The modern practice of physic, exhibiting the characters, causes, symptoms, prognostics, morbid appearances, and improved method of treating the diseases of all climates / By Robert Thomas.

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Publication/Creation

Philadelphia : T. Dobson and son, printed by William Fry, 1817.

Persistent URL

https://wellcomecollection.org/works/r7nmb4fg

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Silas P. Holbrook

Medfield

Mass—

Lunedì 12 Settembre 1831
mi sono avveduto di avere
la Ghiandaia

E.XV.C
19

THE

MODERN

PRACTICE OF PHYSIC,

EXHIBITING THE

Characters, Causes, Symptoms, Prognostics, Morbid Appearances,

AND

Improved Method of Treating

THE

DISEASES OF ALL CLIMATES.

BY ROBERT THOMAS, M. D.

OF SALISBURY, ENGLAND.

Abridged from the Fifth and last London Edition,

BY WILLIAM CURRIE, AND DAVID F. CONDIE,

PHYSICIANS OF PHILADELPHIA.

PHILADELPHIA:

PUBLISHED BY THOMAS DOBSON AND SON, AT THE STONE HOUSE, No. 41, SOUTH SECOND STREET.

William Fry, Printer.

1817.

District of Pennsylvania, to wit:

SEAL. BE IT REMEMBERED, that on the third day of November, in the forty-second year of the independence of the United States of America, A. D. 1817, Thomas Dobson and Son, of the said district, have deposited in this office the title of a book, the right whereof they claim as Proprietors, in the words following, to wit:

"The Modern Practice of Physic, exhibiting the Characters, Causes, Symptoms, Prognostics, Morbid Appearances, and Improved Method of Treating the Diseases of all Climates. By Robert Thomas, M. D. of Salisbury, England. Abridged from the Fifth and last London Edition, by William Currie, and David F. Condie, Physicians of Philadelphia."

In conformity to the act of the Congress of the United States, entituled, "An act for the encouragement of learning, by securing the copies of maps, charts, and books, to the authors and proprietors of such copies, during the times therein mentioned." And also to the act, entitled, "An act supplementary to an act, entitled "An act for the encouragement of learning, by securing the copies of maps, charts, and books, to the authors and proprietors of such copies during the times therein mentioned," and extending the benefits thereof to the arts of designing, engraving, and etching historical and other prints."

D. CALDWELL,
Clerk of the District of Pennsylvania.

PREFACE

BY THE EDITORS OF THE ABRIDGMENT.

THE reputation of Dr. Thomas's "Modern Practice of Physic," not only as an elementary treatise for the use of students, but also as a work of occasional reference, serving to refresh the memory of those whose avocations may not permit them to consult more elaborate treatises, is so well established, as is evinced by the frequent editions which have been called for, since its first publication, that any attempts at present, to dilate upon its merits, would be superfluous. But although it certainly exhibits a more complete and extensive view of the present improved state of medical science, than any other work that has heretofore appeared; yet, it must be admitted, that it contains, together with numerous repetitions and a few articles which are entirely superfluous, a greater diffuseness in its elucidation of the nature and appearances of diseases, and, very frequently, a longer detail of argument in support of the modes of treatment delivered by the author, than are necessary.

These circumstances greatly augment its size and price without adding to its real value. A work which the practising physician has so frequent occasion to consult, and the contents of which are so necessary to be impressed upon the mind of the student, should be condensed as much as is consistent with perspicuity.

From these considerations, and with this intention, the Editors have been induced to present to the public the present abridgment, in which they have omitted all superfluous repetitions and observations, as well as the least useful of the very large collection of prescriptions contained in the last edition, while, at the same time, they have been careful to retain, in general in the author's own words, every part of the work of real utility.

The performance of this task, they trust will be found to have conferred a considerable benefit upon the student, as well as upon the young practitioner, by reducing the expense, without detracting from the value of an almost indispensable article of their libraries; and by presenting in a small compass all the practical information it contains, thereby lessening the time, and facilitating the labour necessary to become familiar with its contents.

The Editors have also added a few explanatory and practical notes of their own, which may be distinguished from those of the author, by having annexed to them the letter E.

Philadelphia, Nov. 1, 1817.

EXTRACT FROM

THE AUTHOR'S PREFACE,

TO THE FIFTH LONDON EDITION.

THE observations which are contained in the succeeding pages, on the Nature and Treatment of the various Diseases to which the human frame is liable, from the period of birth to a very advanced age, are grounded on a practice and experience of upwards of forty years, in different climates, after a regular classical education under a dignified clergyman of the established church in Ireland; a study of several years at the University of Edinburgh during the period of its highest celebrity, when three of the professorships were held by Dr. Cullen, Dr. Black, and Dr. Gregory, senior; also a long pupilage under the late Dr. George Fordyce, then physician to St. Thomas's Hospital.

Having had such opportunities of acquiring medical knowledge, assisted by daily observations at the bedsides of the sick; an attentive perusal of the Works of the best modern writers of every nation; and an insight obtained into the practice of the physicians of both Russia and Sweden, during a residence of some months in the capitals of those empires, the author trusts he will not be deemed presumptuous in having undertaken this very important task; nor be thought defective in judgment, by not having properly discriminated between matters of fact and those grounded on vague hypothesis.

The four former editions of this Work having met with a very favourable reception from the different branches of the profession throughout the British dominions, both at home and abroad, as also in North America, where several editions of the Work have also been printed, the author is induced to hope that the present one will prove equally acceptable, particularly as it has been carefully revised, and much new and important matter added under the heads of several diseases. The great variety of the subjects which pass under discussion throughout the Work, and the obligation he was under of limiting it to a single volume, are pleaded in apology for what to some may appear conciseness on a few topics.

As in the former editions, the diseases are divided into the fol-

lowing Classes, viz. Pyrexiæ, or Febrile Diseases; Neuroses, or Nervous Diseases; Cachexiæ, or Diseases connected with a general bad habit of body; Locales, or Diseases only affecting Parts; those not referrible to any particular Class; the Diseases of the Pregnant and Parturient States, and those of Infancy; and although this arrangement is by no means perfect or unobjectionable, still it may be sufficient to answer all useful purposes.

Such is the nature of this Work, and the author trusts it will be deemed a concise but accurate Compendium of the present state of Medical Practice; from which the inexperienced may derive much information, while it may also prove a serviceable reference occasionally to those of longer standing in the profession.

The Author begs leave to observe, that the doses advised in the various prescriptions, or formulæ, are intended for adults, except where particularly specified for infants or children; and that in general, women require a smaller quantity of medicine to produce a desired effect than men, and those of sanguine temperament less than those of the melancholic. In regulating the doses, due consideration ought therefore to be paid to the sex, temperament, habit, idiosyncrasy, and disease of the patient, as no correct general rules can be laid down.

Salisbury, May 1*st*, 1816.

TABLE OF THE WEIGHTS AND MEASURES,

USED BY APOTHECARIES.

Weights.

The Pound -	℔	Contains	Twelve Ounces.
—— Ounce -	℥		Eight Drachms.
—— Drachm	ʒ		Three Scruples.
—— Scruple -	℈		Twenty Grains.
—— Grain -	gr.		

These, and the Signs by which they are denoted, are the same in all the British Pharmacopœiæ.

Measure of Fluids.

The Gallon, Cong.		Contains	Eight Pints.
—— Pint. (Octarius)	O.		Sixteen fluid Ounces.
—— Fluid Ounce -	f℥		Eight fluid Drachms.
—— Fluid Drachm -	fʒ		Sixty Minims.
—— Minim - - -	♏		

The Value of these Measures is the same in all the Pharmacopœias, but the Signs by which they are denoted are peculiar to the London. The Edinburgh and Dublin retain the old Signs, which are for the Gallon, Cong. the pint ℔. the Ounce ℥, the Drachm ʒ, and the Drop gt. which should be equal to the Minim.

N. B. The Signs of the London Pharmacopœia have been adopted in the different Formulæ in this Work, with an exception to the f. expressive of fluid Measure, which has been omitted, but is nevertheless implied.

PRACTICE OF PHYSIC.

CLASS I.

PYREXIÆ OR FEBRILE DISEASES.

THE character assigned to this class of diseases is, increased heat and frequency of the pulse, after a shivering, accompanied with a disturbance in many of the functions, and diminution of strength, especially in the limbs.*

ORDER I.—FEBRES OR FEVERS.

IT is impossible to give a concise and proper definition of the disease known by the name of fever, as it has no symptom invariably attendant on it, which can point out its real nature or essence. The pulse is exceedingly various in such cases: it may be small, weak, slow, contracted and unequal; or it may be strong, quick, full, and regular; hard or soft, according as the fever is at the commencement, increase, height, or in the remission and termination; or as the genus and nature of the fever may differ.

Besides the ordinary febrile symptoms of hot skin, irritated circulation, foulness of the tongue, thirst, and deficient or irregular secretions, preceded by lassitude, heaviness, listlessness, and rigors, there are pains in the head, generally of the throbbing kind, and extending along the continuation of that portion of the brain which is lodged in the channel of the spine: increased heat of the head (easily perceived on compressing it with the hands,) even though the body and extremities be cold; unusual throbbing of the arteries in the temples and neck; suffusion of the eyes, and an altered expression of features, easily observed, but difficult to be described, together with disturbance of all the functions immediately belonging to the brain. If to these be added irregularity in regard to sleep, and watching, which, though common to many diseases, belongs in a peculiar manner to the one under our investigation, we shall have characters always sufficient to enable us to detect the

* Or rather defective power in the muscles subservient to the will. E.

presence of fever in the system, and affording at the same time the clearest indications of its nature.

It is only from a diligent examination of these appearances conjoined together, that we are enabled to judge of the presence or absence of fever; not from any of them taken singly. By making a general assemblage of the symptoms, we may venture to call it a disease which affects the whole system, the head, trunk of the body, and extremities; the skin, muscular fibres, and membranes, the circulation, absorption, and nervous system, or every part of the body, and likewise the mind. It does not, however, affect the various parts of the system uniformly and equally; but, on the contrary, one part is much more affected than another.*

Fevers are usually divided into intermittents, remittents, and continued, on account of their taking up different times in their natural duration: some being compounded of a number of paroxysms, following each other in a regular succession, at some distance of time, as happens in intermittents; in others, a fresh paroxysm comes on, immediately on the subsiding of the former, so as hardly to leave the patient entirely free of fever, as happens in remittents; and in others, there is such a quick succession of paroxysms, that the one comes on before there is any visible abatement of the febrile symptoms, hence called continued fevers.

Several species of continued fever are comprehended under the head of Typhus: they do not, however, imply any specific difference, but seem to arise either from a different degree of power in the cause; from different circumstances of the climate or season in which they happen; or from some peculiarity in the constitution of the person affected.†

FEBRES INTERMITTENTES, OR INTERMITTENT FEVERS.

THE title of Intermittent is applied to that kind of fever which consists of a succession of paroxysms, between each of which there is a distinct and perfect intermission from febrile symptoms, or an apyrexial period.

Different names have been applied to this fever, according to the distance of time observed between the periods of its return. When it comes on within the space of every twenty-four hours, it is called a quotidian; when it returns every other day, or there is a space of forty-eight hours between its attacks, it is called a tertian; and when it attends on the first and fourth day, with an interval of seventy-two hours, it is named a quartan.

When these fevers arise in the spring of the year, they are called vernal; and when in autumn, they are known by the name of

* See Dissertation on Fever, by Dr. George Fordyce.

† Hence would it not be more proper to call them varieties than species. E.

autumnal. Intermittents often prove obstinate, and are of long duration, in warm climates; and they not unfrequently resist every mode of cure, so as to become very distressing to the patient, and often give rise to other chronic complaints, but more particularly anasarcous swellings, and an enlargement of the liver or spleen.

It seems to be pretty generally acknowledged, that marsh miasmata, or the effluvia arising from stagnant water or marshy ground, when acted upon by heat, are the most frequent exciting cause of this fever. In marshes, the putrefaction of both vegetable and animal matter is always going forward, it is to be presumed; and hence it has been generally conjectured, that vegetable or animal putrefaction imparted a peculiar quality to the watery particles of the effluvia arising from thence. We are not yet acquainted with all the circumstances which are requisite to render marsh miasmata productive of intermittents. According to the observations made in the fenny districts of this kingdom, it has been ascertained that marsh miasma, when much diluted with aqueous exhalation, as in summers where an unusual quantity of rain has fallen, are nearly inert; but when arising from stagnant waters of a concentrated foulness, in consequence of great drought and heat in the latter end of summer and the early part of autumn, they act with great violence and malignancy.

A watery, poor diet, great fatigue, long watching, intemperance, grief, much anxiety, debility, exposure to cold, lying in damp rooms or beds, wearing damp linen, a warm moist, or cold damp atmosphere, the suppression of some long-accustomed evacuation, the recession of eruptions and preceding disease, have been ranked among the exciting causes of intermittents; but it is more reasonable to suppose that these circumstances act only by inducing that state of the body which predisposes to these complaints. By some, it has been imagined that an intermittent fever may be communicated by contagion; but this supposition is by no means consistent with general observation.

One peculiarity in this fever is, its great susceptibility of a renewal from very slight causes, as from the prevalence of an easterly wind, or from the repetition of the original exciting cause. It would appear likewise, that a predisposition is left in the habit, which favours the recurrence of the complaint. In this circumstance, intermittents differ from most other fevers, as it is well known, that after a continued fever has once occurred, and been completely removed, the person so affected is by no means so liable to a fresh attack of the disorder, as one in whom it had never taken place.

Each paroxysm of an intermittent fever is divided into three different stages, which are called the cold, the hot, and the sweating stages, or fits.

The cold stage commences with languor, a sense of debility, and sluggishness in motion, frequent yawning and stretching, and an aversion to food. The face and extremities become pale, the fea-

tures shrink, the bulk of every external part is diminished, and the skin over the whole body appears constricted, as if cold had been applied to it. At length the patient feels very cold, and universal rigors come on; the respiration is small, frequent, and anxious; the urine is almost colourless; sensibility is greatly impaired; and the pulse is small, frequent, and often irregular. In a few instances, drowsiness and stupor have prevailed in so high a degree, as to resemble coma or apoplexy; but this is by no means usual.

These symptoms abating after a short time, the second stage commences with an increase of heat over the whole body, redness of the face, dryness of the skin, thirst, pain in the head, throbbing in the temples, anxiety, and restlessness; the respiration is fuller and more free, but still frequent; the tongue is furred, and the pulse has become regular, hard, and full. If the attack has been very severe, then perhaps delirium will arise.

When these symptoms have continued for some time, a moisture breaks out on the forehead, and by degrees becomes a sweat, and this, at length, extends over the whole body. As this sweat continues to flow, the heat of the body abates, the thirst ceases, the urine deposits a sediment, respiration is free and full, and most of the functions are restored to their ordinary state; the patient is, however, left in a weak and wearied condition. This constitutes the third stage.

Having pointed out the phenomena usually attendant on a paroxysm of intermittent fever, and likewise their mode of succession, it may not be unworthy of observation to notice, that in different cases they may prevail in different degrees; that the series of them may be more or less complete; and that the several stages, in the time they occupy, may be in different proportions to one another.

After a specific interval according to the species of ague, a fresh paroxysm commences in the manner above described.

Such a depression of strength has been known to take place on the attack of an intermittent fever, as to cut off the patient at once; but an occurrence of this kind is very uncommon. Patients are seldom destroyed in intermittents from general inflammation, or from a fulness of the vessels either of the brain or of the thoracic viscera, as happens sometimes in a continued fever; but when their duration is of any length, they are apt to induce other complaints, such as loss of appetite, flatulency, scirrhus of the liver and spleen, dropsical swellings, and general debility, which in the end now and then prove fatal. In warm climates particularly, intermittents are very apt to terminate in this manner if not speedily removed; and in some cases they degenerate into continued fevers.

When the paroxysms are of short duration, regular in their recurrence, and leave the intervals quite free, we may expect a speedy recovery; but when they are long, violent, and attended with much anxiety and delirium, the event may be doubtful. Other unfavourable symptoms are, great prostration of strength, vertigo,

fœtid excretions, the presence of dysentery, cholera morbus, enlargements of the liver and spleen, inducing dropsy or jaundice, and convulsions occurring during the paroxysm, preceded by coma. Relapses are very common to this fever at the distance even of five or six months, or even a year; and autumnal intermittents are more difficult to remove than vernal ones.

The indications of cure in the treatment of intermittents, are, first, to put as speedy a stop as possible to the fit, when it has taken place, and, secondly, during the intermission to prevent its return, at the usual, or any after period, both by exciting a new action in the system, by administering certain remedies at the commencement or immediately before the accession of the cold fit, thereby destroying the morbid concatenation induced by the cause of the disease, and by invigorating the body.

To effect the first of these intentions, it is proper to have recourse to warm diluent liquids, artificial warmth, the pediluvium, or fomentations to the feet, and cordial diaphoretics.* These often failing, however, to put a stop to the fit, has induced modern practitioners to search after more powerful and certain remedies. Doctor Trotter mentions, in his Medicina Nautica, that finding intermittents became very frequent on board the Vengeance, one of the channel fleet under Earl Howe, he was resolved to try the full effects of opium in preventing the fit. He reports, the moment the sick felt the first approach of an attack, they were sure to run to the cockpit for relief. A dose of tinctura opii was then administered; if the first dose did not bring on some warmth in the space of ten or fifteen minutes, from twelve to twenty drops more were given. He never gave less than thirty drops the first time, and never had occasion to go beyond sixty in the space of an hour, for in no case did the remedy fail, we are informed, to give relief in this time.

He further reports, that in a few minutes from the exhibition of the opiate an exhilaration of spirits was perceived, which was quickly followed by a relaxation of the surface, the countenance looked cheerful, and a flush was spread on the cheek. The pulse, from being weak, quick, and sometimes irregular, became less frequent, full, and equal; an agreeable warmth was diffused over the whole frame, and every unpleasant feeling vanished sometimes in a quarter of an hour. Sleep now and then followed a large dose: but this did not in general happen.

As soon as any symptoms indicated another paroxysm, whether on the following day, or not till the tertian interval, the tinctura opii was repeated in the same manner as in the former fit, and always with equal success; so that the patient seldom experienced much trembling or shaking. He adds, the second paroxysm was

* As, a table-spoonful of the acetite of ammonia, commonly called spiritus mindereri, in a draught of warm chamomile, sage, or mint tea, or wine whey, every hour, until the coldness subsides. E.

commonly an hour or two later in the day than the preceding one, and but few instances occurred where any indisposition indicated a third attack at the expected period of accession. The very patients themselves, he observes, were not a little surprised at the sudden change in their sensations, by so small a quantity of medicine, and that they were certainly the completest cures which ever came under his observation.*

Sulphuric æther administered in the quantity of a drachm for a dose, on the approach of the cold fit of an intermittent, has been found in some instances to prevent the accession of the hot one. In the fifth volume of Medical Facts and Observations, two cases are recorded by Mr. Davidson of the efficacy of this remedy, where the bark and other medicines which were previously used had failed. The first dose is not to be expected to remove the disease at once, and therefore on the approach of the next fit it ought to be repeated. During the intervals, the bark and other tonics are to be taken.

By administering an emetic immediately before the accession of the cold stage, we may sometimes be enabled to destroy the morbid concatenation induced by the cause of the disease, and thereby prevent a return of the paroxysm.

If the patient be incommoded by a cough, attended with a pain in the side affecting the breathing, we may recommend the application of a blister; and should these affections not be relieved by the remedy, it may not be improper to take away a small quantity of blood. If the head becomes much affected either during the paroxysms or the intermissions, the application of a blister to the back, and of leeches to the temples, will be advisable, laying opiates aside.

Should there be great coldness of the legs, with a sinking of the pulse, cataplasms of mustard may be applied to the soles of the feet.

When we obtain an intermission, the cinchona bark is to be given during the intervals, in large doses. One or two drachms of the powder may be taken every hour, if the stomach will bear so much, as the benefits to be expected from this medicine greatly depend on a large quantity being administered in a short space of time; for five or six ounces of bark taken in a few days, will be attended with a much better effect than perhaps as many pounds taken in the course of some weeks. If it will not sit easy on the stomach in substance, we must be content to substitute a decoction or infusion of it, or we may give the extract,† joining a few drops of sulphuric acid.

* This practice has frequently succeeded with many of the physicians in this country. E.

† R. Extract. Cinchon. gr. xv.
Decoct. Ejusdem. ℥ jss.
Tinct. Cort. Aurant. ʒ j. M.
ft. Haustus alternis horis sumendus.

If all the forms which have been mentioned are nauseated and rejected by the stomach, we may advise the bark to be given in clysters, in which form it likewise proves very efficacious. For this purpose about a drachm of its extract, dissolved in a sufficient quantity of water, with the addition of a few drops of tinctura opii, in order to its being longer retained, will be most proper. With children who cannot be prevailed on to take the bark, we may administer it with much efficacy in this way, repeating the clyster every four hours. For the cure of intermittents in children, the bark has sometimes proved effectual when applied externally, by putting the powder of it into a quilted waistcoat.

Various substances of either an astringent, stimulant or aromatic nature, such as alum, the various preparations of iron, &c. nutmeg, and snake-root, have been joined to the cinchona bark, with a view of increasing its powers; but as these lessen its dose by their bulk, it will be best to give it by itself, unless it occasions a purging, and then about eight or ten drops of tinct. opii, or about a drachm of the tinct. e kino, may be added to each dose. On the contrary, should it produce costiveness, some gentle laxative may be taken occasionally, such as a few grains of rhubarb.

In cold climates, it will in general be advisable to wait for a perfect and regular intermission before we give the bark: but in warm ones, where intermittents are apt to degenerate into continued fevers or remittents, and in which the habit is more irritable and weak, it will be right to administer it, even on the most imperfect intermission, or slightest remission.

In all cases of intermittents, it will not be sufficient that the recurrence of paroxysms be stopped for once or twice by a use of the bark; a relapse is commonly to be expected, and it should therefore be prevented by a continued exhibition of the medicine at proper intervals; even for some weeks after the disease appears to be removed, it may be advisable to take a little of it occasionally, particularly in damp weather, or during the prevalence of an easterly wind.

Various species of the bark are now to be met with among the venders of this medicine, and we have been favoured with the report of several gentlemen* of eminence in their profession, giving a decided preference to the yellow (Cinchonæ cordifoliæ cortex,) as possessing virtues far superior to the red, or any other species yet introduced into use.

From various trials made with it, these physicians report, that it is bitterer to the taste, and more astringent, than the other sorts; that a decoction and infusion of it are less liable to undergo fermentation; and that in every instance in which it was used by them, it invariably proved successful. Half a drachm of the yellow

* Dr. Relph, Dr. Saunders, and Dr. Babington, physicians to Guy's Hospital; Dr. Lind of Haslar Hospital; and the late Dr. Woodville.

bark in powder, given every two hours, has in general been found sufficient for the cure of an intermittent; hence they have presumed that it possesses nearly a double febrifuge power to that of common bark. Of its good effects I can myself bear testimony, having used it with the most decisive success.*

It often happens, when intermittents have continued a long time, that scirrhosities of the liver or spleen take place, which are vulgarly denominated ague-cakes. These complaints have been attributed to an improper use of the cinchona bark; but they evidently arise from the great quantity of blood, which is thrown on these parts during the cold fit, which distends them, and so produces a scirrhosity in them, and which we often find it difficult to remove, although a stop is put to the fever. In such cases it may be proper to join deobstruents with cinchona, as below.† If these do not answer, we must have recourse to mercury. A small dose should be given every night, so as just to affect the mouth, but the tonic medicines are to be continued.‡ If the patient cannot take this remedy internally, he must substitute its external use in the form of unction, rubbing into the groins about a scruple, if an adult, of the unguentum hydrargyri fortius every night at bed-time.

These tumours, by pressing on the ramifications of the vena portarum, which pass into the liver, and branch in the manner of an artery, prevent the blood from returning from the abdominal viscera with the same facility that it commonly does. The passage of the blood being thus retarded, occasions a greater extravasation of lymph in the cavity of the abdomen, so that the ordinary exertion of the absorbents is not sufficient to take up the whole lymph. Thus an ascites takes place; and in this case we must have recourse to the means advised under that head.

Dropsy likewise arises sometimes from mere weakness, without any tumour of the abdominal viscera, and occasioned by the long continuance of the disease. In these instances, it may be removed by exhibiting the bark of the cinchona together with stomachic bitters, diuretics, and chalybeates. As the strength returns, and the patient recovers his health, the dropsical appearances will diminish by degrees.

* A variety of articles have been recommended as substitutes for the Cinchona, the merits of which are however much disputed. For an account of these we refer to the late writers on the Materia Medica. E.

† ℞. Pulv. Cinchon. ℥j.
—— Rhei ℥jss.
Sodæ Subcarbon. ℥ij.
Syrup. Zingib. q. s. M. ft. Elect.
Cujus sumat Cochl. min. ter quaterve in die.

‡ The mercury should be continued until the gums begin to swell and feel uneasy. The blue pill in doses of one to two grains every night at bed time is less apt to purge or to disturb the stomach than calomel, and is equally efficacious. E.

Arsenic has been strongly recommended as a remedy in intermittents, and it is undoubtedly a very powerful medicine, for I have found it to remove obstinate intermittents which had long resisted all other means. The inhabitants of a considerable portion of the country which surrounds Salisbury (the place of my residence) are very subject to these fevers, but I have never yet been disappointed in removing even those of an obstinate nature, by a proper use of the arsenical solution; it is however my constant practice to conjoin four or five drops of tinctura opii with each dose of it.

The late Dr. Fowler seems to have been the first physician to advise this medicine in agues, and on his recommendation many practitioners have used it, agreeably to his directions, with the most pointed success. The preparation he advised is now introduced into the London Pharmacopœia, under the name of Liquor Arsenicalis. The dose is from two to twelve drops, once, twice, or oftener in the day, according to the age, strength, &c. of the patient. Eight days administration of the medicine, in the manner just mentioned, will generally be found sufficient for the radical cure of an intermittent.

Vomitings, gripings, swellings, and the loathing of food, are the troublesome symptoms now and then produced by an improper use of the arsenical solution. They however disappear generally on a discontinuation of the drops, or only require the exhibition of gentle opiates, or some warm cathartic, such as the tincture of rhubarb.

From the observations which have been made on the use of arsenic in agues, there seem just grounds for believing it to be the most powerful of all the medicines which have been recommended in these complaints. In Lincolnshire, which is a fenny country, where agues are very prevalent, it is universally used, and with the most uniform success. Military and navy surgeons will find the arsenical solution a valuable substitute for the bark of cinchona, when their store of this is small or exhausted. Arsenic has long been administered by empirics with the greatest success in intermittents, under the appellation of the ague-drop.

The manner in which arsenic acts in curing intermittent fevers, Dr. Darwin thinks, cannot be by its general stimulus, because no intoxication or heat follows the use of it; nor by its peculiar stimulus on any part of the secreting system, since it is not in small doses succeeded by any increased evacuation or heat, and must therefore exert its power on the absorbent system.

During the fits of an intermittent the patient's strength is to be supported by food of a light nutritive nature, such as preparations of barley, sago, panado, and the like; but when the fit is off, he may be allowed animal food, and a moderate use of wine. A change of air and situation has sometimes a happy effect in removing an intermittent, particularly if from a low marshy country to an elevated one. In autumnal intermittents it has been found, that the

air of a city or large town is more favourable than that of the country, owing most likely to the great number of fires that are always burning. When none of the viscera are affected, cold bathing may be used with advantage.

REMITTENT FEVER.

By a remittent is to be understood where the fever abates, but does not go off entirely before a fresh attack ensues; or, in other words, where one paroxysm succeeds the other so quickly, that the patient is never without some degree of fever. It is to be observed, moreover, that the remissions happen at very irregular periods, and are of uncertain duration, being sometimes longer and sometimes shorter.

This fever is principally induced, as well as the intermittent, by marsh miasma, and is most apt to arise when calm, close, and sultry weather quickly succeeds heavy rains or great inundations. In warm climates, particularly as we approach the tropics, where great heat and moisture rapidly succeed each other, the remittent is a very prevalent type of fever, and often appears under a highly aggravated and violent form, prevailing epidemically. It is likewise often met with in low marshy situations abounding with wood and water, from which miasma are consequently evolved, and is most apt to attack those of a relaxed habit, those who undergo great fatigue, and those who breathe an impure air, and make use of a poor and unwholesome diet.

Although this fever is produced originally by marsh miasma, and in its simple state is not of an infectious nature, still, under bad management, such as crowding too many sick together, and neglecting proper cleanliness and a free ventilation, there cannot be a doubt that it may, in its course, engender a matter capable of occasioning a highly contagious fever.

Preceding an attack of a remittent fever, the patient is usually heavy and languid, and is troubled with anxiety, listlessness, sighing, yawning, and alternate fits of heat and cold. On its accession, he experiences severe pains in the head and back, intense heat over the whole body, with thirst, difficulty of breathing, and great dejection of spirits; the tongue is white; the eyes and skin appear yellow; there is pain and a sense of swelling about the region of the stomach; nausea, and a vomiting of bilious matter, ensue; and the pulse is frequent and small.

After a continuance of these symptoms for a time, the fever abates considerably, or goes off imperfectly by a gentle moisture diffused partially over the body; but, in a few hours, it returns with the same appearances as before. In this manner, with exacerbations and remissions, it proceeds at last to a crisis, or is changed into a fever of a different type. In warm climates, the remission often occurs so early as the second day; but in cold ones, it fre-

quently does not take place until from the fourth to the sixth or eighth day.

The accession of fever, which has just been described, is however the mildest form under which it ever makes its appearance; for sometimes a severe delirium arises, and carries off the patient during the first paroxysm; or the remission, perhaps, is scarcely perceptible, and is immediately followed by another paroxysm, wherein there is a considerable aggravation of all the symptoms. The heat of the body is greatly increased, the face is highly flushed, the thirst is excessive, the tongue is covered with a dark brown fur, respiration is laborious, the pulse is quick, throbbing, and tremulous, and a delirium arises. At the distance of some time, perhaps another short or imperfect remission again takes place; but the symptoms return once more with redoubled violence, and at length destroy the patient.

The symptoms which attend a remittent fever are apt to vary according to the situation and constitution of the patient, and likewise the season of the year, and therefore it is impossible to give a certain detail of them; for sometimes those pointing out a redundancy of the bile predominate; sometimes the nervous are most prevalent: and at other times the putrid.

A remittent fever is always attended with some hazard, particularly in warm climates, in which it usually goes through its course in the space of five or six days; but in cold ones, its crisis is not usually effected until the twelfth or fourteenth. The shorter and more obscure the remissions are, the greater will be the danger, and each succeeding paroxysm is attended with more risk than the former. On the contrary, the milder the attack, and the nearer the fever approaches to an intermittent, the fairer will be the prospect for a recovery.

In cold climates, and at an early period of the disease, it will be proper to have recourse to bleeding, where the patient is young and of a full plethoric habit, the pulse full and hard, the heat intense, the breathing difficult, or the head much affected with stupor or delirium; but in warm climates, when few or none of these symptoms are present, it might prove injurious, especially if the person has been an inhabitant therein for any length of time, and not lately arrived from Europe or other temperate climates.

To assist in allaying the violence of the fever, it will be prudent carefully to remove and avoid every thing that might in the least contribute to increase it, such as too strong a light falling on the eyes, all noise and motion, and likewise any excess of heat. The patient is therefore to be kept perfectly quiet; the covering of his bed is to be light, and his chamber of a moderate temperature, by allowing a free admission of cool air into it. To assist these means, he should be presented from time to time with some cooling acidulated liquor, such as lemonade, tamarind beverage, or a solution of the crystals of tartar, or even cold water. Throughout the whole course of the disease, it will be advisable to change his

body-linen, as well as that of the bed, frequently: to sprinkle his chamber often with vinegar; and to remove immediately whatever he voids by stool. As in most cases, there is a determination to the brain, the patient's head should be kept rather elevated, and being shaved, numerous folds of linen, moistened with vinegar and water (artificially cooled) may be kept constantly applied to it: his feet may be immersed occasionally in warm water.

