulation, and to lower the tone of the system.

Patients in general should begin with small doses of chalybeate waters, and increase these gradually in proportion to the effect, as many of them are very strong, and prove considerably heating. The common dose at first is one or two gills, to be afterwards increased to one or two pints, which should be taken of a morning before breakfast, at different draughts, interposing some time betwixt each draught. The intervals should be employed in walking, dancing, or the like; and when the patient has finished his whole dose, he should suffer some time to elapse, which ought to be spent in the same way, before he proceed to breakfast. If the waters should prove too heating and irritating at first, it has been recommended to lose a little blood, or to take some gentle cooling physic. During a course of the waters, great moderation in the use of strong liquors is, from the heating quality of the waters, absolutely necessary; though a few glasses of some generous wine after dinner may not only be allowed with safety, but should even be recommended, as coinciding with the general intention of the course, which is to brace and strengthen the system. The diet also should be regulated on the same principle; it ought to be light and nourishing, but taken in moderate quantity; and heavy suppers, in particular, ought carefully to be avoided. Nor should exercise, which is of itself so powerful a means of bracing and strengthening the constitution, be omitted in one shape or other, during a course of chalybeate waters, where, if it be not absolutely necessary, it is at least highly beneficial: it

ought to be used regularly, but not in excess. Riding on horseback, or perhaps, where the situation of the patient will admit of it, walking, is one of the best modes of taking exercise. This may be rendered still farther beneficial by some object that may at the same time amuse and occupy the mind, as some country-sport, as shooting or fishing, or some game.

OF WARM MINERAL WATERS.

THE mineral waters that have already been taken notice of, differ from common water in containing a mineral impregnation, whilst they at the same time retain the temperature of the common water in their neighbourhood. There are, however, other waters which, whilst they contain some mineral bodies in solution, at the same time possess a higher degree of temperature than common water. These are distinguished by the name of *warm mineral waters*, and have been arranged, like the former, into different classes, according to the particular mineral held in solution.

It seems probable, however, that the virtues of these waters, at least when used as medicines internally, depend on their mineral impregnation, and not on the few degrees of higher temperature they possess above other mineral waters. In this respect, therefore, there appears but little foundation for instituting different classes of the warm mineral waters, or for separating them from the cold mineral waters which possess a similar impregnation. At any rate, as very few and but little variety of warm mineral waters are found in this country, I shall take no farther notice of them in this place, than just to mention one or two of the most celebrated, and that rather with

a view to their effects when applied externally, in the form of *baths*, *pumps*, or *water-falls*, than from any conviction of their superior efficacy as internal remedies.

The principal warm mineral waters in this country, are those of Bath and Bristol in the county of Somerset, and of Matlock and Buxton in the county of Derby. Those of Bath and Matlock, beside their ferruginous impregnation, which is but weak, contain likewise some of the neutral salts, as sea-salt, and a Glauber's salt, with some calcareous earth, &c. whilst those of Bristol and Buxton are chiefly impregnated with some neutral or earthy salts, as Glauber's salt, sea-salt, a calcareous Glauber's salt, with some calcareous earth, &c. without affording any evident signs of containing iron.

As these waters differ from one another in respect of the metallic matters they contain, they differ likewise with regard to their degree of temperature. The Bath waters, upon the whole, are the warmest, though even of these there be a considerable difference in the different springs. The water, in the hottest source of what is called the King's Bath, raised the mercury, according to Dr Lucas, in Fahrenheit's thermometer, as high as one hundred and twenty, while that of the Cross Bath raised it only to one hundred and sixteen. Some trials by other gentlemen, while they make the heat of these waters less, establish yet a more considerable difference in the temperature of the different sources. According to Mr Howard, the water of the *King's-bath pump* raised Fahrenheit's thermometer to one hundred and thirteen, that of the *Hot-bath pump*, to one hundred and fourteen, and of the *Cross-bath pump* to one hundred and eight.

Of the other warm mineral waters, the heat is

considerably less; that of Matlock water, according to some accounts, is 71° ; according to others, only 65° . The Bristol waters, according to Dr Lucas, raise Fahrenheit's thermometer to 83° ; according to Dr Sutherland, to 76° . Buxton bath, according to some accounts, raises Fahrenheit's thermometer to 94° , whilst others again make the heat of this water only 86° .

These waters taken internally are found beneficial in nearly the same complaints with the cold mineral waters. The *ferruginous*, particularly those of Bath, (for Matlock is a very weak chalybeate water), is used with success in complaints of the *stomach* and *bowels* arising from *weakness*, in all *dyspeptic*, *hypochondriacal*, and *hysterical* disorders. They have likewise been used with advantage in *scrophula*, and in some of those diseases peculiar to the female sex, as in an *increased discharge* of the *menstrues*, the *whites*, and in the various symptoms of *green sickness*, or what has been called a *retention* of the *menstrues*. As these complaints commonly depend upon, or are connected with more or less debility, it may be easily imagined, from the principles already laid down, that by removing this debility they will often obviate those disorders that are its immediate consequence. The use of these waters requires the same caution as the other chalybeates. They are to be avoided in all inflammatory and febrile disorders attended with heat, thirst, &c. The *saline* are used precisely in the same diseases with the cold saline waters, and under similar restrictions. They have likewise been supposed useful in *consumptions*, and diseases of the lungs, accompanied with hectic fever. As their analysis affords, however, but very little saline matter, I am not inclined to attribute much efficacy to them, beyond that of simple dilution with a tepid fluid, and would impute their
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other good effects in a great measure to the circumstances with which their use is commonly accompanied, such as change of air, scene, company, regularity and moderation in point of exercise, diet, &c.

But it is chiefly when used *externally*, in the form of *baths* or *pumps*, that the warm mineral waters have proved such powerful remedies ; at least, as their external use has commonly in these situations been combined with their internal, their good effects may with much probability be in a great measure imputed to the former. For the cure, at least the relief, of *gouty* and *rheumatic* complaints, the use of these warm baths has long been justly celebrated. They have likewise been found extremely beneficial in *paralytic* complaints, and some other nervous diseases. But perhaps the most successful application of these waters has been to *weak, paralytic, or sprained limbs*, and to *stiff joints*. In these situations they have frequently been attended with the most wonderful success. They are used simply by pumping the waters upon the limb or joint that is affected. In this manner rigid joints and weak limbs, that had resisted almost every other remedy, have been often completely cured in the course of a short time.

SOME OBSERVATIONS ON DIET,

*Chiefly with a View to point out a more wholesome
and less expensive Mode of living to the lower
Classes of Society.*

 GENERAL OBSERVATIONS.

THE subject of diet constitutes, on many accounts, an inquiry of great importance, as well as difficulty. The human body, like that of every organised being, is liable, from the mere exercise of its functions, to a gradual but incessant waste. To repair this constant loss, a continual supply of food or aliment is required; and Nature, we find, has accordingly provided a great variety for this purpose. As these, however, differ essentially from one another, not only in the *quantity*, but likewise in the *quality*, of the nourishment which they afford, they are thus calculated to produce very different effects.

If this could not fail to be observed in a sound and healthy state of the human body, it must have been still more conspicuous in a state of disease, where the slightest causes often produce the most powerful effects. Thus physicians, we find, have, at all times, from the earliest records of medicine down to the present times, paid great attention to this subject. Indeed, in the earlier periods

riods of its history, medicine seems scarcely to have ventured farther than to regulate the diet, and to adjust the regimen, according to the nature of the disease. Physicians were as yet unacquainted with most of those powerful remedies that were afterwards introduced into the *Materia Medica*; they therefore necessarily trusted the cure of most diseases to the slower operations of diet and regimen. These, with the ancients, were of the first importance, and treated with the most minute and curious attention; with them, in short, they were every thing. Though not viewed precisely in the same light by the moderns, since the discovery of so many more powerful remedies, still, however, as they may either counteract or assist the operation of these, in those cases where it has been judged proper to employ them, or, as in many cases where the operation of more potent medicines might be doubtful, or even dangerous, we trust the cure to them alone, on these accounts, they merit the utmost attention even from the modern physician. This subject, as being already noticed in the beginning of this Work, will be prosecuted no farther here.

But the influence of diet, great and decisive as it is in this respect, is not limited to the effects produced on the body, it extends also to the mind. Of the particular *way* or *manner* in which body operates on mind, or how that which is *material* acts upon what is *immaterial*, we are, and perhaps ever shall be, completely ignorant. Though ignorant of the *mode*, however, the *operation* itself is not the less a matter of every day's observation and experience. Thus the influence of food on the temper and passions, however this may be explained, whether as depending on the *quality* or merely on the *quantity* of nourishment it contains, has been long observed, and is beyond all dispute.

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The difference betwixt animal and vegetable food, in this respect, is very remarkable both in man and likewise in inferior animals. In these last, indeed, the difference betwixt the carnivorous and the herbaceous, may be partly explained, perhaps, on the score of instinct or of natural disposition. But were this even sufficient to account for the difference betwixt the ferocity and cruelty of the wolf and the fox, and the mildness and gentleness of the ox or the sheep, still some other principle would be necessary to explain a similar diversity among animals of the same species, and consequently of a similar natural disposition; and the subject seems well worthy the attention of the moralist and philosopher, to inquire how far the cruel vindictive disposition of the *Tartar* may depend on the horse-flesh which he devours, or the mild and gentle character of the *Hindoo*, upon the vegetable aliment on which he subsists.

These views of this subject, as connected with *medicine* or with *morals*, however well calculated to interest the physician and the philosopher, yet want the attraction of that general interest which in another point of view it still possesses. It is chiefly from its connection with *political œconomy*, that the subject of food or nutriment derives its power of interesting the general reader. As the population, and consequently the wealth of a state, depend in a great measure, on the facility of procuring subsistence, this again will be in proportion to the quantity of food produced, or to its œconomical application, for the support of man. The first respects the various operations of agriculture, the rearing of cattle, &c.; the second relates to the different œconomical and culinary processes that are or may be employed to procure the greatest quantity of nourishment from
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any given produce ; to this part of the subject we shall confine our attention at present.

OF NUTRITION IN GENERAL.

NUTRITION is that particular operation of the œconomy whereby animals and vegetables convert foreign substances into a similar matter with themselves, and apply this either for the purpose of extending their growth, or of repairing their constant waste. In both classes the process appears to be of a similar nature ; only, like its other functions, it seems to be more simple in the vegetable. While vegetables, so far as we yet know with certainty, act only on air and water, and by decomposing these furnish all the various products of vegetation ; animals are capable of deriving subsistence from all the different species of the vegetable and animal kingdom ; not indiscriminately, however, as we find some animals subsist wholly on the one class, some entirely on the other ; while man, as well as a few other animals, generally subsist on both.

The question, Whether man be a carnivorous or a granivorous animal, has been often keenly agitated, and has found many partizans on both sides. It will, however, be easily decided, if, instead of listening to the different theories of authors on this subject, we attend only to reason and experience. In the first place, we find, from the structure of his teeth, as well as of his digestive organs, that man was not designed solely either for the one or the other ; for if his teeth and stomach in some degree resemble the carnivorous, his intestines re-
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semble in some measure the granivorous, possessing an intermediate character, as it were, betwixt the two extremes.

To confirm this argument derived from analogy, it is further to be observed, that mankind have, in every age and in every country, unless restrained by religious prejudices or political institutions, derived their subsistence partly from the one class, partly from the other. We know, however, from actual experiment, that an animal purely carnivorous cannot subsist entirely on vegetables; and, *vice versa*, that a granivorous animal cannot subsist on animal food; as the gastric liquors of these different classes dissolve only that particular species of food, whether animal or vegetable, for which their organs are adapted. Mankind, therefore, we find from reason as well as experience, is equally designed for either, or more properly for both.

OF ANIMAL FOOD.

THAT animal food, notwithstanding of the opinion of many learned and ingenious men to the contrary, forms a proper nourishment for the human body, I think sufficiently established from the universal predilection in its favour, as well as from the result of general experience. I would observe farther, that, under proper restrictions and limitations, it forms a *better* and *more wholesome nourishment* for man, than even vegetables. The restrictions and limitations noticed here, I think, are chiefly the following. In the first place, it ought not to be begun too early in life, nor continued too late,

late, nor given in large quantities at first, but introduced gradually, so as to become the chief article of diet, at least at one meal in the twenty-four hours. This is peculiarly proper, and even necessary, during the prime and vigour of life, when, from the great exertions both of body and mind, a larger supply of nourishment is required, than either in the *previous* or *after* periods of human life. During the earlier period of life, that is, from infancy to manhood, the rapid growth of the body, as well as its incessant activity, would at first sight seem peculiarly to require the support of animal food. This would unquestionably be the case, but for those institutions of civilised society, which, in a great measure repressing bodily exertion, tie man down at this period to the cultivation of his mind, or to the acquisition of some trade or profession. Where perfect freedom of bodily exertion, however, is allowed at this period, animal food may be indulged in pretty freely, only it may be remarked here, that from the more vigorous state of the digestive organs, the same quantity of food affords, at this period, a greater proportion of nutriment than afterwards. Towards the decline of life, again, the digestive powers being weakened, nature is rather oppressed than supported by a large supply of animal food; and from the highly alkalescent, or, as it is called, putrescent state of the humours, at this time, vegetable diet, at least in a great part, seems peculiarly required.

In the next place, animal food should at no time be used by itself, but always with a considerable proportion of vegetable aliment. This direction, at all times necessary, becomes peculiarly so when the animal food, instead of being used in a fresh and recent state, is taken after being salted and kept for a considerable time, and
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not unfrequently after being spoiled, and almost putrid. Whether in such situations it actually induce a *putrid* state of the humours, or to what extent this can take place in the living body, I shall not at present stop to inquire. One thing at least is certain, that when used in this state for any considerable time, it produces a dangerous and loathsome disease. This, however, cannot with any propriety be ascribed merely to the use of animal food, but to its use in an improper and frequently a spoiled state; and I know not of one instance of fresh animal food, though used in the largest quantity, having produced scurvy; while, on the other hand, it appears from the accounts of some late navigators, to have been an effectual remedy for this disease, after it had been brought on by the use of salt provisions. In attempting thus, however, to vindicate animal food from the charge of inducing scurvy, I will not deny, that if used in too large a quantity, it may in any state be productive of diseases, in the same manner as vegetable aliment, I presume, may likewise, under similar circumstances; though the diseases from this cause would probably be different from those arising from the former.

Beside scurvy, some other diseases, as consumption, have likewise been attributed to the use of animal food. From some late observations on this subject, it would appear, however, that those who use this article in the largest quantity, are the very people that are least subject to this disease, so that it may with more probability be imputed to the use of vegetable than of animal food, if it must be imputed to the one or the other.

Upon the whole, then, I am inclined to believe, that animal food forms not merely an innocent, but a useful and necessary part of our diet, and that the diseases imputed to this frequently proceed

ceed from other causes; and, at any rate, proceed not so much from the *use* of this article, as from its *abuse*, from its being used in too large a quantity, or in an unbound and often a putrid state.