As nausea usually prevails at the commencement of the disease, it will, in all cases, be right to cleanse the stomach by giving a gentle emetic of ipecacuanha, or a solution of tartarized antimony, which perhaps may be preferable: the operation of this being over, the bowels may then be emptied by some gentle laxative, which will seldom fail in bringing off a considerable quantity of dark bilious matter. Drastic purges, by determining inwardly and increasing the irritability of the stomach, would be prejudicial; and therefore, if it is necessary to obviate costiveness in the course of the disease, it will be most advisable to do it by the laxative medicines here prescribed,* assisted now and then with aperient clysters.

The necessity of carefully inspecting the alvine discharges in remittent fever cannot be too strongly inculcated, as it affords the best or principal index as to the regulation of our employing purgative medicines.

In this fever, as well as typhus icterodes, the submuriate of mercury combined with rhubarb or jalap may be regarded as a valuable remedy, where we wish to carry off putrid feculent matter from the bowels, and there is at the same time any degree of nausea or vomiting present; as, from the smallness of its bulk, it may possibly be retained on the stomach, when every other purgative might be rejected.

After these evacuations, and where there is no delirium present, an opiate will be found of great service in quieting the commotions induced either by the spontaneous or artificial discharges, and in enabling the patient to retain on his stomach both nourishment and medicines.

In the remittent fevers of warm climates, as well as of temperate countries in the hotter seasons of the year, the best effects are to be derived from cold affusion, or throwing cold water over the patient; but it is to be understood that the height of the paroxysm is the proper time for the application of the remedy. The sensa-

* ℞. Potassæ Tartrat. ʒij.
Infus. Sennæ ℥jss.
Tinct. Jalap. ♏ xx. M.
ft. Haustus.
Vel

℞. Pulv. Rhei gr. x—xv.
Hydrargyr. Submuriat. gr. v.
Syrup. q. s. M.
Fiant Pilul. iv. pro dos.

Vel

℞. Hydrargyr. Submur. gr. v.
Pulv. Jalap. gr. xv. M.
ft. Pulvis.

tions of heat are then strong; the head-ache is violent, and delirium frequently runs high. By employing the remedy at an early period, we may be able either to arrest the disease precipitately, or bring about an early solution of the paroxysm, but at the least we may for the most part so ameliorate its aspect as that from an obscure remittent it will soon become an intermittent of a distinct and regular type. Where signs of congestion, or irregular action, present themselves in the abdominal or biliary system, and the disease is recent, it will be advisable, previous to having recourse to affusion, to premise proper evacuations.

To alter the type of the fever, and bring the remission into perfect intermissions, if possible, by promoting a gentle diaphoresis, it will be proper to give antimonials in small and frequently repeated doses. They may be prescribed as mentioned under the head of Simple Continued Fever, and to assist their effect, the patient should take frequent small draughts of some tepid diluting liquor.

Where frequent vomitings prevail, antimonials will not be proper. In their stead, we may direct the saline medicine to be administered so as that the effervescence shall take place in the stomach, with the addition of about ten drops of tinct. opii to each dose.* Moreover, we may direct flannel cloths wrung out in a warm decoction of chamomile-flowers and bruised poppy-heads, with an addition of rectified spirits, to be kept constantly applied over the region of this organ.

Should these means fail in procuring the desired effect, a large blister may be put immediately over the part, which will be found, in general, a very effectual remedy. The early application of a blister, even in cases where no great irritability of the stomach prevails, might in most instances be proper, as it will tend to prevent the determination to that organ. Blisters likewise prove highly serviceable in the latter stages of a remittent fever, when the spirits flag and the pulse is low and fluttering, with insensibility or a disposition to coma. In such cases they may be applied between the shoulders, and to the legs. Sinapisms of mustard may also be put to the soles of the feet.

When a severe vomiting has arisen, the patient ought to swallow as little drink as possible, and should only now and then just moisten his mouth and throat; for whatever reaches the stomach is sure to be rejected shortly with considerable violence; and each time it is thrown into these convulsive motions, the disease is strengthened and the person exhausted. Under such circumstances, it will be better to support the strength by administering clysters com-

* Opiates, however, are not proper remedies in any case where the pulse is either fuller and more frequent, or tense and more frequent than in health; nor ought, under these circumstances, wine or any other stimulant to be given. E.

posed of broths and other nutritious liquids, than to attempt it by giving any thing by the mouth.

When the stomach is not in an irritable state, and every thing is retained readily, the patient is to be supported by food of a light generous nature. During the remissions a little wine may be mixed with it.

As soon as the fever shows a disposition to yield, and a perfect remission takes place, we ought to give the bark of cinchona in substance, and in such doses as the stomach will easily bear: and if about twenty drops of the acidum sulphuricum dilutum are added to each dose, the effect will be increased. Should the cinchona in powder prove either disagreeable to the patient, or excite nausea, then a decoction or infusion of it must be substituted. If any of its preparations should occasion a purging, about ten drops of the tinctura opii, or a drachm of the tinct. catechu, may be added to each dose.

In cold climates we may wait for a perfect and complete remission before we give the cinchona; but in warm climates we ought to administer it even on the shortest and most imperfect remission; and although it may not prove sufficiently efficacious to prevent a fresh attack at first, yet it will seldom fail to mitigate the subsequent returns of the fever, and will at last bring about a regular and perfect intermission.

By neglecting to give the cinchona in the West Indies and other warm climates upon the first remission, the fever is apt to assume a continued form. Where danger is to be apprehended with every return of the paroxysm, and where the interval is likely to be short, we should give at least half an ounce of this bark at once immediately on the commencement of the intermission. During the rest of the intermission or remission we may administer it in doses of about two drachms repeated at such distances as that the patient shall take an ounce, or an ounce and a half, if possible, previous to the next accession. When the interval is pretty long, the remedy may be divided into smaller doses.

To guard against a relapse, the cinchona should be continued for some days after a cessation of the attacks, and not to be too hastily left off, as is sometimes the case.

The late Dr. Fowler, found the most beneficial effects from the use of arsenic in the form of solution in this fever, as well as in intermittents. From his report, published in the ninth volume of the Medical Commentaries, it appears, that he experienced its virtues from repeated trials made of it on himself, having been visited by several attacks of a remittent, between the years 1786 and 1791. He took the solution as directed to be prepared under the title of liquor arsenicalis, in doses of from eight to ten drops twice a day, and always experienced the curative effects of the medicine, during each period of its administration, to be very pointed and successful.

We are also informed by Dr. Ferriar,* that he has employed it in some very dangerous and tedious remittents, and always found it a safe and certain remedy. He observed that it generally lessened, if it did not suspend, the second paroxysm after its being exhibited, and it effected the purpose without producing the slightest disturbance in the habit. To an adult, he usually gave five drops of the saturated solution every four hours, and seldom found it necessary to exceed this dose. The only sensible effects produced by it, Dr. Ferriar tells us, are the removal of the crust on the tongue; the appearance of a sediment in the urine; and increased firmness of the pulse.

Probably it might be best to administer this solution combined with the cinchona, either in substance, decoction, or infusion.

Every thing that may have a tendency to bring on a fresh attack of fever is carefully to be avoided during a state of convalescence. A change of air and situation (particularly if it has been low and damp) may have a good effect in expediting the patient's recovery; and if the appetite does not return readily, he may take stomachic bitters with advantage. See Dyspepsia for these.

CONTINUED FEVERS.

Fevers of this nature continue for several days with nearly the same violence, having evident exacerbations and remissions daily.

SYNOCHUS or SIMPLE CONTINUED FEVER.

Synocha and Typhus, blended together in a slight degree, seem to constitute this species of fever, the former being apt to preponderate at its commencement, and the latter towards its termination. It is of a contagious nature.

Every thing which has a tendency to enervate the body, may be looked upon as a remote cause of fever; and accordingly, we find it often arising from great bodily fatigue, too great an indulgence in sensual pleasures, violent exertions, intemperance in drinking, and errors in diet; and now and then likewise, from the suppression of some long-accustomed discharge. Certain passions of the mind (such as grief, fear, anxiety, and joy,) have been enumerated among the predisposing causes of fever, and in a few instances it is probable they may have given rise to it; but the concurrence of some other power seems generally necessary to produce this effect. The most usual and universal exciting cause of this fever is the application of cold to the body, giving a check to perspiration; and its morbid effects seem to depend partly upon certain circumstances of the cold itself, and partly upon certain circumstances of the person to whom it is applied.

* See the new Edition of his Medical Histories and Reflections.

The circumstances which seem to give the application of cold a due effect, are its degree of intensity: the length of time which it is applied; its being applied generally, or only in a current of air; its having a degree of moisture accompanying it, and its being a considerable or sudden change from heat to cold.

The circumstances of persons rendering them more liable to be affected by cold, seem to be debility, induced either by great fatigue or violent exertions; by long fasting; by the want of natural rest; by severe evacuations; by preceding disease; by errors in diet; by intemperance in drinking; by great sensuality; by too close an application to study, or giving way to grief, fear, or great anxiety; by depriving the body of a part of its accustomed clothing; by exposing any one particular part of it while the rest is kept of its usual warmth; or by exposing it generally or suddenly to cold when heated much beyond its usual temperature: these we may therefore look upon as so many causes giving an effect to cold, which it otherwise might not have produced.

Another frequent cause of fever seems to be, the breathing air contaminated by the vapour arising either directly or originally from the body of a person labouring under the disease. A peculiar matter is supposed to be generated in the body of a person affected with fever, and this floating in the atmosphere, and being applied to one in health, will no doubt often cause fever to take place in him, which has induced many to suppose, that this infectious matter is produced in all fevers whatever, and that they are all more or less contagious.

The effluvia arising from the human body, if long confined to one place without being diffused in the atmosphere, will, it is well known, acquire a singular virulence, and will, if applied to the bodies of men, become a cause of fevers of a continued type, known by the names of Typhus Mitior and Gravior.

Exhalations, arising from animal or vegetable substances in a state of putrefaction, have been looked upon as another general cause of fever; marshy or moist grounds, acted upon by heat for any length of time, usually send forth exhalations which prove a never-failing source of fever of an intermittent type.

Marsh miasma, as these exhalations are usually termed, have undoubtedly the peculiar effect of inducing fever on human bodies, exposed under certain conditions to their influence. From their denomination it is too commonly understood, that marshes are the only sources whence these exhalations arise; but they also proceed from moist earth, slime, mire or mud, in a great variety of situations and climates of inhabited, as well as unfrequented and uncultivated tracts of country, in almost every quarter of the globe. They are more powerful, concentrated, and virulent in hot climates and in warm seasons, than in temperate ones. It further appears that the types, or periodical evolutions of fever which they excite, are chiefly governed by the degrees of concentration which these exhalations possess; the type being more continued and less inter-

mittent or remittent, in proportion to the power of the exhalation.

Numerous are the writers, who, for upwards of a century, have successively exerted their talents in pointing out what each conceived to be the proximate cause, or essential nature of fever; some supposing it to consist in a noxious matter, introduced into, or generated in the body, the increased action of the heart and arteries being an effort of nature to expel this morbific matter; others offering it as their opinion, that it consisted in an increased secretion of bile; and others again, that it is to be attributed to a spasmodic constriction of the extreme vessels on the surface of the body, which, indeed, was the doctrine taught by the late Dr. Cullen.

Dr. Currie, of Liverpool, supposes debility of a peculiar kind to be the first operation of the remote cause producing fever; the necessary consequence or concomitant effect, is, he thinks, a spasm or contraction of the arteries, but more especially of the extreme vessels and capillaries of the surface; hence follows an accumulation of blood in the heart and lungs, the re-action of these organs, the separation of morbid heat, and morbid association. The ground of this theory is nearly the same with that of Dr. Cullen, resting, however, more fully on morbid heat, and admitting into the chain of operation an appendage of morbid association.

To investigate these different hypotheses, would lead me into a train of theoretical and vague reasoning, inconsistent with the plan of this publication; I shall therefore proceed to point out the manner in which fevers usually come on, barely observing, that the proximate cause of fever is by no means, as yet, satisfactorily ascertained, and that it is a disease, the whole of the appearances of which have not been accounted for.

An attack of synochus is generally marked by the patient's being seized with a considerable degree of languor or sense of debility, together with sluggishness in motion, and frequent yawning and stretching; the face and extremities at the same time become pale, and the skin over the whole surface of the body appears constricted: he then perceives a sensation of cold in his back, passing from thence over his whole frame; and this sense of cold continuing to increase, tremors in the limbs and rigors of the body succeed. With these, there is a loss of appetite, want of taste in the mouth, slight pains in the head, back and loins, and a small and frequent respiration.

The sense of cold and its effects, after a little time, become less violent, and are alternated with flushings, and at last, going off altogether, they are succeeded by great heat diffused generally over the whole body; the face looks flushed: the skin is dry, as likewise the tongue; universal restlessness prevails, with a violent pain in the head, oppression at the chest, sickness at the stomach, and an inclination to vomit. There is likewise great thirst and costiveness, and the pulse is full and frequent, beating perhaps 90, 100,

or 120 strokes in a minute. When the symptoms run very high, and there is a considerable determination of blood to the head, delirium will arise. In this fever, as well as most others of the continued kind, there is generally an increase of the symptoms towards evening.

If the disease is likely to prove fatal, either by its long duration, or by the severity of its symptoms, then a starting of the tendons, picking at the bed-clothes, involuntary discharges by urine and stool, coldness of the extremities, and hiccups, will be observed: where no such appearances take place, the disease will go through its course, and at length cease.

As a fever once produced will go on, although its exciting cause be entirely removed, there can be no certainty as to its duration; and it is only by attending to certain appearances or changes, which usually take place on the approach of a crisis, that we can form any opinion or decision on this head. It has moreover been asserted by some of our eminent teachers of medicine, but more particularly by Dr. Cullen and Dr. George Fordyce,* that the continued, or fresh cause of fever, neither will increase that which is already produced, nor occasion a new one; but the soundness of this doctrine I am much inclined to doubt, for although a fever will run its course notwithstanding the cause which gave rise to it has ceased to exist, so long as its proximate cause, or that morbid state of the system produced by the remote or specific cause exists, still the reiterated application of the cause, or continuance within the range of its influence may, I think, signally exasperate the fever in its progress.

The symptoms pointing out the approach of a crisis, are, the pulse becoming soft, moderate, and near its natural speed; the tongue losing its fur and becoming clean, with an abatement of thirst; the skin being covered with a gentle moisture, and feeling soft to the touch; the secretory organs performing their several offices, and the urine depositing flaky crystals of a dirty red colour, and becoming turbid on being allowed to stand any time.

Many physicians have been of opinion, that there is something in the nature of all acute diseases, except those of a typhoid kind, which usually determines them to be of a certain duration; and therefore that these terminations, when salutary, happen at certain periods of the disease rather than at others, unless disturbed in their progress by an improper mode of treatment, or the arising of some accidental circumstances.

These periods are known by the appellation of critical days, and from the time of Hippocrates down to the present, have been pretty generally admitted. The truth of them, I think, can hardly be disputed, however they may be interrupted by various causes. A great number of phenomena show us, that, both in the sound state and the diseased, nature has a tendency to observe certain periods: for

* See his Treatise on Simple Fever.

instance, the vicissitudes of sleeping and watching, occurring with such regularity to every one; the accurate periods that the menstrual flux observes, and the exact time of pregnancy in all viviparous animals, and many other such instances that might be adduced, all prove this law.

With respect to diseases, every one must have observed the definite periods which take place in regular intermittents, as well those universal as topical, in the course of true inflammation, which at the fourth, or at the farthest the seventh day, is resolved, or after this period changes into either abscess, gangrene, or scirrhus; in exanthematous eruptions, which, if they are favourable and regular, show themselves on a certain and definite day; for example, the small-pox about the fourth day. All these appear to be founded on immutable laws, according to which the motions of the body in health and in disease are governed.

The days on which it is supposed the termination of continued fevers principally happens, are the third, fifth, seventh, ninth, eleventh, fourteenth, seventeenth, and twentieth.

Great anxiety, loss of strength, intense heat, stupor, delirium, irregularity in the pulse, twitchings in the fingers and hands, picking at the bed-clothes, startings of the tendons, hiccups, involuntary evacuations by urine and stool, and such-like symptoms, point out the certain approach of death. On the contrary, when the senses remain clear and distinct, the febrile heat abates, the skin is soft and moist, the pulse becomes moderate and is regular, and the urine deposites flaky crystals, we may then expect a speedy and happy termination of the disease.

It sometimes happens that the fever does not affect every part of the system equally; the symptoms being less severe in one part of it, than in another. This, which the young and inexperienced practitioner, and the by-standers in a much greater degree, are apt to think fortunate for the patient, is in fact the very reverse, as has been very judiciously observed by Dr. Fordyce;* there being nothing more dangerous in fever, than its not affecting every part of the system in an equal degree.

The usual appearances which are to be observed on dissection of those who die of this fever, are an effusion within the cranium, and topical affections, perhaps of some of the viscera.

In fever, all motion of the body should be avoided, especially that which requires the exercise of the muscles; the patient ought therefore to be confined to his bed. The exercise of the mind proving a stimulus to the body, all impressions which lead to thought, especially those which may excite emotion or passion, are to be carefully shunned. A person labouring under a fever, ought therefore to be kept as composed and quiet as possible, and his chamber should not be close and warm, as is too usually the case, but, on the contrary, perfectly cool and sufficiently ventilated, taking

* See his fifth Dissertation on Fever.

care, however, that the air does not come in a direct stream or current upon him. He is likewise to be lightly covered with bed-clothes.

The strict pursuance of an antiphlogistic regimen will be highly necessary to be observed in this fever, as well as in some others of the continued kind.* That sort of aliment which gives the least stimulus, will be the most proper: the food should be light, and easy of digestion, consisting of preparations of barley, oat-meal, sago, vermicelli, tapioca, and the meal of Indian arrow-root, varying them now and then for panado made without wine, roasted apples, &c. Animal broths produce an increase of heat in the body, and are therefore improper, unless the patient is in a state of convalescence. For drink, he may take barley-water, linseed-tea, toast and water, milk-whey, thin gruel, and lemonade, which may be varied now and then for an infusion of balm, and such other herbs, carefully shunning the use of any kind of spirituous or fermented liquor.

The stomach and rest of the alimentary canal are manifestly affected in many cases of fever in a higher degree than other parts of the body, and therefore emetics and purgatives are usually the first means which present themselves to the notice of the physician. In fever it will therefore be necessary to pay an early attention to the state of the stomach, and if there are any crudities or corrupted humours, producing nausea or vomiting, to dislodge them by administering a gentle emetic.† To assist its operation, the patient should drink freely of lukewarm water, or an infusion of chamomile-flowers.

To remove the feculent contents of the bowels, some gentle laxative‡ may be taken; and throughout the remainder of the disease the body should be kept open, if necessary, by a repetition of some such medicine, administered as the occasion may require, or by means of aperient clysters.§ Where the disorder seems to have arisen from, or to be kept up by a redundant secretion of bile, mild purgatives will still be more highly necessary, and perhaps the submuriate of mercury joined with a few grains of jalap or rhubarb, may best answer our purpose.

* So long as symptoms which denote an inflammatory disposition continue.—E.

† ℞. Pulv. Ipecac. gr. xv.
Antimon. Tartarizat. gr. j.
Aq. Menth. Virid. ℥jss. M.
ft. Haustus.

‡ ℞. Potassæ Tartrat. ℥ss.
Mannæ Optim. ℥j.
Aquæ Fervent. ℥iij.
——— Cinnam. ℥ss. M. ft.
Solutio cujus sumat dimidium, et repetatur, dos. post horas duas nisi alvus prius respondeat.

§ ℞. Sodæ Sulph. ℥ss.
Decoct. Malvæ Composit. ℥xij.
Olei Olivæ ℥ss. M.
ft. Enema.

In the simple continued fever it will seldom be necessary to have recourse to the lancet, particularly in warm climates: but should the disease have arisen in a young person of a plethoric habit, and the attack of fever have been severe, with considerable flushing of the face, redness of the eyes, delirium, and a full and hard pulse,* we may then advise the taking away eight or ten ounces of blood. This quantity should be drawn off at once from a large orifice, and not by repeated bleedings; as by the former mode there will be greater temporary, but less permanent weakness induced by the evacuation. Under no other circumstances will it be advisable to resort to this operation, as we might thereby occasion a slower recovery by inducing a state of extreme debility.

By bleeding unnecessarily at the commencement of this fever, such a degree of weakness may be induced as, added to the depression of strength, which arises in its progress, might produce symptoms of putrefaction† in the second or third week of the disease, so as to prove fatal. By neglecting to bleed, however, when the pulse is full, hard, and quick,‡ the respiration hurried, breath hot, skin dry, and the head highly painful, we shall commit a dangerous error, and endanger the life of the patient.

If great heat, with much thirst, prevails, refrigerant medicines may be taken with advantage, and the most useful of this class is the nitrate of potass, which may either be joined with others,§ or be added to whatever the patient uses for common drink.‖

Acids of all kinds, when sufficiently diluted, are refrigerant remedies well adapted to continued fevers. Those most in use are the sulphuric, muriatic, and vegetable, but more particularly the latter, such as the acid of tamarinds, oranges, lemons, mulberries, currants, &c. As a refrigerant, cold water may likewise be drank.

For the purpose of arresting the febrile course, and moderating or abstracting the morbid excess of heat, and restoring a healthy action, cold bathing has of late years been much employed in fevers. The practice of bathing in fevers appears indeed to be of great antiquity, for its use and management were well known to Galen, and are well defined by him. It farther appears, by the relation of travellers, to have been long used by several of the Eastern nations. We have likewise indisputable proof that cold affusion had long ago been employed by Dr. Wright, of Jamaica, and some

* Or, a frequent and hard or tense though small pulse.—E.
† Or rather a tendency to gangrene.—E.
‡ Or frequent, hard and tense though small in volume.—E.

§ ℞. Succi Limon. ℥ss.
Potassæ Subcarbon. ℈j. vel q.s.
—— Nitrat. gr. x.
Aq. Fontan. ℥j.
Syrup. Violæ ℥j. M.
ft. Haustus 3tia quaq. hora sumendus.

‖ ℞. Decoct. Hordei Oij
Potassæ Nitrat. ℥ij.
ft. Potus.

other physicians in the West Indies, particularly Dr. Jackson. The notice which this remedy has attracted in England, has certainly, however, been owing to the popular manner in which the subject has been treated by the late Dr. Currie, of Liverpool. For the safest time, and most advantageous mode of employing cold affusion in fevers, I beg leave to refer the reader to the admonitions given under the head of Typhus Mitior. Under the present, I will only observe, that affusion with cold water, either by means of a large watering-pot, so as to allow the streams to pour on the head and shoulders with some force, or by dashing it out of a pail, may be boldly and fearlessly resorted to at the commencement of the greater number of fevers of every climate, where no catarrhal symptoms, or inflammatory affection of the lungs are present; but in the advanced stages, or latter periods of most, and where there is much debility, this remedy should be adopted with due caution, and a careful consideration of the attendant circumstances.

With a view to determine the circulation to the surface of the body, it will be right to resort to an early use of such medicines as possess this peculiar power. To excite a perspiration, it will in many cases be sufficient only to make the patient lie abed, and drink plentifully of diluting liquors; but should these simple means not prove efficacious, it then will be necessary to resort to more powerful agents.

Neutral salts,* when taken into the stomach, soon produce a sense of heat on the surface of the body; and if it be covered close, and kept moderately warm, a gentle sweat is often readily brought on. These, therefore, being possessed of the power of determining to the surface, are highly useful in fever,† and may be prescribed as in the undermentioned forms.

Emetic medicines, and particularly antimonials, given in small nauseating doses, have likewise a similar power of determining the circulation to the surface of the body, and of producing symptoms similar to those which take place in the crisis of fever: these are therefore advisable. They may either be combined with those of the before-mentioned class, or be given by themselves. From the uncertainty with which Dr. James's powder and the pulvis an-

* ℞. Ammon. Carbonat. gr. x.
Succi Limon. ℥ss.
Aq. Menth. Virid. ℥j.
Tinct. Lav. Comp. ♏. x.
Syr. Althææ ʒij. M.
ft. Haustus.

Vel

℞. Succi Limon. ℥jss.
Potassæ Subcarbon. ʒj. vel q. s.
Aq. Menth. ℥j.
—— Fontan. ℥iij.
Antim. Tartarizat. gr. jss. ad ij.
Syrup. Caryoph. ʒij. M.
ft. Mistura cujus capiat Cochl. ij.
Magna secunda quaque hora.

† After the excitability of the heart and arteries have been sensibly reduced.—E.

timonialis act, the tartarized antimony may be considered as preferable in many cases.

To increase the diaphoretic effect of these medicines, the patient should take frequent small draughts of some tepid liquor.

Warm bathing, or fomenting the lower extremities, are remedies sometimes employed in fever to produce moderate sweating. Where these relieve delirium, induce sleep and are easily borne by the patient, we may be assured of their propriety. Sweating, however, when excited in fevers, by stimulant, heating, and inflammatory medicines, is always sure to prove hurtful. It likewise proves injurious, when excited by much external heat: as also where, instead of relieving, it rather increases the frequency and hardness of the pulse, the anxiety and difficulty of breathing, the head-ach and delirium. When sweating is partial, and confined to the superior parts of the body, it will be more likely to prove hurtful than salutary.

If a cough accompanies the fever, and a rawness and soreness in the fauces, together with a tightness at the chest, are present, then, besides pursuing the antiphlogistic plan before advised, we may give demulcents* in frequent repeated doses.

Should a vomiting arise in the course of this fever, and the irritation prove considerable, a saline draught may be taken in the act of effervescence, or it may be administered, so as that this shall take place in the stomach. The manner of doing it, is by giving the patient about half an ounce of lemon juice mixt up with a little mint-water and syrup, and immediately afterwards, about a scruple of the potassæ subcarbonas dissolved in an ounce of common water. If the irritation at the stomach is not abated by this mean, we may add a few drops of tinctura opii with a little aqua cinnamoni.

In this fever, partial evacuations, such as purging and sweating, which have no tendency to prove critical, often arise. When these happen, we should, by all means, put a stop to them. The former may be checked by astringents as below,† or as advised under the head of Diarrhœa; and the latter, by keeping the patient cool, by washing his body frequently with a sponge dipped in cold water, and giving him refrigerants.

We may distinguish critical evacuations from those which are not so, by attending to the appearances which take place in other parts of the system. For instance, if a purging should arise, and the tongue continue foul, and the skin dry, without any abatement

* R. Mucil. G. Acaciæ
Aq. Fontan. āā ℥iij.
Potassæ Nitrat. ʒj.
Vin. Antimon. ♏. LX.
Syrup. Limon. ℥ss. M.
ft. Mistura. Cochl. ij. pro dos. tusse urgenti sumenda.

† R. Confect. Aromat, ʒij.
Aq. Cinnam. ℥j.
—— Fontan. ℥iij.
Tinct. Catechu ʒij. M.
ft. Mistura cujus sumat Cochl. ij. magna post singulas sedes liquidas.

of heat and thirst, then we may regard it as by no means critical; but if on its taking place, the tongue becomes clean and moist, the pulse moderates, the febrile symptoms abate, and the skin has a gentle breathing sweat universally diffused over it, then a crisis may be expected.

In the progress of this fever, it sometimes happens that particular parts of the body are much affected, and that there prevails either great oppression of breathing, or that violent pains in the head, stupor, or delirium ensue. In all such cases, the application of a blister near the part affected will be proper, and relief will often be quickly procured by it. Where there is any unusual coldness of the extremities, with a sinking pulse, blisters to the inside of the legs will likewise prove highly serviceable. Their efficacy in such cases may be increased by the application of stimulating cataplasms* to the soles of the feet and palms of the hands. Camphor, ammonia, musk, and æther, are remedies which may be used at the same time, either separately or combined together; and the patient should be allowed a liberal use of wine, both in a diluted and undiluted state.

When we administer camphor in this or any other disease in a liquid form, in order to render it properly diffusive in water, and obtain its full effect, we should (instead of trusting to the mistura camphoræ of the London dispensatory, which contains but a small portion of the resin) dissolve it in a little rectified spirit, or expressed oil, and then triturate it well with mucilage of gum acaciæ, previous to adding the water. By triturating camphor with milk, it is nearly as readily dissolved as with rectified spirit. The emulsio camphorata may be prepared agreable to the annexed prescription,† and none of the camphor will be lost by precipitation.

Severe pains in the head accompanied with a throbbing of the arteries, or any degree of delirium, may possibly be relieved by the application of leeches to each temple; after which, linen rags moistened in cold water, or even æther, may be laid on.

In synochus, there is often a great interruption to sleep; and the more violent the fever, the greater in general is the interruption. It is unfortunate, however, that it cannot be procured with safety to the patient, as opium proves generally prejudicial in all fevers, except those of the typhus kind.‡ To procure rest, therefore, in that which I am treating of, we must be contented in directing him to be kept as still and quiet as possible. If necessity obliges

* ℞. Seminum Sinapeos Crass. ℥ss.
Medullæ Panis āā ℔ss.
Aceti quantum satis sit. M.
et fiat Cataplasma.

† ℞. Camphoræ ʒss.
Lactis Vaccinæ ℥j.
Aq. Puræ ℥vi. M.
ft. Emulsio.

‡ Or, such as commence with symptoms of great depression in the action of the heart and arteries, without being followed by a strong and quick; or a hard, small, and quick pulse. E.

us to a use of sedatives, the spiritus ætheris nitrici, and Hoffman's liquor, will be the least exceptionable.

Where this fever is kept up merely by weakness and irritability, opium given in small doses may be proper. If it is found to procure refreshing sleep, the dose may be repeated the ensuing night; but if the rest has been much disturbed, its use ought to be discontinued.

In this fever, as well as in all others where we wish to procure sleep, and cannot have recourse to opium, on account of delirium being present, we may recommend a pillow filled with hops to be laid under the patient's head in the same manner as in mania, in which disease this remedy is known to have been used with singular advantage; or we may employ some of its preparations, such as its extract or tincture. Hyoscyamus is said to have been given under similar circumstances with much benefit.

This fever is, in some instances, continued and kept up solely by debility, as has been just mentioned. In such cases, if the symptoms are mild, we may venture to prescribe a use of the cinchona bark; and as it will be more likely to sit easy on the stomach, in the form of decoction* or infusion,† these preparations of it will here be preferable to giving it in substance. If, on a trial, the patient sleeps well, breathes easily, and does not find any increased heat, we may then venture to go on with it; but if, on the contrary, it produces restlessness, difficulty of breathing, &c., its use should be omitted.

In cold climates, it is usual to wait for a regular intermission before the cinchona is given. As a tonic, this medicine has acquired the greatest celebrity in all febrile cases, and is therefore usually preferred to all others; its effects are evidently more obvious when given in substance, than in any other form. About a drachm of the powder is a common dose, and this may be repeated every two or three hours, according to the exigency of the case. Ten or twelve drops of the acidum sulphuricum dilutum may be added to each dose. The bark of cinchona is apt, at first taking it, to affect the bowels, and pass off by stool, with many people. When this happens, five or six drops of the tinctura opii, or about half a drachm of the tinctura catechu may be added to each dose.

With some persons, the cinchona bark will not sit easy on the

* ℞. Cinchonæ ℥i.
Aq. Fontan. Ojss.
Coque ad Oj. et Col. dein adde
Tinct. Columbæ ℥j. M.
ft. Decoctum.

† ℞. Cort. Cinchonæ ℥ss.
Aq. Bullient. ℥vj.
Colat. adde
Tinct. Cort. Aurant. ʒij. M.
ft. Infusum.

stomach, almost in any shape. In such cases, we may substitute the use of quassia,* or any of the other astringent bitters.