It is not intended to enter here on any minute discussion on the nature of animal food, or of the different qualities of this in respect of the different classes of animals from which it may be taken; only it may be observed in general, that animal food affords a greater share of nourishment, in proportion to its bulk, than vegetable aliment; and that of the different species of animals used for food, the *white meats*, as they have been called, are in general less nourishing, though they are likewise less heating, than the *red meats*; and that among these last, the principal difference in this respect depends, in the first place, on the absolute quantity of nourishment they contain; and, 2dly, on the greater or less solubility of this in the human stomach, or even in the stomachs of different individuals.

We are not yet, however, sufficiently acquainted with the nature of nutrition, or rather with that particular principle in animal food on which nutrition depends, to be able to judge, *a priori*, of the absolute quantity of nourishment contained in any particular species of animal food; we can therefore reason here only from experience of the effects produced, which would seem in a great measure to be regulated by the greater or less solubility of the food. This again probably depends on the softness of its texture or tenderness, which is different according to the *age*, *sex*, condition of the animal, in respect to *fatness* or *leanness*, &c. and on its more or less *complete division* before it be exposed to the action of the gastric fluid.

The effects of age on the texture of meat have been

been generally observed, and there are few people so ignorant on this subject, as not to know that young animals are in general more tender than the aged of the same species, and under similar circumstances in other respects. This doctrine, however, though true upon the whole, is liable to some exceptions, or rather modifications, which it may be proper just to notice here.

In the *first* place, it has been found by actual experiment, that some young meats are not so readily digested as older meats of the same species. This, I think, may be accounted for in two ways: 1st, The meat of very young animals is seldom procured in so fat and succulent state as that of old animals, (as growing animals are in general fattened with more difficulty than those which have attained their full size), and is on that account not so soluble. 2^{dly}, Though the solubility of food in the stomach depend in a great measure on its tenderness, I believe it likewise depends in some degree on its being more or less *stimulant*. As this again seems to depend on the age of the animal, (being greater as the animal is farther advanced), and likewise on its food, exercise, &c. it may in some circumstances counterbalance the effects of tenderness on the other hand.

In the *second* place, it is alleged, and I believe with justice, that the meats of older animals contain more nourishment, than those of the young of the same species. Now this, it would seem at first sight, ought not to be the case, if the quantity of nourishment were in proportion to the solubility of the meat. But the same reasoning will apply here as to the former exception. For though the solubility of meat be in proportion to the age, it is likewise in some measure according to the condition

condition or fatness of the animal. As young animals can seldom be found so fat as those that have attained their full growth, they are on this account less soluble. They are, for the same reason, less nourishing, as fat or oil certainly contributes in a particular manner to the nutrition of the human body; and if they be likewise less stimulant, as was before alledged, and therefore less digestible, this may be another reason for their being less nutritious.

In respect of the *effects* of *sex* on the texture of meat, it is well known, that among our domestic animals at least, the female is, under similar circumstances of age, condition, &c. always more tender and succulent than the entire male. Castration, however, at an early period, as it prevents the meat from becoming so dense as it otherwise would do, at the same time disposes the animal to become more fat, and therefore more soluble, as well as nutritious.

The *condition* of the animal, as to fatness or leanness, produces likewise a considerable change on the nature of the flesh, fat animals of the same species, age, and sex, being always more tender, and therefore more soluble than those that are lean.

The last circumstance taken notice of as affecting the solubility of food was its *more or less complete division* before it be exposed to the action of the gastric fluid. As this principle extends to *vegetable* equally with *animal food*, and as I am inclined to think it of more importance than is generally believed, I shall consider it a little more particularly.

The great importance of a complete division of our food may be demonstrated, in my opinion, from two different views of this subject. In the

first place, from the great care and attention shewn by nature, in providing animals with organs adapted to that purpose. These organs, though wonderfully diversified in their structure, according to the wants of different animals, and the nature of their food, discover one uniform design. The *means* indeed are different, but the *end* is still the same.

This appears in a peculiar manner in the structure of these organs in the granivorous animals. As the food of animals of this class is in general of a firmer texture, and more difficult of solution than that of the carnivorous, it is here especially that we observe the most beautiful variety of structure, and the most perfect uniformity of design. Among quadrupeds, we find some, like the cow and the sheep, &c. furnished with an apparatus for macerating and softening the food before it be subjected to the action of their grinders, that it may be more completely divided, and of course more fully prepared for the action of the gastric fluids. As this class, which from this peculiarity has been denominated the *ruminant*, want the cutting teeth of the upper jaw, nature has made ample amends for the deficiency by this previous maceration before mastication, or, as it is called, chewing of the cud. In fowls, we find a different contrivance for the same purpose. As this class of animals want the teeth altogether, while the food is often of a very hard and firm texture, we find the granivorous class, beside a crop, as it is called, for maceration, furnished with a powerful muscular stomach, capable of triturating or grinding down even the hardest bodies, and thus serving the same purpose as rumination in the other class. This *diversity* of the *means* employed for accomplishing the *same end*, places in
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the strongest point of view the *importance*, or rather the *necessity*, of this operation to the animal economy.

However satisfactory this view of the subject may be, as showing the importance of trituration from the anxious provision made by nature for that purpose, another proof, perhaps still more convincing, yet remains to be noticed. This is founded on a consideration of the effects produced. Of the first, the proof was derived from analogy; that of the second rests on experience and observation. The first, therefore, was *presumptive*, but this is *positive*. To perceive the effect of trituration, we need only to compare what takes place in those animals where the operation is the most complete, as in the ruminant, with those in which it is less perfectly performed, as in the horse. Thus we observe the ox requires a much smaller quantity of nourishment in proportion to his bulk than the horse; and this last again would starve on the same sustenance on which the other gets fat. This we account for, from observing, that in the ox the food, before it be expelled, is completely dissolved, and all its nutriment extracted; while in the horse, a considerable share of his food, especially of hard meat, passes through almost entire and undissolved. Similar effects, too, are constantly observed to proceed from the same cause in animals of the same species. Thus it is well known, that when an animal loses its teeth from age or any other cause, and becomes in some measure incapable of trituration, the same quantity of food no longer affords it the same nourishment.

The same thing takes place in the human species in some degree, though, from some circumstances that it may be worth while to notice, not

just to the same extent. In the first place, man being designed for an inhabitant, not of one particular country or climate, but of the world at large, from the equator to the poles, must of necessity have his organs adapted to a greater variety of food than most other animals, which are either restricted by nature to a particular country or climate that supplies their necessary food, or else seek, by a periodical migration to another climate, for that sustenance which their own no longer affords. Man, therefore, as having a greater variety of food, has of course a greater selection, from which to suit his own particular need. In the second place, beside the greater variety thus provided for him by nature, man is possessed of the means, in his own ingenuity and invention, of altering and preparing the same kind of food to his own particular situation; an advantage, so far as we know, possessed by no other animal.

Notwithstanding of these advantages enjoyed by man over other animals, *first*, in respect of the greater variety of choice, and, *secondly*, in respect of the various ways of altering and preparing his food according to his taste, or the state of his organs, still we observe even here the importance of trituration or mastication; as we find, other circumstances being equal, the digestion is more easy and complete, in proportion as the food is more carefully and minutely divided. This is particularly observable in weak dyspeptic stomachs, where, if the food be not very completely divided, it very soon runs either into a kind of acetous or putrefactive process.

Having thus endeavoured to obviate some of those objections which are usually brought against the use of animal food, as well as to lay down a few

few of the more obvious and leading principles which may serve to direct our choice in general, I should now proceed to consider the different qualities of animal food in particular, as this may be taken either from the different classes of animals, or from different animals of the same class. This, however, would lead to a greater length of discussion than the limits here prescribed to us will permit; and, which is still worse, would after all prove very unsatisfactory, as but little accurate knowledge has hitherto been obtained on this subject. Instead of entering, therefore, any farther into discussions which would at best be of no benefit to the greater part of those for whom this treatise is chiefly intended, (the lower orders of society, I mean), I shall confine myself here to a few simple observations and directions which, I think, may really be of some use.

Animal food, at least butchers meat, has for some time past been so extremely high in most parts of this country, that any directions on this subject to the common people may almost appear superfluous. It may even look like an insult to a labouring man, perhaps with a large family, to offer him any advice about the purchase of an article, which at the present price, in general, may be fairly supposed beyond his reach. Far, however, from wishing to insult so useful, and, in my opinion, while he conducts himself with propriety, so respectable a member of society, I can only declare, that I sincerely sympathise with him in any hardships and difficulties to which, from his particular situation in life, and the general pressure of the times, he may be exposed to. In proof of the sincerity of my declaration, let me plead the freedom and the earnestness of that advice which I am now about to offer him.

In the first place, I set out with noticing a fact which, though I believe to be unquestionable, has not met with the attention which its importance deserved. It is this, that with regard to the lower ranks of society in general, and especially in respect to the labourer, the hind, the mechanic, and the artizan, the *absolute price* of provisions is really of very little consequence; it is only their *relative price*, or the *price of provisions* compared with *labour*, that affects them. It matters not to me that the price of provisions be raised one third, or a half, or even tripled, provided the price of my labour rise in the same proportion. Thus, with regard to the merchant or shop-keeper, an additional duty, or a rise upon any commodity, does not come out of his pocket, but his customers. It is the same with regard to all that labour, at least, that is employed in raising or manufacturing the necessaries of life. What cannot be dispensed with, *must* be purchased at the rate which he who has the disposal of it can afford to sell it at, after deducting the price of his labour. If the article be necessary, it *must* be purchased; and this *can* only be at the seller's price.

The chief difficulty that occurs here is in respect of that species of labour that is employed on what may be called the *luxuries*, as in the finer arts, and likewise on those manufactures that are intended for foreign markets. With respect to labour employed on luxuries, it is evident, that as these are not absolutely necessary, those employed in their manufacture cannot command their own price. They *must*, therefore, be contented to take what the purchaser chuses to give; and if this be not sufficient to indemnify them for their labour, why then there is an end of the business? They must either take to some other trade
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that may be more in request, or carry their labour to some other market, where they may receive a more adequate reward. Nearly the same thing holds with respect to labour employed on the manufacture of goods for foreign markets. If the master be not able to indemnify the tradesman for the labour employed in the manufacture, and at the same time to bring his goods to market on the same terms with those of others of equal quality, he must either give up that branch of manufacture, or go to prosecute it in some other place, where the expence of labour is less.

It is to be observed, however, both in regard to luxuries and foreign manufactures, that though the price of the labour employed on them cannot be raised at pleasure, but must always bear a proportion to the demand, or to the state of foreign markets; yet it must be such, on the whole, as to indemnify those employed on them, for the greater risk and uncertainty with which they are conducted. A higher price, therefore, must of necessity be paid for the actual labour employed on these productions, as a compensation for the uncertainty of employment; so that he who reaps the advantages of this uncertainty on the one hand, in the higher rewards he receives for his labour, has no reason to complain of its disadvantages on the other, in the occasional want of employment. Having made his election, he must be content to take the good and the bad of his situation together, and cannot reasonably expect to reap its emoluments without participating, in some measure, of its inconveniences or hardships.

It has already been observed, with regard to that species of labour that is employed in the production or manufacture of the necessaries of life, that it must universally, in every free country,

bring an adequate reward; because, since the labour is absolutely necessary, it must be purchased at the rate for which the seller is willing to dispose of it; which, of course, includes all the articles that are of prime necessity. The only thing like an exception to this general rule, occurs in those temporary fluctuations betwixt the balance of labour and provisions, from a sudden rise of provisions in consequence of the failure of a crop, or some other cause. This evil, though from the nature of the thing it can only be temporary, yet, as it proves very distressing for the time it lasts, and especially as it has been severely felt this season, requires to be considered a little more particularly.

In the first place, let it be observed, that however carefully the balance between labour and provisions be adjusted on the whole, yet temporary fluctuations must occur on either side. If there be a deficiency of labour, provisions must rise; and if there be a deficiency of provisions, as in the present case, labour must rise in proportion: And not only will labour rise in proportion to the deficiency, or, in other words, the dearth of provisions; but this rise will be more or less rapid in proportion as the dearth has been more gradual or sudden. If the rise of provisions be very slow and gradual, labour may continue for a little as it was; for, besides the difficulty he finds in raising the price to his employer, where the necessity is not very apparent, the labourer himself is for some time, from the change stealing gradually upon him, as well as his daily hopes of a more favourable state of markets, unwilling to have recourse to the measure, and rather endeavours for a time to supply its place, either by the actual increase of his labour, or by a more economical management

management of its produce. Should these endeavours fail, however, and the rise continue, he must then, of course, advance the price of his labour in proportion. But if the rise of provisions, instead of being slow and gradual, as here stated, be at once sudden and considerable, the rise of labour in that case will be more sudden and rapid. The labourer will then not be backward to advance a claim which he sees to be absolutely necessary, nor can his employer long resist a demand which, while he sees it to be just, he knows at the same time the claimant has the power to enforce.

In either case, however, some little time, though less on the last supposition than the first, will elapse, before the price of labour can be brought to a level with that of provisions. The disease must first be ascertained, before the cure can be administered. It is this interval which is to be considered as the period of real danger and difficulty, and for which, if we wish to obviate these, a suitable provision must be made. With this view, and from the best intention, a wish to relieve the labouring class of society from some of the principal of those difficulties to which their situation subjects them, I would beg leave to suggest the following short observations to their attentive consideration.

With a view, then, to meet this emergency, or to provide a supply for the interval between the rise of provisions and that of labour, I would recommend it to all the labouring classes of society, as an invariable rule, not to be deviated from but on the greatest emergency, to lay by, in favourable years, some portion of their wages, as a little stock to be kept in reserve when times grow worse. To advise a labourer, out of his pittance of wages, to lay

lay by a small stock for an emergency, may, to some, at first sight, appear ridiculous. This, however, I know from matter of fact, as well from speculation, to be perfectly practicable. Not only do many labourers and tradesmen save a weekly pittance from their wages, to be put into the box of some society, from which they afterwards, in case of disease or indisposition, draw a weekly allowance, but *many* of that class, in country-places, indeed I might say *all* that are possessed of proper activity and management, actually do save money, and some of them considerable sums, which they put out to interest.

The first of these practices, that of putting a small weekly sum into a society-box, is, in my opinion, not only highly proper and useful, as it frequently affords a most seasonable supply to families which, in consequence of the temporary indisposition of their head, would otherwise experience the greatest distress. This fund should therefore be held sacred, as a provision for disease or calamity. All that I meant to argue from this was, the practicability of what I propose; which appears in a still stronger light from the other fact taken notice of, the sums of money that are saved by that class of people in country-places, where the wages are always considerably lower than in large towns or their neighbourhood. To counterbalance this on the other side, it may indeed be urged, that living is cheaper there also; and therefore they may be better able to save a little than those who live in towns. The fact, I believe, though not the conclusion, must in some measure be allowed. That the necessaries of life are in general cheaper in remote country-places than in towns, is unquestionable, though not to the extent, I maintain, of the difference in the price of labour, because
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cause the list of necessaries in such situations is always much smaller than of what are reckoned to be such in towns; and therefore, the provision for them, or, in other words, the price of labour, is smaller in the same proportion. Suppose them, however, which is all that I argue for, to be equal, it follows undeniably, that labour, in general, when properly managed, will always afford some little overplus beyond the mere necessaries.

But beside this argument drawn from the general overplus of labour above necessaries in common years, another still stronger yet remains to be mentioned. As the rise of labour has been shown to be a necessary consequence of the rise of provisions, a fall in the price of provisions will be necessarily attended with a corresponding fall in the price of labour. With this difference, however, between the two cases, that as the labourer, in the first instance, while he was paying *higher* for his provisions, received for some time only the *same* price for his labour, here, on the other hand, the advantage is evidently on his side; for, while he continues to receive, for some time, the same reward for his labour, he is now paying less for his provisions. This extraordinary surplus of labour above provisions happens precisely in the same way as the deficiency between the price of labour and that of provisions in the other case. As it will probably be to the same extent, and as it must take place equally often with the other, it may therefore be fairly considered as an equivalent to it; so that the price of labour may be considered as permanently above the price of necessaries.

Having ascertained this overplus of labour above necessaries, let us next inquire into the best method of collecting this, as well as disposing of
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it when collected. The best method of collecting it, I apprehend unquestionably to be, by laying by a certain small sum, daily or weekly; suppose, for instance, a shilling each week. At some seasons of the year, as in summer and harvest, when living is not only cheaper, but wages in general better, there can be no difficulty in saving more than this; but in winter and spring, it may perhaps be inconvenient to spare so much, from the necessarily increased expences at that season. I shall suppose it on an average at this rate, or about fifty shillings in the year. Let us next inquire how this may be best disposed of; and here it fortunately happens, that the end of the season which is the best for collecting the money, is likewise the very time when it may be disposed of to the most advantage. This is about the end of harvest, or the beginning of winter, or about *Martinmas*. About this season of the year, provisions of every kind are commonly the cheapest. Some time about *Martinmas*, then, or at least betwixt that and new-year's day, let this fifty shillings be laid out partly on butchers meat, and partly on meal and potatoes. I would propose the following proportions: About twenty shillings to be laid out on beef, as much on meal, and the remainder on potatoes. These I consider as the only articles of prime necessity, and therefore to be provided for before all others. With these sums, properly laid out at this season of the year, he may in general purchase about four or five stones of beef, six or seven stones of meal, and perhaps about twenty pecks of potatoes. In most places, he will be able at this season to purchase much more of all these articles for this money. I am calculating them about the highest rate.

Now, it is evident that this small quantity of provisions,

provisions, if they were begun to immediately, would last but a very short while in a large family; most probably, they would all be done before things had advanced much in their price, and at any rate, long before these articles had come to their highest price for the year. I would therefore propose, in the next place, that the meat, after being well salted and packed, should be carefully covered up and set by; that the potatoes should likewise be carefully put up in some dry place, and well protected with plenty of straw from any frost that may happen; and that the meal, after being kneaded into a little boat, be likewise set past. The chief saving intended here arises not from laying in a quantity of these articles together, by which means they are commonly got cheaper, but from their being then to be got at an easy rate, perhaps one half, sometimes even a third, of what they would cost afterwards, and from their being afterwards laid by for use till this rise in the price have actually taken place. They are, therefore, to be set by till spring, when these articles commonly begin to get dear; and, in the mean time, the labourer is to trust to his ordinary resources for his subsistence. Nor should even a small rise in the price tempt him to have recourse to his hoard before that period, as he may be assured, in that case, of a more considerable rise afterwards, he ought rather to keep them in reserve for that period. As the spring advances, however, he may begin to use them sparingly, and in such a way as to make them serve him, if possible, till towards the middle of summer, when these articles commonly begin to fall again in their price.

As to the articles themselves—I have advised him to take beef in preference to any other kind
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of butchers meat, because it keeps better, when salted, than any other meat, except perhaps pork. This keeps well salted; and as it is even more nutritious than beef, from its being usually fatter, it might perhaps be even preferable to this; but unfortunately it does not answer so well for making broth, which is unquestionably an important article in the diet of a labourer's family. Pork, however, does excellently for stewing with potatoes, and makes a very flavoury dish; so that, when he has plenty of these, he may use a bit of pork for salting with fully as much advantage perhaps as a bit of beef. The only thing farther to be observed with regard to this article is, to take care that it be well salted and packed, and carefully covered up. Meal and potatoes do not require much nicety in the keeping for so short a time, only they must be kept perfectly dry, and the potatoes carefully defended from the frost. When the warm weather sets in, too, potatoes are apt to begin to shoot, which hurts very much both their taste and their nutritious qualities. To prevent this, they must be exposed freely to the open air, and turned carefully every day, or every other day at farthest, and any shoots that have made their appearance taken off.

After what has been already said on this subject, I hope it is not necessary to say any thing farther on the advantages to be reaped from this plan, as they must, I presume, be sufficiently evident. I shall only observe, that, by a regular plan of this kind, beside the accidental and extraordinary advantage he may reap in a year like this, (when the necessaries of life have risen to two, or nearly three times the price for which they might have been purchased last year), he will have

have the certain and permanent benefit of laying in every year a stock of provisions, when these are cheapest, to supply himself and family for the most of the time when they are dearest. Of the practicability of the plan, I am perfectly satisfied. Indeed, it is evident no difficulty can occur, except the first year; for every year afterwards, he will save so much by the plan proposed, as will easily enable him to carry the same into execution in the year following; and even this difficulty of saving from two to three pounds of his wages for one year, at least in common years, I am satisfied may be got the better of, when the solid and permanent comfort of himself and family are considered as connected with its execution.

The only farther addition I would propose to make to this scheme, would be in respect of an article, not connected indeed with this subject any farther than as it forms an indispensable necessary to the comfort of a poor man's family during the inclement season of the year; I mean, the article of fuel. I should wish to extend the plan, if possible, so far as to admit of two or three carts of coals being laid in at the beginning of winter, which might amount, on an average, to about a guinea additional. This would not only be a great saving to him in common years, as he buys them always dear in small quantities, but would prevent the necessity of his paying perhaps two prices for this necessary article, in case of a storm, or any other accident, which may either diminish the supply or increase the demand beyond what is usual. From this short digression, which, I hope, will not be deemed foreign to the object of these observations, I return to the consideration of aliment.

OF VEGETABLE FOOD.

It has long been customary with writers on this subject, while they condemned the use of animal food as unnatural and cruel, and as productive of most of those diseases to which mankind are subject, to launch forth at the same time in praise of a vegetable diet, as not only the most natural, as they affected to call it, but as the most conducive to the health and vigour of the human body. In speaking of animal food, I have already hazarded my opinion on that subject, and observed, that man, from the structure of his organs, and from analogy, was evidently designed, at least in part, for animal food, and that the diseases imputed to it arose either from other causes, or from its being used in an improper manner or quantity, or in an unsound state.

I likewise ventured to alledge farther, that a moderate use of animal food was more conducive to health than a vegetable diet. In making this assertion, I had chiefly the lower classes of society in view, who, while from their severe exercise and fatigue, they certainly require more nourishment than the other ranks, yet in general take much less. Hence the greater part of the diseases among this class, especially in large towns, are of the low nervous kind, such as proceed in general from debility and a want of proper food. The truth of this assertion, I believe, will scarcely be called in question by any medical man at all conversant with the subject. Far from inveighing, therefore, against the use of animal food,

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I do not hesitate, in addressing this class, to recommend a more liberal use of this article than is customary at present. This, however, is only to be done by a well-regulated plan of œconomy, similar to what has been recommended, and by laying aside all those foolish luxuries that are at best useless, some of them even of themselves pernicious; and which are all, unquestionably, highly so, when used to the exclusion of such an important article of diet as animal food. As the chief of these I consider spirits, tea, snuff, and tobacco. Now, suppose that a moderate use of these articles were even harmless or innocent, when indulged in by people who at the same time have plenty of the necessaries of life, yet on how different a footing do they stand with regard to the lower classes! It is perfectly evident, that the common wages of labour cannot afford both the luxuries and the necessaries of life. The labourer, therefore, who indulges in the luxuries, must do it at the expence of resigning a proportional share of the necessaries. The one, at least the necessaries, he may have; both he cannot expect. The alternative is in his choice. Let him then make his election; only, should he chuse the luxuries, let him remember that he has no right to complain if he be in want of the necessaries. If his labour industriously exerted, and the produce carefully applied to the purchase of necessaries for himself and family, be still inadequate to their subsistence, then, and not till then, may he arraign the institutions of that society, which in dooming him to labour without an adequate reward, has aggravated, tenfold, the original sentence of his condemnation, "In the sweat of thy face shalt thou eat bread, till thou return to the ground."

In thus endeavouring, however, to restrain this class from the use of luxuries, which are of themselves *many* of them hurtful, and which must, *all* of them, be more or less so, when used to the exclusion of any of the necessaries, I am far from wishing to deprive them of the gratification of any innocent indulgence. I am far, very far, from the most distant wish to abridge, on the whole, the sum of their enjoyments; but as these are necessarily limited in some measure by their situation, I would fain direct their choice to such as are really useful. If I would thus debar them from the use of some of the luxuries, it is only with a view to bring more of the necessaries, and even of the comforts of life, within their reach. What was thus deducted, therefore, on the head of superfluities, would be returned with interest, in the full enjoyment of the necessaries, and of some of the comforts, of life.

Though I have already ventured to recommend to the lower orders of the people a more liberal use of animal food, because I am satisfied that this, by proper management and œconomy, is not only within their power, but would at the same time be highly conducive to their enjoyment and their health, I am yet far from being averse to the use of vegetables. On the contrary, if, instead of the labourer and the mechanic, I had been addressing the wealthy and the luxurious, my advice would have been just the reverse; and, in place of recommending a more liberal use of animal food, I would have advised them to use a great deal less of this, with a larger proportion of vegetables; neither the one nor the other of those kinds of food being *absolutely* hurtful of itself, but only when considered *relatively* to the situation and occupation of the person employing the

the same. Thus the same kind, or the same quantity, of food that may be useful, and even necessary to the labourer and the mechanic, may be, and actually is, highly injurious to the indolent and the inactive. Nor are the lower classes more liable to diseases from want and inanition, than are the higher ranks from excess and repletion. Whilst I would recommend, therefore, a more full and nutritious diet, and consequently consisting more of animal food to the former, I would at the same time recommend one that was more spare and abstemious to the latter, composed, of course, of a larger proportion of vegetable matter.

Vegetables, in general, yield not, in proportion to their bulk, the same quantity of nourishment as animal food does. They seem, however, to afford it of nearly the same quality, as appears not only from instances of particular individuals, but even of whole classes and nations, who, from taste or particular prejudices, political or moral, subsist entirely on vegetable food, without experiencing any particular inconvenience. As containing less nourishment in the same bulk, it is most properly conjoined in diet with a portion of animal food; this last supplying in *quality* what the former wants, whilst the former again makes up in *quantity* for that in which the latter is deficient, serving thus mutually, as it were, to correct the deficiencies the one of the other.

If vegetable food be less nourishing than animal food, it is likewise less stimulant, or, as we commonly speak, less heating. On this account, we use vegetable food only in all acute or febrile diseases. It is, however, at the same time, less easily digested than animal food, and therefore more readily produces flatulence, particularly in

people whose stomach and bowels are weak. Whether this greater difficulty of digestion proceed merely from the firmer texture of vegetables, which thus prevents the gastric fluid from acting so readily upon them, or whether it may not proceed from some other cause, as from the weaker attraction between these substances, does not seem sufficiently ascertained. One thing at least appears certain, that in proportion as we diminish this firmness of texture in vegetables, either by the application of heat, as in the different operations of cookery, or by mere mechanical division, as in grinding, &c. we in general increase the facility of their solution. This subject, however, will be resumed afterwards.

As all vegetables in general do not equally afford nourishment to man, and as even of those that do only a certain portion of them seems to answer that purpose, it would be requisite, to treat this subject in a scientific manner, to ascertain, in the first place, on what particular principle or principles of vegetables, nutrition depended; and afterwards, in treating of particulars, to ascertain how far or to what extent, this principle was found either in different individuals, or in different parts of the same individual. But, unfortunately, we are not yet sufficiently acquainted with the nature of nutrition, to know on what particular principle of vegetables this depends. We see every day a variety of different vegetables taken as food. Of these we observe some more and some less nutritious, without our being able to explain satisfactorily the superiority of the former, any more than the inferiority of the latter. We know indeed from experience, that such substances as contain a large proportion of the *oily* or the *saccharine* principle, are in general remarkably

remarkably nutritious. But we know likewise, that other substances which do not appear to possess either of these properties, as mucilages, gums, the fecula of plants, &c. prove equally nutritious.

We know likewise, that digestion, which may be considered as the first part of the process of nutrition, is neither effected by trituration, fermentation, nor any of those processes that had been so foolishly imagined, but is really in some measure a true chemical process; and that an actual solution of our food, animal as well as vegetable, takes place by means of the gastric fluid. But still this leads us but a very short way in explaining the process of nutrition; for though, from what I observe in chemical solutions out of the body, I may easily imagine that something of the same kind takes place in the stomach, yet this gives me no information respecting the manner in which vegetable aliment is first converted into chyle, then into blood, and lastly into the real substance of the animal. Solution indeed leads me to infer a change in the cohesion or consistence of a body, but it does not necessarily lead me to infer a change in its other properties, or in the nature of the substance. If I dissolve a salt, for instance, in water, it is still a salt possessing all its properties but that of solidity; which may be easily restored to it again by the evaporation of the water. The solution of a vegetable, therefore, conveys to me no precise information respecting its conversion into chyle or blood. Nor is this all: Man, as well as other animals, may be nourished either entirely, or in part, upon animal or vegetable substances in a fluid state. Here, therefore, it is evident, no solution can take place. Digestion must therefore depend upon some other and more general cause, of which so-

lution seems merely an *accidental*, not a *necessary* effect. But I return from this digression.

Beside our ignorance of the nature of nutrition in general, we labour under a farther difficulty here in treating of this subject. The analysis of the different vegetables which we use for food, has not hitherto been made with sufficient precision to ascertain accurately all the different principles of which they are composed, or the various proportions in which these enter into their composition; so that, were we even acquainted with that particular principle of vegetables on which nutrition depends, yet as we are ignorant of the exact proportion in which this may be combined in different vegetables, we should still be unable to apply the general principle to particular vegetables. All that we shall venture to do, then, in this situation, will be, to offer a few short remarks, such as experience and common observation have suggested, on such of those vegetables as are in most frequent use in this country, with some reflections on the most æconomical mode of using them for food. We shall begin with those substances which, from their containing a large quantity of farina or flour, have been called *farinaceous*.

OF FARINACEOUS BODIES.

THIS class comprehends the greater part, and certainly the most nutritious, of those vegetables that are used by man for food in different regions of the world. Most of them, before being
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used, are ground down to a farina or meal, and afterwards either made into bread by baking, or converted into a kind of pottage or pudding, by boiling with water, &c. A few of them, however, are generally used in their entire state, only taking off their outer skin or husk. I shall offer a few remarks on such only as are in most frequent use in this country, or in my opinion deserve to be so.