On a recovery from fever, the patient should cautiously avoid any fatigue, exposure to cold, or improper food. As restoratives, a generous diet with a moderate use of wine will be serviceable; and if the season of the year will admit of cold bathing, it will likewise be adviseable. A change of air, with moderate daily exercise, either in a carriage or on horseback, will prove powerful auxiliaries in enabling the convalescent to regain his strength. Where the appetite is defective, we may prescribe stomachic bitters. See Dyspepsia.

TYPHUS MITIOR OR NERVOUS FEVER.

This fever is so named from the effects it produces on the nervous system, typhus being derived from τυφος, stupor. It does not affect the habit so universally as the one last described; neither do the exacerbations produce a hot fit, in order to bring about a crisis. It may be distinguished from typhus gravior at its commencement, by the attack being more gradual, and the symptoms much milder: in the progress of the disease, by the absence of those symptoms of putrescence enumerated in typhus gravior; and by its being accompanied with less heat and thirst, less frequency of the pulse, and no bilious vomitings.

It principally attacks those of weak lax fibres; those who lead a sedentary life, and neglect proper exercise; those who study much; and those who indulge freely in enervating liquors. It likewise is apt to attack those who are weakened from not using a quantity of nutritive food, proportionable to the exercise and fatigue they daily undergo; hence it is very prevalent among the poor. Owing to the relaxed habits of those who reside in warm climates, this type of fever frequently occurs, and all other continued fevers are apt to degenerate into this, or typhus gravior.

It is often generated in jails, hospitals, transport and prison ships, ill-constructed and crowded barracks, work-houses, and the ill-ventilated apartments of the poor. It is also to be met with very frequently in the damp and dirty cellars of the poorer class of manufacturers in large towns.

The most general cause of typhus mitior is contagion, but whatever debilitates the system or depresses the mind may induce a state of predisposition more readily to be influenced by the operation thereof. Thus, perhaps, we may explain the fact of the ready

* R. Quassiæ ʒij.
Aq. Bullient. ℥vj. Colat. adde
Tinct. Columb.
——— Card. Com. āā ʒss. M.
ft. Mistura cujus capiat Cochl. ij. tertiis horis.
cum Acidi Sulphur. Diluti ♏. xv.

spreading of an epidemic fever among an army which has for some time suffered great fatigue and exhaustion, as happened with that under the command of Sir John More on his retreat to Corunna, or among a people who are ill supplied with nutritive food; whence war, famine, and pestilence, have been observed to succeed each other, or to occur together from the earliest periods of history. A season of continued heat and particularly when combined with moisture, appears also to predispose the human constitution to receive the impression of contagion: for contagious diseases more generally become epidemic in the autumnal period of the year.

Dr. Haygarth* has employed much attention for many years to ascertain by numerous facts which had occurred to himself and to other practitioners with whom he had professional intercourse, in what manner the contagion of Typhus is propagated, in order to discover how it may be prevented. The conclusions which he has deduced from these facts are of very great importance, for the prevention of misery and preservation of life. They may be briefly comprised, he thinks, in the following natural laws of Typhous Contagion.

I. Miasms, (or contagious vapours) issuing from patients ill of typhus, or from the poison contained in their dirty clothes, utensils, &c., are diffused or dissolved in air,† and thus infect persons who are exposed to them.

II. These miasms render the air infectious but to a little distance from the patient or the poison. They never extend so far as to infect persons in an adjoining street, nor an adjoining house, nor in an adjoining room of the same house, nor even in the patient's own chamber, if large, airy, and clean.‡

III. Not more than one person in 23 is naturally exempted from typhus, for when 188 men, women, and children, were exposed fully to the typhous contagion for days and nights together, in small, close, and dirty rooms, all of them except eight were infected with this fever.§

IV. The miasms of variolous, scarlet, typhous, and other contagions, do not render clothes, &c., exposed to them contagious.‖

V. Hence, it follows, that the only way by which typhus can be conveyed from the patient's room, so as to infect others out of

* See his Letter to Dr. Percival on the Prevention of infectious Fevers.

† Or rather mixed with the air confined in the apartments of the sick. E.

‡ See his Letter to Dr. Percival, p. 76. 38.

§ See Letter, page 31.

‖ ——————— 54, and his Inquiry, p. 67, 86., and his Sketch, p. 217, 369, 384, 386, 404, 542, and the Cases related under Scarlet Fever, where 65 young ladies were not infected, though approached by clothes exposed to contagious miasms.

it, is in the form of contagious dirt, as dirty clothes, utensils, &c. and consequently that the contagion may be completely destroyed by washing them clean.

VI. The typhous poison remains in the body in a *latent* state from about the 10th to the 72d day,* reckoning between the time of exposure to the contagion and the commencement of the fever. This law of nature was discovered by Dr. Haygarth in 1781, from observations on 72 cases. It was fully confirmed by Dr. Bancroft† in 1809, from observations on 99 cases, who as orderlies and nurses attended the army which had arrived at Plymouth from Corunna infected with typhus: they had not been previously exposed to contagion. He observed that the latent period of typhus varied from the 13th to the 68th day.

From these laws of contagion observed by nature, Dr. Haygarth concludes that typhus may be easily and certainly prevented by *ventilation* (in large, airy, and clean rooms;) or, by *separation* (into an hospital, or, into an adjoining room of the same house, where practicable;) or, especially by cleanliness,‡ which entirely destroys the poison, wherever it can be completely accomplished.

It is highly probable, that typhus always proceeds from a specific poison, like the small-pox, measles, &c. The opinion that typhus is generated by putrefaction, filth, bad diet, or accumulated human exhalations from many persons crowded together in a close room, has been completely refuted by Dr. Bancroft,§ as Dr. Haygarth alleges, from numerous well authenticated facts.

On the whole, it is manifest that typhus might be exterminated from any town or district by easy and practicable regulations. This conclusion Dr. Haygarth thinks is not conjectural. It is established on far stronger and more positive evidence than most other kinds of medical knowledge. Ever since 1783, being 32 years, the physicians of Chester have preserved their fellow citizens from typhus, by requiring the lodgings of the patients, generally strangers, to be completely cleansed on their removal into the Fever Wards of the Infirmary.‖ Other towns have established Fever Hospitals, but to very little purpose; because they have‖ neglected, what is incomparably of most importance, to cleanse thoroughly from all contagious dirt the houses whence infectious patients had been removed.

Typhus mitior generally comes on with a remarkable mildness in all its symptoms; and although the patient experiences some trifling indisposition for several days, still he has no reason to sus-

* See Letter, p. 64. 69.

† See his Essay on Yellow and Typhous Fevers, p. 515.

‡ See Dr. Haygarth's Letter to Dr. Percival, p. 72, 89.

§ See his Essay on the Yellow Fever, &c. p. 37—156.

‖ See Dr. Haygarth's Letters to the Physicians of the Fever Hospital in Dublin, printed by the Society for bettering the condition of the Poor in Ireland.

pect the approach of any severe disease. At first, no rigors are perceived, there being only a slight chilliness, which is not succeeded by any increase of heat, or redness of the face; on the contrary, it is unusually pale and sunk. He perceives, however, some degree of lassitude and debility, with anxiety, dejection of spirits, sighing, and a loathing of food; and towards evening these affections are somewhat increased.

In the course of a few days and as the disease advances, there arise a difficulty of breathing, oppression at the chest, pains in the head, accompanied with a confusion of ideas; there is great depression of strength, even to fainting, whenever the patient attempts to sit up; the tongue becomes dry, and is covered with a dark brown fur; the teeth are thickly incrusted with the same; the pulse is small, low, and frequent, and now and then intermits; cold clammy sweats break out on the forehead and backs of the hands, while the palms glow with heat; the urine is pale and watery, like whey; the whole nervous system is much affected with tremors and twitchings; involuntary motions of the muscles and tendons arise; the patient picks at the bed-clothes almost incessantly, and either mutters to himself or talks incoherently. There is seldom, however, any high degree of delirium, nor is this fever ever attended with violent ravings, or with any fulness of the vessels of the head; but there is usually a dilatation in the pupils of the eyes.

In the progress of the disease, the system is unequally affected; for sometimes head-ach, restlessness, and uneasiness, prevail in a high degree, while at the same time the tongue is clean and moist: and at other times, while there is no head-ach or restlessness, the tongue will be dry and foul, and profuse sweats will break out. This fever, moreover, is not only thus irregular in affecting various parts of the body differently, but it is also irregular in its exacerbations; and these, instead of taking place in the evening, will arise often in the morning. Again, sometimes the fever is very violent for the first three or four days; it then diminishes for a time, and then perhaps increases again. Evacuations, such as sweating, and purging, are very apt to ensue in the course of the disease, which never fail to exhaust the patient.

In typhus fever, a great discharge of saliva sometimes occurs, but as it now and then continues for a considerable time without affording any relief to the patient, it may be concluded to arise from some accidental circumstance, perhaps not unlike to the ptyalism that sometimes takes place in hysteria. In many instances, the spitting is so viscid and ropy as to inconvenience the patient very much, and by clogging up the fauces, greatly to impede both deglutition and respiration. In such cases, moreover, the tongue and whole of the mouth are frequently beset with aphthous ulcerations.

Typhus mitior frequently runs on for some weeks, and produces such a state of debility as to destroy the person from that cause

alone, or it degenerates into typhus gravior; but when it terminates favourably, it usually goes off about the fourteenth or twentieth day, perhaps, either by diarrhœa, or by a gentle moisture diffused equally over the whole body: but often it exceeds a month in duration, and terminates at last without any evident crisis.

Profuse evacuations by sweating or purging, much watchfulness, sinking of the pulse, great incoherency of ideas, mutterings, picking at the bed-clothes, considerable dilatation of the pupils of the eyes, involuntary discharges by urine and stool, starting of the tendons, and hiccups, point out the near approach of death; whereas on the contrary, the pulse becoming fuller and more slow, the tongue moist, respiration free, a gentle moisture coming on about the fourteenth day, deafness ensuing, tumours appearing behind the ears, or miliary eruptions, unattended by profuse sweats, being perceived on the body, promise a favourable termination.

The usual appearances on dissection are, a softness and flaccidity in the solids; a dissolved state of the fluids, particularly of the blood; collections of sanious matter in the different cavities; turgescence and inflammation of the thoracic and abdominal viscera; and in the interior parts of the brain, collections of a serous fluid.

From the very gradual manner in which this fever comes on, the great mildness of the symptoms at its commencement, and the time that usually elapses previous to absolute confinement, it is seldom that practitioners have it in their power to cut short its progress by a timely exhibition of proper remedies.

If there is any nausea or vomiting at the time of applying for advice, it will be right to recommend a gentle emetic of about fourteen or sixteen grains of ipecacuanha, to be immediately taken; or should any costiveness prevail, we may prescribe some laxative medicine, to carry off the feculent matter; and to ensure and keep up a regular alvine evacuation in the further course of the disease, it will be proper to repeat this from time to time, or to have recourse to emollient laxative clysters. In many instances, however, the stimulus of the latter being limited merely to the rectum, may not be adequate to procure so complete an evacuation as may be necessary; and therefore, in these cases, we ought to employ aperient medicines that will dislodge, and bring off whatever feculent matter may be contained in the bowels, which by retention might be likely to prove highly offensive, as well as irritating. In administering purgatives, we ought, at the same time, to guard against employing them in such doses, as to excite unusual secretion into the intestines, or watery stools, as we should thereby induce great debility. Small doses of hydrargyri submurias, and jalap,* or a solution of some mild neutral salt, will be the most proper medicines

* ℞ Hydrargyr. Submur. gr. iij.
Pulv. Jalapæ gr. x.
Syrup. Simp. q. s. M.
Fiant pilulæ. iij.

of this class. With these we may evacuate the contents of the bowels with safety and advantage in typhus, from the commencement to the termination of the fever.

Bleeding is a remedy not to be resorted to in typhus.*

In temperate and cold latitudes, and in the winter season of the year, it is by no means an uncommon occurrence to meet with typhus complicated with more or less of topical inflammation of the thoracic viscera, constituting pneumonia typhodes.

[In such cases, where the patient is young and plethoric, bleeding and the other antiphlogistic remedies, are certainly proper, when resorted to at an early period of the disease. E.]

Affusing the body with cold water, is one of the most powerful and efficacious means which we can make use of in typhus fever; but its effects will be more salutary in proportion as it is adopted early, or during the first stage of the disease. Such being an indisputable fact, established upon the firmest basis, we ought always to employ it very soon after we have evacuated the contents of the alimentary tube in the manner just mentioned.

We are informed by Dr. Currie,† of Liverpool, that the safest and most advantageous time for using cold water, either in aspersion or affusion, (but he gives a preference to the latter,) is when the exacerbation is at its height, which is marked by increased flushing, thirst, and restlessness; or immediately after its declination has begun, which induced him to direct its being employed from six to nine o'clock in the evening; but he thinks that it may be used at any time of the day, when there is no sense of chilliness present; when the heat is steadily above what is natural, and where there is no general or profuse perspiration. During the cold stage of the paroxysm of fever, while there is any considerable sense of chilliness present, or where the body is under profuse sensible perspiration, this remedy ought never to be employed, as we might extinguish life by it.

When cold affusion is used in the advanced stage of typhus, where the heat is reduced, and the debility great, some cordial, such as wine warmed with an addition of spice, or even brandy, should be given immediately after it. In the early stage of the disease, cold affusion appears to cut short its progress. At more advanced periods, when the strength of the patient, and other circumstances, will admit of its application, it will seldom fail to moderate the symptoms, and materially contribute to a favourable termination.

Whilst cold water dashed forcibly from a pail, or falling from a

* Excepting when the patient has symptoms which indicate that the fever is connected with a local inflammatory affection, is plethoric, or of an inflammatory constitution, in which cases the disease would resemble the synochus and would require depletion to a certain extent. E.

† See his Medical Reports on the Effects of Water in Fevers, &c.

height in considerable quantity from a garden watering-pot, is decisively impressive, and ordinarily safe, when employed in an early stage of this, and other typhoid fevers; so aspersion, or ablution of the body by means of a sponge, will be more eligible and safe in the advanced periods. The effects produced by both modes are grateful and refreshing to the patient, and they usually bring about an abatement of fever, followed by more, or less, of a diaphoresis, and this again by a refreshing sleep.

We have been gratified with an ingenious publication from the pen of Dr. Jackson, on the subject of cold affusion;* and although he agrees with Dr. Currie as to its utility and propriety in the milder forms of fever, (whether infectious, and such as is usually called typhus, or endemic, such as arise from the action of common causes in a diffused form,) in the early stages of fever, still he differs from this gentleman on other important points.

Dr. Currie had employed the affusion of cold water in the mild and open forms of fever, without any previous preparation, and likewise in those which are violent, concentrated, and complicated, provided the temperature of the body, on being measured by a thermometer, was higher than the natural standard; but when lower than this, he advises us to abstain from its application. Dr. Jackson, in resorting to it, is guided by what he terms the evidences of a susceptible condition of the system, connected with the simple condition of the disease being obvious, of the presence of which, he judges by the sensations communicated to his hand in touching the patient's body. Where he finds this deficient in any degree, or where it is unusually distributed on the surface, and unaccompanied by any primary mark of local inflammation, or congestion of any one of the internal organs being discernible, he endeavours to restore the susceptibility of impression, by conducting the patient into an apartment where the air is of a high temperature; by applying warm fomentations to the extremities; by purifying the skin by warm water, soap and brushes, and then by immersing the whole body in a warm bath, or by affusing warm water generally over its surface. Where there is either a violent or rapid action, or a sluggish circulation, he does not consider these as proper conditions for the cold affusion, but to make them so, he recommends a preparatory process of general bleeding, and other evacuations; whereas Dr. Currie considered venesection unnecessary to a previous use of cold affusion, except in cases of idiopathic inflammation.

The affusion of cold water on the surface of the body, is considered by Dr. Jackson as a power which makes a strong and general impression on the system, and which arrests the disease, or changes its condition in virtue of that impression; but not by subtracting increased heat, as supposed by Dr. Currie. Indeed, the good effects of the remedy in question, cannot, I think, be wholly owing to the mere subtraction of heat; for it has been used with

* See his Exposition on the Practice of applying cold in Fevers.

great advantage in many cases of fever, where there has been no perceptible increase of temperature, and where, by affusion, ablution, or aspersion with cold water, the disease has been cut short abruptly, as well as in those where it had risen to a high point. I think we may safely infer that cold affusion, or the suddenly pouring cold water over the whole surface of the body, operates as a powerful stimulant, although its effects probably are of short duration unless frequently repeated; they are produced by the suddenness of the application affecting the nervous energy, and by the shock rousing the dormant susceptibility, so as to induce a new action, as it were, of the nervous system, removing spasmodic contraction of the extreme vessels on the surface, carrying off a large portion of morbid heat by general evaporation, and the remainder by insensible perspiration; thence restoring the healthy action of the exhalants and capillaries.

Although medicines, which might excite profuse sweating, would be highly improper in this fever, still we may venture to give those possessed of a mild diaphoretic power.* Antimonials do not seem very adviseable in the true typhus, [when accompanied with a low soft pulse, and great prostration of strength.—E.]

Profuse sweats are to be obviated by the person being lightly covered with bed-clothes; by keeping his hands and arms uncovered; by admitting fresh air freely into his chamber, and by giving him whatever he drinks, cool, and properly acidulated with lemon or orange juice; [or diluted sulphuric acid, formerly called elixir of vitriol.—E.]

Much rambling and low delirium are apt to arise in typhus from a want of sleep, and make it necessary to have recourse to opium in order to procure it. The most adviseable way of using it in such cases, is to combine it with some gentle diaphoretic.† By giving it in this manner early in the evening, we shall in general experience the most beneficial effects from it.

Opiates are indeed more admissible in this species or variety of fever than in any other; and it seems now to be nearly the universal practice to give one every night.‡ The best effects have been obtained from this mode of proceeding, as I have witnessed in innumerable instances, and therefore I usually recommend it.

To support the patient's strength, it will be necessary to allow a liberal use of wine, which is preferable to all other cordials. Sago,

* ℞. Succi Limon. ℥ss.
Potassæ Subcarbonat. ℈j.
Aq. Cinnam. ℥j.
Confect. Aromat. gr. xv.
Syrup. Zingib. ℥ij.
ft. Haustus 4tis horis sumendus.

† ℞. Liquor. Ammon. Acetat. ℥iij.
Aquæ Cinnam ℥j.
Tinct. Opii ♏. xl.
Syrup. Zingib. ℥ij. M.
ft. Haustus.

‡ The use of opium as well as of all other remedies, should be regulated by the state of excitement existing in the arterial system, as indicated by the pulse, respiration and temperature of the skin.—E.

gruel, panado, arrow-root, and the like, mixed with a due proportion of it, must be given to him as food; and wine-whey or small negus, sharpened with the juice of orange, will be most proper for ordinary drink. Wonderful, indeed, are the effects produced by wine in typhus fever, as we often see persons recover by a free use of it, under the most unpromising circumstances.

In advising a free use of wine with opium, I must at the same time caution the practitioner not to run into excess, and over stimulate the patient, as this might destroy him. Wine, although a very grateful and convenient stimulus, is very liable to be abused by being given in too great a quantity. In ordinary cases a very good effect may be obtained by half a bottle in a day, and this may be regarded as a moderate quantity for an adult, [where the debility is great,] but in some cases, a whole bottle may be necessary, and in some a little more; but it should generally be given with an equal part of water. The best rule is to proportion the quantity to the degree of debility present, the age of the patient, and the effect produced on him by it.

Ardent spirits have sometimes been recommended as a substitute for wine, in cases where the latter cannot be afforded, or procured: but they do not answer so well. When given, they should be administered much diluted, as in the form of punch. Cyder has been considered by some physicians, particularly Dr. Gregory of Edinburgh, as the best substitute for wine. When wine disagrees with the patient, these may be employed, together with aromatics.

Throughout the whole course of the disease he should be kept perfectly quiet, and none but those whose business it is to attend on him ought to go near him, except in those cases where the symptoms are very mild, and where there is little or no affection of the head. In such cases the presence of a friend may soothe the mind and help to dispel gloomy ideas. The chamber should be kept freely ventilated and cool, and his bed be lightly covered with clothes;* he should be solaced and comforted with the hope of a speedy recovery, and his thoughts be diverted from that anxiety and dread of danger, which invariably attend the complaint.

Many practitioners are in the habit of giving the cinchona bark in this fever, without waiting for even the most imperfect crisis; some having in view its supposed febrifuge qualities, and others, its tonic powers. In mild cases, where there prevails hardly any stupor, or other affection of the head, and where the remissions are regular, it may perhaps be of service; but in a state of convalescence it will prove highly beneficial, and may therefore be given either in substance, decoction, or infusion, as may be found to sit best on the stomach, combined with a few drops of sulphuric or

* This should be regulated by the state of excitement in the arterial system. E.

muriatic acid. Where the skin and the tongue are dry, where the remissions are irregular, and where the fever abates for a day or two, and then returns with violence, I have always found it prove prejudicial. In all such cases, an infusion of cascarilla will be a better vehicle to administer the acids in, and I am of opinion that the muriatic is entitled to the preference.

Miliary eruptions sometimes appear as the crisis to this fever; they ought therefore by no means to be checked by any kind of evacuation, nor should the patient, on the contrary, be kept too warm in order to force them out.

Where there prevails any unusual coldness in the lower extremities, the application of a couple of small blisters to the inside of the legs, or of stimulating cataplasms to the soles of the feet, will be proper.

In the last stage of typhus, when neither cinchona, wine, or brandy, cold bathing, or even occasional doses of Cayenne pepper, had the effect of rousing the powers of life, or of lessening the thick crust which covered the tongue, it appears by Dr. Ferriar's report, that the most singular advantages were obtained by giving the arsenical solution. He found that it did not operate as a general stimulant, but merely as an active tonic, and therefore that neither the concomitancy of cough or dyspnœa, prohibits its use in typhus. As soon as the febrile paroxysms are stopped, he thinks it will be best to suspend the use of the arsenical solution, and to support the patient with bark and different cordials. A very severe case of typhus lately fell under my care, the patient having suffered two relapses of the fever, and her life despaired of, when I was induced to make trial of the mineral solution. Its effects exceeded my expectations, for the woman's life was apparently preserved by it. It was administered in an infusion of cascarilla, with an equal quantity of camphorated mixture.

In bad cases, where startings of the tendons and hiccups arise, besides making use of the means advised, it may be necessary to have recourse to antispasmodics, such as musk, ammonia, æther, camphor, and opium.

If this fever is likely, or threatens in its progress to degenerate into typhus gravior, we should administer the mineral acids, but more particularly the muriatic, in such doses as the patient is capable of bearing. To prevent its affecting the stomach and bowels, a few drops of tinctura opii may be added to each dose. An infusion of cinchona, cascarilla, or columbo may be employed as the vehicle, or we may give the acid in a little wine and water.

In an advanced stage of this disease, it sometimes happens that in addition to a profuse secretion of viscid saliva, little white ulcers or aphthæ appear in the inside of the mouth and fauces. In such cases, a gargle composed of borax, honey, and an infusion of roses, should be used three or four times a day.

When the fever goes off, and the patient has somewhat regained

his strength, he may take daily exercise on horseback or in a carriage; and in order to remove the irritability and weakness which are left behind, he should enter on a course of the cinchona bark and other tonics. After a little time, the cold bath will be a proper remedy, if the season of the year is such as to admit of it. If the appetite does not readily return on the cessation of the fever, elixir of vitriol with stomachic bitters, will be proper. See Dyspepsia.

A degree of mania, or temporary alienation of the mind, sometimes arises at the close of typhus. All that can be done in such a case is, to support the patient with a generous nutritive diet; to keep him as quiet and tranquil as possible; and to put him under a course of tonics, carefully avoiding all evacuations.

As this fever is of a contagious or infectious nature, every endeavour should be exerted for suppressing its further propagation, and for wholly destroying its contagion by a strict attention to cleanliness, free ventilation and fumigations.

As circumstances may occur for rendering it necessary to remove patients labouring under typhus fever to some distance, it is important to know that this may be effected without subjecting them to any risk. Indeed considerable benefit has been derived on such occasions by conveying the sick in open carriages, or spring wagons, for several miles, freely exposed to the air.

TYPHUS GRAVIOR, OR MALIGNANT FEVER.

THIS fever takes its name from the malignancy of its nature, and the apparent symptoms of putrefaction which are to be observed after a continuance of some days. It is readily to be distinguished from the synochus, by the smallness of the pulse, the sudden and great debility which ensues on its first attack, and afterwards by the brown, or black tongue, the dark and fetid sordes about the teeth, the livid flush of the countenance, and the acrid and more intense heat of the skin: and, in its more advanced stage, by the Petechiæ, or purple spots, which come out on various parts of the body, and the fetid stools which are discharged, and it may be distinguished from typhus mitior, by the great violence of all the symptoms on its first coming on.

At the commencement of typhus gravior, the person is seized with languor; dejection of spirits; amazing depression and loss of muscular strength; universal weariness and soreness; pains in the head, back, and extremities, and rigours; the eyes appear full, heavy, yellowish, and often a little inflamed; the temporal arteries throb violently; the tongue is dry and parched; respiration is commonly laborious, and interrupted with deep sighing; the breath is hot and offensive; the urine is crude and pale; the body is costive, and the pulse is usually quick, small, and hard, and now and then fluttering and unequal. Sometimes a great heat, load, and pain, are felt at the pit of the stomach, and a vomiting of bilious matter ensues.

As the disease advances, the pulse increases in frequency (beating often from 100 to 130 in a minute:) there is vast debility; great heat and dryness in the skin; oppression at the breast, with anxiety, sighing and moaning; the thirst is greatly increased; the tongue, mouth, lips, and teeth, are covered over with a brown or black tenacious fur; the speech is inarticulate, and scarcely intelligible; the patient mutters much, and delirium arises. The fever continuing to increase still more in violence, symptoms resembling putrefaction show themselves; the breath becomes highly offensive; the urine deposits a black and fetid sediment; the stools are dark, disagreeable, and pass off insensibly; hemorrhages issue from the gums, nostrils, mouth, and other parts of the body; livid spots or petechiæ appear on its surface; the pulse intermits and sinks; the extremities grow cold; hiccups ensue; and death at last closes the tragic scene.

When this fever does not terminate fatally, it generally begins, in cold climates, to diminish about the commencement of the third week, and goes off gradually towards the end of the fourth, without any very evident crisis; but in warm climates it seldom continues above a week or ten days, if so long. Our opinion as to the event, is to be formed by the degree of violence in the symptoms, particularly after the appearance of petechiæ, although, in some instances, recoveries have been effected under the most unpromising appearances. An abatement of febrile heat and thirst; the tongue becoming moist and clean; a gentle moisture diffused equally over the whole surface of the body; loose stools; turbid urine; the pulse being stronger, but less frequent; a free secretion of saliva; tumor and suppuration of the parotid, axillary, or inguinal glands; a scabby eruption about the mouth, and the delirium and stupor abating or going off, may be regarded in a favourable light. On the contrary, great muscular debility, very laborious respiration, difficulty of deglutition, stupidity and listlessness of the eyes, perpetual writhing of the body, petechiæ of a livid colour, with dark, offensive, and involuntarily discharges by urine and stool, fetid and cadaverous sweats, hemorrhages, subsultus tendinum, and hiccups, denote the almost certain dissolution of the patient.

The appearances usually perceived on dissection are, inflammations of the brain and viscera, but more particularly of the stomach and intestines, which are now and then found in a gangrenous state. In the muscular fibres there seems likewise a strong tendency to gangrene.

On the very first taking place of any of the symptoms of this fever we should immediately attend to them, and endeavour to prevent any bad consequences from ensuing, as they will never go off of themselves, but will continue to increase, until a disease of a most dangerous nature takes place. This being the case we should resort to proper remedies at the first onset, and not wait until the body is enervated. The most proper remedy at first, will be an emetic of about fifteen grains of ipecacuanha with one grain

of tartarized antimony, which may be worked off with an infusion of the flores anthemidis. An emetic at the commencement of the disease, is a very important article, and the clearing of the stomach is not the only good effect to be expected from this remedy. After its operation is over, the bowels may be opened with some gentle purgative. Possibly, a few grains of hydrargyri submurias combined with jalap, or the extract of colocynth, may be preferable to any other.* Should the desired effect not be produced by these medicines, an aperient clyster may be administered. Throughout the course of the disease the patient in no case should be more than two days without a stool, for a great deal of fæces are produced in fever although little food is taken, and costiveness is apt to induce an increase of heat, and affections of the head, as delirium, &c.

These steps being pursued, and the nature of the disease clearly ascertained, I would advise the ablution of the patient with cold water, or rather a general affusion, provided the heat of the body is steadily above the temperature of health. The good effects of this mode of practice I have often experienced.

The late Dr. Currie, of Liverpool, reports, that this fever having made its appearance in a regiment quartered in that town, he had the men drawn up and examined, seventeen of whom were found with symptoms of it upon them: these he subjected to the cold affusion once, or sometimes, twice a day. In fifteen of this number, the contagion was extinguished, and in the remaining two, the fever went through its course. The healthy part of the regiment bathed in the sea daily, and by these means he effectually destroyed the contagion. He further relates, that of thirty-two who went through the disease, by its being too confirmed to be removed at the time of his first seeing them, only two died; and with these, the cold affusion was not had recourse to.

This gentleman's report, with the authorities of other practitioners of eminence, clearly prove the application of cold water by affusion on the first attack of the complaint to be, under certain restrictions, an efficacious remedy for stopping its progress, as likewise that of other low contagious fevers.

Doctor Currie found, that the most advantageous time for using the cold affusion is, when the exacerbation is at its height, or immediately after it is begun, which is generally from six to nine in the evening; but he observes it may be used with safety at any time of the day, when there is no great sense of chilliness present; when the heat of the surface is steadily above what is natural; and when there is no general or profuse perspiration.

The same remedy has likewise been successfully employed by him, myself, and many others in the more advanced stage of the

* Or rather, ℞. Hydrargyr. Submur. gr. v.
Pulv. Rhei. gr. xv. M. ft. Pill. v.
Pro dos. E.

fever, so as seldom to fail of procuring a safe termination. He relates the case of a soldier who was in the ninth day of the disease when he first saw him: his pulse was 100 and feeble, his heat was 104, his thirst very great, his tongue foul and black, his mind much confused, and at times he was delirious, and petechiæ were dispersed over his whole body.—The mode of treatment was as follows: his strength was directed to be supported by administering a bottle of wine a day, with an equal quantity of gruel; every night he took an opiate draught, and his body was kept open by laxative clysters, and when these failed, by a few grains of calomel. A bucket-full of salt water was directed to be thrown over him immediately, which was to be repeated according to circumstances.

The effect was, that, in a few minutes after the affusion, the heat lessened to 98, the pulse moderated to 96, and his mind became more calm and collected. Two hours afterwards he had relapsed nearly into his former state, but the night was passed with greater tranquillity. The whole of this practice was continued with nearly the same result, until the twelfth day of the disease, the affusion having been performed in the evening, and occasionally at noon. The fever continued its usual period; but on the twelfth day, the heat having sunk to its natural standard, the cold affusion was thenceforth omitted, and instead of it, the body was sponged all over once or twice a day with vinegar.

In those cases where the fever had been of eleven, twelve, or thirteen days standing, and the heat of the body was inconsiderable, he thought it prudent to make the degree of cold very moderate, and in some instances he substituted tepid ablution, or sponged the body over with vinegar by itself or diluted with water.

Some communications to Dr. Currie from Mr. Marshall, surgeon of the Cheshire regiment, bear further testimony of the good effects of this remedy in typhus fever. Mr. Marshall mentions, that from the time he began the cold affusion he used little or no wine, no opium, nor indeed scarcely any other remedy in any one case in which the cold affusion was employed; which report is of itself sufficient to establish its decided superiority over every other mode of treatment.