Wheat.—This article, under the form of bread, is one of the farinaceous substances most frequently used, not only in Britain, but in Europe, and even in America. This general preference in favour of wheaten bread can scarcely proceed from prejudice or accident, but must be founded on the superior qualities of the substance itself. This is in some measure, in my opinion, confirmed, when we consider that wheat is not only raised with more difficulty than most of the other farinaceous substances, but is in general less productive, and of course usually bears a higher price. Whether it really contain, however, in proportion to its bulk, a larger quantity of nourishment than any of the other substances of this class, does not appear quite certain; but there is no doubt, that, when properly managed, it forms a lighter, and, in general, a more palatable bread than any of the other farinaceous substances with which we are acquainted. As this is the way in which it is commonly used for food, it is probably the chief reason of that general preference given to this grain over all the others. Though this, however, may appear a sufficient reason for using this grain in preference to others for the purpose of making bread, it by no means follows hence, that some of the others may not be used with equal, or even with more advantage, under some

other mode of preparation. This I actually maintain to be the case; and while I allow, in general, that the flour of wheat makes, unquestionably, the most perfect bread, I must insist that bread of any kind is not the most æconomical or thrifty mode of using grain*, and that some of the other farinacea,

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* The mode of living in general, adopted by the lower classes of society through a great part of Britain, but especially in towns, is certainly extremely injudicious and improper. It were difficult to determine whether it were most injurious to the public, or the individual. In the first place, instead of confining himself to the use of necessaries, he must vie with the rich, forsooth, in the use of spirits, tea, tobacco, which, though they may be *luxuries* to the rich, certainly cannot be so to him who is in want of the *necessaries*. In the second place, of these necessities wheaten bread constitutes the principal, and indeed almost the sole article of his subsistence. To the truth of this assertion, I can myself bear witness, having found repeatedly, of late, when I had occasion to visit families of this description, a poor man, with a large family, sitting at mid-day, round a tea-table indeed—but without any other thing, beside the tea-equipage, but a bit of *dry wheaten bread*; and this was his dinner! The folly of a poor family sitting down to take a dish of tea to their bread, when they cannot afford a bit of butter to it, is truly extravagant! this is really “the mustard without the meat.”

That universal custom of the lower class, of using wheaten bread to all their meals, or indeed, I might say, of living entirely upon it, cannot, for many reasons, be too much condemned. *1st*, Wheat, as being neither easily reared nor very productive, must always be expensive. Besides, the increased demand, which is the consequence of this universal passion for wheaten bread, by turning the attention of the farmer to this, withdraws it in some measure from the cultivation of other species of grain that are more productive, and therefore more beneficial; and thus proves a public loss. *2^{dly}*, Baked bread of any kind, from the extraordinary trouble that necessarily attends this operation, must always be considerably more expensive than grain of the same kind that can be used for

food

as better adapted to other and more æconomical preparations, ought therefore to be preferred for common use. Wheat-flour indeed may be used for food in various other ways beside being baked into bread, and this objection might thus be obviated.

food without this previous manufacture. 3dly, Another consideration of still more importance than the two former is—that the *same quantity of grain* baked into bread will not afford near the *same quantity of nourishment*, in other words, will not satisfy hunger or support the strength equally, with a similar quantity prepared in a different manner, particularly when made into *pottage*, or *hasty pudding*, or into a *soup* by proper boiling. The difference in this respect is of the utmost importance, not only to the poor, but to the public at large, and to a person who has not made or seen the experiment, is truly astonishing.—From my own observations, which, I confess, have not hitherto been made with sufficient frequency and precision, I would conclude, that this was, at the very least, in the proportion of three to one; (I say at the least, because I believe it to be still more); that is, that five ounces of barley or rice properly boiled, or till it be of the consistence of a jelly, or the same quantity of oat-meal well-boiled into pottage—will afford as much nourishment, in short, as substantial a meal, as fifteen ounces of any of these same substances baked into bread. This assertion, however extraordinary it may seem, does not rest alone on my own observations. It appears from some experiments of the well-known Count Rumford, made in feeding the house of industry at Munich, that about one pound and a quarter of soup was sufficient for each individual to dinner, that is, for the purpose of satisfying hunger, and supplying nourishment. This portion of soup contained only from five to six ounces of solid materials, namely, barley, peas, cuttings of bread, and potatoes. This last article, too, not very nutritive to its bulk, was in considerably larger quantity than all the others put together. Now, in estimating the quantity of solids here, the Count has evidently taken them at too much, in considering the whole materials

viated. But then, on the other hand, these other preparations of wheat-flour, puddings, &c. require, to render them palatable, various additions, too expensive for the common people.

An objection, however, occurs here, which, from the great authority on which it rests, requires a little more consideration. The farina of wheat, it

terials employed as solids; for beside the water contained in the other vegetables, (and baked bread contains a considerable proportion), the potatoes, which here constituted considerably more than one half of the whole, consist always, for a great part, of water. So that, making the necessary allowances, the quantity of solid matter was still greatly less than the estimate, probably not above three or four ounces.

That so small a portion of solid food, and that vegetable too, should be perfectly sufficient to satisfy hunger, and to maintain health, (for beside this soup, which was served up to his dinner, each individual got nothing else through the day, but about seven ounces of rye-bread, which usually served for his supper), is truly astonishing! To account for this, the Count supposes that the water made use of was thus somehow "prepared for decomposition," and that if afterwards entered into the composition of the human body, in the same manner as it is known to be decomposed by vegetables in general, and likewise by some animals, as fishes. To enter into any serious dispute with the ingenious Count upon a mere supposition of his, unsupported by any thing but vague analogies, would in my opinion be improper any where, but in a Work of this kind ridiculous. I shall only stop to observe here, that the analogy taken from the decomposition of water by plants scarcely affords a presumption even that the same occurs in animals, since we know that plants likewise decompose nitrogene gas, on which animals do not produce the slightest change. Nor is the analogy with fishes much better supported, as fishes seem capable of living merely on *water*, which may thus supply to them the place of *air*. I shall afterwards endeavour to explain this on a different principle.

it is now well known, contains a considerable proportion of a glutinous matter, which the other farinacea either want entirely, or contain but in very small quantity. It is equally well known, that the farina of wheat, perhaps in consequence of this glutinous matter, ferments more readily and more completely, or, in common language, rises better than any of the other farinacea do;—and from this same cause, a more complete previous fermentation, wheaten flour makes a lighter and more perfect bread than any of the other farinacea. Now, as it has been maintained, that all unfermented farinacea were unwholesome, and that in particular, (as the great Boerhaave first, and many others afterwards, alledged), they produced a spissitude or thickening of the fluids;—it therefore followed of course, that as the farinacea in general, in the operation of baking, underwent a more complete fermentation than in any of the other common modes of preparation, bread, therefore, was the most wholesome method of using these substances,—and of course that wheaten bread, as being most completely fermented, was the best.

In answer to this, it is to be observed, that if flour, and particularly wheaten flour, must be made into bread for use, I believe that it will make a lighter bread, and of course will, in general, be more easily digested, if it have been previously subjected to a degree of fermentation. This rule, however, applies only, or at least in a special manner, to the flour of wheat. For the flour or meal of barley and of oats, when properly baked and fired, without any fermentation, makes a bread equally light with wheaten bread. This I affirm from my own observation, as well as common experience. But wheaten flour, if baked without fermentation, certainly

certainly does make a heavier bread, and to people of delicate stomachs, or with dyspeptic complaints, less easy of digestion.

Whether this may proceed from the large proportion of glutinous matter which it contains, is not certainly known: nor is it much more certain whether its more complete fermentation depend upon the same principle. At any rate, this process seems to produce a change on it, similar to what animal food undergoes by being kept for some time before it be used. Whether these changes be precisely of the same nature, I will not venture to affirm, only there appears to be a considerable analogy betwixt them in the causes which excite, and the symptoms that accompany, them, as well as in the effects which they produce. The fermentation of bread, therefore, I consider as no more necessary to render it wholesome, than the preservation of animal substances a certain time before they be used. Both the one and the other softens the cohesion of that body which undergoes the process, and may thus render it lighter, as it is called, or of more easy digestion, particularly to such as have weak stomachs. But the idea of unfermented bread producing certain diseases, particularly an inspissated state of the blood, I consider as merely the dream of a mechanical physician.

Oats.—This, for a long period of time, was the grain mostly used for food in this country, as well as in some parts of England. Of late, however, a more general introduction of wheaten bread into this country has in a great measure superseded the use of this article, except in remote country-places. Almost every where else, but especially in towns, wheaten bread alone is now made use of even by the poorest class of the people. This
general

general change in the mode of living, I am afraid, has not been less disadvantageous to the public, than hurtful to individuals. Oats are in general in this country a much more certain, as well as a more productive crop than wheat; their cultivation is of course more beneficial to the public. They do not require either the same manure or the same tillage with wheat. They must in general, therefore, be afforded much cheaper, and of course the individual, in using this grain, saves the difference.

To both these allegations it may indeed be objected, that though oats be in general a more productive crop than wheat, and may commonly be afforded much cheaper—that it does not necessarily follow from this, that the cultivation of the former is more beneficial to the public, or their purchase a saving to the individual, unless it can be shewn at the same time, that they afford an equal quantity of nourishment; at least any deficiency in the *quality* must be more than compensated by the excess of *quantity*. To answer this objection completely, some data are still wanting, as no experiments that I know of have been made to ascertain the nutritiousness of the two grains under precisely similar circumstances, or with exactly the same mode of preparation. Wheaten flour, is now very universally, I believe, used for making into bread after being fermented while oat-meal is as commonly, when used for that purpose, baked without any previous fermentation.

From the flour of these two grains, employed under such different circumstances, no absolute conclusion can be drawn, as it is well known that the nutritious qualities of food, particularly of vegetable food, depend much on the method of preparing

preparing it; and as these flours may be, and are, at least the oat-meal, very commonly used in another way, in which, as I shall afterwards show, it is much more nutritious than when baked. The two flours are indeed both sometimes baked into bread without fermentation, and this, though it could not, for the reason just given, afford a positive conclusion, would certainly be a fairer comparative trial than the other. But then, wheaten flour is so seldom used in this way, without other additions, as butter, &c. which must certainly improve its nutritious quality, that common experience is not of itself sufficient to ascertain this point; and no direct experiments that I know of have been made for the purpose.

But were it even proven, which it has not been, that wheaten was more nutritious, in proportion to its weight, than oaten bread, this would prove nothing with regard to the general proposition, that wheat was more nutritious than oats. It would only prove, that in this particular mode of preparation wheat was preferable to oats; which might depend on the specific preparation of each, the one being fermented, the other not, and likewise on the relative quantities of water employed in baking them, which might give a difference in their relative weight. I will even confess, I am myself, though not from any direct experiments or observations of my own, inclined to think that wheaten bread is more nutritious than oaten, when both are made in the usual way. This not only coincides, I believe, with the common opinion on this subject, but perfectly falls in with my general principle, that the nutritiousness of these grains depends very much upon their more complete preparation. And that this is actually the case in the baking of wheaten bread, cannot be denied.

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Were it, therefore, absolutely necessary in using these substances, to bake them first into bread, this would certainly be one reason for giving a preference to wheat, tho' other reasons against its general use, at least, might still counterbalance this, as the smaller product, the more difficult and precarious cultivation, the higher price of the grain, &c. as well as the more difficult, and of course more expensive, preparation of the bread. When all these items shall either be placed to the *debit* of wheat, or when, after every necessary deduction, if such there be, the balance shall still be shown to be on the same side; then, and not till then, will that universal predilection for wheaten bread, and of course the greater attention of the farmer to the cultivation of this grain, be either beneficial to the public, or advantageous to the individual.

I shall now, however, endeavour to show, that the operation of baking, so far from being necessary to the use of any of the farinacea, is in reality the most profuse and extravagant way in which, so far as I know, they can possibly be used. That this is really the case with respect to some of the farinacea, barley and oats for instance, which, from their being frequently, in this country, used in the form of soup and pottage, thus afford a standard of comparison to judge of their relative nutritive qualities, there cannot be the least doubt. With respect to wheat, there is every reason to think that the same argument will apply in a great measure, though, from its being less frequently employed by itself in any other way but in that of fermented bread, we have not the same opportunity of instituting a comparison. But I have very little doubt that wheat, perhaps used either in the form of barley for soup, or in that of flour for puddings or dumplings, if boiled sufficiently

sufficiently with a proper quantity of water, will afford a great deal more nourishment than if baked into bread. That the difference in this respect, however, betwixt these preparations of wheat, would be equal to that between the preparations of barley and oats, I will not venture to assert, as wheaten bread, by the more elaborate process in baking it, in which a considerable portion of the water is very probably decomposed, or at least somehow enters into composition with it, is probably more nutritious than either oaten or barley bread.

But suppose it otherwise, and that wheaten bread were actually the most thrifty and æconomical mode of using this grain, this, far from weakening, would strengthen considerably the general argument, respecting the utility to be derived from a more sparing use of the article of bread, and to supply the deficiency, a more frequent and liberal use of soups, broths, pottages, &c. For if it be allowed, which, I believe, cannot be denied, (as it appears from an average of actual surveys taken in a considerable part of England, a soil and climate, too, certainly more favourable to the cultivation of this grain than Scotland), that wheat, though it be always sown upon the best land, is much less productive than oats or barley, at the same time that it requires a more laborious and expensive cultivation, and of course must always be bought at a much higher price;—if wheaten bread be likewise the most æconomical, as it is almost the universal, mode in which this grain is employed, or at least if the other methods of using it be only on a par with this;—if, then, it can be shown, that oats and barley, which have so many other advantages to recommend them, have likewise this peculiar, and I must call it astonishing,

astonishing, superiority, that perhaps one *fourth*, at any rate a *third*, of either of these grains, properly prepared, either in the form of soup or potage, will afford as much nourishment as *three* times the same quantity of wheaten bread, which beside this has many other drawbacks attending its use. This will, in my opinion, place the argument in the most striking point of view; I enter now, therefore, on this part of the subject.

I begin with the experiments, which I had already occasion to notice, of Count Rumford; and I do this the more willingly, as the probity and accuracy of that gentleman, as well as the publicity of the experiments themselves, render the facts perfectly unquestionable. From these, then, it appears, that twelve hundred people were constantly maintained at the House of Industry of Munich;—that each of these received daily about a pint and a quarter, or nearly twenty ounces, Avoirdupoise weight, of soup, with a bit of rye-bread, of seven ounces weight;—that they came early to the house in the morning to their work, and, after continuing there all day, went home late at night, so that there was every reason to think they got no other sustenance than what they received at the House of Industry;—and that they exhibited all the appearance of health and contentment.

Now, each of these portions of soup, according to the Count, contained nearly six ounces of solid food; in one case, this consisted of equal parts of pearl-barley, and peas, with nearly one fourth of fine wheaten bread; in another, the peas and the barley were reduced to one half the usual quantity, and a quantity of potatoes, double the measure of both, was substituted in their stead, the bread being continued the same as before.

The Count, in estimating the quantity of solids contained in each portion of the soup at six ounces, takes the last case, where the quantity was greatest. As the cases were brought forward, chiefly with a view to show for how small a sum a portion of the soup could be afforded, he naturally takes that which was the cheapest. This was in the case where potatoes were substituted to a portion of the peas and barley before employed. These, though they added greatly to the weight of the solids employed, from the large proportion in which they were taken, yet from their smaller price diminished considerably the expence of the preparation. The Count, therefore, as he was at perfect liberty, took that which was the most to his purpose. It is equally natural for me, however, in making my own use of these experiments, to take the same liberty.

I have therefore brought forward the first case likewise, as the quantity of solid materials here, to each portion of the soup, was only a trifle more than $4\frac{1}{2}$ ounces, or exactly $4\frac{672}{1000}$ ounces. Now, even of this quantity of solids, small as it may appear, it is to be observed, that very little above three-fourths entered at all into the composition of the soup; the other fourth, or nearly so, consisted of wheaten bread, which was cut down, and mixed with the soup after it was dished, merely for the purpose of being eaten along with it. The whole solids employed, therefore, in preparing one portion, amounted to little more than $3\frac{1}{2}$ ounces, or at least was considerably below four ounces, in this case. Nor even in the other case, where the whole solids taken amounted to nearly six ounces, will the real quantity be very different from this, if proper allowance be made for the large proportion of water contained in the potatoes, which, it
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is to be recollected, constituted double the quantity of all the other ingredients by measure, and very nearly so by weight. The average of the two, therefore, may be fairly enough taken at about four ounces; and this, with somewhat less than an ounce of bread cut, and put into the soup when it was dished, with a small proportion of salt and vinegar for seasoning, was all that was employed, except the water, in preparing this mess of soup. Beside this mess of soup, which served for dinner, each individual likewise received seven ounces of rye-bread, which commonly served for his supper. This was the whole of the daily subsistence received by each individual at the House of Industry at Munich; and the Count farther adds, that they came thither so early in the morning, and left it so late at night, that they could not find time to prepare any thing at their own houses; and he believes, (except some of them, who were in the habit of taking a pint of beer at night when they had done with their work), that they really had nothing else; yet, far from having the appearance of being starved by this seemingly small allowance, they had all the appearance of health, as well as contentment.

Such are the highly curious and interesting particulars of the experiments of Count Rumford in feeding the poor of the house of industry at Munich, from which, in my opinion, the following conclusions may be drawn. In the *first* place, it appears that about four ounces of barley and peas, or nearly the same quantity (allowance being made for the water contained in the potatoes) of barley, peas, and potatoes, were sufficient, when made into soup, with less than one-fourth of wheaten bread cut and put into it, and a little salt and vinegar to season it, to afford one full substantial meal to a labouring man. Now, I maintain that

three times the quantity of these same materials baked into bread, and eaten with the same seasoning, or with any other at the same expence, will not afford either so comfortable or so substantial a meal. Nay, I would even go farther, for I assert, that even three times that quantity, or twelve ounces of wheaten bread, (which I believe to be the best and most nutritious of all bread), with an allowance of the full expence of the other articles for any other thing to be eaten along with it, will not after all give such a full and substantial a meal as the four ounces of barley and peas made into soup, though it will cost at least from three to four times the expence. In the *second* place, Count Rumford, in estimating the value of the different ingredients employed in the preparation of this soup, seems to place the chief dependence on the barley: Any of the other ingredients might be occasionally changed, or even omitted altogether, without much injuring the soup; but for the barley, he never could find any substitute. And he is of opinion, that no other grain whatever will thicken and change to the consistence of a jelly, so large a proportion of water, as barley, or barley-meal, (for he found this last, on trial, to answer the purpose equally well with pearl-barley); this he even carries so far as to alledge, on estimating their comparative nutritiousness together, when used for soups, that barley-meal is at least three or four times more nutritious than wheaten flour.

I have conceived, as well as the Count, a very favourable opinion of the nutritive qualities of barley, and think the frequent employment of it in broths and soups highly advantageous and proper. I must confess, however, that it does not appear to me to possess such advantages over some of the
other

other grains as the Count seems to think; and I am inclined to believe, that some of the other grains may be used nearly in the same way, with equal, or perhaps even with greater, advantage. This, I think, is particularly the case with rice; and I have found, that a smaller quantity of this grain, when properly boiled, thickened a larger quantity of water, or converted it to the consistence of a jelly, than any barley, or indeed any other grain I have hitherto tried. Oat-meal, too, I believe, possesses the same qualities, and nearly in the same degree; for I find five or six ounces of this grain, well boiled, with a proper quantity of water, will afford as pleasant and substantial a meal, with a little milk, as three times the same quantity when baked into bread. As to wheaten flour, I cannot say whether it can be used in any of these ways with equal advantage, without such additions at least as would render it too expensive for common use, having never made any considerable trials with it hitherto. Indian flour, however, from the experiments of Count Rumford, would appear to be preferable to any of the grains hitherto taken notice of, either when made into a hasty-pudding with water, like oat-meal, or when made into a bag-pudding with treacle.

From these facts, which appear to me unquestionable, some very important conclusions, in my opinion, result. In the *first* place, it appears, that bread, though it be the most common form in which the farinacea in general are used, is certainly, so far as we yet know, the most expensive, and the least advantageous; that with regard to oat-meal and barley-meal in particular, three times the quantity of either made into bread, will not afford, with the same additions, or at the same expence, so comfortable, or so substantial a meal,

as *one third* made into pottage or soup. It would appear likewise, in the *second* place, that this does not depend on any thing peculiar in the barley, as has been alledged, or in the oats, but rather on the mode of preparation, particularly the quantity of water with which they are combined; as other grain, for instance, rice and Indian corn, prepared in a similar manner, possess the same advantages. From all which, one very obvious inference may be drawn, that those grains which can be employed so advantageously in soups or pottage, as oats, barley, rice, &c. ought never to be made into bread; but if bread must be used, (though it be, unquestionably, the least æconomical mode of using grain), it should rather be made from wheaten flour, which not only gives a more perfect bread, but, so far as we hitherto know, cannot be employed to so much advantage in the form of soup or pottage.

Oat-meal, therefore, should be used solely for the purpose of making pottage, which is both a very wholesome and a very nourishing dish; it requires less addition to render it palatable, (a little milk being sufficient for this purpose), than perhaps any other preparation of this grain; for these reasons, it ought unquestionably to be preferred. Another, and perhaps the most important reason is, that when used in this way, it will go at least three times as far as when baked into bread. Beside these modes of using this grain, it is likewise, particularly in the highland parts of Scotland, and some of the northern countries of Europe, as Russia, made into *grits*, or, as we call it in this country, *grots*; a preparation nearly similar to our barley, and used for the same purpose, for making broth.

broth. In this way, too, I have no doubt of its being used to much more advantage than when baked into bread, though I cannot say whether it be equal in this respect to barley, having never had a proper opportunity of comparing the effects of the two together.

Barley.—We have already had occasion to notice the nutritious qualities of this grain when used in soup or broth, either under the form of pearl-barley or barley-meal; and though we do not rate its qualities in this respect so high as Count Rumford does, we yet value them sufficiently to think that this grain ought never to be used in any other way. One curious circumstance respecting the use of barley-meal in soup, deserves to be noticed: It has been found, that barley-meal, with all the bran in it, made the soup richer and better than when the fine flour of barley alone was used. This certainly deserves attention in the preparation of barley-meal for soup.

This being one of those grains that may be used to most advantage in the making of soups or broths, ought certainly, in my opinion, never to be made into bread. To use it in this way is a certain loss of at least *two parts in three*, compared with the method of using it in broth or soup. Unfortunately, however, the preparation of bread is neither the only, nor the least economical mode, in which this grain is employed. By far the greater part of what is produced in this country has, for several years, been employed in our distilleries and breweries. These are not merely unthrifty and extravagant preparations of this grain; they are, especially the first, not less injurious to the health than the morals of the community, particularly of the lower classes.

So far as spirits may be either useful or necessary, I believe we cannot have one that is preferable to a genuine malt-spirit, properly prepared, and kept for due length of time. But it certainly were "devoutly to be wished," that the duties on spirits at all times were such as not only to prevent too great a proportion of so useful a grain as barley being employed in this way, but such, as putting them in general beyond the reach of the lower classes, would secure in some measure their health, as well as their morals, by keeping them out of the way of temptation. The other form under which this grain is chiefly employed, that of ale or porter, is certainly not quite so objectionable as that of spirits. As containing more nourishment, it is more useful, as well as æconomical; and, what is of still more importance, it is not nearly so intoxicating, and therefore less apt to injure either the mind or the body. Its *occasional use* should therefore, in my opinion, rather be encouraged than repressed, that if possible it might supersede altogether the use of spirits. Any thing farther than this, however, would certainly be hurtful, as it must always be too expensive for the *common use* of the labouring people; nor is it either so wholesome or so nourishing as those other preparations of this grain which we have before noticed, as broths, soups, &c.

Pulse, peas, and beans.—These, in general, afford a farinaceous matter, similar to that of the other classes which we have just been considering. The farina of peas and beans, as containing a larger proportion of oil, has been supposed to be more nutritious than the other *farinacea*; and as a proof of this, it is alledged, that labourers who have been accustomed to live on bread made of
pea

pea or bean-meal, have felt a decay of their strength on being obliged to live on oaten or barley bread. I am not quite certain whether this observation be altogether correct or not. I know, indeed, it is customary with some farmers in this country, who keep a great number of servants, to feed them, at least partly, on a bread made of *barley*, or rather *bar-meal* and peas mixed. The farmer's reason, however, for using this kind of bread, is unquestionably its greater cheapness; and the servants themselves, so far as I have had any opportunity of knowing, (and I have repeatedly been in parts of the country where this bread was employed, at least occasionally), instead of preferring this kind of bread, as is alledged, to every other, have always appeared rather averse to its use, and in general preferred oaten bread to this mixed bread, when the alternative was in their offer. As for wheaten bread, it was not within their choice.

After all this, however, when barley is to be employed so unprofitably as in baking it into bread, a little bean or pea-meal may be a very useful addition. Barley-bread is very light, and easy of digestion; and as it remains but a short while on the stomach, is certainly not well adapted to support the strength of labour. Pea-meal, on the contrary, makes a heavy solid bread, more difficult of digestion, which of course remains longer on the stomach: It is probable, too, that from containing a larger proportion of oil, it may be more nutritious than barley. On all these accounts, therefore, where barley is to be made into bread, pea-meal may make a proper and a very important addition. But a much more profitable mode of using peas and beans is certainly in the preparation of soups or broths. I have already
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had occasion to take notice of their employment in this way, with an equal quantity of barley, by Count Rumford, in the soups formerly mentioned. This is, no doubt, a very advantageous way of using peas. They may be used, however, with nearly the same advantage in preparing soup by themselves; only they require a great deal of boiling to make them thicken the soup properly. The best way of using them in this case, is, after putting them in the water, to set them by the fire-side the night before the soup is to be used. In this way, very excellent soup may be made, without any other addition but a little bit of carrot to flavour it;—split peas answer best for this purpose. Perhaps they might answer still better for making soup under the form of meal or flour, as in this way they would be more readily dissolved, and would certainly require much less boiling. Under one or other of the forms just mentioned, either made into broth or soup, peas may unquestionably be employed to infinitely greater advantage than when baked into bread. Nor is this all; they are likewise greatly lighter, and more easy of digestion. Pea-meal, especially when used by itself, though it may afford a bread that is sufficiently nourishing, certainly gives one that is very heavy, and, except to people of robust constitutions, not very easily digested. It is likewise noted for producing flatulence and other complaints in the bowels. When properly boiled, however, either into soup or broth, they are digested with equal ease, and with as little inconvenience, as any of the other grains; this should, therefore, be an additional reason for using them in this way.

Beside being used for the purposes just mentioned, when they are always employed in a mature

ture and ripe state, they are not unfrequently used at table in their unripe or green state. In this way they are certainly more tender and easy of digestion; but, on the other hand, they do not afford nearly the same nourishment. Peas-pudding is likewise another way in which this grain is frequently employed. As they are used in this preparation in their most perfect and mature state, they certainly afford a great proportion of nourishment; but then it is at the hazard of producing flatulence, and the other symptoms of indigestion that commonly attend the use of pea-bread. From the complete boiling which they undergo, however, in this process, I should judge them to afford a larger proportion of nourishment than the same quantity baked into bread. Their use in this way, then, I should consider as preferable, in point of œconomy, to their employment in bread; and in respect of the facility of their digestion, I conceive it at least equal, as their complete boiling in this case is certainly a full equivalent to their minute division in the other.

The potatoe.—Though this substance be of a very different species, either from the pulse last noticed, or from the various kinds of bread-corn, yet, as containing a large proportion of farina, which is now very generally used as an alimentary matter, it may not improperly, I apprehend, find a place here, where attention to classical arrangement is, at any rate, but a very inferior and secondary object. This, as is well known, is the root of a particular plant, the *solanum tuberosum*. Though potatoes contain a large portion of water in proportion to their bulk, they are yet found to be a very nourishing food both to man and other animals. If they be not equal in this respect to the differ-

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ent species of corn or pulse, they at least probably rank next after them in the scale of nutrient vegetables; and in estimating their comparative nutritious qualities among themselves, I would consider those that are least watery, or the most mealy, as we commonly speak, as the most nutritious. Whilst potatoes are thus sufficiently nourishing, they are at the same time very wholesome, and in general of easy digestion.

Potatoes in general possess many advantages over most of the other farinacea that are cultivated for the use of man, both in respect of the quantity of their product, the facility of their culture, and likewise the means employed in preparing them for food. None of the other farinacea afford, from the same quantity of ground, near the same quantity of product as the potatoes. Beside being more plentiful, potatoes are in general a surer crop than most of the other farinacea, as they seldom fail, if properly managed; and they are easily got in, even when the weather proves unfavourable to the taking in of most of the other crops. But what above every thing else renders them invaluable to the poor, is, that they require no previous preparation, either of grinding or baking, to convert them into a wholesome and palatable food. For this purpose, all that is necessary is merely a little boiling, when they may be ate perfectly well, without any thing but a little salt. In this way they form a very pleasant, and certainly a very cheap, substitute for bread: and it is perhaps the best way of preparing them, when they are to be used along with animal food, or with any thing else, instead of bread. When they are to be used, however, for a meal by themselves, they may certainly, with some little additions, and without any great expence,

pence, be rendered both more palatable and more nourishing. One of the simplest, and perhaps one of the best ways of preparing them, is, first to scrape, and then boil them, taking care not to boil them too much; then, after pouring off the water carefully, to beat them well. A little milk and butter must now be added; and they must be briskly stirred about with a stick, till they become beautiful and white. When well prepared in this manner, they make truly a nice dish; they may be ate either alone or with a little milk. Potatoes likewise make an excellent soup, when well boiled, with the addition of a little cold meat, and an onion or two to season them. They make an excellent stew, too, with a bit of powdered meat; and they make an excellent dish when done under a roast. In short, to all their other advantages, potatoes possess this additional property, that perhaps no other vegetable admits of being dressed in such a variety of ways, to suit either the taste or the circumstances of individuals.