It is, however, in the early stages of low contagious fevers, that we can employ it with most advantage.* It has indeed been used by many practitioners in some instances so late as the twelfth or even the fourteenth day with safety and success; but it can only be employed at this advanced period, in the instances in which the heat keeps up steadily above the natural standard, and the respiration continues free. In such cases it has been observed to appease agitation and restlessness, dissipate delirium, and, as it were,

* This, however, like every other remedy, should be regulated by the existing state of the excitement as indicated by the pulse, respiration, and heat of the skin. E.

snatch the patient from impending dissolution. When the remedy is to be had recourse to, every arrangement should be made for the affusion before the patient is moved at all, and fatigue as well as disquiet should be avoided as much as possible. In those cases where the delicacy of the system, or the apprehensions of the patient or of the by-standers, may prevent cold affusion from being employed, we may substitute tepid affusion for the more powerful remedy, or we may recommend either ablution or aspersion.

A memorable instance of the good effects of cold affusion came under my immediate knowledge some years ago, whilst I practised in the West Indies. A professional gentleman of my acquaintance, residing in the island of Nevis, was attacked with this fever, and it proceeded with such violence, that in a few days petechiæ appeared on different parts of his body, and a hæmorrhage of blood issued from his nostrils, mouth, and other places. Under these unfavourable circumstances he was freely exposed to the open air, and one or two buckets of cold water were thrown over him; he was then wiped perfectly dry, and replaced in his bed; which plan of proceeding was repeated twice and sometimes thrice a-day. By means of this application, the administration of an opiate at night, and a liberal allowance of wine, his life was preserved to the great, but pleasing astonishment of all his friends.

Of late years I have been much in the habit of recommending cold affusion or ablution in most cases of typhus fever, and with very beneficial effects. The same practice has been adopted in the London house of recovery, and apparently with the most decided success. Obvious, however, as are the advantages to be derived from the remedy in question, still there are many practitioners who look on it as an innovation, and are therefore averse to it. This prejudice, I hope, will soon subside.

In the early stage of typhus, the superior efficacy of affusion over ablution is unquestionable; its operation extends beyond the mere abstraction of heat from the surface; it acts powerfully on the nervous system. Besides its effectually removing the uneasy sensation of heat in the beginning of febrile diseases, and thus indirectly recruiting the animal powers, it induces sleep. We well know that when any disagreeable sensation is removed, sleep soon follows; and it happens so in this instance. After the fourth or fifth day of fever, the influence of both affusion and ablution is greatly diminished, and not sufficient to interrupt the morbid actions; at a still more advanced stage the heat is removed nearly in the same degree by washing the surface of the body with a wetted sponge, or cloths dipped in water, as by pouring cold water on the naked body; and the patient is relieved nearly the same by one mode of treatment, as by the other. Thus much for the comparative merits of affusion and ablution.

In the advanced stages of typhus gravior as well as of typhus mitior, where either the affusion of water of a low temperature, the immersion of the patient, or even the sprinkling his body with

cold water, might in the least endanger our arresting the movements of life, we should always take the precaution of giving a glass of warm wine, or some other powerful cordial, immediately after employing the remedy.

It is no uncommon occurrence for the symptoms to run very high at the commencement of this fever, so as to give it rather an inflammatory appearance, which has induced practitioners, at times, to draw off blood, by opening a vein.

[This, under such circumstances ought always to be done, for whatever may be the name or supposed nature of the fever, when the pulse is both fuller and quicker than in health, bloodletting, instead of debilitating the animal powers, on the contrary, prevents the indirect debility which would otherwise follow the increased excitement and accelerated action.

When, however, the pulse, though preternaturally frequent, is small, soft, and feeble, and other symptoms indicative of great prostration of strength are present, bleeding would be an improper remedy; here the patient's strength should be supported by a liberal use of wine, which may be given in panado, gruel, or whatever he takes for food, and likewise in his drinks, observing to dilute it sufficiently.

In addition to the liberal use of wine, which is one of the best remedies in this disease, when the symptoms of debility are very considerable, the carbonas ammoniæ (sal. volat.) in doses of from five to fifteen grains, made into a bolus with conserve of roses, may be given at regular intervals of two, three, or four hours. Sinapisms, which are in this disease preferable to blisters of the Spanish fly, should, at the same time, be applied to the back of the neck, arms, and legs, and retained on until they excite an inflammation of the part to which they are applied. E.]

The exhibition of yeast has been highly recommended in this fever by the Rev. Edward Cartwright; whatever may be its mode of action in typhus, the fact appears to be indisputable that fixed air takes off that extreme debility of the stomach so conspicuously marked in disorders of this nature; and in proportion as that subsides, the pulse rises, becomes slower and fuller, the burning heat on the skin disappears, and a truce is gained for the reception of nourishing supplies.*

For the healing of ulcers in the mouth we may employ a solution of alum in water (an ounce of the former to a pint of the latter,) as a gargle, which will quickly take away the stench that arises from them, or we may substitute that which has been recommended in typhus mitior.

When we succeed in removing the symptoms entirely, by the means which have been pointed out, or in procuring a cessation of the fever, we are to endeavour to prevent its return by a free use

* The artificial Seltzer water will certainly be equally efficacious, and much more palatable than yeast. E.

of cinchona bark, the cortex cuspariæ, infusions of gentian and orange-peel, and other stomachic tonics; and in order to recruit the strength, the patient should be directed to use a nourishing diet, with wine in moderation; and he should take such gentle exercise as his state of convalescence will admit.

Of the YELLOW FEVER, or TYPHUS ICTERODES.

This disease takes its name (improperly however) from one particular symptom, but which, although pretty general, is by no means universal, nor even essential to its existence. By Sauvages, it has been denominated typhus icterodes; by Cullen, typhus cum flavidine cutis; by the French, la maladie de Siam, and fievre des Matellotes, and by the Spaniards, vomito prieto.

Dr. Rush and a few others are of opinion, that the yellow fever is not contagious in its simple state, and that it spreads exclusively by means of exhalations from putrid matters, which are diffused in the air; and Dr. Bancroft tells us that of the many thousands, who, in the West Indies, as well as at Charleston, Norfolk, Baltimore, Philadelphia, New York, &c. were removed beyond the reach of marsh miasmata, whilst labouring under the disease or after having imbibed the poison, though in many of these, the disorder appeared under its worst forms and proved fatal, still it has never been communicated to others. This point, however, has by no means been satisfactorily established, and some facts which have been brought forward by Mr. M'Gregor,* and others, which are inserted in the American Medical and Philosophical Register,† very clearly show that this fever may be communicated by contagion. Moreover, the reports of Sir James Fellowes, lately published, tend completely to refute the very mischievous doctrine, that the pestilential fever of America and Spain, &c. is not contagious. No doubt ought now, in my opinion, to be entertained upon this point, so interesting to mankind.‡

The yellow fever usually attacks with lassitude and weariness, chilly fits, listlessness of every thing around, faintness, giddiness, flushing of the face, redness of the eyes, pains in the eye-balls and lower part of the forehead, as likewise in the back, debility and sighing, thirst, and a tendency to coma: the urine is high-coloured, small in quantity, and turbid; the perspiration is irregular, interrupted, and greatly diminished; the saliva is viscid; the tongue is *covered over with a white fur;* the bile is secreted in unusual

* See his Medical Sketches. † Volume II. page 22.

‡ For satisfactory proofs that the Yellow Fever is communicated or propagated by contagion, the reader is referred to a publication by David Hosack, M. D. Professor of the Theory and Practice of Physic in the University of New York, entitled "Observations on the laws governing the communication of contagious diseases. 1815." E.

quantities, and thrown into the stomach, from which it is again speedily ejected; and the skin is hot, dry, and hard.

The disease continuing to advance, the eyes become of a deep yellow, the face and breast are tinged with the same hue: an incessant retching and vomiting of frothy bile ensues; great costiveness prevails, and a peculiar delirium arises, which is attended with a permanent dilatation of the pupils of the eyes.

There is hardly ever an evident remission until the fever has entirely gone through its first stage, which is generally in thirty-six or forty-eight hours; when there is often such an abatement of the symptoms as to induce the patient to think himself tolerably well; but an early recurrence of the symptoms in an aggravated form, accompanied with extreme debility, soon convinces him of the contrary.

In the last stage of the disease, the greatest debility prevails, and symptoms of universal putrefaction arise; large patches of livid spots are to be observed on different parts, the tongue becomes dry, and black, the teeth are incrusted with a dark fur, the breath is highly offensive, the whole body exhibits a livid yellow in many cases, but not in all; hemorrhages break forth from the mouth, ears, and nostrils, matter of a black colour is vomited, dark and fetid stools are discharged, hiccups ensue, the pulse sinks, and death, frequently preceded by convulsions, follows very quickly. The disease, however, was observed to end in death in various ways. In some, it was sudden; in others, it came on gradually. The last hours of some were marked with great pain and strong convulsions; but, in many, death seemed to insinuate itself into the system with all the gentleness of natural sleep. These are the usual appearances to be met with; but great irregularties have been observed by different practitioners.

Dissections of the bodies of those who have died of the yellow fever have shown the coats of the œsophagus corroded; the stomach and intestines loaded with a black fetid matter, or both to be often much inflated, inflamed, and sphacelated; the liver, in many cases, to be shrunk to less than half its natural size, very flaccid, and of a colour approaching to buff; and the gall-bladder to be flaccid and greyish, having but little bile contained in it. In some instances, the lungs have been found inflamed; and the bladder has been observed to be much thickened, and to contain a considerable quantity of urine. In those cases where there has been a discharge by vomiting of a black coagulated matter resembling the grounds of coffee, the gall-bladder and biliary ducts have been found distended with the like substance. Where an affection of the head has formed a prominent feature of the disorder, the integuments of the brain have been observed more or less inflamed, the vessels of the dura and pia mater to be very turgid with blood, and occasionally there has been extravasation. Sometimes the volume of the brain has been found increased, and the substance of it more firm than usual.

[As Dr. Thomas in his account of the treatment of this disease, has merely given a sketch of the modes proposed by different physicians, many of which differ remarkably from each other; the editors have concluded to omit entirely what he has collected on this subject, as from its contradictory nature it might have the effect of misleading the inexperienced; and have substituted in its place, a detail of the plan of treatment which has succeeded best with the generality of the physicians of this city, who had an opportunity of observing the disease at different times since the year 1793.

By them bleeding was found not only useful, but absolutely necessary, during the first two days of the disease, and often at a later period, in all cases where inflammatory symptoms evidently predominated, especially when strong and quick pulsation of the temporal and carotid arteries indicated an increase of vascular action in the system, and particularly in the head. The quantity of blood to be drawn and the frequency of repetition, should always be proportioned to the violence and urgency of the inflammatory symptoms; but, great caution should be observed in repeating this remedy after the second day of the disease, especially in any large quantity, unless mercury has been given from the beginning and has begun to affect the mouth; as it has been observed frequently to induce or to increase the new and more dangerous train of symptoms, which in very dangerous cases usually occur at or soon after the beginning of the third day. A repetition of bleeding should also be avoided, if the patient's general strength as well as that of his pulse, is very much reduced after the first operation, as in cases where nervous or typhoid symptoms have existed from the commencement, or have come on in the course of the fever, accompanied with great prostration of muscular power, and particularly when evinced by the lowness, smallness, softness and feebleness of the pulse. Under these circumstances, bleeding has, in too many cases, done irreparable injury.

Purging is proper under the same circumstances, and with the same limitations as blood-letting, and ought to be regulated in the same manner. The late Dr. Hodge repeatedly mentioned, that he had frequently arrested the course of this disease by bringing on an artificial cholera morbus at its commencement, by means of a solution of tartarized antimony exhibited at short intervals, immediately after one copious bleeding. But as in this fallacious disease, the inflammatory symptoms are very often suddenly followed by those of an opposite character, and as mercury, after it has entered the system, has been found a more certain preventative of this unfavourable and dangerous alteration in the character of the disease, than any other remedy, purges in which it is a principal ingredient have been generally found preferable to all others. In the early or inflammatory stage of the disease, the strictest observance of the antiphlogistic regimen has been found beneficial, and the application of linen cloths, wet with cold water and vinegar,

to the fore part of the head alleviated the excruciating pain of that part. Wetting the face and hands frequently with a cloth dipped in cold water, had also a cooling and refreshing effect.

In this stage, during the exacerbation of the fever, keeping the patient's head, as well as the other parts of the body where the heat is most prevalent, wet with cold water, by means of napkins renewed as often as they become dry or warm, was found highly beneficial in reducing the febrile heat and bringing on a more speedy and sensible remission. When the pulse is strong, and the heat great, wetting the whole surface of the body, (including the head and limbs) with cold water or vinegar, by means of a sponge or napkin, and repeating the application before it becomes entirely dry, in conjunction with judicious bleeding, &c. is also a very certain remedy in allaying the preternatural heat, and reducing the action of the heart and arteries. This application appears to produce those salutary effects by the evaporation of the water, which abstracts and carries off with it the febrile heat.

This form of the disease, in its febrile symptoms, resembles the eruptive fever of the small-pox, and is generally subdued by the same remedies that render the pustules distinct, and the subsequent symptoms mild. When, however, the recited means were neglected, or applied too sparingly or irregularly, the inflammatory symptoms were generally succeeded by those of a malignant aspect. From recent occurrences it appears, that mercury judiciously and guardedly employed, after the activity of the arteries have been reduced by bleeding and purging in conjunction with the external application of cold water, is the remedy most to be relied on in every form or variety of this disease, so long as the external heat of the skin is considerably greater than in health. The cold water should be applied by means of a sponge or napkin at the commencement of the fever, when the heat of the skin is greater than in health, and the mercury should be given so as to affect the mouth, before the period at which the symptoms of the second stage usually come on. For this purpose, after the operation of the mercurial purge, two grains of calomel given every two, three, or four hours, day and night, according as the stomach would bear it, and the application of two drachms of strong mercurial ointment to the body three times a day, has been found to answer more certainly than any other method of employing it; if it affect the bowels, it must be given at longer intervals, or, if the inflammatory symptoms have subsided, combined with opium. When not employed until the accession of the second stage, at which time the stomach was generally disordered, it commonly appeared to aggravate the disease, and to hurry on the fatal symptom of *black-vomiting*.

In this stage of the disease, when a disordered stomach is the predominant symptom, which dissections show to be owing to the inflammation of its surface, topical bleeding, by means of cupping-glasses or leeches, or when pressure with the hand on the stomach

occasioned acute pain, and the pulse though small in volume, continued hard and tense, bleeding from the arm, repeated at short intervals, the frequent exhibition of mild laxatives in small doses, particularly Epsom salts, soda phosphorata, soluble tartar, castor oil, calcined magnesia, an infusion of senna and cream of tartar; and when these could not be retained on the stomach, laxative clysters were the most useful remedies, especially when immediately followed by the application of blisters to the stomach, wrists, and ankles. A solution of the carbonate of soda in water, which is much more palatable than the vegetable alkali, followed by a spoonful of lemon juice, or a solution of cream of tartar in water, had also the effect sometimes of allaying the distressing propensity to vomit, so common in the second stage of this disease, after the febrile symptoms appeared to have subsided. But these means as well as every other usually employed, were too frequently of no avail. At the city hospital in 1805, a table spoonful of acetated potash in a draught of warm sage tea, as well as salt of wormwood and lemon juice given in a state of effervescence, frequently settled the stomach, particularly when preceded by the warm bath; and a return of the vomiting in many cases was prevented by the application of blisters to the back or stomach and to the wrists and ankles, immediately after being removed from the bath. Perspiration was also sometimes promoted in this stage, by small and repeated draughts of an infusion of eupatorium perfoliatum, or, when that was disagreeable to the patient, by an infusion of dittany or sage.

The vomiting as in other diseases was also sometimes alleviated by a table spoonful of the following mixture, taken immediately after every discharge by vomiting:

℞. Succ. limon. ℥vi.
Sal. alk. vegetab. (pearl ash) q. s.
Saturari cum succ. limon. cui add. aq.
Menth. simp. ℥iij. et 1-4 misce.*

Some medical gentlemen have also reported, that they found good effects from the use of the artificial Seltzer water, in cases of alarming debility, attended with almost incessant vomiting. When the patient complained of a burning sensation in the stomach, calcined magnesia in large and repeated doses mixed with mucilage of gum arabic, or with sweet milk and water, frequently

* Or the following, which by many is considered as preferable, may be substituted.

1. ℞. Carbonat. Potass. Purificat. ℈iv.
Aq. Font. ℥iv. Solve.
2. ℞. Succ. Limon. ℥ij.
Sach. Alb. ℥ss.
Aq. Font. ℥j. M.

Of each of these separate mixtures, two table spoonfuls are to be given for a dose; the alkaline solution first, and the mixture of lemon acid immediately after. To be repeated after every evacuation by vomiting.

afforded relief. Where no remedy could be retained on the stomach, injections, consisting of from half an ounce to two ounces of spirits of turpentine, and three or four ounces of warm water, were administered by the physicians of the city hospital, and repeated at short intervals, till they occasioned tenesmus, after which the vomiting frequently, but by no means generally, ceased, and the stomach retained such medicines or nourishment as were prescribed. It is with regret we have to add, that a majority of the patients died notwithstanding this effect of the terebinthinate injections in suspending the vomiting; the inflammation, which from no abscess being discovered in the stomach of any one that died of this fever, being probably of the erythematous kind, spread through the whole surface of the intestines.

As dissections show that the constant propensity to vomit upon taking any thing into the stomach, which so generally occurs on the third day from the attack in this disease, depends upon an inflammation of the surface of that organ, and as the indication is to remove this inflammation, what effect would moderate doses of iced water or iced cream have upon it?

Cupping upon the stomach, or drawing blood by leeches, and the application of blisters, are certainly indicated in this state of the stomach; of the effects of cupping or leeches in such cases, however, the editors cannot speak from experience. In more than one case, the disorder of the stomach ceased immediately after the application of a large poultice of the flour of mustard to it and to the feet; in another, lime water diluted with simple cold water, removed the complaint: this was given in small and repeated draughts, in a late stage of the disease, viz. one table spoonful with the same quantity of sweet skimmed milk.

The editors have a favourable opinion of the warm bath in this state of the disease, when disorder of the stomach appears to be the most predominant symptom, especially when aided by the application of blisters or sinapisms, immediately after coming out of the bath. In the second stage of the disease, when disordered stomach and apparent debility were the most remarkable symptoms, stimulating remedies and an invigorating regimen appeared to be indicated, but the inflamed and irritable state of the stomach, rendered them highly injurious and improper. In these circumstances, the internal use of mercury alone or combined with opium, always increases the propensity to puke, and when it failed to purge, aggravated the complaint; and the external application of mercury, except when begun with at an earlier period of the disease, seemed to have no sensible effect. Dr. Davidson, of St. Lucia, in a letter to Dr. Buxton, dated October 14th, 1801, recommends for the distressing vomiting which so generally attends the second stage of this disease, a clyster of assafœtida, with the addition of two hundred drops of laudanum, and afterwards the extract or tincture of opium, to be given by the mouth at proper intervals, to prevent the return of this dangerous symptom, and he asserts

that though he has seen this complaint aggravated by opiates, given by the mouth, they have always afforded relief when given in clysters.

Whether under these circumstances, laudanum given as recommended by Dr. Davidson, is entitled to the encomium he bestows upon it, the editors not having seen it tried cannot determine, but they know it has been employed in some cases, to the quantity of sixty or eighty drops, in warm carminative clysters, in cases where vomiting appeared to be owing to exhaustion, from too copious depletion, with the most sensible and immediate benefit.

In cases of black vomiting, which is generally a hopeless symptom, laudanum in some cases has appeared, in moderate doses, to produce good effects, when given in a clyster made of a strong decoction of Peruvian bark and snake-root, frequently repeated. This dreadful symptom, however, has been more frequently relieved by a mixture of equal parts of lime water and new milk, in the quantity of from one to four table spoonfuls every hour or oftener, than by any other remedy, when employed on the first appearance of that symptom. In the year 1798, in the case of Mr. Fendal, it completely relieved the vomiting, and he recovered after he had been reduced to the most hopeless extremity. Several instances are mentioned by Dr. Hosack, of its success at New York, and the late Dr. Vaughan reported that one had recovered by the use of it, under his direction at Wilmington. Perhaps this remedy from its sedative and mildly astringent quality, as well as from its correcting the acid which generally abounds in the stomach, previous to the commencement of the black vomiting, would be more efficacious in preventing than in removing the black vomiting, if employed earlier in the disease.

In a single case one of the editors prescribed it diluted with water, and it settled the patient's stomach when neither effervescing mixtures nor clysters with laudanum had any effect. In another case, twenty grains of the carbonate of soda, dissolved in cold water, had a similar effect.* When the disease began with weak pulse, general debility, considerable oppression about the præcordia, and great restlessness, accompanied with deep and frequent sighing, one of the editors considered himself justifiable, from the analogy of the disease with the malignant or ulcerous sore throat, and from his constant failure with every other remedy, as well as from the experience of Dr. Chisholm, (who first employed mercury for the purpose of producing salivation in this disease) in having recourse to mercury, guarding it from passing off by stool, by combining it with opium, if the bowels were disturbed

* Dr. Dalcho of Charleston, says he gave aq. calcis to several patients in the year 1805, whose stomachs were greatly disordered, and that it generally settled them and prevented the black vomit.—Dalcho's Oration before the Medical Society of Charleston, published in Coxe's Museum for June and July, 1806.

by it, and no inflammatory symptoms were discoverable, carefully guarding against any considerable evacuation till the mouth became affected; and he would advise it to be began with as soon as possible after the commencement of the disease. Confiding in the correctness of Dr. Patterson, a physician in the British army, who declares in a letter to Dr. Chisholm, that he had found the early application of blisters to the stomach and limbs prevented a determination to that organ; in every case when the editor alluded to prescribed mercury, he directed a large blister to the stomach, and smaller ones to the wrists and ankles, at the same time; and after the removal of the blisters, dressed the excoriated surface with strong mercurial ointment, and directed the ointment to be rubbed on different parts of the patient's body at the same time, when insuperable prejudices were not opposed to its use. Though the success with this mode of treatment was not very flattering, it certainly failed more seldom than any other method that has hitherto been tried, and if affusion of cold water had been employed as an auxiliary, there is reason to believe it would have been still more successful. In every case, however, that has come under the observation of the said editor, where the employment of mercury has been deferred till after the dangerous and distressing symptoms of the second stage have come on, it has either aggravated the distress and increased the danger, or has been of no avail; and when employed after signs of gangrene or scorbutic symptoms have made their appearance, such as purple spots on the surface and hæmorrhages from the mouth and other parts of the body, it has invariably accelerated the fatal event, notwithstanding the declaration of Dr. Chisholm and others to the contrary. Hæmorrhage from the nose, however, at the beginning or during the first stage, was generally beneficial, so long as the hardness or tension, joined with great frequency of the pulse continued. The editors are convinced from a comparison of the success attending different modes of treating this disease, that mercury when employed from the beginning, or early in the first stage of the disease, and skilfully conducted, is more efficacious than any other remedy, especially when suitable auxiliaries are employed at the same time. It is certain that very few have died after salivation has been produced, and we are inclined to believe that the difficulty of producing this effect, is frequently owing to the want of applying the remedy on the first appearance of the disease, and regulating the action of the arterial system, at the same time, according to the indications of the symptoms. But when mercury is given late in the disease, or at any period after the stomach has become constantly disordered, it is not only an uncertain remedy but one of the most dangerous and destructive that can be employed.—E.]

Order II.—PHLEGMASIÆ or INFLAMMATIONS.

The character of this order of diseases is Synocha fever, with inflammation or topical pain; the function of an internal part being at the same time injured; the blood upon venesection generally exhibiting a buffy surface.

Before I proceed to speak of the different inflammatory diseases to which the human frame is liable, it seems proper to make a few observations on inflammation in general, and likewise to point out the different species of it which are to be met with in practice.

In every inflammation there is an increased action of the blood-vessels, propelling forward a greater quantity of blood than usual into the part affected, by which means its sensibility and irritability are increased, its vessels distended beyond their natural tone, and the circulation of blood through them rendered more rapid.

A variety of opinions have however been entertained with respect to the nature of inflammation. Hoffman, and Dr. Cullen, supposed the proximate cause to consist in an increased action of the blood-vessels, with a spasmodic stricture of their extremities; but as the beginning veins are in a state of over-distention in an inflamed part, as well as the arteries, it is evident that no such spasmodic stricture can exist. Dr. M'Bride's hypothesis on the nature of inflammation, is, that besides the action of the blood-vessels being increased, the resistance to the course of the blood is diminished; and a third doctrine has lately been advanced, which teaches, that instead of an increase of action in the vessels of the part, as is commonly supposed, the direct contrary takes place, and that there is a deficiency of action and paralysis of the vessels affected, instead of spasm. The principal argument in favour of this hypothesis is drawn by its founder, Mr. Latta,* from the swelling of the inflamed part, which he attributes to a partial stagnation of blood; but the great heat of the part, the throbbing pain, and, in many cases, the accelerated action of the whole sanguiferous system, clearly point out an increase of action in the vessels.

When the inflammation is confined to one particular part, without producing any general affection in the system, it is called local or topical; but when it produces effects on the whole system, it is known by the name of general inflammation.

Inflammation is properly of two kinds; viz. the phlegmonous and erysipelatous. By the phlegmonous is to be understood, an inflammatory circumscribed affection of the skin and cellular membrane, with a swelling rather prominent in the centre and of a bright red colour, attended with pain and distention, and in which any effusion that happens to take place, is usually converted into pus. By the erysipelatous is implied an inflammatory affection confined principally to the skin, when seated outwardly, and to the mucous mem-

* See his System of Surgery.

brane when internally, with hardly any evident swelling, being of a mixed red colour, readily disappearing upon pressure, but quickly returning again, the redness being of no regular circumscription; but spreading unequally, with a pain like to that of burning, which gives rise to a number of small blisters, and terminating usually in a desquamation of the scarf-skin, and now and then in gangrene, but never in a suppuration, unless combined with phlegmon.

Of the erysipelas there are two cases: one, when it is merely an affection of the skin alone with very little of the whole system, which is called erythema; the other, when it is an affection of the system, and is named erysipelas.

Persons in the prime of life, and in full health and vigour, and of a plethoric habit of body, are most liable to the attacks of phlegmonous inflammation: whereas, those advanced in years, and those of a weak, irritable, and spare habit, are most apt to be attacked with erysipelatous or erythematic inflammation.

The more moderate the different symptoms are, the better is the chance of the inflammation terminating by resolution; when it does not readily yield to proper remedies, and is unusually obstinate or deep-seated, there is reason to believe that it will terminate by suppuration. When the symptoms are very violent, especially if the inflammation is of the erythematic kind, there will be reason to fear gangrene.

Resolution is always a favourable termination; suppuration is also favourable, if the inflammation be external and the habit good, but in internal inflammations we shall find it is generally to be dreaded. Internal gangrene is always fatal. It is only when the gangrene is external that medicine can avail, and then it often fails.

PHLEGMON.

This species of inflammation is occasioned by the application of stimulants, such as fire or burning; by external injuries, either bruising, wounding, over-stretching, or compressing the parts; by extraneous substances which have lodged, and either by their form, bulk, or quality, produce irritation; by the application of cold; and by any thing that determines an increased impetus of blood to the part.

The chief seat of phlegmonous inflammation is the inner surface of the true skin and the cellular substance contiguous to it, from which it extends to the adjoining parts of the cellular membrane and skin; so that the surface soon assumes a florid colour, the tumour at the same time extending both in depth and circumference.

It comes on with an itching, dryness, redness, and increased heat and circulation in the affected part; which symptoms are shortly succeeded by a circumscribed tumour, through which shooting and throbbing pains extend. If the inflammation runs

high, and is of considerable extent, then an increased action of the heart and arteries takes place; the pulse becomes full, hard, and quick; the skin dry and hot; great thirst arises, and a feverish disposition ensues.

Phlegmonous inflammation usually terminates either by resolution, suppuration, adhesion, or gangrene. By resolution we are to understand the natural cure or going off of the inflammation by a gradual cessation of all the symptoms, the state and texture of the part remaining entire. By suppuration is implied the conversion into matter or pus of the lymph and blood which have been effused in the adjoining cellular substance, in consequence of which a cavity, termed an abscess, is formed. When effusion takes place without terminating in suppuration, the matter exuded is frequently viscid and unites the neighbouring parts together, often in twenty-four or thirty hours. In some cases this takes place from a slow degree of inflammation, such as is not noticed at the time; hence on opening bodies, adhesions between the pleura and lungs, or among the abdominal viscera, are often found. By gangrene is meant a mortification not yet actually formed, but approaching, being the intermediate state between the height of inflammation and sphacelus. Sphacelation implies the total loss of life in the part, an absolute derangement of its structure, the abolition of all its functions, and an utter incapacity of its being restored to any service in the animal economy. Many of the phenomena of gangrene seem to depend on a great violence in the action of the vessels, followed by a relaxation or loss of tone in them, this in many cases being so complete that the action cannot be restored, which occasions the part to become perfectly dead or sphacelated.

Such are the most common terminations of this species of inflammation, but in the schools a fourth has been noticed, which is in a scirrhus, implying an indolent, knotty hardness of the part, unattended by any discoloration, but accompanied with lancinating pains, the tumour after a time ulcerating and becoming cancerous. This termination of inflammation is, however, confined to glandular parts.

When the patient is seized with reiterated shiverings; when the fever and inflammatory appearance cease quickly without any perceptible cause; when a heavy, cold, and dull uneasiness is experienced in the part affected, instead of acute pain; when the most elevated portion of the tumour appears soft and white, while the rest has its redness increased; and when at the same time the surgeon can feel the fluctuation of a fluid, we may be assured that a termination in suppuration has ensued. The latter symptom, however, occurs only where the matter lies superficially; but a man endued with great nicety of touch may be able, in many cases, to perceive the undulations of matter, even when deeply lodged. In most instances, indeed, of this nature, the quick subsidence of all the inflammatory symptoms, the repeated rigors, and the sense of weight and coldness in the part, are the only obvious appearances;

but the patient being afterwards attacked with emaciation, nocturnal sweats, and other hectic signs, very clearly point out that there is a hidden collection of matter.

The symptoms which denote the termination of inflammation in incipient mortification are; first, a sudden diminution of the pain and sympathetic fever: secondly, a livid discoloration of the part, and which, from being yellowish, becomes of a green hue: thirdly, a detachment of the cuticle, under which a turbid fluid is effused: and fourthly, the swelling, tension, and hardness subsiding, while, at the same time, a crepitus is perceived on touching the part, owing to a generation of air in the cellular membrane. The term gangrene has been applied to the disease in this stage; but when the part has become black and fibrous, and destitute of natural heat, sensation, and motion, it is denominated sphacelus.

In phlegmon, our prognostic should be drawn from the symptoms which are present, as well as from the seat of the inflammation. If the inflammatory appearances cease suddenly, and blisters discharging a thin ichorous matter arise, together with the part affected losing its sensibility and becoming of a livid colour, then a gangrene will certainly ensue. On the contrary, a gradual abatement of the inflammatory symptoms by a termination, either in resolution, or a suppuration where proper pus is formed, may be regarded as prognostigating a favourable event. This remark holds good, however, only with respect to external suppurations, as internal ones are always dangerous, and not unfrequently fatal.

In the incipient state of a phlegmon, it will always be proper to attempt the cure by procuring a resolution of the tumour, if possible; and therefore an early attention should be paid to the removal of the cause which has excited it, as likewise to obviate the phlogistic diathesis, either of the whole system or of the particular part which is affected.

If the inflammation has proceeded from a lodgment of some extraneous body, such as a bullet discharged from any kind of fire-arms, or has been occasioned by a thorn or splinter of wood, it ought immediately to be removed, and, if necessary, the wound must be dilated to such a size as to admit of its being readily got at.

In cases of local inflammation, the phlogistic diathesis may be obviated by drawing a proper quantity of blood immediately from the neighbourhood of the part affected, either by scarifications with the aid of cupping-glasses, or by the application of leeches, which will be the preferable way if they can be procured; promoting the flow of blood by cloths dipped in warm water, and renewing them as soon as they cool: but in internal inflammations, it will be adviseable to draw blood from the system, by opening a vein, taking care to proportion the quantity drawn off to the age and strength of the patient, as well as to the severity of the symptoms.