Notwithstanding of all these different ways of dressing potatoes, which are in general sufficiently known, it has been proposed, after all, to bake them into bread; as if "man, literally, could live on bread alone." I have already objected so strongly to the general use of the other farinacea under this form, that I think it unnecessary to repeat here what has already been said on the subject. I would only observe, that potatoes, perhaps of all other vegetables, stand the least in need of a process of this kind, either for the purpose of utility, or even for the sake of variety, as potatoes, from their size and form, can be used more conveniently instead of bread than almost any other vegetable; and no other, as has been observed already, admits of so many other modes
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of cookery. Beside their being a wholesome, nutritious food, potatoes are in general, from the softness of their texture, sufficiently light and easy of digestion; so that no other vegetable we are acquainted with in this country possesses so many advantages, or is subject to so few inconveniences, as this valuable root. Whether we consider it, therefore, in a national or a political view, as affording, from the largeness of its produce, and the certainty of the crop, the means of general plenty and of subsistence, or in a more limited and private capacity, as affording to individuals at once a cheap and most agreeable food, in every point of view, too much attention cannot be bestowed on the more general cultivation of this valuable vegetable; nor can its more general use be too warmly recommended.

Beside these farinaceous substances, the produce of this country, some others that are not indigenous may deserve to be noticed, on account of the very considerable nutritious qualities they possess, and from their being in general to be had at a moderate price. Of these I shall mention only two that I consider as the most valuable, *rice* and *Indian corn*. Though *rice* has been long known, and occasionally employed as an article of food in this country, yet its use has, in my opinion, never become so general as either the nutritious qualities of this substance, or the easy price at which it may commonly be purchased, seem to point out. This leads me to observe, that in the article of diet, as in every thing else, nations, as well as individuals, are more governed by habit, and often by caprice, than by any regular and fixed principles. It is not so much what is actually best in itself, but what is most generally practised, that is the universal object of inquiry, as well as imitation;
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and so long as the beaten track continues at all passable, people seldom think of looking out either for a better or a shorter. It is only when danger threatens, or difficulties obstruct our usual progress, that we begin to look for a safer and more practicable rout. This is usually the moment of discovery and of improvement; and the late scarcity and dearth of all the necessaries of life, though a sore evil for the time, may perhaps essentially contribute in this way to the permanent benefit and advantage of the community, either by introducing new and useful articles of diet, or by discovering more thrifty and beneficial modes of preparing those already known.

From this cause, the introduction of rice, as an article of diet, has certainly become much more general of late, than at any former period, though perhaps still not so general as from its beneficial qualities it deserves. Rice is on many accounts a very valuable article of diet. It may commonly be had at a moderate rate, usually as cheap, if not cheaper, than many other kinds of grain the produce of the country. Even at this moment, when it is about twice the usual price, it is still considerably cheaper than oat-meal, though, in my opinion, both a more nutritious, as well as a more palatable food. Like this, too, it possesses the advantage of being easily prepared, and requires but little addition to render it a pleasant food. All that is necessary for this purpose, is to boil it well, with a little salt and water, and then to add to it a little milk and sugar. The manner, however, as well as the degree of this boiling, is of much more importance, both in respect of œconomy and taste, than is commonly imagined. The usual way is to boil rice with a large quantity of water, till it be soft, or till it swell, and then to pour off
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this water, and to add a quantity of milk and sugar. In this way, I will venture to say, that scarcely one half of the nourishment, perhaps, is obtained from the price, that might be procured by a different management; nor is it by many degrees so rich and substantial a dish. Rice, to be properly managed, should be suffered to boil, or rather to simmer, over a gentle fire for two hours at least; and instead of being boiled with a large quantity of water, which is to be afterwards thrown away, (by which a great part of the nourishment contained in the rice is lost), should just be stewed with as much water merely as is sufficient to prevent it from burning, (with more to be added occasionally as it evaporates); and this water, which, by the time the rice is properly prepared, is converted into a perfect jelly, will in a great measure supply the place of milk, or at least will render a much smaller quantity of this article necessary to bring the rice to a proper consistence. Beside the milk, rice likewise requires the addition of a little sugar, to take off the otherwise insipid taste of this substance.

Prepared in this way, rice is not only a very nourishing and agreeable food, but I believe it to be more thrifty and economical than almost any of the other grains at present in use in this country. I have already observed, that it is at present considerably cheaper than oat-meal, while it is, in my opinion, likewise more nutritious than this substance, even when made into pottage, the most economical form, by much, in which oat-meal can be employed. Count Rumford indeed alledges that barley is more nutritious than rice, and says, that he never could find any other grain whatever that would thicken so large a proportion of water, or convert it to a jelly, as barley did.

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From any comparative trials, however, that I have made with these two substances, I would be inclined to think rice the most nutritious of the two, even on the Count's own principles, as I have always found, that when equal quantities were used, the rice always thickened, or converted into a jelly, a larger portion of water, than the barley. My barley may not indeed have been so good as that used by the Count, as that grain is in general very bad this season; it was, however, as good as I could find, and nearly of the same price with the rice, which at any rate rendered the experiment fair enough. Compared with wheaten bread, I would consider the nutritious qualities of rice as in the proportion of at least three to one, that is, that five ounces of rice, properly prepared, are fully equivalent, in point of nutrition, to fifteen ounces of wheaten bread, with the same additions, or with an equal expence. Now, when it is considered that wheaten bread is at this moment very nearly of the same price with rice, that is, wheaten bread costs nearly fourpence a pound, and rice about fourpence or a little more, this places the difference in respect of nutrition in a very strong point of view.

Beside being used in the way just mentioned, with milk and sugar, rice may be employed to nearly equal advantage, instead of barley, either in soups or broths. Like this, however, it requires a great deal of boiling, to obtain from it all the nourishment it is capable of affording. It is likewise used, both whole and ground into flour, for the purpose of making puddings, and in this way is certainly much thriftier than wheaten flour, as an equal quantity of it will go much farther than flour, though the difference betwixt the two be not so great here as in some of the other modes of preparation.

Indian Corn. This grain has hitherto been but little used in this country, though it has for a long time past been in the most common use of any of the farinacea over a great part of the continent of America. From the general experience respecting it in that country, not only in feeding man, but likewise other animals, as well as from some experiments made with it here by Count Rumford, this grain appears to be highly nutritious, and the culture of it extremely advantageous. Indian corn is in general a very productive crop, and therefore may commonly be had at a very moderate rate. In most parts of America where the two are cultivated, Indian corn may usually be had at about one half of the price that is paid for wheat; and even in this country it may be had for about one half of the price of wheat, and indeed at a much lower rate than any of the different kinds of bread-corn that are in most common use in this country. Count Rumford goes so far as to reckon Indian corn the cheapest, as well as the most nutritious, of all grain. He thinks it may be furnished in this country in common years at about one penny the pound. But even calculating it on an average at three half-pence, this would still be cheaper than almost any of the species of bread-corn, the produce of this country, and scarcely one half the price of wheaten flour. The highly nutritious qualities of this grain have long been ascertained in America and the West Indies, where the negroes prefer it, in this respect, even to rice itself, which is certainly one of the most nutritious grains with which we are acquainted. Taking it at twopence the pound, the very high price which it gave at London in November 1795, Count Rumford found that he could make a hearty and comfortable meal, (and that meal his dinner too), on a pudding prepared of this grain, for
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somewhat less than one penny-farthing, sauce and every thing included.

On all these accounts, therefore, this grain certainly well deserves farther attention. And should the climate and soil be found unfavourable to its cultivation in this country, at least its importation, both in a commercial and political view, unquestionably merits every encouragement.

The best and most æconomical methods of preparing this grain, according to Count Rumford, is either in the form of a hasty pudding, made much in the same way with our oat-meal pottage, by setting a quantity of water, with a little salt in it, in a pan, over the fire, and then stirring in gradually the Indian meal, taking care to add the meal slowly, while the water is warming, and to stir it carefully, to prevent its being formed into lumps. The boiling is to be continued for half an hour or an hour, and as much of the meal to be added as to render the pudding sufficiently firm to support the wooden spoon, used for stirring it with, in a vertical position. This kind of pudding is either ate warm with a little milk, or with a sauce composed of butter and molasses, or butter and brown sugar. The pudding being spread out on a plat, the butter, with the molasses or sugar, is put into an excavation formed in the centre, and each spoonful is dipped in this before it be put into the mouth.

For preparing a *plain Indian pudding*, the Count gives the following receipt:—*Three pounds of Indian meal* (from which the bran had been separated by sifting it in a common hair-sieve) were put into a large bowl, and *five pints of boiling water* were put to it, and the whole well stirred together; *three quarters of a pound of molasses*, and *one ounce of salt*, were then added to it; and these being well mixed, by stirring them with the other

ingredients, the pudding was poured into a fit bag ; and the bag being tied up, (an empty space being left in the bag in tying it, equal to about one sixth of its contents, for giving room to the pudding to swell), this pudding was put into a kettle of boiling water, and was boiled for six hours without intermission, the loss of the water in the kettle by evaporation during this time being frequently replaced with boiling water from another kettle. This kind of pudding, which, according to the Count, is highly palatable, as well as nutritious, may be made for about two farthings the pound, and, together with the sauce, about half an ounce of butter to the pound, costs altogether only *three farthings the pound*. I shall suppose, however, that, in consequence of the general advance of price on almost every article of subsistence in the present year, 1800, above 1795, when the Count wrote, this pudding might cost *one*, or, which is certainly a large allowance, say *two thirds* more, that is, *one penny farthing a pound* ; still it would be one of the cheapest and most nutritive dishes, as well, perhaps, as one of the most palatable, that could be procured for the same money, being, after all, scarcely *one third* of the price of common household-bread, though certainly much more nutritious, as well as palatable.

OF THE COOKERY OF ALIMENT, PARTICULARLY OF
VEGETABLES.

THE importance of this part of our subject must, I think, be sufficiently obvious from the experiments and observations on the preparations of the different kinds of grain that have just now been mentioned. To impress this, however, more forcibly on the mind, I shall here bring together
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some of the leading facts and observations, and then offer a few remarks by way of explanation.

Animal substances, as well as vegetables, are in general subjected to some degree of preparation before they be used for food by man. The object in both cases seems chiefly to be, to render the substance more easy of digestion, by making it more tender and soluble, and, in some instances, to improve its taste and flavour, either by the addition of certain principles to it, or by the subtraction from it of some of those that were either disagreeable or hurtful. For the attainment of this object, different culinary processes have been invented by different nations, according to their degrees of refinement and civilisation, and their progress in luxury. The process most generally employed, consists in the application of heat to the substance, either in a dry or a humid form, as in roasting, boiling, &c. Animal substances in general require no other preparation than this to render them tender and nutritious. They are likewise frequently kept for some time before being used, (longer or shorter, according to the season, and the kind of preparation they are meant to undergo), but which in general contributes to the same end, that of rendering them more tender and more easily soluble.

With regard to the preparation of food, it may be observed, that though animal food be more universally, than even vegetables, subjected either to the process of roasting or boiling, or some modification of these; yet this seems to be rather a matter of taste than of necessity, as animal substances are in general more easily digested than vegetables; and other carnivorous animals, we observe, digest this food almost without any previous mastication. But not only is the necessity

of this previous preparation of animal food less apparent, its utility, or the advantages derived from it in respect of nutrition, are likewise infinitely less. Animal substances in general are so soluble in the human stomach, that, I believe, we cannot contribute much to their nutritious qualities by any previous preparation we can give them, except perhaps it be the cartilaginous and membranous parts, which, from the firmness of their texture, being less soluble, may, by a complete boiling, or rather digestion, be rendered more nutritious. However much, therefore, these different preparations may improve the taste, they add but little to the nutrition of animal substances; and in any other respect, I am satisfied it matters but little what particular preparation, or whether any at all, be employed. Upon this principle I would alledge, that a pound of meat, tolerably tender, will afford nearly the same quantity of nourishment, whether it be boiled, or roasted, or stewed, or baked, provided only care be taken to lose none of the juices.

I know indeed, that some of these processes have been supposed much more oeconomical than others, and that boiling in particular has been thought more thrifty than roasting. This prejudice, however, is founded on an obvious mistake; because in boiling meat is commonly made into broth or soup, with the addition of some vegetables, which is usually eaten along with the meat, and which must therefore serve to make this go farther. But then this depends upon the addition of the vegetables; and the same quantity of meat prepared differently, roasted for instance, would afford as much nourishment, with the same quantity of vegetables. While I thus alledge, however, that the usual quantity of nourishment to be derived from animal food is but little altered by the particular

particular preparation employed, (provided only it be made sufficiently tender), I am very far from thinking that this is the case with vegetables: on the contrary, I am fully satisfied that their nutritious qualities depend in a great measure on the means employed in preparing them. It is on this account, therefore, or merely as an advantageous mode of using vegetables, that I consider boiling as a thrifty mode of preparing meat, not as contributing to the nutritious qualities of the meat, though it certainly does so in a high degree to the vegetables employed. This leads me to the consideration of the cookery of vegetables.

In the *first* place, it appears, that the nutritious powers of vegetables, particularly of the class of the farinacea, depend very much on the mode of preparing them. This must, I think, be sufficiently evident from what has already been said on that subject. We have seen that one third of some of these substances, prepared in a particular manner, will go as far, in point of nourishment, as three times the quantity of the same substance, prepared in a different manner. Nor does this property belong to one of the farinacea exclusively, as it might then be an exception merely from a general rule, but seems to be common to the whole, or at least the greater part of them. As we have seen that barley, oats, rice, &c. when properly boiled, afford at least about three times the quantity of nourishment they do when made into bread. One thing farther to be noticed here is, that this improvement of their nutritious qualities is in proportion to their more minute division, or their more complete boiling.

In the *second* place, vegetables in general are more difficult of solution than animal substances. This is proved by direct experiments on animals, like man, capable of digesting both, either with-

in or without the body, as animal substances are found in both cases more easily dissolved than vegetables. The same thing may likewise be inferred from observing, that animals which live on vegetables are in general provided with more complex or more powerful organs for the digestion, as well as the mastication and trituration, of their food, than such as live solely on animal food. The more complete apparatus of teeth in granivorous animals in general, and the more complex mechanism of the stomach in some classes, as in the ruminant, or its more powerful mechanism in others, as in the gallinaceous, are proofs of this assertion.

In the *third* place, it would appear, that among those vegetables that are commonly used for food by man, the farinaceous class in particular is the most difficult of solution. This fact I hold to be equally unquestionable with the last, though it may not in general be so obvious, as the most part of this class usually undergo a more complete previous preparation before they be submitted to digestion, than other vegetables, and therefore we have it less in our power to draw a comparison between them. But even this more complex preparation of the farinacea, in general, is of itself sufficient proof of their more difficult digestion. What other reason can we assign for the different troublesome and expensive processes used in the preparation of barley, flour, bread, &c. but the more difficult digestion of these substances in their original state, compared with some of our esculent vegetables, or with our ripe fruits, which we commonly use without any preparation at all. With a view to explain these circumstances, I shall offer a few observations on digestion in general, with the mode in which the cookery of meat, particularly of vegetables, contributes to that process.