We should likewise have recourse to purgative medicines. In inflammations of any of the external parts of the body, as likewise

in those of the head and chest, a frequent use of purgatives will be attended with a good effect; but in a similar affection of the bowels, active purgatives should be administered with due caution. Those of a mild nature, together with emollient laxative clysters, deserve a preference.

To assist these means, and terminate the inflammation by resolution, if possible, it will be right to make use of some discutient application, as remedies of this nature are, in some mild cases, of themselves sufficient to disperse an incipient phlegmon. In cases of violent contusion or fracture, where a considerable degree of tension prevails, a poultice of rye-meal or crumbs of bread moistened with the liquor plumbi acetatis, properly diluted with water (viz. about 80 drops of the former to about a pint of the latter,) will be a very proper application, and this may be renewed twice or thrice a day, until the swelling and inflammation subside; but in a common phlegmon, or where the part is so tender and painful as not to be able to bear the weight of a poultice, we must be content to apply pieces of soft linen moistened in some sedative application. It is to be understood, however, that these remedies are to be applied cold, whether we use poultices or wet pledgets, and that they are to be renewed as often as they become stiff, hard, or warm.

The application of cold is indeed one of the most powerful means which we possess for abstracting heat and subduing inflammation, and it has been carried so far in some instances, that pounded ice and snow have been employed for the purpose. When these are not to be obtained, we may substitute as a refrigerant, pieces of soft linen moistened in a solution of the nitrate of potass and muriated ammonia in water, or even in simple cold water; but they are to be renewed frequently.

In some cases of phlegmonous inflammation, particularly that which attends compound fractures, swelled testicle, &c. the pain is often so violent as to deprive the patient of his natural rest. When this happens, we may give opiates both with advantage and safety, provided sufficient evacuations have been premised, and that we afterwards obviate the costiveness produced by them by gentle aperients. The dose, however, should be considerable; otherwise opium, instead of proving serviceable, will have a contrary effect. About fifty or sixty drops of tinctura opii may be given to an adult, an hour or two before bed-time, and in a like proportion to those of a younger age. Children at the breast may take a small quantity of the syrup. papaveris, instead of the tinct. opii.

When the inflammatory symptoms run so high as to affect the system, it is not unusual for a febrile disposition to prevail. In such cases we may order some febrifuge medicine to be taken every three or four hours, combined with the nitrate of potass.*

* See Prescriptions on next page.

If, notwithstanding these means, the tumour should show an evident tendency to suppurate, we are then to accelerate its progress by the application of warm emollient cataplasms, which ought to be renewed three or four times a day. If linseed can be procured, a poultice made of this, slightly bruised and boiled up with milk and water, will be preferable, on account of its emollient quality; but when it is not to be obtained, the white bread poultice, with a small addition of oil, may be used; previous, however, to the application of the poultice, the part affected should be well fomented with flannels wrung out of a warm decoction or infusion of emollient herbs.

In inflammatory tumours which are slow in suppurating, stimulating poultices composed of onion, garlic, galbanum, or ceratum resinæ mixed with the white of an egg, and the common poultice, may possibly forward the suppuration. Warm plasters of galbanum or pix arida applied to slow suppurating tumours, sometimes prove useful, and they have this advantage over poultices, that they do not prevent people from doing their ordinary business.

When the suppuration is completed, and the tumour is become very soft to the touch, and is near the surface, it is to be opened, either with a lancet or a trocar, in the part which is most dependent, taking care to press the matter perfectly out; after which the wound is to be dressed with dry lint, and a pledget spread with the ceratum resinæ to be laid over all.† If the wound does not heal readily, the cinchona with other tonics should be used, till the patient is restored to health. To support the vis vitæ, a full diet with a moderate allowance of wine will probably be requisite.

In very large abscesses, particularly in that of the psoas muscle, it has been found a judicious practice to evacuate the matter by means of a seton, or by a flat trocar in a canula, which is to be insinuated between the skin and cellular membrane for some space, and then to be plunged in a slanting direction down into the abscess, leaving the canula, and withdrawing the trocar. The orifice in the skin and deep-seated parts by this mean will not be in a direct line, and the severe constitutional symptoms which are apt to arise from the exposure of an extensive cavity to the air, are thereby avoided. In the like cases, it will also be proper to direct the patient to take at least an ounce of cinchona bark a day, in order to promote the production of proper pus; and to support his strength under the discharge, a nutritive diet, with a moderate use

* ℞. Potassæ Nitrat. ʒss.—ʒj.
Aq. Fervent. ℥viij.
Antimon. Tartarizat. gr. ij.
Syr. Violæ ʒij. M.
Mistura cujus sumat Cochl. magna ij. pro dos.

Vel

℞. Haust. Salin. ℥jss.
Potassæ Nitrat. gr. x.—xv.
Vini Antimon. ♏. xij.
Syrup Simpl. ʒj. M.
ft. Haustus 3tia quaque hora sumendus.

† Or Ceratum Simplex in preference to that of Resin. E.

of wine should be allowed, (provided the excited state of his system will admit of such treatment.)

Good pus is of the consistence of cream, and of much the same colour: it has no smell, scarcely any taste, and six parts in seven appear to be water, but it is in general rather heavier than water. In the common heat of the atmosphere, it does not unite with this liquid, but does so when exposed to heat. It contains in it some volatile matter, the peculiar properties of which have not been fully explained: when examined by the microscope, it commonly appears to be flaky. Pus when examined chemically, has the same general properties as the blood.

The matter of an abscess is either absorbed or discharged, but more generally the latter; and in either case, if it is well conditioned, the cavity is generally filled up by an operation of nature, which is termed granulation, from the new parts appearing in the form of small red grains. When this process goes on favourably, the granulations are of a florid red colour, and proceed in a regular manner till the cavity is accurately filled, its edges (if the matter of the abscess has been discharged externally) being even, or nearly so, with the sound skin.

When the granulation is too languid, it is to be forwarded by the same means which promote a favourable secretion of pus. It is however sometimes too luxuriant, forming irregular masses, which project beyond the lips of the wound. In such cases it will be necessary to check the granulating process, and destroy the projecting parts by escharotics; but for more particular information on this head, I must refer to the works on surgery.

Should phlegmonous inflammation threaten to terminate in gangrene, or already have shown symptoms denoting such a termination, we are then to stop the progress of the mischief, and promote the speedy separation of the dead parts from the living. To effect this, it was formerly customary to make slight scarifications, and afterwards to apply warm antiseptic fomentations, and poultices; but modern practitioners, particularly Mr. Bell, and the late Mr. John Hunter, have highly disapproved of this mode of proceeding, and recommend a reliance to be placed on a liberal use of the bark of cinchona, together with a nutritive diet, and such a quantity of wine as will be sufficient to keep up the pulse, and induce the necessary slight degree of inflammation. To give energy to the system, to restore vitality to the affected parts, and to lessen the morbid irritability in them, are the objects which we should keep in view in all cases of gangrene.

In cases of gangrene arising from external injury, and exposing the life of the patient to danger, Monsr. Larry* strongly advises that amputation should be performed, without waiting the appearance of the line of separation between the living and dead parts.

* See his Memoirs de Chirurgie Militaire.

Where gangrene arises from debility, opium frequently proves useful: and as it by no means counteracts the effects of the cinchona bark, it may be given along with it: indeed opium will prove generally beneficial, and particularly in that variety of the complaint in which no previous inflammation existed, but which is accompanied by violent pain.

The efficacy of the bark of cinchona is in every instance indeed much increased by its junction with opium in these affections, and therefore they cannot be too early employed in the curative plan of treatment conjoined together.

In cases of gangrene, accompanied with convulsive spasms, or arising from any local injury, such as a fracture, &c. producing irritation, a combination of musk with ammonia has been found by Mr. White of Manchester, and other practitioners on his recommendations, to have been attended with a happy effect in abating subsultus tendinum, stopping the progress of mortification, and occasioning the dead parts to separate from the living. A bolus consisting of ten grains of musk, and the same quantity of ammonia, repeated every three hours, is what is advised on such occasions.

Musk combined with the volatile salt of amber, might probably prove a still more powerful remedy for checking the progress of gangrene arising from any local injury producing irritation.

By modern practitioners we are instructed to keep the parts cool, and that all applications to them ought to be cold, instead of warm, as was formerly practised. As an application to parts in a gangrenous state, there can be none better than a poultice made by stirring into an infusion of malt, (such as may be readily obtained from the ale or porter brewers) as much oat-meal as is required to make it of a proper thickness, and afterwards adding about a spoonful of yeast.* In applying it, due care must be taken not to bind it on too closely, as the fermentation, a short time after its application, will be considerable, and its bulk of course, so increased, as to put the cloths and bandages which confine it, very much on the stretch.

The cataplasma carbonis (which is prepared by mixing two ounces of wood charcoal, reduced to a very fine powder, with half a pound of the common farinaceous poultice) is another application which has lately been much used in gangrenous cases, as well as in sweetening fetid ulcers, and disposing them to granulate favourably.

By some communications through the medium of the Medical and Physical Journal,† we are given to understand that the progress of mortification has been checked, and the offensive stench issuing from the wound entirely removed in a very short space of

* This is the Cataplasma Effervescens of the Pharmacopœia Chirurgica.

† See vol. xi. p. 206.

time, by sprinkling the diseased parts thickly over with the nitrate of potass, pulverized very fine. In the instances alluded to, the dressing was renewed twice or thrice a-day.

When the diseased parts separate and slough off, dry lint is to be laid on the wound with a pledget, spread with some digestive ointment, applied over all.

In the Second volume of the Transactions of a Society for the Improvement of medical and chirurgical Knowledge, is inserted a paper from Dr. Harness, at that time a Physician to the Fleet, on the good effects of the application of the gastric fluid of graminivorous animals to parts in a gangrenous state. By this gentleman we are informed, that he found its application to succeed in more than a hundred cases of sphacelus in entirely removing the sloughs, and occasioning healthy granulations.

As a gentle stimulus to parts in a state of gangrene, where any is thought proper, and in preference to warm gums, balsams, or rectified spirit, Mr. B. Bell advises* the use of a weak solution of ammonia muriata in vinegar and water. We are informed by him that a drachm of the salt, to two ounces of vinegar, and six of water, form a mixture of a proper strength for every purpose of this kind; but the degree of stimulus can be easily either increased or diminished, by using a larger or smaller proportion of the salt.

In similar affections of the toes and feet, Mr. Pott very much disapproves of all stimulating applications, and in their stead recommends soothing and emollient ones,† and this with a view to avoid exciting pain. A case which some time ago came under my inspection has, in my opinion, decidedly established the superiority of the latter mode of treatment over the former.

In this species of mortification, Mr. Pott reports, he found the cinchona bark had little or no influence, but that opium in large doses, frequently repeated, proved an effectual remedy in many cases. To give the patient every possible chance of recovering, it will be best, I think, to administer both.

It sometimes happens, particularly in military hospitals, when the wards are much crowded, and the air contaminated to a high degree with putrid miasma, that sudden and rapid mortification is apt to attack all the wounded who are lodged in such wards, and that several individuals die, notwithstanding the application of the curative means and treatment successfully resorted to in the other species of gangrene. The term Hospital Gangrene has, therefore, been applied to this species of the disease.

By an examination of its symptoms, it would appear that this gangrene is the effect of a general state of the system, which produces a local affection on wounds or ulcers; an affection, which after having passed through different stages or periods, degenerates

* See his System of Surgery, vol. i. p. 112.

† See his Chirurgical Works, p. 799 and 800.

into mortification or gangrene, assuming all the symptoms of slow fever, and terminating very frequently by destroying the life of the patient.

In most cases there is reason to suppose the contagion is spread through the atmosphere, and that the miasma, most probably, are applied immediately to the wound or ulcer; but there are some grounds, at the same time, for believing that hospital gangrene may also be produced by the inspiration of the deleterious matter. All who have described the disease, say, that it is communicable by the pus of ulcers which are affected with it, and particularly by whatever may be impregnated by this pus, such as lint, linen, mattresses, sheets, blankets, &c.; and it has been thought by some of the German and French surgeons, as well as a few of the English ones, that the usual washing and bleaching of linen is not sufficient to annihilate the power of the contagious matter, as lint made from the old sheets of hospitals wherein this species of gangrene had existed, was found to give rise to the disease among those labouring under recent wounds or ulcers in other establishments wholly free from it.

Carbuncle is an inflammatory tumour which seldom suppurates perfectly, but discharges a thin acrid humour as is usual in erysipelatous inflammation, and exhibits symptoms of approaching sphacelus. A generous diet, with a liberal use of wine and bark, together with opiates to alleviate pain and procure rest, will be the best internal remedies in this complaint; fomentations with bruised poppy heads and a cataplasm of bark and yeast, (which ought to be renewed every four hours) are the best external applications we can employ.

The termination of inflammation in a scirrhus is (as was before observed) confined to glands. Upon a gland becoming scirrhous, we should disperse it, if possible; and if we cannot effect this, then we should endeavour to keep it stationary, and prevent its ulcerating and degenerating into a cancer. The means best calculated to answer these intentions are pointed out under the particular heads of scirrhus and cancer.

If the tumour, on a fair trial of these means, should not disperse, but, on the contrary, show an evident tendency to ulcerate, and degenerate into a cancer, then, in my opinion, the sooner it is extirpated, the better will it be for the patient, as it is more than probable that the affection is not originally connected with the system, but is merely local, and that the constitution or habit does not become tainted, until ulceration takes place.

ERYSIPELAS.

This disease is an inflammatory affection, accompanied usually with drowsiness, often however with delirium, when the face is affected, and with a fever of a few days' continuance.

When the inflammation is principally confined to the skin, and

is unattended by any affection of the system, it is called Erythema; but when the system is affected, it is named Erysipelas.

It sometimes happens that the inflammation extends to the cellular membrane beneath the skin, whence a real phlegmon and collection of matter become joined to the erysipelas; but this is mostly the case where there has been a previous scratch or injury of the skin.

Every part of the body is equally liable to erysipelatous inflammation, but it more frequently appears on the face, legs, and feet, than any where else when seated externally; and it occurs oftener in warm climates than phlegmonous inflammation.

Erysipelas does not often attack persons before the age of puberty; it is a disease of advanced life, met with more frequently among women than men, particularly those of a sanguine irritable habit. In many people there seems to exist a predisposition to the disease. Sometimes it returns periodically, attacking patients once or twice in the year, and in some instances much oftener, greatly exhausting the strength thereby.

It is brought on by the several causes that are apt to excite inflammation; such as injuries of all kinds, the external application of stimulant acrid matters to the skin, exposure to cold, particularly during a course of mercury, obstructed perspiration, suppressed evacuations, or other causes inducing plethora, the presence of irritating matter in the primæ viæ, &c.; and it may likewise be occasioned, perhaps by a certain matter generated within the body and thrown out on its surface. A particular state of the atmosphere seems sometimes to render it epidemical, as we often find the angina scarlatina, which is a species of internal erysipelas, prevail as such.

It seems connected likewise with that peculiar state of the atmosphere which occurs in hospitals, and crowded ships of war, occasioning the slightest wound to produce erythema.

In slight cases, where it attacks the extremities, it makes its appearance with a roughness, heat, pain, and redness of the skin, which becomes pale when the finger is pressed upon it, and again returns to its former colour, when it is removed. There prevails likewise a small febrile disposition, and the patient is rather hot and thirsty. If the attack is mild, these symptoms will continue only for a few days, the surface of the part affected will become yellow, the cuticle or scarf-skin will fall off in scales, and no further inconvenience will perhaps be experienced; but if the attack has been severe, and the inflammatory symptoms have run high, then there will ensue pains in the head and back, great heat, thirst, and restlessness; the part affected will slightly swell; the pulse will become small and frequent; and about the fourth day, a number of little vesicles, containing a limpid, and in some cases a yellowish fluid, will arise. In some instances, the fluid is viscid, and instead of running out, as generally happens when the blister is broken, it adheres to, and dries upon the skin.

In unfavourable cases, these blisters sometimes degenerate into obstinate ulcers, which now and then become gangrenous. This, however, does not happen frequently; for although it is not uncommon for the surface of the skin, and the blistered places, to appear livid, or even blackish, yet this usually disappears with the other symptoms of the complaint, as I have frequently witnessed.

The period at which the vesicles show themselves, is very uncertain. The same may be said of the duration of the eruption. In mild cases it often disappears gradually, or is carried off by spontaneous sweating. In some cases it continues without showing any disposition to decline for twelve or fourteen days, or longer.

The trunk of the body is sometimes attacked with erysipelatous inflammation, but less frequently so than the extremities. It is not uncommon, however, for infants to be attacked in this manner a few days after birth; and in these it makes its appearance about the genitals. The inflamed skin is hard, and apparently very painful to the touch. The belly often becomes uniformly tense, and sphacelated spots sometimes are to be observed. From dissections made by Dr. Underwood, it appears, that in this form of the disease, the inflammation frequently spreads to the abdominal viscera.

Another species of erysipelatous inflammation which most usually attacks the trunk of the body, is that vulgarly known by the name of Shingles, being a corruption of the French word ceingle, which implies a belt. Instead of appearing an uniform inflamed surface, it consists of a number of small pustules, extending round the body a little above the umbilicus, which have vesicles formed on them in a short time. Little or no danger attends this species of erysipelas.

When erysipelas attacks the face, it comes on with chilliness, succeeded by heat, restlessness, thirst, and other febrile symptoms, with a drowsiness or tendency to coma or delirium, and the pulse is very frequent and full. At the end of two or three days, a fiery redness appears on some part of the face, and this at length extends to the scalp, and then gradually down the neck, leaving a tumefaction in every part the redness has occupied. The whole face at length becomes turgid, and the eyelids are so much swelled, as to deprive the patient of sight. When the redness and swelling have continued for some time, blisters of different sizes, containing a thin, colourless, acrid liquor, arise on different parts of the face: the skin puts on a livid appearance in the blistered places; but in those not affected with blisters, the cuticle, towards the close of the disease, falls off in scales.

No remission of the fever takes place on the appearance of the inflammation in the face; but on the contrary, it is increased as the latter extends, and both will continue probably for the space of eight or ten days. In the course of the inflammation, the disposition to coma and delirium is sometimes so increased, as to destroy the patient between the seventh and eleventh days of the disease.

When the complaint is mild, and not marked by a fatal event, the inflammation and fever generally cease gradually without any evident crisis.

If the disease arises in a gross habit of body, occupies a part possessed of great sensibility, is accompanied with much inflammation, fever and delirium, and these occur at an early period, we may suppose the patient is exposed to imminent danger. The fever assuming the typhoid form; the inflammation becoming of a purple colour; its suddenly receding from the surface, and attacking an internal part; livid vesications; great prostration of strength; and a weak, rapid, irregular pulse, are to be viewed in a very unfavourable light. Erysipelas never terminates in suppuration, unless combined with a considerable degree of phlegmonous inflammation, which is however sometimes the case; but in a gross habit, the vesications are apt to sphacelate, in which case there will also be great danger. When the febrile symptoms are mild, and unaccompanied by delirium or coma, are not combined with typhus, and the inflammation does not run high, we need not be apprehensive of danger.

Where the disease has occupied the face, and proves fatal, inflammation of the brain, and its consequences, are to be met with in dissection.

Great diversity of opinion has prevailed among the practitioners in medicine, concerning the mode of treatment to be adopted in erysipelas; some pursuing the same antiphlogistic plan advised in phlegmonous inflammation; others again, disapproving of all evacuations, and treating it as a disease dependent on irritability.

To reconcile these jarring opinions, I shall consider the complaint as sometimes combined with phlegmonous inflammation, as now and then happens, when it arises in a full plethoric habit. In such a case, if the skin is hot and dry, the pulse full, strong, hard, and frequent, and the head affected with severe pain, stupor or delirium, it will undoubtedly be proper to have recourse to bleeding, cooling purgatives, diaphoretic and refrigerant medicines, and the strict observance of an antiphlogistic regimen, as recommended in phlegmon. Topical bleeding, however, by means of leeches, which proves so useful in other varieties of inflammation, is not admissible in erysipelas, as the orifices by which it is drawn, are very apt to become gangrenous, or to degenerate into those troublesome ulcers which the disease when it terminates in effusion, sometimes produces. When we have occasion, therefore, to draw off blood, in order to counteract the inflammatory diathesis, we must do it by opening a vein; and where the head is the part diseased, the jugular will be the most proper. As to the quantity to be taken away, we are to be regulated in this, by the violence of the inflammatory symptoms, the appearance of the blood when drawn, and the strength of the patient. If the disease is perfectly pure or local, does not affect the head, is unaccompanied with symptoms of general inflammation, and has arisen in a weak

irritable habit, or is accompanied with a fever of the typhoid kind,* bleeding will be highly improper.

The same observation will likewise apply to the making use of strong purgatives; but although I disapprove of such medicines in the latter instance, still it will be right to keep the body open by gentle saline aperients, so as to procure one or two motions daily. When the inflammation is of a phlegmonous nature, and the head is much affected, a liberal use of active purgatives will undoubtedly be adviseable.

In those cases where the fever and inflammation run high, diaphoretic medicines will be proper, and they may be given conjoined with the nitrate of potass, as advised in phlegmon. As erysipelatous fevers often terminate by sweat, mild diaphoretics,† with plentiful dilution, become a necessary part of the treatment, and should never be neglected.

In those cases where the head and face are affected, and coma prevails, the semicupium, together with sinapisms applied to the feet, will be highly adviseable. The application of a blister between the shoulders may assist in affording relief towards the close of the disease.

It has been observed, that when the disease has made some progress, vesicles of various sizes usually arise. The most proper application will be some dry mealy powder, such as starch, wheat-flour, oat-meal, or chalk; but oat-meal may perhaps be preferable to the rest, on account of its not being likely to cake and become hard by the humour which weeps from the parts affected. Probably external applications that reduce the heat of the skin, might be employed with advantage.

Some prejudices have indeed long existed against the use of cold applications in erysipelas. Cooling lotions have nevertheless been employed in this disease with great advantage.‡ I have myself frequently recommended linen cloths wetted with a cooling lotion of equal parts of the liquor ammon. acetatis, or of muriated ammonia dissolved in water, with the addition of a little vinegar and camphorated spirit, in erysipelatous inflammation, with much benefit and relief to the feelings of the patient, when the application of farinaceous powders has seemed indeed rather to aggravate, than sooth his sufferings. No solution either of lead, copper, or alum, should be employed, as these might be injurious.

* As indicated by the pulse, though preternaturally frequent, being small, soft and feeble, in conjunction with a general prostration of strength. E.

† ℞. Misturæ Camphoræ ℥ss.
Liquor. Ammon. Acet. ʒiij.
——— Antimon. Tartarizat. ♏. xv.—xxx.
Syrup. Althææ ʒj. M.
ft. Haustus quartis horis adhibendus.

‡ See Cooper's Dictionary of Practical Surgery, and also his first lines of the Practice of Surgery.

When effusion is found to have occurred in any considerable quantity, it ought to be discharged by making a small opening in the most dependent part. It has been usual to employ emollient fomentations and poultices in this state of the complaint, in order to bring on a proper suppuration; but the effusion which sometimes happens in erysipelas, not being of a nature to be converted into pus, as in the case of a pure phlegmon, they certainly cannot prove serviceable. The ceratum plumbi compositum, or ceratum plumbi superacetatis, will be the best applications.

These are the means to be employed when erysipelas happens to be combined with phlegmonous inflammation. When it arises in a weak delicate habit, assumes the typhoid character, and is accompanied with symptoms of irritation, such as depression of strength, a quick small pulse, &c.; to take off the irritability, and guard against a termination in gangrene, which sometimes ensues, we should give the bark of cinchona, mineral acids, snake-root, camphor, aromatic confection, and wine. In those cases where the disease is confined to the trunk and extremities, and where there is considerable pain and irritation, the employment of opium seems adviseable; indeed I have used it on such occasions seemingly with much advantage. In erysipelas of the face, even without coma or delirium, from the tendency of this form of the disease to affect the brain, opium is to be regarded as a more doubtful remedy.

Where a tendency to mortification becomes apparent, the above medicines, with wine, &c., will be the more necessary. (See Phlegmonous Inflammation terminating in gangrene.) Ammonia joined with aromatic confection may be given internally, with some probability of advantage, in all cases of erysipelatous inflammation of the extremities, or other parts, which threaten to terminate in gangrene. When erysipelas is accompanied with a tendency to the worst kind of hemorrhagy, from being of a malignant nature, alum and the sulphuric acid are particularly indicated.

If the disease is mild, and unaccompanied with febrile symptoms, it will be sufficient to keep the patient within doors, without confining him to his bed.

In those cases where the inflammatory symptoms run high, the diet should consist of light nourishing things, such as preparations of barley, sago, tapioca, rice, Indian arrow-root, panado, and the like; and his drink should be lemonade, tamarind-beverage, or barley-water, acidulated with some vegetable acid; but in those cases where symptoms of irritation prevail, a more generous diet, such as animal broths, and a moderate use of wine, ought to be allowed.

PHRENITIS, OR INFLAMMATION OF THE BRAIN AND ITS MEMBRANES.

PHRENITIS is an inflammation of the parts contained in the cavity of the cranium, and may affect either the membranes of the brain or the brain itself. It is called primary, or idiopathic, when it exists independent of any other disorder: and symptomatic, when it arises in consequence of some other disease, as fevers and inflammatory affections; which species is that most universally met with, the other occurring but very seldom, at least in this country. In warm climates, it appears to be sometimes produced by exposure to the intense rays of the sun, and often proves quickly fatal.

Its characteristics are vehement pyrexia, severe pain in the head, redness of the face and eyes, intolerance of light and sound, watchfulness, and violent delirium.

The causes which give rise to idiopathic phrensy are such as directly stimulate the membranes, or substance of the brain, or increase the impetus of the blood in its vessels: hence violent fits of passion, intense study, severe exercise, external violence of any kind, such as blows on the head, concussion, fissure or fracture, an immoderate use of vinous and spirituous liquors, a long-continued exposure to the heat of the sun, and the suppression of accustomed evacuations, as hæmorrhois, menses, issues, milk drying up, &c. may be regarded as the remote causes. Many acute diseases, and a long want of sleep, may give rise to symptomatic phrensy.

The idiopathic is usually preceded by long-continued, and almost constant watching, or frightful dreams, acute pains at first in the neck and occiput, afterwards extending to the head, deep respiration, inability to recollect circumstances which have lately happened, suppression of urine, and irregular pulse. As the disease advances, the eyes sparkle, and are violently agitated; there is a ferocity in the countenance, with universal restlessness, deafness, great confusion of ideas, violent ravings, intolerance of light, evident pulsation in the temporal and carotid arteries, and the most furious delirium. The tongue is dry, rough, and of a yellow or black colour, the face is of a deep red, and the pulse is small, quick, and hard.

The symptomatic phrensy is constantly preceded by acute fever, or some inflammatory complaint, and is usually accompanied with inability to sleep, constant watching, delirium, picking at the bedclothes, redness and fierceness of the eyes, wild look, and deep breathing.

Phrenitis is distinguished from mania, by the quickness of the pulse, and the attendant fever and pain in the head; and from that species of delirium which occurs in low fevers, unaccompanied with inflammation, by the appearance of the countenance and eyes;

for in true phrensy the face is red, the features are rather enlarged than shrunk, and the eyes protuberate, and sparkle; whereas in the delirium supervening to low fever, the face is pallid, the features are shrunk, and the eyes pearly. It is to be distinguished from synocha by the state of the pulse, as in the latter it is strong and full; whereas in the former it is small, hard, and more rapid. In phrenitis, the delirium is the primary affection; but in synocha, it is consequent upon the general fever.

Phrenitis, whether idiopathic or symptomatic, may always be regarded as a dangerous and alarming complaint; it often proves fatal between the third and seventh day; and if long protracted, is apt to terminate in mania, or great prostration of strength: it often terminates in stupor and insensibility. Grinding of the teeth, white or ash-coloured fæces, suppression of urine, startings of the tendons, with convulsions, cold sweats, a fluttering pulse, and coma supervening on delirium, denote a fatal termination: on the contrary, when there is a copious hemorrhage from the nose, mouth, or lungs, or even from the urinary passages or hemorrhoidal vessels; or when diarrhœa ensues: when the delirium is relieved by sleep, and the patient remembers his dreams; when the perspiration is free and general; the deafness diminished or removed; the pulse less frequent, but fuller and soft; and the febrile symptoms become milder, there are hopes of a recovery.

Dissections of persons who have died of phrenitis have shown the brain and membranes red and inflamed, the membranes considerably thickened and hardened, and in a few instances the pia mater has been found as thick as the dura mater. In some cases, abscesses in the ventricles and adhesions of the dura mater to the skull have been perceived.

On the first coming on of idiopathic phrensy, immediate recourse should be had to bleeding, proportioning the quantity that is drawn off, to the age and constitution of the patient, and the severity of the symptoms. The orifice which is made with the lancet should be large, and the patient if possible, ought to be placed in an erect posture. Opening the jugular vein, or temporal artery, will be preferable to drawing blood from the arm; and taking away a considerable quantity at once, will certainly be better than drawing off only a little at a time, and repeating the operation frequently. If the patient is perceived to be much reduced by the largeness of the evacuation, and the disease should nevertheless still continue with violence, the application of leeches to the temples will be more adviseable than any repetition of bleeding from the system. When leeches are not to be procured, blood may be abstracted by means of a cupping-glass and scarificator.

The next proper step to be taken, will be to direct the head to be shaved, and to apply a large blister over it. Linen cloths wetted with vinegar and water, diluted æther, or iced water, may likewise be kept constantly to the temples.

With a view of obviating the inflammatory diathesis, and of di-

verting the humours from the head, a strong purge* may be ordered; and this ought to be repeated every second or third day, during the continuance of the complaint. Purgatives of the saline kind are good antiphlogistics, and may be prescribed instead of others. When we cannot employ purgatives, laxative clysters may be used. In all inflammatory affections of the head, a copious discharge from the intestines will be found highly beneficial, and experience has indeed ascertained that venesection itself is often less powerful. To assist in diminishing the determination of blood to the head, the patient should be kept as near the erect posture as can easily be borne.

Warm bathing of the lower extremities, and the application of rubefacients to them, for the purpose of revulsion, have been very generally employed in idiopathic phrenitis. By some physicians, and particularly by Dr. Cullen, they have, however, been regarded as ambiguous remedies; and it is probable that they will be likely to do harm if employed before the excitement has been sufficiently reduced, (by bleeding and frequent purging.)

During the whole course of the disease, the patient ought to be kept cool and as quiet and undisturbed as possible, excluding light from him, and his food should be light and but little nourishing, consisting of preparations of barley, sago, gruel, &c. Cold acidulated liquors should be allowed with freedom. In idiopathic phrenitis, every part of the antiphlogistic regimen will be necessary.

OPHTHALMIA, OR INFLAMMATION OF THE EYE.

OPHTHALMIA is of two kinds, viz. the idiopathic and symptomatic; the latter proceeding either from diseases of the eye, or parts in its neighbourhood, or from diseases of the system; and the former from the causes assigned below.

In ophthalmia, the inflammation is seated either in the membranes of the eye, its deep-seated parts, muscles, and the lachrymal gland, or in the sebaceous glands placed in the edges of the eyelids; but sometimes all these parts are affected in consequence of sympathy, and indeed it rarely happens, that any of these suffer in a considerable degree without the inflammation extending further. It readily spreads along the conjunctiva, from the tarsi to the eye, or in the contrary direction. When the conjunctiva is much inflamed, the adnata soon partakes of the inflammation; and if the complaint increases, it gradually spreads to the deep-seated parts.

With some people there is a great tendency to recurrence of the disease, and in many cases it has been observed to renew its

* ℞. Pulv. Jalapæ gr. xv.—℈i.
Hydrargyr. Submur. gr. x. M.
ft. Pulvis catharticus.

attacks, or to have regular exacerbations at a particular time of the day.

The causes producing ophthalmia are, external injuries, such as blows, contusions, and wounds on the eyes; extraneous bodies, of an irritating nature, introduced under the eyelids; exposure to bleak winds and cold; little inflammatory tumours called styes, which rise on the eyelids; various acrid fumes acting as chemical stimuli, such as the smoke of pit coal, that of wood, turf, &c.; too free a use of vinous and spirituous liquors; the suppression of accustomed discharges; the long application of a strong light, or fixed attention to minute objects.

Ophthalmia usually comes on with a sensation, as if some gritty particles had insinuated themselves under the eye-lids, accompanied with great heat, redness, and pricking, darting pains. As it increases, the parts swell, and the vessels of the eye become not only increased in size, and turgid, but appear more numerous than in the natural state. Great pain is excited upon the least motion of the ball of the eye; the patient cannot bear the light, and an affusion of tears from the lachrymal gland ensues, which is of so acrid a nature as to excoriate every part on which it happens to fall. When the inflammation runs high, a slight febrile disposition often attends. These appearances, after some days continuance, gradually abate, and at length entirely cease; but in some cases, a discharge of thick glutinous matter ensues, which collects in considerable quantities about the angles of the eye, particularly during sleep. Where only one eye has been affected, it is often succeeded by an inflammation of the other, particularly in a scrofulous habit.

Ophthalmia when slight, and not symptomatic of any other disease, will readily give way to proper means; but if it is very violent, or has continued for any length of time, it is apt to occasion specks, or to terminate in a dimness of sight or opacity of the crystalline lens. In some cases, the inflammation terminates in suppuration of the cornea and deep-seated parts. When it arises in a scrofulous habit, or is symptomatic of syphilis, the cure is often tedious.

In the treatment of ophthalmia, its varieties of idiopathic and symptomatic, and of acute and chronic, ought duly to be considered, and to form the basis of our practice. Our object therefore should be, to determine with precision, how far each particular case is to be referred to one or other of these kinds, and to adopt our plan accordingly.

Those who are engaged in an extensive practice, now and then meet with cases of idiopathic and acute ophthalmia, accompanied not only with a high degree of organic inflammation, but likewise with much systematic derangement, such as thirst, great heat of the body, fulness and frequency of the pulse, severe pains in the head, and violent throbbings of the temporal arteries. Such instances are, however, rare; but when they do occur, general bleeding

or venesection ought not to be neglected; and we should take care to proportion the quantity we draw off to the existing circumstances, and quickly to repeat it, if necessary. In the very worst cases, where there may be some danger of phrenitis ensuing, the blood ought to be drawn from the jugular vein or temporal artery, in preference to taking it from the arm.

In general, however, ophthalmia is only a local affection, accompanied with little or no fever, except what is excited by the irritation or pain in the organ, and this but trifling; and therefore it will not often be necessary to resort to general bleeding: the preferable way will be to draw blood from the neighbourhood of the affected part, by applying several leeches round the eye; which proces we may repeat again and again, as long as the inflammation continues. They ought not however to be applied on the upper, but on the under lid. Where leeches cannot be procured, blood must be drawn from the temples by scarifying and cupping. If the inflammation runs high, so as to endanger vision, by producing an opacity, it will be adviseable to make scarifications daily with the edge of a lancet, on the turgid vessels of the adnata itself; which, if done by a steady hand, will be attended with no kind of danger, but, on the contrary, with infinite advantage. Its effects in diminishing inflammation are very great, even though no more than a few drops of blood be obtained, and the relief is frequently so considerable as to induce patients after once undergoing the operation, to request its repetition.

It is almost unnecessary to observe, that when ophthalmia has arisen from any extraneous body getting into the eye, as particles of sand, dust, lime or metal, small flies, the hairs of the eyelids, &c. the irritating cause ought immediately to be removed, and the part be defended from the light by the patient's wearing a deep shade of green silk, and sitting in a darkened room.

Having adopted topical bleeding, we may then order some active purgative to be taken; and this should be repeated every third or fourth day (or oftener) as long as may be found necessary.

A few grains of hydrargyri submurias, with a sufficient quantity of jalap, or a solution of any of the neutral salts, will best answer the intention.

Where the complaint has arisen from exposure to cold, or other causes suppressing the perspiration, it is probable that the patient may receive benefit from small doses of some antimonial preparation given so as to excite a slight nausea or sickness at stomach. The pediluvium may also be employed with the same intention.

To abate the inflammation and irritation, it is customary to have recourse to the frequent application of some cooling and astringent wash. Such remedies applied to the eye by means of an eye-cup, or by wet pledgets, prove, beyond a doubt, highly serviceable. Any of the undermentioned* may be used.

* For Prescriptions see note on next page.

When ophthalmia is found not to yield to bleeding both general and topical duly repeated, purging, emetics, fomentations, and the other means which have been pointed out, it will be proper to put a blister at the back of the neck, or behind the ear on the side with the eye which is affected, supposing only one to be diseased, and to promote a proper discharge, it ought to be dressed with some stimulating ointment.† In those cases where the disorder appears to be constitutional, or to be kept up by any acrimonious humour in the habit, issues between the scapulæ, or the insertion of a seton in the neck, will be adviseable.

Errhines have been recommended in instances of habitual ophthalmia, and probably may sometimes prove good auxiliary remedies. The pulvis asari compositus may be used on the occasion. The pulvis digitalis will likewise excite a copious excretion from the membrane which lines the nostrils, although not generally known to possess such a power.

In chronic and strumous ophthalmia, the vinous tincture of opium is one of the best applications we can employ, and was much used by Mr. Ware in such cases.

It has been mentioned, that in ophthalmia the eyelids are apt to be glued together (particularly during sleep) by a thick glutinous matter which is secreted. To prevent this inconvenience, their edges should be anointed with a little soft ointment‡ every night, or every night and morning. In the ophthalmia tarsi, arising from a scrofulous habit, the unguentem hydrargyri nitrico-oxydi mixed with an equal quantity of adeps præparata to render it milder, is one of the most powerful remedies we can employ. Red precipitate mixed with lard is sometimes used, and it seems to be serviceable by destroying the small ulcers that now and then appear on the edges of the eyelids. About fifteen grains of it to an ounce of adeps præparata seems to be the strongest proportion that can be used with safety.

If ophthalmia is dependent on a venereal taint, mercury is the remedy we must rely on to remove it. When it arises in a scrofulous habit, affecting chiefly the tarsi, and is attended with ulcerations, as is often the case, cinchona bark, with alteratives, mineral

* ℞. Zinc. Sulphat.
Plumbi Superacet. āā gr. viij.
Aq. Distillat. ℥vj.
M. ft. Collyrium.

Vel

℞. Liquor. Ammon. Acetatis.
Aquæ Rosæ singul. ℥ij. M.

Vel

℞. Aq. Rosæ ℥iij.
Liquor. Plumbi Acetat. ♏. xv. M.

† ℞. Cerat. Resinæ ℥i.
Unguent. Lyttæ ʒiij. M.
ft. Unguentum.

Vel

℞. Cerati Sabinæ.

‡ ℞. Tutiæ Præparat. ʒj.
Unguent. Cetacei ℥j. M.

Vel

℞. Unguent. Adipis Præparat. ℥j.
Zinc. Sulphat. ʒss. M.

Vel

℞. Ceratum Plumbi Superacetatis.

waters, and sea-bathing, will be the most proper remedies. In these cases hemlock, combined with cinchona bark, has sometimes proved serviceable. Cinchona, with the subcarbonate of soda, may also have a good effect. At the same time that we are employing these remedies, we ought not to neglect topical applications. The edges of the eyelids may be smeared every morning and night with a little ointment* composed of mercury or the sulphate of zinc.

When a speck has ensued in consequence of previous inflammation which has destroyed some part of the transparency of the cornea, it may be touched with some gentle escharotic on the point of a fine camel's hair pencil twice a day. In employing escharotics for the removal of opacities of the cornea, much care and attention will, however, be requisite, otherwise they may prove more injurious than serviceable.

We are informed by Mr. Ware,† that he has had occasion to attend a considerable number of cases, in which an opacity of the crystalline humour was produced by some violence done to the eye, and in most of these, the opacity was dissipated, and the sight restored, during the external application of æther.

He says, "In using this remedy, I have sometimes diluted it with a third or fourth of a weak solution of hydrargyri oxymurias; but in general, I have used the æther alone, which has been applied by means of a camel's hair pencil to the eye itself. The application of the remedy occasions a very pungent pain in the eye, with considerable redness in the tunica conjunctiva; but these go off in a few minutes, and leave the eye as easy, and the conjuctiva as pale, as they were before the æther was used."

In all cases of ophthalmia, it will be requisite to avoid every thing which might occasion irritation; for which reason the patient ought to be confined to a dark chamber, or, at least, he should wear a blind of green or black silk over the eye, to prevent a great glare of light; and he ought likewise to abstain from reading, writing, and from all food of a heating or stimulating nature, and a use of vinous or spirituous liquors.

In severe cases the diet should be very spare and light, and the drink consist chiefly of some mild farinaceous decoction, which, while it allays thirst and supplies sufficient nourishment, tends both to moderate excitement and promote perspiration.

After the removal of ophthalmia, it may sometimes be necessary to employ means to prevent its return, by continuing the use of blisters behind the ears, or the insertion of an issue. In some instances, however, it may be connected with a debilitated habit, and then the best means of preventing its return are those which

* ℞ Unguent. Hydrarg. Nitratis
Adipis Præparatæ āā ℥ss. M.
ft. Unguentum.

Vel

℞. Zinci Sulphat. ℈j.
Adipis Præparat. ℥j. M.

† See his second edition of Observations on the Cataract, &c.

tend to strengthen the vessels of the eye, or the system in general; and these will sometimes remove habitual ophthalmia when all others have failed.

One of the most powerful of these means is the cold bath, which may be employed either by immersing the whole body, or by washing the head in cold water once or twice a-day. The application of cold water to the eyes themselves, or of any astringent collyrium, by means of an eye-cup, twice or thrice a day, may likewise be serviceable in preventing the return of ophthalmia, or removing it after it has become habitual. Cinchona and other tonics have also been resorted to with a good effect.

In the intermittent form of ophthalmia, where the pain observes periodical paroxysms, probably, the administration of cinchona during the intervals, may be attended with a very good effect.

OTITIS, OR INFLAMMATION OF THE EAR.

INFLAMMATIONS of the ear are for the most part unaccompanied by pyrexia, although the sufferings of the patient are sometimes very great; but in some instances they are attended with fever, assume a formidable appearance, coma, delirium, and convulsions supervene, and even a fatal termination has been the consequence.

Otitis is produced by the same causes with other inflammations, but by none more readily than a partial exposure to cold.

In the treatment of this complaint we should proceed on the same principles as in that of ophthalmia. While it is merely a local affection, local remedies alone are necessary, if we except cathartics for the purpose of dislodging the contents of the primæ viæ. Local blood-letting, the application of a blister behind the ear, and of warmth, are the means chiefly to be relied on.

If the pain does not abate, but, on the contrary, should continue to increase, we may expect a suppuration to ensue. This we may then encourage by the application of emollient poultices and warm vapour: and when the abscess bursts, or is opened, we may syringe the ear from time to time with some mucilaginous and gently astringent decoction.

When otitis is accompanied with universal pain diffused over the whole head, fever, delirium, or coma, the most powerful general means are to be combined with the local ones, as recommended in Phrenitis.

Suppuration is generally the consequence of these violent forms of the disease, and then the structure of the whole internal ear is often destroyed, the bones being discharged through the meatus auditorius with much purulent and fetid matter. In such cases the sense of hearing in the ear affected is wholly lost of course.

Fistulous ulcers of the internal ear are now and then the consequence of suppuration, and prove very troublesome.

Ear-ach sometimes continues many days without any apparent

inflammation, and is then frequently removed by filling the ear with cotton or wool wetted with tincture of opium or æther, or even with warm oil, or warm water. Sometimes a pain in the ear is the consequence of association with a diseased tooth, in which case the æther should be applied to the cheek over the suspected tooth, or a grain of opium with a little camphor, be applied to the tooth itself.

CYNANCHE TONSILLARIS, OR INFLAMMATORY SORE THOAT.

In this complaint the inflammation principally occupies the glands, such as the tonsils; but it often extends through the whole mucous membrane of the fauces, so as essentially to interrupt the speech, respiration, and deglutition of the patient.

It is readily to be distinguished from cynanche maligna by the strength of the pulse, the greater difficulty of deglutition, the absence of ulcers in the throat, and the accompanying fever being Inflammatory.

The causes which usually give rise to it are, exposure to cold, either from sudden vicissitudes of weather, from being placed in a partial current of air, wearing damp linen, sitting in wet rooms, or getting wet in the feet, or coming out of a heated and crowded room suddenly into the open and cool air.

An inflammatory sore throat discovers itself by a difficulty of swallowing and breathing, accompanied by a redness and tumour in one or both tonsils, dryness of the throat, foulness of the tongue, lancinating pains in the parts affected, hoarseness of the voice, a frequent but difficult excretion of mucus, and some small degree of fever. As the disease advances, the difficulty of swallowing and breathing becomes greater, the speech is very indistinct, the dryness of the throat and the thirst increase, the tongue swells, and is incrusted with a smooth white fur, and the pulse is full, hard, and frequent, beating from 100 to 140 in a minute. In a few cases, small white sloughy spots are to be observed on the tonsils, and in very violent ones there is complete deafness. When the symptoms of cynanche are considerable, the whole face partakes of it, the eyes are inflamed, and the cheeks florid and swelled, respiration is performed with difficulty, and the patient is obliged to be supported in nearly an erect posture to prevent suffocation. Even delirium and coma sometimes supervene. If the inflammation proceeds to such a height as to put a total stop to respiration, the face will become livid, the pulse will sink, and the patient will quickly be suffocated.

The chief danger arising from this disease is, the inflammation occupying both tonsils, and proceeding to such a degree as to prevent a sufficient quantity of nourishment for the support of nature from being taken; or its wholly impeding respiration; but this seldom happens, and its usual termination is either in resolution

or suppuration. When proper steps are adopted early, it will in general readily go off by the former. Cynanche tonsillaris rarely terminates either in gangrene or scirrhus.

Little fever, free respiration, deglutition not much impeded, the inflammation being of a vivid red colour, universal but gentle diaphoresis, and a copious ptyalism or moderate diarrhœa coming on about the fifth day, are to be regarded as symptoms which denote a termination of the disease in resolution.

When suppuration is likely to ensue, the parts affected become more pale and less painful, a sense of pulsation is felt in them, and there are slight rigors. The suppuration sometimes takes place at the lower part of the tonsils, and then the matter is discharged into the œsophagus, and passes into the stomach, and it is only known to have happened by the immediate relief which the patient experiences. Sometimes, however, it is brought up, and discharged by the mouth, being of a very clotted appearance, often mixed with blood, of a nauseating bitter taste, and fetid smell. The relief experienced by the discharge is often very remarkable from its suddenness; for the person who a few minutes before was not able to swallow the smallest quantity of any thing, and who breathed with great difficulty, now feels perfect ease, and is able to eat and drink heartily. Sometimes, however, the disease does not terminate by a proper suppuration, but in several small abscesses, which produce trifling superficial ulcers, being of a white or grey colour, similar to aphthæ; whereas those in cynanche maligna, are of a dark brown, or black colour. If gangrene is to take place, the parts affected lose their red and shining colour, and from being tense and tumid, they become flaccid, brown, and livid; the pulse, from being strong, becomes small, weak, and irregular; the face assumes a cadaverous appearance; cold clammy sweats break out; the extremities are cold; coma, and symptoms of debility, make their appearance, and destroy the patient.

Where cynanche tonsillaris has proved fatal by suffocation, little more than a highly inflamed state of the parts affected, with some morbid phenomena in the head, have been observed on dissection.

In the treatment of this complaint, our first and chief endeavour should be to carry off the inflammation; for which reason an antiphlogistic plan must be pursued. If the inflammatory symptoms run high, the pulse be quick and hard, and the breathing somewhat difficult, twelve or fourteen ounces of blood (supposing the patient to be an adult) ought to be drawn from the jugular vein in preference to the arm. Drawing blood from the tonsils by internal scarifications, is likewise a powerful remedy in this species of quinsy, and when employed with freedom on its first appearance, will greatly tend to abate the inflammation, and prevent a suppuration from ensuing.

At the commencement of cynanche tonsillaris, and before the febrile symptoms are any way violent, the timely exhibition of an

emetic often proves extremely useful, and now and then checks its complete formation.

To assist in removing the inflammatory diathesis, gentle evacuation from the intestines, by means of laxative medicines, should be advised occasionally. Saline cathartics, such as the potassæ tartras, sodæ sulphas, or hydrargyri submurias with jalap, may be most proper.

In those cases where the inflammation is considerable, the early application of a blister or cataplasm of mustard round the throat, or to the back of the neck, will most probably be attended with a good effect; but in slight cases, it will be sufficient to have these parts rubbed twice or thrice a day with some stimulating embrocation, such as the linimentum camphoræ vel ammoniæ, putting a piece of flannel round them afterwards.

In this complaint it is found of service to wash the mouth and fauces frequently with mild astringent gargles* somewhat acidulated and likewise to scrape and cleanse the tongue from the fur which is apt to collect on it. Gargles composed of a few grains of the plumbi superacetas have sometimes proved highly serviceable in abating the inflammation, when other remedies have failed; but from the general prejudice against the use of this preparation in the form of gargle, lest any of it should happen to be swallowed, it is seldom prescribed.

When white sloughy specks are observed on the tonsils, we may substitute the gargles advised in cynanche maligna for those mentioned here. If a tendency to gangrene should appear, we should immediately have recourse to those of an antiseptic nature, the best of which are composed of cinchona bark, myrrh, and port wine, or of capsicum and vinegar. See Cynanche maligna.

Gargling is the best means of washing the internal fauces; but its motion is sometimes so painful or irksome, as to prevent the patient from having recourse to it. In such cases, the medicine may be thrown into the fauces by means of a syringe.

Frequently inhaling the vapour arising from warm water mixed with a little vinegar throughout the course of the day, will greatly assist the effects of gargles; and where Mudge's inhaler cannot be procured for the purpose, we must be content to substitute a bason with an inverted funnel over it.

When a febrile disposition prevails, it will be proper to employ diaphoretic medicines with the view of determining to the surface

* ℞. Confect. Ros. Gallic. ℥jss.
Aq. Bullient. Oss.
Acid. Sulphuric. ʒj. M.
ft. Gargarisma.

Vel

℞. Decoct. Hordei ℥vj.
Mel. Rosæ ℥j.
Acid. Sulphuric. ♏. xxxv. M.

Vel

℞. Aluminis Puri. ʒj.
Decoct. Hordei Oss.
Mellis Rosæ ℥j. M.

Vel

℞. Infus. Rosæ ℥vj.
Tinct. Myrrh. ℥ss.
Mellis Sodæ Borac. ʒjss. M.

of the body. Any of those advised under the head of Simple Continued Fever may be used; and to increase their effect, the patient should take frequent small draughts of whey, barley-water, or any other diluting liquor. Neutral salts, as recommended under the same head, will likewise be proper medicines, and therefore the saline mixture combined with tartarised antimony will answer the purpose.

Where the symptoms run high, the patient ought to be confined to bed. Probably a pediluvium in the evening might have a good effect.

If our endeavours to resolve the inflammation have proved fruitless, and it seems likely to terminate in a suppuration, we ought then to hasten it by the frequent application of warm fomentations and emollient poultices to the throat, and by directing the patient to receive the vapour arising from warm milk and water into the fauces several times a day, in the manner before recommended.

Warm gargles composed of a decoction of figs and barley-water may also be employed, and the best way of using them will be to permit as large a quantity as can conveniently be retained to lie on the part till it cools to the temperature of the mouth. When the matter is formed, if the tumour does not break readily, a lancet may be applied to it.*

During this stage of the disease, the passages to the stomach and lungs are sometimes so closed by the size and pressure of the tumour, as to endanger the life of the patient, either by suffocation, or the want of nourishment. In the first case, recourse should be had in proper time to the operation of bronchotomy, in order to keep up respiration; and in the last, the strength must be supported by nutritive and mucilaginous clysters, consisting of animal broths, thick gruel, arrow-root, barley-water, or a solution of starch, which should be thrown up the intestines in a small quantity each time, as they will thereby be absorbed the more readily, and will not be so apt to pass off again, without affording any benefit.

In cynanche tonsillaris every part of the antiphlogistic regimen is necessary, and should be more or less strictly enjoined according to the degree of general excitement. Even where this is not very considerable, all kinds of animal food and fermented liquors must be avoided, and the diet should be light and diluent, consisting of mild vegetable matters, such as roasted apples, boiled turnips, and subacid fruits. Any fresh exposure to cold even in the slightest cases, ought carefully to be avoided, otherwise the disease may be lengthened out to a great degree, and perhaps terminate in pneumonia.

* A trochar and canula will be more proper, as by that means we will avoid any danger from the matter of the abscess flowing into the trachea. E.

The tonsils sometimes become affected with permanent swelling and induration in consequence of an attack of cynanche, giving a good deal of uneasiness to the patient. In some cases the complaint will yield to astringents; but when it does not, and impedes his respiration or deglutition, there can be no impropriety in removing the diseased parts by a piece of wire with a noose at the end of it, or even by a pair of scissars.*

CYNANCHE PAROTIDÆA, OR THE MUMPS.

THIS disease chiefly affects children, but particularly among the lower class of people; is often epidemic, and manifestly contagious.

It is distinguished by an external moveable swelling that arises most commonly on both sides of the neck, but in some instances it is confined to one. These tumours occupy the maxillary and parotid glands; are large, hard, and somewhat painful; and sometimes they attain to such a considerable size, as greatly to impede the powers of respiration and deglutition, giving rise thereby to pyrexia. The swelling usually continues to increase till the fourth day; but from that period it declines, and in a few days more goes off entirely, and then the febrile disposition likewise ceases. As the swelling of the fauces subsides, it not unfrequently happens, that some tumours affect the testicles in the male sex, or the breasts in the female, but this generally goes away in a few days. Sometimes the tumour in the fauces becomes suddenly suppressed, and is not accompanied with the last-mentioned symptom, or if so, this is quickly repressed; in which case the fever becomes very considerable, is attended with delirium, and at length proves fatal. In a few instances where the swelling has been very great, suppuration has taken place in the cellular membrane, and occasioned prodigious deformity, or by bursting inwardly, and discharging its contents into the larynx, has suffocated the patient.

There is, however, seldom much danger from this disease, except when symptoms of congestion in the brain or its membranes arise.

The mumps do not often require the assistance of medicine; and all that is in general requisite, is, to keep the head and face warm, to avoid taking cold, and to open the bowels by the mildest cooling laxatives; but should the tumour in the neck suddenly disappear, and the febrile symptoms increase, so as to induce an apprehension that the brain will be affected, it will be adviseable to promote and reproduce the swelling by warm fomentations and sti-

* For the manner of removing the diseased tonsil, the reader may consult with advantage Cooper's Surgical Dictionary. E.

mulating liniments;* and to obviate the fatal consequences that might ensue from its suddenly receding, by means of venesection, nauseating doses of emetic medicines, cathartics and blisters, according to the violence of the disease.

When the testicles become affected and are much swelled, every endeavour should be exerted to prevent suppuration from ensuing, and we are therefore to have recourse to bleeding, both general and topical, cathartics, cooling and discutient applications, and a suspensory bag. Much the same means are to be adopted, when, on a retrocession of the tumour in the neck, the female breast becomes indurated and swelled.

CYNANCHE MALIGNA, OR PUTRID SORE THROAT.

THE putrid sore throat is readily to be distinguished from the inflammatory quinsy by the soreness and white specks or aphthæ covering ulcers which appear in the fauces, together with the great debility of the system, a small fluttering pulse, and an eruption on the skin of the same nature as that of scarlatina, which are to be observed in the former; whereas in the latter there is always great difficulty of breathing, a considerable degree of tumour, with a tendency in the parts affected to suppurate, and a hard full pulse. Moreover, in the former disease, the inflammation is seated principally in the mucous membrane of the mouth and throat, and the accompanying fever is of the typhoid type; whereas in the latter, it chiefly occupies the glandular parts, and the fever is of the inflammatory kind.

The putrid sore throat often arises from a peculiar or humid state of the atmosphere, and so becomes epidemical, making its attacks chiefly on children, and those of a weak lax habit, principally about autumn and the beginning of winter. It is produced likewise by contagion, as it is found to run through a family, when it has once seized any person in it: and it proves often fatal, particularly to those in an infantile state. In some instances the symptoms of scarlatina and cynanche maligna are so blended together, that it is difficult to say of which disease they partake most; in a practical view, this is however of no importance, as both disorders require a similar treatment.

By some physicians scarlatina and cynanche maligna have however been considered as distinct in their nature, but from the observations which I have made, I am induced to look on them merely as modifications of the same disease, for I have noticed it

* Liniment. Ammoniæ Fort. ℥j.
Vel
℞. Spirit. Camphoræ ℥j.
Liquor. Ammoniæ Carbonat. ℥ij.
Tinct. Lyttæ ℥ss. M.
ft. Linimentum.

under all its different forms in the same epidemic, and even in the same family from the same contagion.

The putrid sore throat sometimes attends on measles which are of a malignant nature.

Cynanche maligna usually makes its attack with cold shiverings, anxiety, nausea and vomiting, succeeded by heat, restlessness, thirst, debility, and oppression at the chest; the face looks flushed, the eyes are red, and a stiffness is perceived in the neck, with a hurried respiration, hoarseness of voice, and soreness in the throat; and upon viewing the internal fauces, there appears a fiery redness in every part, with some slight degree of swelling in the tonsils, which, however, is by no means so great as to impede either respiration or deglutition.

The inflammation, after a short time, takes a peculiar termination; for, upon a further inspection into the throat, a number of sloughs of a shade between a light ash colour and a dark brown are to be observed on the tonsils, velum pendulum palati, and uvula; the breath is highly offensive; the tongue is covered with a thick brown fur; and the inside of the lips is beset with vesicles, containing an acrid matter, which falling on the corners of the mouth and other parts, occasions excoriations. With these symptoms there is likewise a coryza, which pours out a thin acrid matter, excoriating the nostrils. A purging often attends also, particularly in infants, and a thin acrid matter flows from the anus, excoriating this and the neighbouring parts.

From the first attack of the complaint there is a considerable degree of fever, with a small, frequent, and irregular pulse; and every evening there appears a manifest exacerbation, and in the morning some slight remission, together with debility and general loss of strength. In some cases the brain is affected with delirium of the low muttering kind or coma.

About the second or third day, large patches of a dark red colour make their appearance about the face and neck, which by degrees become dispersed over every part of the body, even to the extremities of the fingers, which feel swelled and stiff. These eruptions, after continuing for about four days, depart without producing any remission of the symptoms.

The inflammation, as in the cynanche tonsillaris, sometimes spreads along the Eustachian tube to the internal ear, occasioning ulceration, and sometimes wholly destroying its structure. In other cases it extends to the parotid, maxillary, and other glands of the fauces, which become swelled and painful. The whole neck indeed, sometimes swells, and assumes a dark red colour.

As the sloughs spread, they generally become of a darker colour, the interstices at the same time assuming a purple hue; new specks arise, and the whole internal fauces are at length covered with thick sloughs, which, when they fall off, discover ulcers sometimes very deeply seated.

In the worst cases, the fauces appear quite black, the sloughs

corrode deeper and deeper, and spread throughout the whole of the alimentary tube, so as to terminate at last in gangrene; and the symptoms of irritation continuing to increase, together with a severe purging coming on, the patient is cut off: which event happens usually before the seventh day, and, in some cases, so early as on the third.

Where there is a great increase of the evening paroxysm of fever, with vast debility, depression or irregularity in the pulse, early delirium, coma, much vomiting, diarrhœa or subsultus tendinum, and these are accompanied with considerable swelling of the throat, and dark coloured spreading ulcers, with great fetor of breath, petechiæ, or hemorrhage, the disease will certainly terminate fatally; but where the pulse becomes more moderate and stronger, the respiration freer, the skin soft and moist, the efflorescence copious on the surface of the body, the florid colour begins to return to the fauces, and a better matter to be discharged from the ulcers, with less acrimony in that which flows from the nares, we may expect a favourable termination. In slight cases, where the fever is of a less putrid nature, and the symptoms are moderate, and where the appearance of the efflorescence is succeeded by a remission, and this remission of the fever increased daily in the progress of the disease, we need not apprehend danger.

Cynanche maligna generally arrives at its height about the fifth or sixth day, and in cases which terminate favourably declines in five or six days. It has, however, been observed to run through its course more slowly in adults than in children. Twenty or thirty of the latter for one of the former are destroyed by this disease, owing most likely to their not being able to wash off the acrid ichorous matter from the throat and fauces by gargling as adults do, and which by passing down the œsophagus, produces affections of the stomach and bowels, as likewise excoriations about the anus.

It sometimes happens that cynanche maligna appears without any affection or efflorescence of the skin, in the same manner as we meet with the scarlatina without any ulceration in the throat; in general, however, the affections of the throat and skin are combined, and seem wonderfully influenced by the state of each other. But while the absence of the sore throat in scarlatina always denotes a favourable prognosis, that of the eruption in cynanche maligna generally affords an unfavourable one.

The eruption in cynanche maligna is seldom uniformly diffused, but comes out in blotches or small points scattered over the trunk and extremities, which are rarely of a florid red, but of a dark purplish or livid hue, and which terminate in but a very scanty desquamation. As in other eruptive fevers, the eruption in this sometimes suddenly recedes, and an alarming train of symptoms arise. The patient becomes dropsical, the countenance assumes a cadaverous appearance, and convulsions supervene, which termi-

nate in death. The same consequence has ensued on the eruption suddenly assuming a very pale or livid appearance. A florid colour of the eruption, with a uniform diffusion of it over the body, and a copious desquamation, afford a favourable prognosis.

From dissections, it appears that in this disease the fauces are inflamed, suppurated, and gangrenous; and that the trachea and larynx are likewise in a state of inflammation, and lined with a viscid fetid matter. In many instances, the inflammatory affection extends to the lungs themselves. Large swellings of the lymphatic glands about the neck, occasioned by an absorption of the acrid matter poured out in the fauces, are now and then to be found. The same morbid appearances which are to be met with in typhus gravior present themselves in other parts of the body.

Cynanche maligna, as it differs very much in its nature and appearance from cynanche tonsillaris, differs also very much in its treatment, and this difference depends upon the former being attended with a fever of the typhoid character, and a strong disposition to gangrene in the ulcerated parts, which prohibit the employment of those antiphlogistic remedies which we find proper and necessary in the latter, and call for others of a very opposite nature.

In the treatment of cynanche maligna, we should abstain from all kinds of bleeding, either topical or general, as it would infallibly prove injurious by increasing the debility, which naturally is very great. The same precaution is necessary with respect to the employment of active purgatives, and we are sufficiently deterred indeed from the use of them, by observing that a diarrhœa arising even spontaneously, always does harm, and often proves fatal. The regular expulsion of the fæces is therefore to be solicited by gentle aperients and clysters, and even these are only to be had recourse to when nature is defective. It has often happened in this complaint, that from a want of due attention to this precaution, a cathartic has been followed by a retrocession of the eruption, and a train of the most alarming symptoms. If active cathartics are ever admissible in cynanche maligna, they can only be so at its very commencement, or at the termination of those cases, where, although there is a healthy appearance in the throat, with an abatement of all the febrile symptoms, still the abdomen becomes swelled from a collection of putrid colluvies: or glandular obstructions are formed. In such instances, a few grains of hydrargyri submurias with rhubarb may be administered with caution.