Digestion;

Digestion, so far as we hitherto know, appears to be in a great measure a chemical process. The gastric fluid seems to operate on vegetable and animal substances presented to it, in consequence of a tendency to combine with these substances, or from a chemical attraction. This attraction seems to differ in different animals, according as they are carnivorous, or frugivorous, or omnivorous. As the gastric fluid of the carnivorous has no attraction for vegetable matter, and, *vice versa*, the gastric fluid of the frugivorous has none for animal matter; while the gastric fluid of the omnivorous, like man, acts on both, with this difference, however, that it combines more readily with animal than with vegetable matter. This greater facility of combination with animal than vegetable matter, may proceed from a stronger attraction between the former of these substances and the gastric fluid. But supposing the attraction in both cases equal, the same thing would follow from the greater firmness of texture in vegetables in general, which, by affording a less free communication between them and the gastric fluid, would thus render their combination more difficult. This principle I shall explain a little more fully, as it not only accounts for the more difficult digestion of vegetables, but likewise for many of the culinary processes employed in preparing them, and the utility of some of these above others.

The tendency that bodies have to combination is in general distinguished by chemists by the name of *affinity*. This affinity may either be exercised between principles of the same nature, when it is called the *affinity of aggregation*, or between principles of a different nature, when it is called the *affinity of composition*. Having thus explained those technical terms, which I was forced to employ, I would observe, in the *first* place, that the affinity

affinity of composition acts only between the *minute* or constituent principles of bodies. This, which is a general law in chemistry, regulating the effects of bodies in their actions upon one another, attains equally in the action of the gastric fluid, upon the different substances that are presented to it. Hence it is, that bodies which, in their entire state, are either not acted upon at all, or very slightly, by the gastric fluid, are yet, when properly divided, completely dissolved, or rather digested; and this same principle serves to explain most of those processes, mechanical as well as culinary, to which our food, particularly the vegetable part of it, is commonly subjected.

In the *second* place, it may be observed, that this *affinity of composition* is in the *inverse ratio* of the *affinity of aggregation*. In other words, bodies enter into combination more readily in proportion to their more minute state of division. This principle, along with the former, of which this is merely a modification, serves to explain many of the phenomena of digestion, as well as to account, in my opinion, for some of those singular facts, which we have already had occasion to notice, respecting the effects produced by particular modes of preparation, upon the nutritious qualities of some vegetables.

In the *first* place, it explains many of the phenomena of digestion. The more difficult solution of *vegetable* than of *animal food*, and among *vegetables* the more difficult solution of the *farinacea*, these are satisfactorily accounted for, from the greater firmness of the texture of vegetables in general, and of the *farinacea* in particular. This same principle likewise explains the various means, artificial as well as natural, employed in the preparation of our food, before it be subjected to the action of the gastric fluid. The various contri-

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vances of nature, in the structure of the teeth of granivorous animals in general, as well as in the particular structure of the stomach in the *ruminant*, and in the *gallinaceous class*, are but so many means employed by her for the purpose of facilitating the digestion, and improving the nutrition of vegetable aliment, by softening its texture, or diminishing its cohesion. Nor has the ingenuity of man been slow to improve upon this hint, in the various *mechanical* and *culinary* contrivances adapted to the same purposes. Grinding and all the different operations employed in the preparation of our bread-corn, are only the application of the same principle to a particular class of vegetables, where, from the particular firmness of their texture, it is more peculiarly requisite. The various culinary processes, which seem at first sight contrived rather for the gratification of our palate, than either for the purpose of utility or œconomy, are in general referable, at least the more simple of them, to the same principle. Cookery, in general, consists in the application of heat to our aliment. Heat, as is well known, has a powerful effect in separating the particles of bodies, and thus diminishing their force of cohesion, or destroying their texture. Hence the universal application of this substance in almost every operation of cookery. Besides heat, we frequently employ *water*, in many of our culinary processes. This is often merely to regulate the degree of heat employed, or to prevent the substance with which it is used from being burnt. Often, however, it is employed along with heat to procure a kind of *solution* of our food. This is frequently the case with animal as well as vegetable food, though, in our opinion, the process is by no means equally advantageous in both. The reason is this, animal-food in general, (except the ligamentous
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and cartilaginous parts, which are therefore properly employed in the preparation of broths and soups,) dissolves so readily and completely in the human stomach, that any previous operation scarcely facilitates the process of its digestion, or increases the quantity of its nutriment. In passing through the human stomach and bowels, the whole of its nutriment is constantly extracted, so that this previous solution is only so much labour lost. Not so with vegetables; these often pass through entire and indigested, and, but for the different processes employed in softening their texture, and destroying their cohesion, would always, more or less, do so. Solution here, then, far from being a work of supererogation, is absolutely necessary, if we wish to derive from them all the nutriment they contain.

On this principle, I would explain that astonishing difference, before noticed, in the quantity of nutriment, afforded by the same grain, when made into bread, or when properly boiled with water. The grain which is used for making bread, undergoes indeed, in the operation of grinding, a process highly conducive to its digestion. But the heat which is afterwards applied to expel the moisture, with a view to make the bread keep, is not employed in an advantageous form. Instead of softening its texture, it serves rather to make the grain harder and firmer. In the operation of boiling, on the contrary, the heat is accompanied with a sufficient quantity of water, to effect a solution of the body. The water in this case, assisted in its action by the heat, at last completely destroys its texture and cohesion, and in a great measure dissolves the body. *Solution*, then, is merely another phrase for the *most minute division* of a *body*, that art can accomplish.

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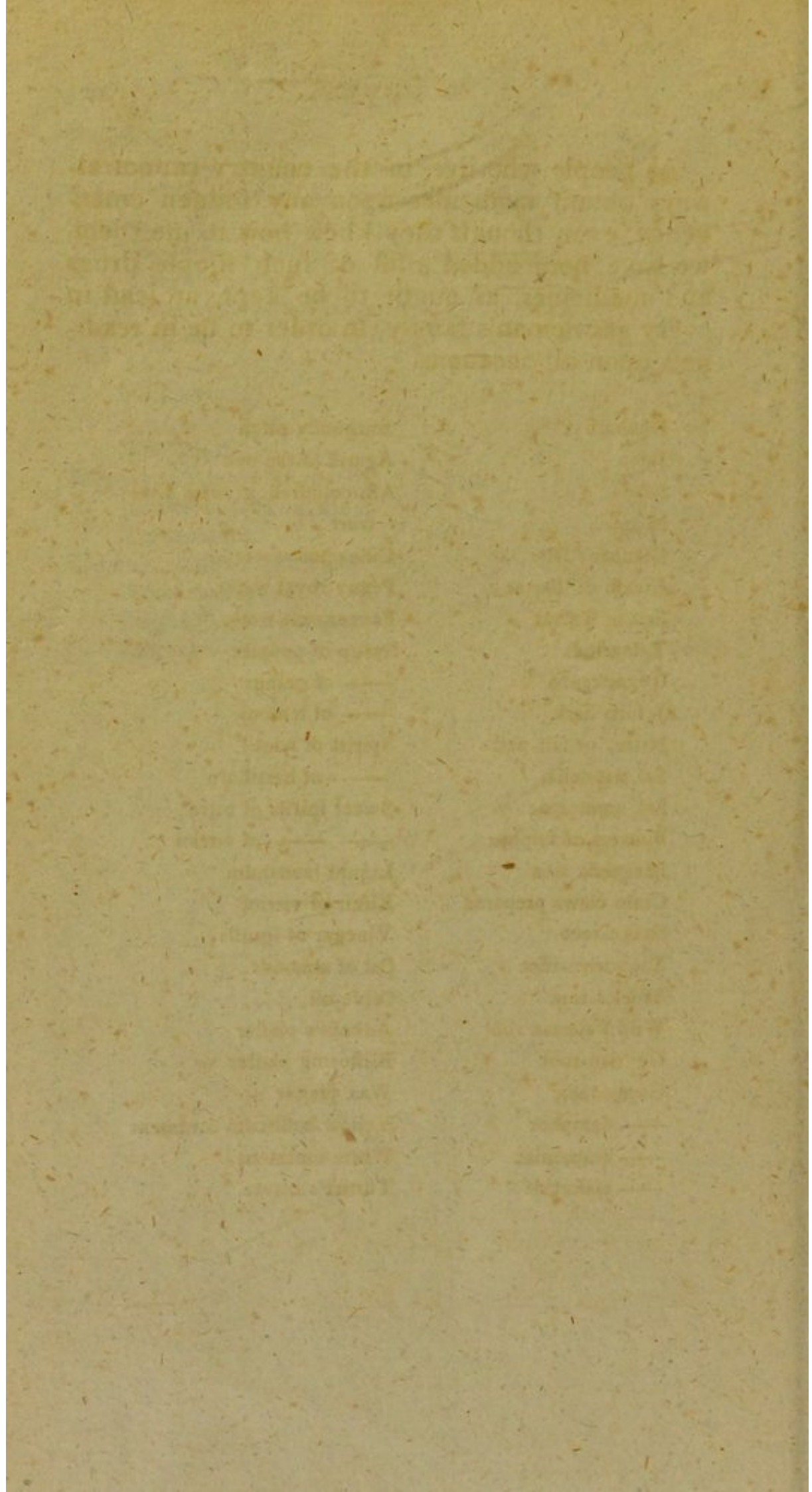
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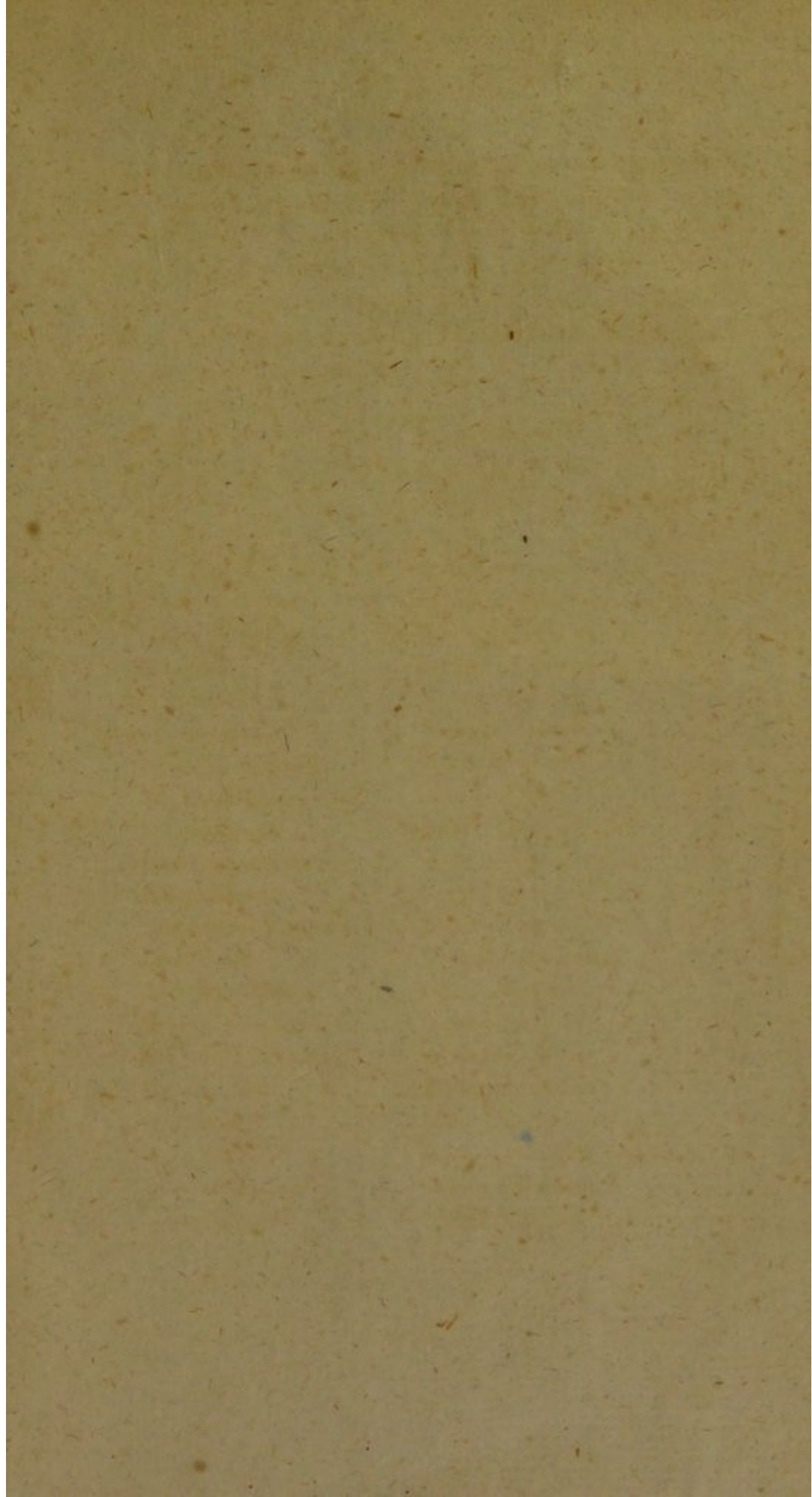
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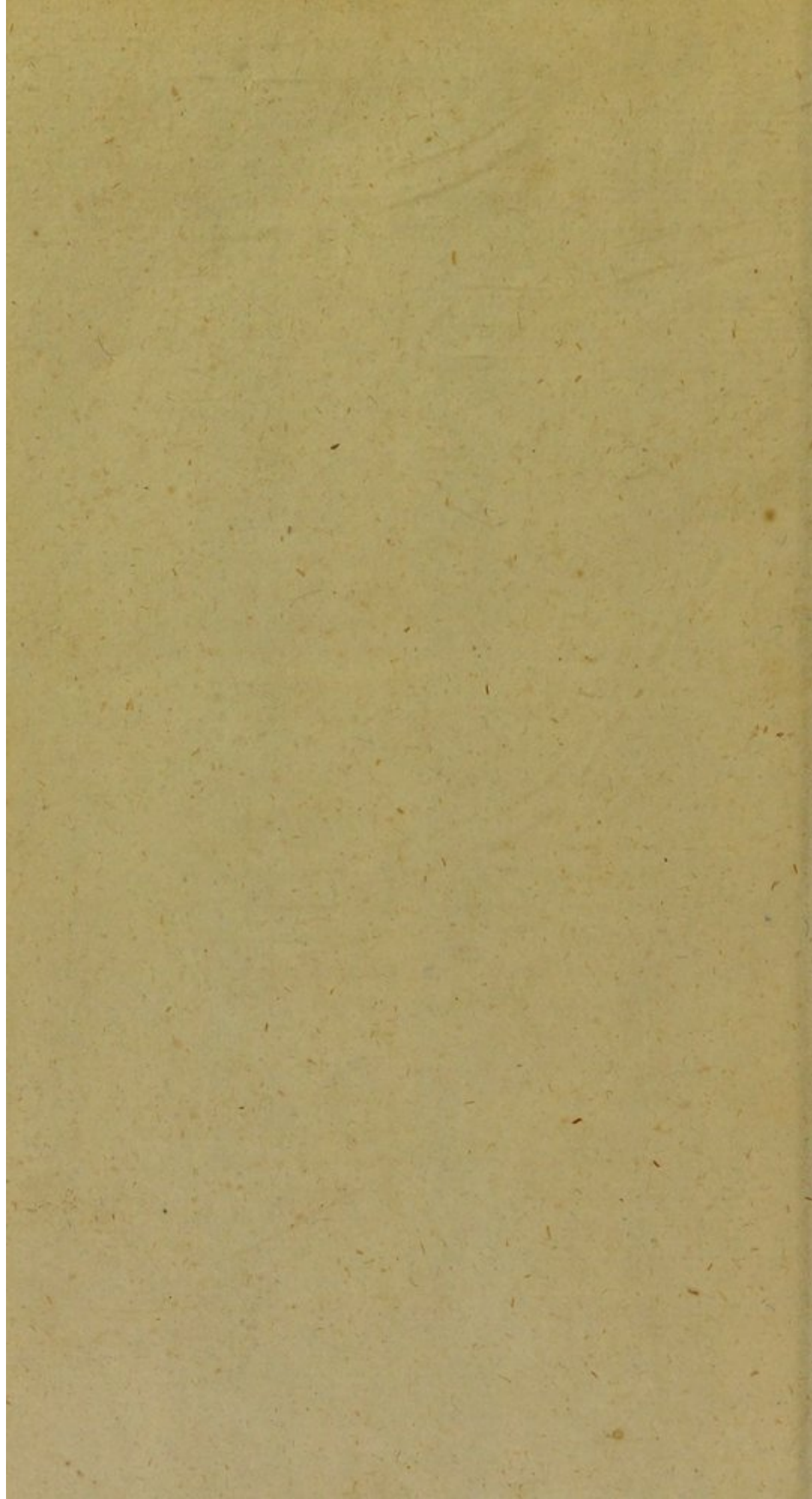
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As people who live in the country cannot always obtain medicines upon any sudden emergency, even though they knew how to use them, we have here added a list of such simple drugs and medicines, as ought to be kept, at least in every gentleman's family, in order to be in readiness upon all occasions.