It has been proposed by Dr Currie to extinguish the disease in the beginning (as in the first twelve or sixteen hours of its attack) by the copious affusion of cold water, and in some cases this plan may be adopted with success, equally as in scarlatina. After the affusion, it was Dr. Currie's practice to put the patient into bed, and to give him about eight ounces of wine, if an adult, and so in proportion to children, which plan it appears was very successful,

for in fifty, out of fifty-two cases where he had adopted it very early in the disease, he succeeded.

At the commencement of cynanche maligna it has been found of service to give a gentle emetic; wherefore a few grains of ipecacuanha may be taken. It will not fail to bring off a considerable quantity of acrid matter, which, by getting into the bowels, might induce a diarrhœa; an affection to be avoided by every possible means, as always adding to debility, and endangering the life of the patient. During the first four-and-twenty hours, an emetic will, in some cases, cut short the progress of the disease, and in all, it will be likely to break the force of it. At an advanced stage of the disorder, if we still wish, or think it proper to evacuate the contents of the stomach, it may be done by an infusion of chamomile flowers in preference to ipecacuanha.

The grand objects to be kept in view in this malignant disease, should be, to check or counteract the septic tendency which prevails; to wash off from time to time the acrid matter from the fauces, and to obviate debility. Should any particular symptoms arise during its progress which may tend to aggravate it, such as diarrhœa, hemorrhage, &c. they ought to be immediately attended to.

In the year 1785, at which period I was in the West Indies, this disease prevailed in the island of Saint Christopher's, as an universal epidemic among children, and a vast number of them fell martyrs to it, in spite of the utmost endeavours of the profession to save them, when at last the most happy effects were derived from the use of a remedy, the basis of which was Cayenne pepper. The medicine was prepared by infusing two table-spoonfuls of this pepper and a tea-spoonful of salt, in half a pint of boiling water, adding thereto the same quantity of warm vinegar. After standing for about an hour, the liquor was strained through a fine cloth, and two table-spoonfuls were given every half hour.

The speedy and good effect produced by the use of this medicine in every case in which it was tried, evidently points out the utility of giving warm aromatics, which will bring on a timely separation of the sloughs, as well as other antiseptics, to correct the tendency in the parts to gangrene.

Since the period above mentioned, many practitioners in the United Kingdom have become vouchers for the very beneficial effects which were derived in various instances of cynanche maligna from this medicine. My own experience induces me to speak well of it also.

To assist the effect of the pepper remedy, it will be highly adviseable to give the bark of cinchona at the same time in doses of from two scruples to a drachm, every two hours; and if the inflammatory symptoms do not run high, it may be mixed in a little Port wine. Should the stomach not be able to retain the powder, we may then substitute the extract or strong decoction or infusion of it, adding to each dose about two drachms of the tincture. If

the least degree of diarrhœa is produced by the use of the bark, a few drops of the tincture of opium may be added to each dose.

With many children it may be impossible to prevail on them to take the cinchona bark in any form. In such cases, it ought to be administered in a clyster. Two drachms of the fine powder may be given in four or five ounces of barley-water, every three or four hours, to young children; and about half an ounce, in a proportionate quantity of the liquid, to those of eight or ten years of age. Should the first clyster come away too soon, from five to ten or fifteen drops of the tincture of opium may be added to the subsequent ones. The extract of cinchona may be employed in the same way.

In cynanche maligna, a junction of the muriatic acid with the bark of cinchona, or of the oxygenated muriatic acid, will be very proper. Where we give these acids in considerable doses, it may be necessary to add a few drops of tinctura opii to each, in order to prevent any disagreeable effect on the stomach and bowels from ensuing.

To check the septic tendency in the parts, as well as to remove the acrid matter which is secreted, it will be necessary to wash out the fauces with some proper gargle,* making frequent use of the pepper remedy in the same manner; but as young children cannot be prevailed on to gargle, it ought to be injected into the mouth and throat with a syringe. After washing the parts in this manner, the steams arising from warm vinegar and water may be received into the fauces by means of an inhaler. Oxygen gas may also be inhaled by adults.

Where there is any difficulty in inducing the patient to sit up in bed to inhale this gas, or we are not furnished with the necessary apparatus, we may substitute the following method, which perhaps may answer equally well. Cause the windows and doors of the person's apartment to be closed, and then taking a chafing-dish with some live coals, throw into it half an ounce of purified nitre in powder, which will fill the room with a thick white cloud, that will continue for a considerable time. This process ought frequently to be repeated in the course of the day.

Many judicious practitioners have thought that the greater fatality among children than adults, in such as have laboured under cynanche maligna, is in a great measure to be attributed to their swallowing the morbid secretion from the throat. This, beyond all doubt induces vomiting, griping pains, and a purging of the worst kind, by causing the complaint to spread along the alimentary tube; and it is very frequently by these affections that children are

* ℞. Mel. Rosæ ℥j.
Decoct. Hordei ℥x.
Tinct. Myrrh. ℥ss.
Acet. Optim. ℥j. M.
ft. Gargarisma.

Vel

℞. Decoct. Cinchonæ ℥vj.
Acid. Muriat. ʒj.
Tinct. Cinnam. Compos. ℥ss.
—— Myrrh. ℥j. M.

destroyed. Possibly they might be prevented by removing the acrid matter from time to time by a small sponge fastened to the end of a quill or piece of wood; and by means of another sponge at the other end, the ulcerated fauces may be touched with the remedies best calculated to promote their healing. This mode of proceeding will be the more necessary when gargling is not freely employed.

No force whatever is to be used for occasioning a separation of the sloughs; and if after a continuation of the gargles for some time, the sloughs should not begin to separate, all that can be done with safety is to touch them with a little alum, or the muriatic acid mixed with honey, &c. applied with a small piece of soft rag or hair pencil.

It may be attended with a good effect to excite a slight degree of inflammation externally, by applying a cataplasm of mustard moistened with a small quantity of camphorated spirits, or by rubbing the parts with rubefacients, as in cynanche tonsillaris.

A suppression of urine sometimes arises in cynanche maligna, and then it is frequently a symptom of debility. In such cases the necessity of pushing as far as possible the invigorating plan is strongly indicated. Emollient fomentations, or cold applications over the region of the bladder, are the most adviseable means for removing this affection; and where the patient has been long costive, some mild clyster may be expedient. When the suppression continues obstinate, the assistance of a surgeon will be necessary to draw off the water with a catheter.

In the last or putrid or gangrenous state of this complaint, it is not uncommon for a hemorrhage to break forth from the nose, mouth, or ears, which never proving critical, but, on the contrary, threatening the greatest danger, ought always to be immediately stopped, if possible, by administering strong styptics and invigorating tonics, and by the external application of tents dipped in some powerful styptic, such as a solution of cupri sulphas.*

Through the whole course of the disease the patient is to be supported with a sufficient quantity of liquid vegetable nutriment, such as gruel, barley-water, and preparations of tapioca, Indian arrow-root, rice, sago, and panado; and his ordinary drink may consist of wine-whey, or Port-wine made into negus.

The quantity of wine allowed, must be in proportion to the age of the sick, the violence of the febrile symptoms, the degree of debility that exists, or the tendency that there is to putrescency or gangrene.

The chamber should be kept sufficiently ventilated, and of a

* ℞. Cupri Sulphat. ℥jss.
Aluminis ℥ss.
Aq. Puræ ℥vij.
Spirit. Rectificat. ℥j. M.
ft. Solutio.

proper temperature, so as not to be too hot, nor at the same time to be so cool as to give any check to the perspiration, or efflorescence.

The malignant sore throat being highly contagious, especially among children, it will be prudent on the first appearance of the disease to separate the sick from the rest of the family: and in order to destroy the contagion, and render the attendants less susceptible of being infected, it may be adviseable to fumigate with the nitric or muriatic acid.

CYNANCHE TRACHEALIS, OR CROUP.

The croup is an inflammatory affection of the mucous membrane of the trachea and larynx, which in some instances extends, however, even to the bronchiæ and over the surface of the lungs, to which children are peculiarly subject, producing a substance that appears partly in a membranous coating, and partly in a fluid resembling pus, and is attended with a peculiar wheezing sonorous inspiration, compared by some to the crowing of a cock, a similar or stridulous sound in coughing and speaking, great difficulty of breathing, thirst, and other febrile symptoms, as likewise by some degree of spasmodic affection.

Some physicians have judged it proper to divide croup into two species, viz. idiopathic where the disease is primarily and extensively seated in the trachea, bronchiæ and surface of the lungs; and symptomatic, where it appears as the consequence of some previous disorder, such as the measles, scarlatina, or cynanche maligna. The arrangement proposed by others into spasmodic and inflammatory must be objected to, as the disease is always to be considered as arising from inflammation.

The inflammation in the croup appears of a very peculiar and singular nature. If it was like that met with in common, we might expect to find the same kind of concretion on the surface of the trachea every day, as its mucous membrane is so frequently the seat of inflammation, attended with an increased secretion. The matter, however, of which this substance is formed, possesses different properties from those of the mucus which is thrown out upon the membrane of the nose, or of the trachea, in common catarrhal affections. Some practitioners from thence have been induced to suppose, that the film which we find in the croup, is not formed by a secretion from the mucous glands, but is an exudation from the exhalant arteries, and that it is analogous to the inflammatory exudation from the inflammation of other internal membranes, first described by the late Dr. Hunter. Upon this principle, we can indeed more easily account for such a film not being found in common catarrhal affections, in which the mucous glands are, perhaps, more the seat of the disease.

The Croup is peculiar to children from the age of a year, to

eight or ten, particularly the ruddy and robust, and has rarely been known to attack a person arrived at the age of puberty.

The application of cold seems to be the general cause which produces this disorder, and therefore it occurs more frequently in the winter and spring, when the weather is stormy and blowing, than in the other seasons. It has been observed to be most prevalent near the sea-coast, where the air is loaded with moisture, and the changes of the weather are sensibly experienced; but it is frequently met with in inland situations, and particularly those which are marshy. It is less known in the temperate than in the northern regions of Europe.

A day or two previous to an attack of the disease, the child appears drowsy, inactive, and fretful; the eyes are somewhat suffused and heavy, and there is a cough, which from the first has a peculiar shrill sound: this, in the course of two days, becomes more violent and troublesome, and likewise more shrill. Every fit of coughing agitates the patient very much: the face is flushed and swelled, the eyes are protuberant, a general tremor takes place, and there is a kind of convulsive endeavour to renew respiration at the close of each fit. As the disease advances, great difficulty of breathing prevails, accompanied with a swelling and inflammation in the tonsils, uvula, and velum pendulum palati, and the head is thrown back in the agony of attempting to escape suffocation. There is not only an unusual sound produced by the cough, but respiration is performed with a hissing noise, as if the trachea was closed up by some light spongy substance, and thought by some to resemble the sound of a piston forced up a dry pump, or the crowing of a cock. The cough is generally dry; but if any thing is spit up, it has either a purulent appearance, or seems to consist of films resembling portions of a membrane. Where great nausea and frequent retching prevail, coagulated matter of the same nature is brought up. With these symptoms there is much thirst, an uneasy sense of heat over the whole body, a continual inclination to change from place to place, great restlessness, and frequency of the pulse. Very often the symptoms suffer considerable and sudden remissions and exacerbations.

In an advanced stage of the disease respiration becomes more stridulous, and is performed with still greater difficulty and some degree of spasmodic affection, being repeated at longer periods, and with greater exertions, until at last it ceases entirely.

The croup is to be considered as a very dangerous disease, and which sometimes will destroy the child quickly by suffocation, induced either by spasm affecting the glottis, or by a quantity of matter blocking up the bronchiæ; but when it terminates in health, it is by a resolution of the inflammation, by a cessation of the spasms, by relief of the dyspnœa, and the voice becoming natural, with a copious and free expectoration of the matter exuding from the trachea, or of the membrane formed there. The unfavourable symptoms are, considerable difficulty of breathing, great anxiety,

violent fever, frequent fits of coughing, no expectoration, the voice becoming more shrill, and the pulse irregular and intermitting.

The disease has, in a few instances, terminated fatally within twenty-four or thirty hours after its attack; but it more usually happens, that where it proves fatal, it runs on to the fourth or fifth day. Where portions of the membranous film, formed on the surface of the trachea, are thrown up, life is sometimes protracted for a day or two longer than would otherwise have happened. More than one half of the cases of croup terminate fatally.* The younger the patient, the greater will be the danger.

On opening the bodies of children who have died of the croup, it is not unusual to find the lungs in a healthy state; but in some instances, the lungs are inflamed on particular points of their surface, and in others, adhesions to the pleura are discovered: occasionally they are found full of dark-coloured blood and serum, and sometimes a quantity of pus is met with. In tracing the bronchiæ throughout their minute ramifications, they are usually found filled with mucus, but which is of a firmer consistence in the trachea, and as it were pasted on the surface of the tube, forming a membranous-like concretion of variable colour and texture. The upper part of the trachea is the most usual seat of deviation from the natural structure; but this is sometimes observed also in the lungs, and extending to the smallest ramifications of the bronchiæ.

From the appearances on dissection, and the symptoms which attend the disease, there can be no doubt, but that it is an inflammatory affection of the mucous membrane of the trachea, larynx, and other parts immediately connected therewith, attended by a spasmodic contraction of the muscles in consequence thereof; the treatment ought therefore to be managed accordingly. In the first or incipient stage of croup, our best and most strenuous endeavours should be exerted to lessen the increased action which prevails all over the mucous membrane of the trachea, larynx, and bronchiæ, and therefore bleeding, emetics, purgatives, and blistering are to be resorted to.† The first thing to be done should be, to take away blood, either from the jugular vein or arm, but a preference is due to the former,‡ proportioning the quantity to the age and habit of

* This is by no means the case in this city, for with judicious treatment, more than two thirds recover. E.

† Dr. Rush informs us, (see Medical Inquiries and Observations) that by the exhibition of an emetic of antimonial wine, tartar emetic, ipecacuanha, or oxymel of squills, in the forming stage of croup, which may easily be known by a hoarseness and slight degree of stertorous cough, he has arrested the disease in many hundred instances, and frequently in his own family. E.

‡ From the difficulty of opening the jugular veins in children, arising from their restlessness, and for other reasons, Dr. Hossack prefers drawing blood in this disease from the veins on the back of the hand. E.

the child, and continuing it so as nearly to produce fainting, where the difficulty of breathing is great. Should the symptoms not mitigate from the bleeding, or should they return after a little time, more blood ought to be drawn, by applying leeches immediately over the trachea; but previous general bleeding should never be omitted in any case. In those which are urgent, active depletion will be necessary.

The use of the lancet has indeed been deprecated by a few practitioners; and the tinctura opii, in doses proportionate to the violence of the symptoms, recommended as being likely to give relief as speedily as venesection, or any other remedy.

The prompt abstraction of blood, however, at the commencement of croup, in such a quantity as effectually to lower vascular action upon the tracheal surface, before it has continued long enough to produce any exudation, or effusion of coagulable lymph, or whatever it may be that constitutes the adventitious membrane, is the principal remedy from which any relief is to be derived; and it is only at this period that bleeding can be useful.

Immediately after bleeding, it will be proper to apply a large blister all across the throat from ear to ear, keeping up a discharging surface after it is removed, by dressing it with a little of the ceratum sabinæ.*

Having adopted these steps, we ought to give a gentle emetic of ipecacuanha, or tartarised antimony, in a dose proportioned to the age of the child, so as to produce sufficient vomiting. Great relief will be afforded by the remedy, in consequence of a considerable quantity of ropy mucus being brought off.

In all cases of the croup, the child should be kept nearly upright in bed, to guard against suffocation.

Throughout the whole course of the disease, an antiphlogistic regimen will be necessary; and the body should be kept open by the frequent administration of some purgative. Brisk purgatives (in which the submuriate of mercury† may be an ingredient,) when the bowels are inactive, are obviously proper. Their operation may be solicited by occasionally administering clysters.

To assist the expectoration, and promote a determination to the surface of the body, we may employ diaphoretics, such as a few drops of Vinum Ipecac., or the solution of tartarised antimony. I usually give a preference to the latter, administered every two or three hours in such doses as to excite nausea.

* In the opinion of the Editors, purging and an emetic should precede the use of blisters. E.

† R. Hydrargyri Submur. gr. iij.
Pulv. Jalapæ gr. iv.—viij. M.
ft. Pulvis catharticus.

Vel

R. Pulv. Rhei gr. x.
Hydrargyr. Submur. gr. ij. M.
ft. Pulvis.

By promptly resorting to the means which have been pointed out, the progress of croup may be frequently averted; but by neglecting these during the first day or two of the disease, and trusting to trifling remedies, thereby suffering the inflammatory action to proceed, the practitioner will be constrained to witness that distress and loss of his patient which promptitude and energy might have prevented.

In the course of the disease, there is always a lodgment of lymph or mucus in the trachèa, and therefore it will be adviseable to excite vomiting* once or twice a day, in order that the effused fluid, or adventitious membrane formed thereby, may be dislodged if possible, and brought off.

After copious depletion by bleeding both general and topical, vomiting, purging and blisters, when the inflammatory symptoms have subsided, and the disease seems almost entirely spasmodic, we may venture to give a few drops of the tincture of opium every two or three hours, combined with the wine of ipecacuanha, or solution of tartarised antimony, for the purpose of procuring rest and a remission of the spasms. Musk and assafœtida have been recommended as antispasmodics in this disease, but here they are not entitled to our confidence.

Dr. Hamilton, Professor of Midwifery in the university of Edinburgh, is a strong advocate for the use of the submuriate of mercury in the croup. He tells us† that in every case where he has administered it previous to the occurrence of lividness of the lips and other mortal symptoms, he has completely succeeded in curing the disease. His mode of employing it, is, to give it in a dose of from one to five grains, according to the age, every hour, till the breathing is evidently relieved; when it is gradually discontinued, allowing at first two, then three, and finally, four or five hours to intervene between each dose, according to the state of the symptoms.‡

* R. Antimon. Tartarizat. gr. ij.
Aq. Puræ ℥ij.
Oxymel. Scillæ ℥ss. M.
Capiat Cochl. minimum subinde ad vomitum promovendum.

† See his Treatise on the management of Children in early Infancy.

‡ The Editors of the Edinburgh Medical and Surgical Journal, (see vol. xii. p. 130.) in reviewing Dr. Hamilton's treatment of croup, remark, "that the opinion that children bear calomel better than adults is true, only so far as it more readily excites purging in them, which prevents its action on the system.

"We have repeatedly observed a single grain of calomel, when exhibited daily in divided doses, so as not to purge, produce in children evident constitutional affections within the space of a few days, as shown by the peculiar fetor of the breath and sometimes by the loss of teeth.

"Now, if three or four grains of calomel can produce such effects, any one may judge what must be the consequence of fifty to a hundred

The operation of bronchotomy has been proposed as a last resource, in those cases which threaten suffocation; but from the appearances on dissection, it does not seem that success would attend it; for although the upper part of the hardened membranous substance might be extracted by the forceps, still we should not be able to remove the fluid portion which fills the lower part of the trachea and bronchiæ, and which is one of the chief obstacles to respiration.

CYNANCHE LARYNGÆA, OR INFLAMMATION OF THE LARYNX.

CYNANCHE laryngæa is of a local nature, is acute and of short duration, and affects the mucous membrane, in which there exists a high degree of inflammatory action. It is only of late that this fatal variety of sore throat has attracted the notice of practitioners, having commonly been confounded with croup. In many cases there may, indeed, arise some difficulty of forming a just diagnosis, but the following peculiarities will greatly assist us.

In cynanche laryngæa, the symptoms are an uneasy sensation in the larynx, difficult and painful deglutition, partial swelling of the fauces, a supervening and perpetual increasing difficulty of breathing, attended by inflammatory fever. In cynanche trachealis, there is a difficulty of respiration without any swelling of the fauces, or painful deglutition: the expirations, especially in coughing, are very shrill, but the fever in this is also inflammatory.

Cynanche laryngæa comes on with a slight tumefaction in the tonsils, painful and difficult deglutition; the respiration is performed with convulsive efforts, the muscles being thrown into violent action: the pulse is from 100 to 130 strokes in a minute. If the symptoms are not promptly subdued by proper and timely means, the patient is infallibly destroyed by suffocation.

The morbid appearances to be observed on dissection of those who die of cynanche laryngæa are as follow: the mucous membrane investing the epiglottis and margin of the glottis, is inflamed, serum is effused under it, or coagulable lymph on its external surface, by which the rima glottidis is narrowed, or actually closed. Sometimes there has been perceived an accumulation of mucus in the cells of the lungs, with a slight effusion of serum into their

grains administered to a young child in the course of three or four days, (as advised by Dr. Hamilton) if retained in the system.

"When given in the quantity and at the intervals proposed by him, it commonly occasioned both vomiting and purging; should any one be disposed to imitate this practice therefore, we would strongly recommend it to be carried to the full extent stated, as the point on which its safety, in all probability, depends. It would be rendered more safe, perhaps, if not more effectual, by a moderate addition of ipecacuanha or jalap." E.

reticular texture. In some instances, the pleura has been found partially adhering, with more fluid in the cavities than is natural.

[The remedies for this disease are the same as those directed in Cynanche Tonsillaris.—As the disease runs its course in a very short time, they should be vigorously employed at an early stage. E.]

At an advanced stage, or where the disease resists our best endeavours, bronchotomy affords the only chance of escape from suffocation, by enabling the patient to breathe, till the inflammation narrowing the aperture of the glottis may have time to subside.

Cynanche Pharyngæa, or inflammation of the pharynx, differs from Cynanche Tonsillaris only in the seat of the inflammation. It is of the same nature, is produced by the same causes, and requires a similar treatment.

PLEURITIS, OR PLEURISY.

Pleurisy is an inflammation of the membrane lining and enveloping the lungs, attended with an acute pain in the side, impeded respiration, fever, and a full, quick, and hard pulse. In some instances the inflammation is partial, or affects one place in particular, which is commonly on the right side; but in general a morbid affection is communicated throughout its whole extent.

The disease is occasioned by exposure to cold, and by all the causes which usually give rise to other inflammatory complaints; and it attacks chiefly those of a vigorous constitution and plethoric habit. In consequence of the previous inflammation, it is apt, at its departure, to leave behind a thickening of the pleura, or adhesions to the ribs and intercostal muscles, which either lay the foundation of future pneumonic complaints, or render the patient more susceptible of the changes in the state of the atmosphere, than before.

It comes on with an acute pain in the side, which is much aggravated on making a full inspiration, and is accompanied by flushing in the face, increased heat over the whole body, rigors, difficulty of lying on the side affected, together with a cough and nausea; and the pulse is hard, strong, and frequent, and vibrates under the finger when pressed upon, not unlike the tense string of a musical instrument. If blood is drawn, and allowed to stand for a short time, it will exhibit a thick sizy or buffy coat on its surface, consisting of the coagulable lymph or fibrin.

If the disease is neglected at its onset, and the inflammation proceeds with great violence and rapidity, the lungs themselves become affected, the passage of the blood through them is stopped, and the patient is suffocated; or, from a combination of the two affections, the inflammation proceeds on to suppuration, and an abscess is formed.

The prognostic in pleurisy must be drawn from the severity of the symptoms. If the fever and inflammation have ran high, and

the pain should cease suddenly, with a change of countenance and a sinking of the pulse, great danger may be apprehended; but if the heat and other febrile symptoms abate gradually, if respiration is performed with greater ease and less pain, and a free and copious expectoration ensues, a speedy recovery may be expected. Empyema, or a collection of pus in the cavity of the thorax, is occasionally one of the terminations of pleuritis.

The appearances on dissection are much the same as those mentioned under the head of Peripneumony.

In the treatment of pleurisy our chief attention must be directed to the removal of the inflammation, by copious bleedings from the system at an early period of the complaint, taking the pulse for a guide, and giving the age and constitution of the patient proper consideration. While the pulse remains full, hard, and obstructed, the pain in the side acute, the breathing difficult, and the blood continues to exhibit a sizy crust on its surface when cool, so long ought we to repeat the operation.

Here it is proper to mention that physicians have been struck at all times with the effect produced, by taking the blood from a large orifice* in inflammatory diseases; and it is certainly a step which cannot be too strongly urged, but more particularly in pleuritis and pneumonia. It is true, that from a small orifice an equal quantity of blood may be taken, as from a large one; but the time of its flowing is so long, that the topical inflammation which demands for its relief a sudden effect upon the system, is not much influenced by it, though the general strength is greatly reduced, which is an occurrence to be avoided as much as possible, in a disease that requires repeated evacuations.

To allay the pain in the side, and take off the inflammation internally, it will likewise be adviseable to apply a large blister immediately over the part affected; if it heals up too quickly, and the pain is not relieved by the first, a fresh one ought to be applied as near to the former as possible.

In pleurisy the application of cold on or near the part affected has occasionally been used with a salutary effect. Nitre, as being a powerful refrigerant, is likely to be a useful medicine in pleurisy as well as in peripneumony. It may be given in doses of ten grains, repeated every three or four hours.

As strong purgatives are found to determine the flow of blood to the internal parts, they are improper remedies to be used in pleurisy; and therefore when it is found necessary to obviate costiveness on the first attack of the disease, it will be best to do it by means of gentle laxatives, such as the neutral salts and manna, in an infusion of senna, and the body may afterwards be kept open by emollient clysters, administered so as to procure one or two stools daily.

An early use of diaphoretics, particularly those of the antimonia

* See Dr. Fordyce's Fourth Dissertation on Fever, p. 50.

class, will be very proper in the cure of pleurisy; as they not only determine the circulation to the surface of the body, but will likewise greatly assist in promoting an expectoration. They ought, however, to be given in such small doses as not to excite vomiting, and to be repeated every two or three hours. To assist their operation, the patient should take frequent small draughts of some tepid liquor, such as barley-water, balm tea, or lemonade.

Mucilaginous* medicines used frequently throughout the day, by sheathing the throat will be very beneficial in relieving the cough attendant upon this disease.

Throughout the whole course of the disease the patient is to abstain from animal food, and from all kinds of fermented and spirituous liquors, supporting his strength with gruel, sago, preparations of barley, and such like vegetable productions. On his recovery, he is carefully to guard against any fresh exposure to cold, as a return of the complaint might be attended with worse consequences than the first attack.

It has been mentioned that empyema, or a collection of pus, is one of the terminations of pleuritis: where this happens, and a fluctuation can be perceived, the thorax must be punctured to evacuate the matter. For the mode of performing the operation, see Cooper's Surgical Dictionary.

PNEUMONIA, OR PERIPNEUMONY.

A PERIPNEUMONY, or inflammation of the lungs, is denoted by a difficulty of breathing, obtuse pain in some part of the chest, cough, a frequent, full pulse, vibrating under the finger, like the tense string of a musical instrument, white tongue, high-coloured urine, and other symptoms of inflammatory fever. The disease is divided into the true and spurious peripneumony. When it arises from sizy blood obstructing the vessels of the lungs, it is called by the former appellation; and when it proceeds from a thick viscid matter, producing a similar effect, it is known by the name of the latter. Pneumonia is sometimes met with combined with typhus, and then appears under a different character from its usual one.†

Those who have laboured under a former attack of this complaint, are much predisposed to returns of it.

* ℞. Mucilag. Gum. Acaciæ ℥iv.
Aq. Fontan. ℥ij.
Potassæ Nitrat. ʒj.
Vin. Antimon. ♏. xxx.
Syrup. Limon. ℥j. M.
ft. Mistura cujus sumat paululum subinde vel tusse urgenti.

† The causes of pneumonia are, in general, the same as those which produce pleurisy, excepting that in the former they are more extensively applied. E.

The true peripneumony comes on with an obtuse pain in the chest or side, great difficulty of breathing (particularly in a recumbent position, or when lying on the side affected,) together with a cough, dryness of the skin, heat, anxiety, flushing of the face, and thirst. The pain is prodigiously increased on coughing or making a full inspiration. At the first commencement of the disease, the pulse is usually full, strong, hard, and frequent; but in an advanced stage it is commonly weak, soft, and often irregular. In the beginning the cough is frequently dry, and without expectoration; but in some cases it is moist even from the first, and the matter spit up is various both in colour and consistence, being often streaked with blood, but at which we need not be alarmed.

If relief is not afforded in time, and the inflammation proceeds with such violence as to endanger suffocation, the vessels of the neck will become turgid and swelled; the face will alter to a purple colour; an effusion of blood will take place into the cellular substance of the lungs, so as to impede the circulation through that organ, and the patient will soon be deprived of life.

Should these violent symptoms not arise, and the proper means for carrying off the inflammation have either been neglected, or have proved ineffectual, although adopted at an early period of the disease, a suppuration may ensue, which event may happen in a few cases during the first week, but more usually in the second, when the disease continues, and is to be known by frequent slight shiverings; by an abatement of the pain, and sense of fulness in the part; by the patient being able to lie with greater ease on the side which was most affected; by a remission of the previous febrile symptoms and accession of hectic, and by the respiration being less painful but more oppressed. When the collection of matter has come to maturity, it sometimes bursts into the air vessels and occasions instant suffocation: in some cases, it will be spit up. This spitting often continues long, and the person falls into a state similar as in phthisis pulmonalis. Sometimes the collection bursts into the cavity of the thorax and produces empyema. Sometimes lymph is effused into the air vessels, which by filling up the cells of the lungs produces suffocation, or being effused into the cavity of the chest, gives rise to hydrothorax; at others, adhesions to the ribs are formed.

When peripneumony proves fatal, it is generally by an effusion of blood or lymph into the cellular texture of the lungs, so as to occasion suffocation, which usually happens between the third and seventh day; but it may likewise prove fatal, by terminating either in suppuration or gangrene. The latter is a very rare occurrence.

In those cases where it goes off by resolution, some very evident evacuation always attends it, such as a great flow of urine, with a copious sediment, diarrhœa, mild sweats diffused over the whole body, or a hemorrhage from the nose; but the evacuation by which the complaint most frequently terminates, is a free and

copious expectoration of a thick white or yellow mucus; and by this the disease is carried off in the course of twelve or fourteen days, the pulse gradually abating in its frequency, and the heat of the body, with the other febrile symptoms disappearing. Cases of pneumonia terminating in health without expectoration are very rare.

A high degree of fever, attended with delirium, much difficulty of breathing, acute pain, a dry cough, or an expectoration of a dark black colour, sudden cessation of pain, or of the expectoration, followed by a change or lividness of the lips and of the countenance, and sinking or irregularity of the pulse, denote great danger; on the contrary, an abatement of the febrile symptoms, and of the difficulty of breathing, and pain, taking place on the coming on of a free expectoration, or the happening of any other critical evacuation, such as a hemorrhage from the nose, diarrhœa, or free diaphoresis, the urine at the same time depositing a copious sediment, promise fair for the recovery of the patient. When the inflammation terminates either in suppuration, or an effusion of lymph into the cellular substance of the lungs, or cavity of the thorax, it is always to be considered as highly dangerous.

On dissection, the lungs usually appear inflamed, and there is often found an extravasation either of blood or of coagulable lymph in their cellular substance. The same appearances likewise present themselves in the cavity of the thorax, and within the pericardium. The pleura, connected with the lungs, is also in an inflamed state, having its surface every where crowded with red vessels. Besides these, abscesses are frequently found in the substance of the lungs, as likewise tubercles and adhesions to the ribs are formed. A quantity of purulent matter is often discovered also in the bronchiæ.

The antiphlogistic plan, in its most rigorous extent, ought to be adopted on the very first attack of this disease. A quantity of blood proportioned to the state of the pulse, the violence of the symptoms, and the vigour of the person, (for there is no fixing on the definite quantity) should be drawn from the arm, taking care to make the orifice large (see Pleurisy;) and if the difficulty of breathing and pain are not relieved while it flows, the bleeding should be continued until the patient turns pale and seems likely to faint, as one copious evacuation will be far preferable to repeated small bleedings.

If a powerful impression is produced by the abstraction of a large quantity at first, the disease is suddenly corrected, and will often, in the course of a few hours, be converted from a most violent pneumonia into a simple catarrh; or if the result is not so fortunate, the symptoms will become infinitely milder and more manageable, and may even not recur with such violence as to require a repetition of venesection. But the reverse of this picture deserves notice. If blood-letting has been too long deferred, or from timidity in the practitioner or the patient, not largely employ-

ed in the first instance, the disease generally proves violent, tedious, untractable, and often fatal.