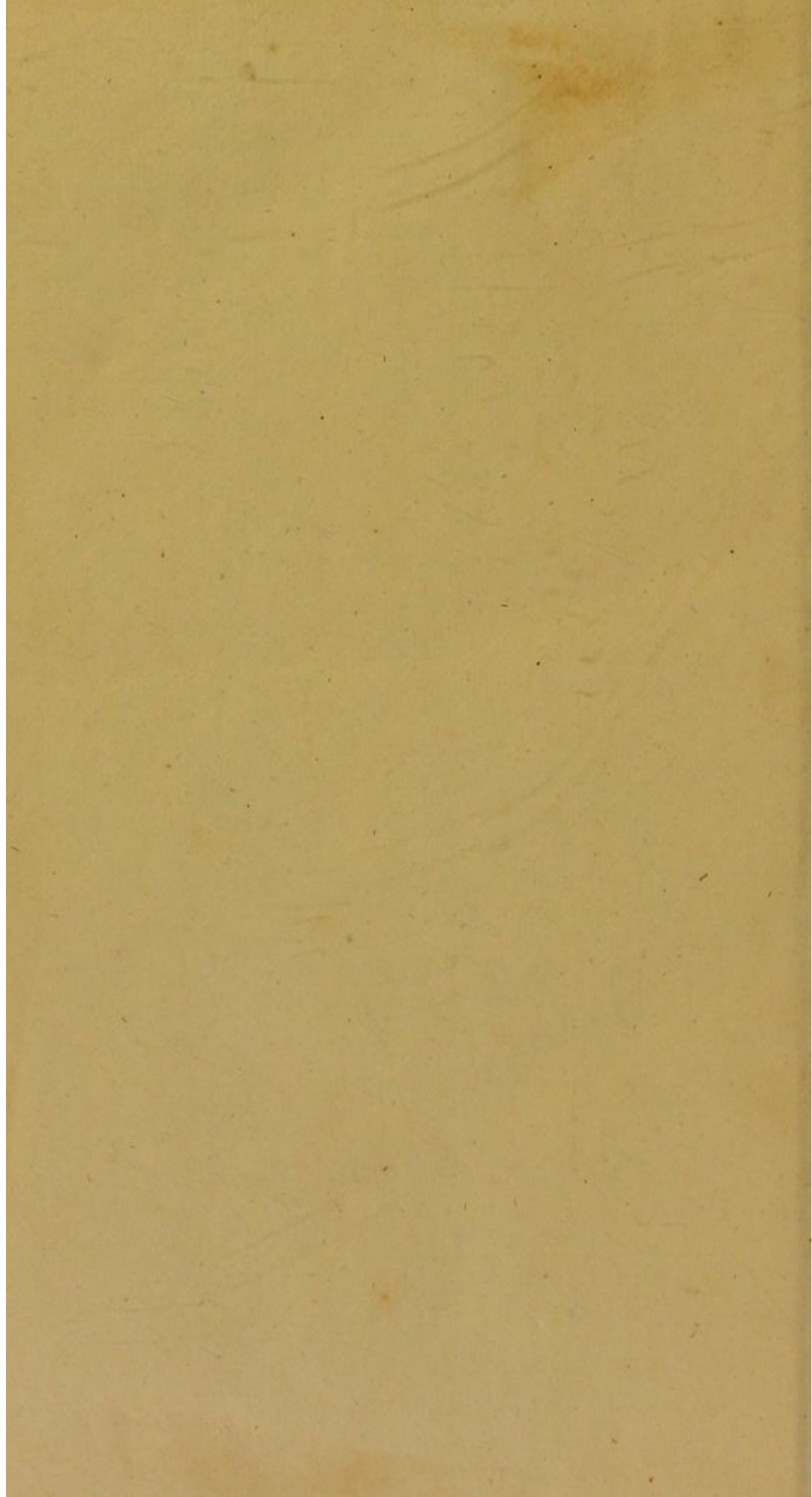
Rhubarb	Burgundy-pitch
Jalap	Agaric of the oak
Senna	Ash-coloured ground Liver-
Manna	wort
Glauber's salts	Cinnamon-water
Cream of Tartar	Penny-royal water
Salt of Tartar	Peppermint-water
Tamarinds	Syrup of poppies
Ipecacuanha	—— of oranges
Jesuits bark	—— of lemons
Nitre, or salt-petre	Spirits of wine
Sal. prunella,	—— of hartshorn
Sal. ammoniac	Sweet spirits of nitre
Flowers of sulphur	—— — of vitriol
Magnesia alba	Liquid laudanum
Crabs claws prepared	Elixir of vitriol
Snake-root	Vinegar of squills
Liquorice-root	Oil of almonds
Seneka-root	Olive-oil
Wild Valerian root	Adhesive plaster
Gentian-root	Blistering plaster
Gum-arabic	Wax plaster
—— camphor	Yellow basilicum ointment
—— ammoniac	White ointment
—— asafœtida	Turner's cerate.



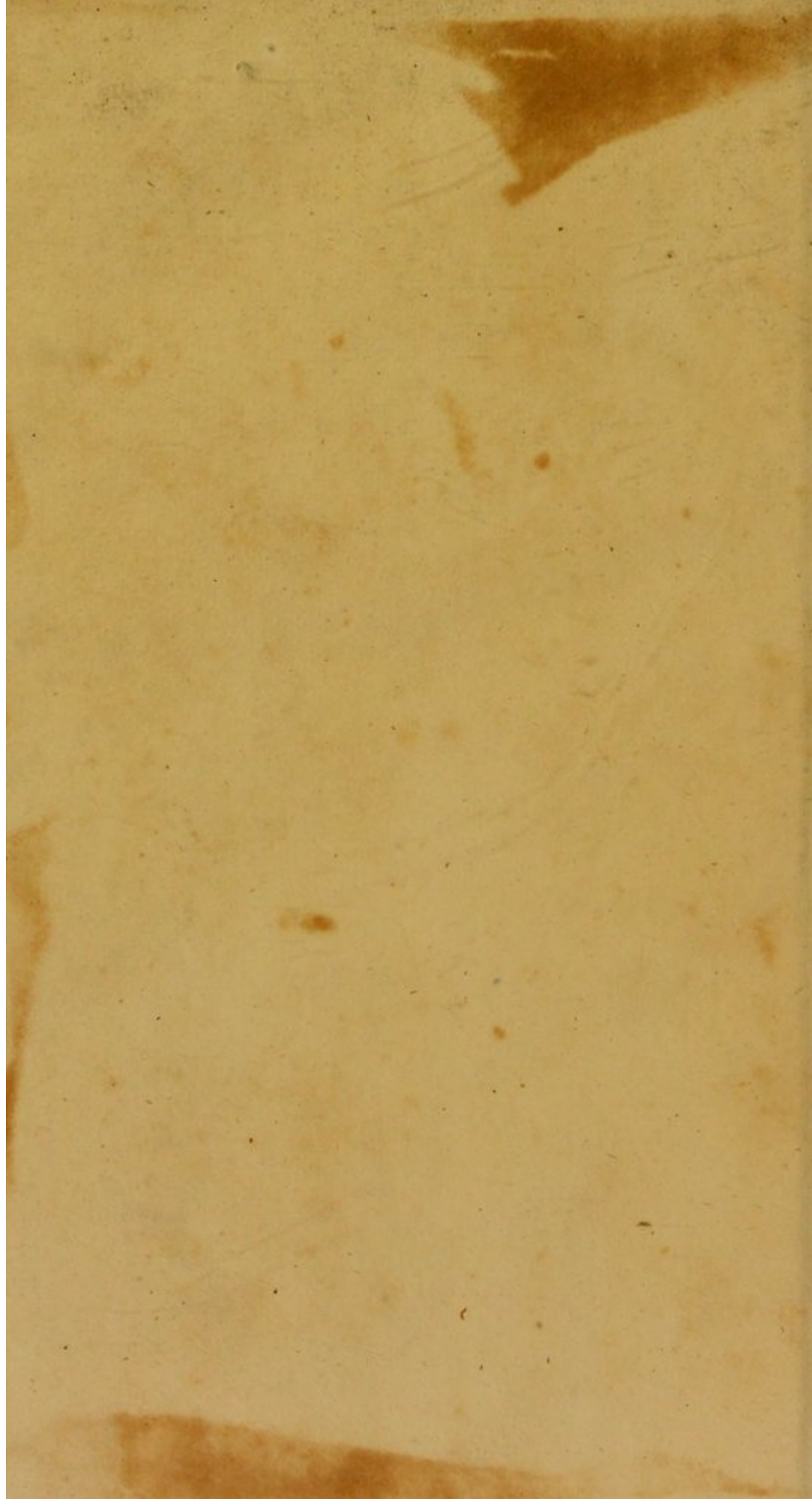


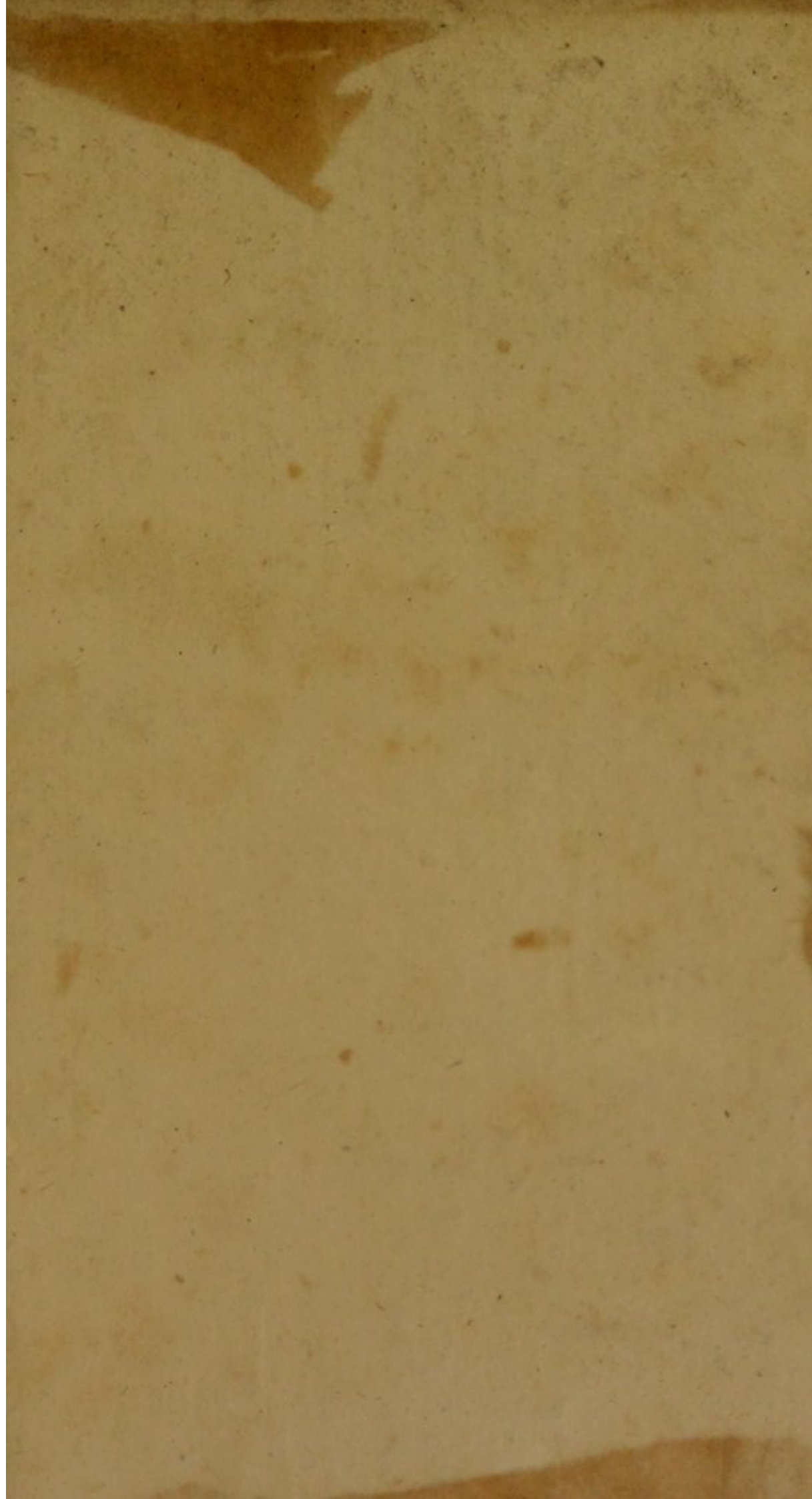














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