[As the remainder of the treatment of this disease is precisely similar to that recommended in Pleurisy, the reader is referred to the preceding chapter for what should follow here.* E.]

PERIPNEUMONIA NOTHA, OR SPURIOUS PERIPNEUMONY.

This disease commonly makes its attack on those who are somewhat advanced in life, especially such as are of a phlegmatic habit, or who have had frequent catarrhal affections; and, like the other species of peripneumony, is occasioned by cold, being most prevalent in the autumn and spring, or when there are frequent vicissitudes of the weather from heat to cold.

It comes on usually with alternate chills and heats, flushing in the face, pain and giddiness in the head, a sense of lassitude over the whole body, difficulty of breathing, great oppression at the chest, with obscure pains there, together with a cough, accompanied by some degree of expectoration, and often with a throwing up of a considerable quantity of viscid mucus.

Spurious peripneumony is sometimes so slight as to resemble only a violent catarrh, and, after the employment of a few proper remedies, goes off by a free and copious expectoration; but sometimes the symptoms run high, and an effusion of serum into the bronchiæ takes place, which destroys the patient.

If advice is applied for at an early period of the disease, and there is great difficulty of breathing, with much pain, it will be proper to bleed, in order to facilitate the circulation of the blood through the lungs; but where these do not prevail, we need not have recourse to a repetition of the lancet, for much harm may be done by inducing a considerable degree of debility, as the disease principally attacks elderly people, and those whose constitutions are debilitated.

To relieve the difficult breathing, and oppression at the chest, it will be adviseable to apply a large blister immediately over the part affected, having first prescribed a gentle emetic; small doses of antimonials may also be prescribed, as advised in pleurisy, to procure a perspiration, and reduce arterial action: in order to keep

* Pneumonia complicated with a typhoid state of the general system, constituting the disease known by the name of Pneumonia Typhoides, has of late frequently occurred in the United States, especially in the Eastern sections of the Union; as a detail, however, of the history of the disease and of the treatment which has been found best adapted to it, would far exceed the limits of a note, the reader is referred for these to a paper published in the Medical and Philosophical Register of New York, vol. iii. by Dr. Hosack, and to the late interesting work of Dr. Gallup, entitled "Sketches of the Epidemic Diseases of Vermont." E.

up a constant effect they should be repeated every two or three hours; the patient drinking plentifully at the same time of cooling liquors. These means having been adopted, we ought then to give pectoral medicines as they are called, as recommended under the head just mentioned.

If costiveness arises in the course of the disease, it must be removed by emollient clysters, or gentle laxatives, such as manna, potassæ supertartras, magnesiæ sulphas, or common aloetic pills, &c. taking care to avoid very active purgatives, which might be hurtful, by inducing a state of debility.

Through the whole course of the disease an antiphlogistic regimen will be most proper.

With respect to Bronchitis, or inflammation of the Bronchiæ; Carditis, or inflammation of the heart; Pericarditis, or inflammation of the pericardium; and Diaphragmitis, or inflammation of the diaphragm; they are on many occasions scarcely to be distinguished from pneumonia, and probably are usually combined with it. Happily the treatment which has been recommended in pneumonia, is equally suited to these inflammations, with this difference, however, that as the parts affected are immediately necessary to life, the means of cure must be employed with promptness and diligence.

GASTRITIS, OR INFLAMMATION OF THE STOMACH.

This disease is divided into two species; the phlegmonous, and erysipelatous: but it is the former which is here to be treated of, the latter arising chiefly towards the close of other diseases, marking the certain approach to dissolution, and being unaccompanied with any marks of general inflammation, or by any burning pain in the stomach.

Phlegmonous gastritis is produced by acrid substances of various kinds, taken into the stomach, as likewise by food of an improper nature, by potations of spirituous liquors, by taking large draughts of any cold liquor when the body is much heated by exercise, dancing, &c.; by external violence from wounds, blows, &c., and by repelled exanthemata and gout. Besides these, it may arise from an inflammation of some of the neighbouring parts, as the liver, intestines, &c. extending to the stomach.

Phlegmonous gastritis is readily to be distinguished from any other disease, by the burning pain, heat and tension in the region of the stomach; by the aggravation of that pain when any thing is swallowed, with the immediate rejection of it; and by the sudden and greater depression of strength in this than in any other inflammation. Indeed enteritis is the only disease it can be confounded with; and from this it may easily be discerned by the seat of pain on pressure with the hand.

The symptoms which attend it are, a violent burning pain in the region of the stomach, with great soreness, distention, and flatu-

lency, a severe vomiting, especially after any thing is swallowed, whether it be liquid or solid, most distressing thirst, restlessness, anxiety, and a continual tossing of the body, with great debility, constant watching, delirium, and a quick, hard, and contracted pulse. In some cases a severe purging attends.*

If the disease increases in violence, symptoms of irritation then ensue; there is great loss of strength, with faintings, a short and interrupted respiration, cold clammy sweats, hiccups, coldness of the extremities, an intermitting pulse, and the patient is soon cut off.

If the symptoms are very mild, and a proper treatment has been resorted at an early period of the disease, it may terminate in resolution, and that in the course of the first, or at farthest the second week. The pulse becoming more soft and full about the fourth day, and diminishing in frequency; the pain gradually ceasing; the urine depositing a sediment; or diarrhœa supervening; are to be regarded as favourable symptoms.

Its termination in suppuration may be known by the symptoms, although moderate, exceeding the continuance of eight or ten days, and a remission of pain occurring, whilst a sense of weight and anxiety still remain: and on the formation of an abscess, cold shiverings ensue, with marked exacerbations, in the evening, which are followed by night-sweats, and other symptoms of hectic fever; and these at length prove fatal, unless the pus is thrown up by vomiting, and the ulcer heals.

Its tendency to gangrene may be dreaded from the violence of its symptoms not yielding to proper remedies early in the disease, and when begun, it may be known by the sudden cessation of the pain; by the pulse continuing its frequency, but becoming weaker; and by delirium, with other marks of increasing debility, ensuing.

In consequence of previous inflammation, a scirrhosity of the pylorus is sometimes induced, but unfortunately we know of no symptoms which are characteristic of it.

Fatal cases of this disease show, on dissection, a considerable redness on the inner coat of the stomach, having a layer of coagulable lymph lining its surface. They likewise exhibit a partial thickening of the substance of the organ at the inflamed part, the inflammation seldom extending over the whole of it. Where ulceration has taken place, the ulcers sometimes are found to penetrate through all its coats, and sometimes only through one or two of them.

The cure of gastritis is to be attempted by copious and repeated bleedings employed at an early period of the disease, not regarding, or being intimidated, by the smallness of the pulse, as it usually becomes softer and fuller after the operation, nor by extreme debility, syncope, or convulsions, for all these are the effects of the disease. Draw off blood therefore every four or six hours in

* In general, however, the patient is costive. E.

such a quantity each time as the action of the heart will bear, and continue the practice as long as the characteristic symptoms of inflammatory disease remain. After venesection, topical bleeding by means of several leeches over the stomach, or scarifying and cupping, may also be immediately adopted if necessary. A large blister may next be applied to the region of the stomach, and the cure be assisted by the frequent administration of emollient and laxative clysters. Pediluvia may be used with advantage.

The irritable state of the stomach prevents any kind of medicine from being received into it: and it is only after the violence of pain and the frequency of vomiting are somewhat abated, that we can venture to administer them even in the form of clysters.

To sheathe the stomach, particularly in those cases where the inflammation has been occasioned by any acrid matter received into it, we should advise the patient to take frequent small draughts of some mild diluent drink, such as linseed tea, or barley water, in which may be dissolved a small quantity of gum-acaciæ.

In gastritis the antiphlogistic regimen should be observed with the greatest strictness respecting diet, both during the disease and for a considerable time afterwards: when the patient comes to be able to retain any kind of food, nothing must be given but what is of the lightest and most aperient nature. It should also be in small quantity at first, and every thing hard or acrid be avoided. The legs and feet ought at the same time to be kept warm, as the application of cold to them is apt to affect the stomach.

When suppuration has actually taken place, it must be left to nature, avoiding all irritation. To allay pain and irritability of the stomach, opium may be administered in small doses. When the disease is permitted to run on to gangrene, it admits of no relief from medicine.

Where either scirrhosity or cancerous ulceration of the pylorus has ensued, only a temporary relief can be expected. In the former, small doses of the submuriate of mercury, conjoined with hemlock, together with a milk diet, may be most proper: in the latter, opium, extractum conii, and hyosciamus, with a similar diet, may be tried.

ENTERITIS, OR INFLAMMATION OF THE INTESTINES.

This, as well as gastritis, is of two species, viz. the phlegmonous and erysipelatous, the latter of which, arising only in consequence of some other disease, is not here to be noticed.

Pungent pain in the abdomen, spreading and acute round the umbilicus, nausea, vomiting, obstinate costiveness, and pyrexia, are the characteristics of enteritis.

The only disease with which enteritis can be confounded, is colic; but from this it may readily be distinguished, as the former

is accompanied with fever, and a quick and hard small pulse, and the pain is increased on pressure, which does not occur in colic.

The causes of enteritis are much the same with those of gastritis. A very general cause is the application of cold to the lower extremities, or to the belly itself. It is a disease which is most apt to occur at an advanced period of life, and is very liable to a relapse.

It comes on with an acute pain, extending in general over the whole of the abdomen, but more especially round the navel, which is greatly aggravated on pressure: accompanied with eructations, sickness at the stomach, a vomiting of bilious matter, obstinate costiveness, thirst, heat, great anxiety, and a quick hard and small pulse. After a short time the pain becomes more severe, the bowels are affected with spasms, the whole region of the abdomen is highly painful to the touch, and seems drawn together in lumpy contractions; invincible costiveness prevails, and the urine is voided with great difficulty and pain.

The inflammation continuing to proceed with violence, terminates at last in ulceration, scirrhus, or gangrene; or it goes off by resolution.

Enteritis is always attended with considerable danger, as it often terminates in gangrene in the space of a few hours from its commencement: this event is marked by a sudden remission of pain, sinking and irregularity of the pulse, shrinking of the features, cold sweats, syncope, suppression of urine, hiccup, and distention of the belly, which sounds on being struck with the finger; and it frequently proves fatal likewise, during the inflammatory stage. If the pains abate gradually, if natural stools be passed, if a universal diaphoresis, attended with a firm equal pulse, comes on, or if a copious discharge of loaded urine, with the same kind of pulse, takes place, a resolution and favourable termination may be expected.

Its termination in ulceration, which is not common, can only be known by the febrile symptoms remitting; by occasional pains and rigors; and by pus being mixed with the evacuations from the bowels.

Dissections of this disease show, that the inflammation pervades the intestinal tube to a very considerable extent; that adhesions of the diseased portion to contiguous parts are often formed; and that, in some cases, the intestines are in a gangrenous state, or that ulcerations have formed. They likewise show, that, besides obstinate obstructions, intus-susception, constrictions, and twistings, are often to be met with; and that, in most cases, the peritoneum is more or less affected, and is perceived, at times, to be covered with a layer of coagulable lymph. The mesentery and omentum are also found much inflamed.

On the first coming on of the disease it will be necessary to have recourse to copious bleeding, which may be repeated according to the severity and violence of the symptoms, and the age and

strength of the patient. It may be necessary to repeat the operation three or four times within a short space, for the pulse, although apparently weak at first, will afterwards rise.

In enteritis, as well as in all other cases of visceral inflammation, there cannot be proposed a more useful rule than that of drawing blood every four or six hours, in such a quantity each time as the action of the heart will bear, and continuing the practice as long as the characteristic symptoms of inflammatory disease remain.

After plentiful venesection, topical bleeding, by means of many leeches applied to the abdomen, may be adviseable. These steps being taken, the application of a large blister to the abdomen will be proper. In bowel complaints of the West Indies, it is often found that the most powerful purgatives will produce no effect until a blister be applied, and that as soon as it begins to rise, they then commence to operate.

To assist in relieving the pain and griping, the semicupium may be used from time to time, and warm emollient clysters be frequently injected.

When the vomiting and nausea are abated, we may venture to give some cathartic medicine* by the mouth. In enteritis attended with constipation, after sufficient depletion, the submuriate of mercury, given in the dose of ten or fifteen grains made into pills, may perhaps be the best purgative we can employ. To relax the spasms, and thereby remove one of the principal impediments to the cure, an emollient laxative clyster may at the same time be administered from time to time.

In all cases of enteritis, purgative medicines are certainly essential to the plan of treatment; but bleeding, although considered as of the greatest importance, is not always employed so as to produce a powerful impression upon the system at large. Our attention should always be directed principally at first to the subduing of the inflammation by repeated large venesections on the very onset of the disease; by local bleedings; by the pediluvium, and the application of a blister to the abdomen; and when we have effected this, we may then resort to purgatives, to remove the constipation. This latter being the effect, and not the cause of the disease, should not be the symptom first attended to.

It is, indeed, too much the custom to have recourse to active purgatives at the very commencement of enteritis, and this too in very considerable doses—a practice which cannot fail to prove highly prejudicial. The intention is to evacuate the bowels, but it should be considered that purgatives empty the intestinal canal by means of their specific stimulus, which increases the secretions, and quickens its peristaltic motion: let it also be recollected, that

* R. Mannæ Optim. ℥ij.
Sodæ Sulphat. ℥vj.
Aq. Fervent. ℥ij. M.
ft. Haustus.

Vel

R. Magnes. Sulphat. ℥j.
Aq. Fervent. ℥iv. M.
ft. Haustus. E.

the bowels are already excited to the utmost; that they are in, or at least tending to, a state of high inflammation, and that no pathological fact is better ascertained, than that excessive excitement destroys secretion; that by applying stimulants to an inflamed membrane, every secretion which it was wont to pour out, is locked up.

Whatever is given to the patient as aliment, should be of the most mild diluent nature, such as barley-water, toast-water or lemonade; but these ought to be taken sparingly and only in small quantities at a time, until some evacuation has been procured; as much food forced against the inflamed intestine must necessarily increase the irritation, and of course aggravate all the symptoms. The strictest adherence to the antiphlogistic regimen must be enjoined.

Opiates are used by many practitioners in the early stage of this complaint, where the stomach is in a very irritable state, and much vomiting prevails; but it is obvious that they must prove injurious, and ought therefore not to be employed, at least not before sufficient evacuations by bleeding as well as by laxatives or emollient clysters, have subdued all inflammatory symptoms. Until the inflammation is removed by evacuations, the stimulus of opium might be likely to increase the disease.

The application of cold to the abdomen, by means of linen cloths wet in very cold water, has sometimes succeeded, when all other means have failed in removing the obstruction.*

As enteritis is very apt to recur from slight causes, the greatest circumspection will be requisite after recovery. Improper food and exposure to cold are therefore cautiously to be avoided, and costiveness to be immediately removed. If there be any appearance of suppuration and ulceration, particular attention becomes still more necessary, as it will give the ulcers a better chance of healing.

HEPATITIS, OR INFLAMMATION OF THE LIVER.

PYREXIA, tension, and pain of the right hypochondrium, often pungent as in pleuritis, but sometimes dull, pain in the clavicle and top of the right shoulder, uneasy lying on the left side, difficult respiration, dry cough and vomiting, are the characteristics of hepatitis: very frequently there is some degree of jaundice.

Hepatitis has generally been considered of two kinds; the one acute, the other chronic; the former showing the essential character of genuine inflammation: the latter exhibiting symptoms of less violence as to their inflammatory tendency, but an enlargement and hardness of the liver with an obtuse pain.

* When the disease is combined with, or has arisen in consequence of, strangulated Hernia, the requisite measures for effecting the reduction of the latter should be immediately resorted to. E.

Besides the usual causes of inflammation, this disease may be occasioned by violent exercise, by intense summer heats, by long continued intermittent and remittent fevers, by high living, and an intemperate use of vinous and spirituous liquors, but more particularly the latter, and by various solid concretions in the substance of the liver. Derangement of the digestive organs, suppressed secretions, inflammations, compression, fevers, and mental solicitude, are very general causes of obstructions and diseases of the liver.

In warm climates, this viscus is more apt to be affected with inflammation than any other part of the body. An inflammation of the liver, and the diseases consequent thereon, are indeed affections more frequently to be met with in warm climates than in cold ones, particularly in the East and West Indies, where few Europeans can reside for any length of time without being attacked by them. The liver in warm climates seems to be the seat of disease, nearly in the same proportion that the lungs are in Great Britain.

The acute species of hepatitis comes on with a sense of chilliness preceding pain in the right hypochondrium, sometimes dull, sometimes sharp, extending up to the clavicle and shoulder of that side most usually, which is much increased by pressing upon the part, and is accompanied with a cough, oppression of breathing, and difficulty of lying, except on the side affected; together with nausea and sickness, and often with a vomiting of bilious matter; the intestines are generally inactive, and the stools show a deficiency of biliary secretion, or at least of any intermixture of it with them; the urine is of a deep saffron colour, and small in quantity; there is loss of appetite, great thirst, and costiveness, with a strong, hard, and frequent pulse, of from 90 to 100 in a minute, and sometimes intermitting; the skin is hot and dry at the same time, and the tongue covered with a white, and sometimes a yellowish fur.

The appearance of the blood is somewhat remarkable just before it coagulates, when the red part falling to the bottom, and the buffy coat not yet being formed, it appears of a dull green colour. The same appearances are observed in the blood of a person labouring under jaundice.

In hepatitis as well as in other diseases we do not always find the symptoms of the same degree of violence as they are described in the definition: thus in some cases the fever is severe, in others it is scarcely perceptible: in some instances the pain is very acute and violent; in others collections of pus have been found after death, when no pain was felt. When the pain is seated deep in the substance of the liver, as that possesses little sensibility, the pain is usually obtuse, but when the surface is affected, it is acute, and apt to spread to the diaphragm and lungs, producing cough.

Both ancient and modern nosologists have made a distinction

between the symptoms that occur when the inflammation occupies the convex surface of the liver, and those that are present when the disease affects the concave. It is said when great difficulty of breathing, and cough, accompany the pain in the region of the liver, that these symptoms indicate the inflammation to be seated in the superior or convex part; but where the inflammation occupies the concave or inferior surface, which lies contiguous to the stomach and duodenum, there is more sickness and vomiting; and moreover, the pain is not so violent in the region of the organ as in the other instance.

My own observations during a practice of many years in the West Indies, (where hepatitis is a disease of frequent occurrence,) as well as in England, do not permit me to say that the symptoms which have just been pointed out, are so unequivocal as has been represented by nosologists.

It seems probable, says Dr. Cullen, that acute hepatitis is always an affection of the external membrane of the liver, and that the parenchymatic is of the chronic kind.

The chronic species is usually accompanied with a morbid complexion, loss of appetite and flesh, costiveness, indigestion, flatulency, pains in the stomach, a yellow tinge of the skin and eyes, clay-coloured stools, high-coloured urine, depositing a red sediment, and ropy mucus; an obtuse pain in the region of the liver, extending to the shoulder, together with a sense of weight, unusual fulness, and some enlargement and hardness of the organ, and not unfrequently with a slight difficulty of breathing. In some cases of chronic inflammation of the liver, the pulse has been observed to intermit, and probably induced either by the blood through the hepatic artery being obstructed by the scirrhosity; by an accumulation of it in the branches of the vena portarum; or by bile in the hepatic ducts.

These symptoms are, however, often so mild and insignificant, as to pass almost unnoticed, as large abscesses have been found in the liver upon dissection, which in the person's life-time had created little or no inconvenience, and which we may presume to have been occasioned by some previous inflammation.

We may readily distinguish hepatitis from pleurisy by the pain in the former extending into the shoulder; by the sallowness of the countenance; by the cough being unaccompanied by expectoration; and by the less degree of dyspnœa. The heat and pain not being increased upon taking any thing into the stomach, its being able to retain whatever liquids or medicines are received into it, without the immediate rejection of them, and the less prostration of strength, will distinguish it from gastritis. Hepatitis may be discerned from spasm on the gall-ducts, by there being no nausea; by the pain being permanent; by the pulse being 100 and upwards in a minute; and by the patient always preferring to keep the body in a straight quiescent posture; whereas the greatest ease, when there

is spasm on the gall-ducts, is obtained by bending the body forward on the knees.

Hepatitis, like other inflammations, may end in resolution, suppuration, gangrene, or scirrhus, in which the liver becomes swelled and hard; but its termination in gangrene is a rare occurrence. It is frequently accompanied with chronic obstruction. Its tendency to run into suppuration is not so great in this country as in warm climates.* The period of suppuration is influenced by the degree of inflammation, the season of the year, climate, and the remedies that have been employed. Scirrhus may exist in the liver without previous active inflammation, as in those who have long resided in the East or West Indies. Indeed a scirrhosity of the liver most generally arises from this cause, and by an abuse of ardent spirits.

The disease is seldom attended with fatal consequences of an immediate nature, and is sometimes carried off by an hemorrhage from the nose or hemorrhoidal vessels; and likewise by sweating, by a diarrhœa, or by an evacuation of urine, depositing a copious sediment. In a few instances it has been observed to cease on the appearance of erysipelas in some external part.

Intensity of pain in the region of the liver, a full and frequent pulse, considerable heat, thirst, dry skin, costiveness, and frequent rigors, denote approaching suppuration: a diminution of pain, weight in the organ, increase of the evening paroxysm of fever, flushings of the countenance, propensity to night sweats and other hectic symptoms, point out that it has absolutely taken place. Continual hiccups, cold extremities, and a sinking pulse, indicate gangrene.

When suppuration takes place, the matter is sometimes discharged by the abscess breaking outwardly, in consequence of an adhesion having been formed to the neighbouring parts, but in some cases, the contents of the abscess make their way into the stomach, or bowels, and then the patient voids very offensive matter, either by vomiting or stool. In others again, the discharge takes place through the diaphragm into the thorax, or directly into the abdomen, so as to prove quickly fatal.

On dissection, the liver is often found much enlarged and hard to the touch, its colour is more of a deep purple than what is natural, and its membranes are more or less affected by inflammation. Dissections likewise show that adhesions to the neighbouring parts often take place; and that large abscesses, containing a considerable quantity of pus, are often formed in its substance. Biliary calculi are now and then met with. In a few instances, the livers of those who have died of this disease have been found in a putrid state, resembling a honeycomb.

What constitutes great difficulty, in managing hepatitis, is, that

* Suppuration is a frequent occurrence in the United States, when the disease has been neglected in its early stage. E.

in many cases the symptoms which are primary and indicative of inflammatory affection, are but very slightly marked, even when it is in such a degree as to run with readiness into suppuration and particularly in the East and West Indies. The pain in the side is not constant or acute, the patient himself takes little notice of it, seldom mentions it unless he is asked about it, and when questioned concerning it, he only tells you, perhaps, that he has felt at times slight pains about the pit of the stomach, or in the right side. It is only by observing the secondary symptoms, such as a diarrhœa, or short dry cough, and pain felt at the top of the shoulder, or that there is a degree of fulness or tenderness on pressing on the organ a little hard, with some yellowness of the eyes and countenance, that the true state and nature of the disorder is to be ascertained in such cases.

During the inflammatory stage of acute hepatitis it will be proper to adopt bleeding, proportioning the quantity which is taken away to the severity of the pain, and the degree of fever that is present; and repeating the operation very soon again if the symptoms run high. By neglecting to bleed under such circumstances, there will be danger of suppuration quickly ensuing. In warm climates, general bleeding may be used with greater moderation than in cold ones. After venesection in due quantity, we should give proper doses of hydrargyri submurias with jalap, or other cathartics. The application of leeches or cupping will also be proper.

Some practitioners disapprove of bleeding from the system in this disorder, and recommend in its stead to draw blood from the neighbourhood of the part, by means either of leeches, or scarifications and cupping, which may be the preferable way in those cases which are unattended with much pain or pyrexia, or where the disease has followed a bad intermittent or remittent fever, and consequently the patient is in a cachectic state; but in those where the pain is acute, the pulse full and strong, and the febrile heat and thirst are considerable, copious and repeated venesection at an early period of the disease will be necessary. It will, however, be better to take away at once, a quantity proportioned to the age and temperament of the patient, and the degree and extent of the disease, than by repeated small bleedings. It will be proper also in bleeding, to make a large orifice.

If the symptoms do not abate in consequence of these means, a large blister applied over the region of the liver will be likely to prove serviceable. Should it be inclined to heal up too rapidly, or before the desired intention is obtained, a fresh one must be laid on. A succession of blisters will be far preferable to keeping open the first one with any kind of stimulating ointment. The saline draught, with a little of the potassæ nitras taken every three or four hours, may have a very good effect.

In every case of acute hepatitis, the whole of the antiphlogistic plan is to be rigorously pursued; and therefore it will be understood that the intestines are to be kept perfectly open with gentle

purgatives, such as solutions of the neutral salts, or jalap with the submuriate of mercury administered from time to time.*

As in other inflammatory complaints, we may aid in diminishing the force of the circulation by means of nauseating doses of tartarised antimony, to which we may join the nitrate of potass. The pediluvium, with a plentiful use of mild diluent and cooling liquids, will also be proper.

In acute hepatitis, when after having strictly pursued the antiphlogistic course which has been pointed out for four or five days, the disease is found not to give way, we should call in the aid of mercury. Some practitioners, particularly in the East and West Indies, have recourse to it on the first attack, but the most judicious do not in general use it to effect a mercurial operation until the urgent inflammatory symptoms have been evidently subdued by an antiphlogistic treatment. In every inflammatory affection of the liver, and where febrile excitement is present, but more particularly in northern climates, although it may be adviseable to employ mercury as a purgative at the commencement of acute hepatitis, still I am of opinion that we should not then use it with the view of promoting salivation. The remedy in question when properly used is certainly attended with wonderful efficacy, but it appears improper on the first attack of acute hepatitis, which like other visceral inflammations, readily yields in Great Britain, to the ordinary plan of depletion.†

The most proper way of introducing mercury into the system will be, by rubbing in a small quantity of the ointment (perhaps about one drachm) in the neighbourhood of the part affected every night, until a slight degree of salivation is excited, or rather until some very obvious effect is produced on the constitution; by which means we shall in general be able to disperse the swelling and hardness. It will be adviseable to rub the ointment on the side, in preference to any other part, because some advantage may possibly be derived from the mere friction.

If rubbing in the mercury in the neighbourhood of the part is attended with any pain or inconvenience to the patient, the unction may then be applied to the groins, taking care however not to carry it much beyond the point bordering on salivation. With the view of assisting the discussion of the inflammation, and obviating any severe effects from the use of mercury, some gentle purgative, such as a solution of any neutral salt in an infusion of senna, may be taken every third or fourth morning.

Should we wish the mercurial action to be soon effected, we may employ mercury internally as well as externally, and to make its effect the more certain, we may join small doses of opium with

* Emollient injections may also be occasionally employed to favour the operation of the cathartic. E.

† See Dr. Saunders' Treatise on Diseases of the Liver.

it, administering them in the form of a pill.* If we find the submuriate of mercury not to answer our wishes, we should substitute the pilula hydrargyri, the patient taking one or two every night at bed-time, as may be judged necessary. In hepatic derangements, this remedy has of late years been very extensively and usefully employed in the United Kingdom.† If the disease yields readily, a short course of mercury will be sufficient; but if not, its use ought to be continued for, perhaps, five or six weeks.

When assistance has not been procured in due time, or the means which have been employed to carry off the inflammation in the liver have not been attended with the desired effect, and suppuration has ensued, we must endeavour to promote the formation of proper pus, and the discharge of the abscess externally.

To effect the first of these intentions, the patient should be directed to take a drachm of the powdered bark of cinchona every two or three hours, using at the same time a generous nutritive diet, with a moderate quantity of wine, which course ought to be continued until the suppuration is completed, and to promote the second intention, a large emollient poultice should be kept constantly over the part, well fomenting it twice a day, previous to the application thereof. When the tumour points outwardly, and has become somewhat soft, with evident fluctuation, we should open it in the most dependent part, taking care to prevent the wound from closing until all the matter is discharged. The opening may be made through the external integuments with a scalpel, and on reaching the abscess it may either be touched with a lancet, or be pierced with a trocar, which may be the preferable way, as we shall thereby have it in our power to evacuate the matter slowly, and gradually, which in large collections is a point of importance, and therefore deserving of attention.

Abscesses in the liver, sooner heal when opened, than similar affections in other parts of the body, and perhaps with less inconvenience; and therefore, whenever we are satisfied that matter has formed in this viscus, we may advise an opening to be made into the abscess, in preference to suffering it to break internally, by which its contents must be evacuated into the abdomen, to the almost certain destruction of the patient.

The common plan of cure in chronic hepatitis is by mercury,

* ℞. Hydrargyr. Submur.
Opii
Camphoræ āā ʒj.
Syrup. Simpl. q. s. M.
ft. Massa in Pilulas æquales lx. distribuenda. Capiat j. vel ij. pro dos.

Vel

℞. Hydrargyr. Submuriat ʒj.
Opii Purif. ʒss.
Antimon. Tartarizat. gr. v.
Syrup. Simpl. q. s. M.
ft. Massa in Pilul. lx. divid. j. manne et nocte quotidie sumenda.

† The above practice should certainly be confined to the chronic stage of the disease. E.

and it is certainly the most effectual practice. It should be given in small doses and slowly, so as to keep up a brassy taste in the mouth for a considerable time, as it promotes the secretion of bile, and excites the extreme vessels on the surface. To increase the latter effect, it has, however, been found useful to combine it with a small proportion of antimonial powder, as likewise of opium, to protect the bowels from irritation.

The next most salutary process is to keep up the regular peristaltic motion of the intestines, and excite the mouths of the excretory ducts of the liver. With this view one or two of the pills prescribed below* may be taken occasionally at bed time.

Our attention is at the same time to be directed to the cuticular discharge, which ought to be promoted by the most gentle means, such as moderate exercise and flannel next to the skin. When hepatic obstructions exist, with too great a determination to the bowels, keeping them in an irritable state, the utility of flannel is apparent. The assiduous and frequent application of the flesh brush, or friction with the hand over the hypochondriac region, will be found to excite the healthy action of the biliary organ in no slight degree. A tepid bath will be useful, but some caution will be requisite in avoiding subsequent chilliness. Warm mineral waters may also be taken internally.

When there is much local uneasiness, repeated blisters may be had recourse to with some advantage. General bleeding is never necessary in chronic hepatitis: in a few instances, topical may be serviceable.

In that species of diseased liver which arises from an immoderate use of vinous or spirituous liquors, a mercurial course has been objected to by Dr. Trotter. In more than one instance, however, of incipient scirrhous liver, slightly complicated with dropsy, I have seen mercury employed with advantage.

We have been informed, that of late the nitric acid largely diluted with water and mucilage or syrup,† has been used in the East Indies in chronical affections of the liver, and it is said with much benefit. As an auxiliary remedy, it certainly may be employed with safety and advantage. Where the disease arises in a person of a scorbutic habit, there is no doubt that the use of mercury would be highly improper, as it would infallibly increase the symptoms, and hasten the fatal termination thereof; and in such cases, the nitric acid may be given with much advantage, as it will not only relieve the hepatic affection, but may likewise, in some degree, amend the scorbutic tendency.

* ℞. Extract. Colocynth. C. ʒj.
Hydrargyr. Submur. ϑj.
Antimon. Tartarizat. gr. iv.
Ol. Carui ♏. v.
Syrup. Simpl. q. s. M.
ft. Pilulæ xxx.

† ℞. Acid. Nitric. ♏. viij.—x.
Aq. Puræ ʒxij.
Syrup. Cort. aurant. ʒij. M.
ft. Haustus ter quaterve die sumendus.

The diet best adapted for persons labouring under hepatitis, is such as is attenuant, nutritive, and easy of digestion; avoiding salted meats and greasy substances. By degrees it may be improved by the addition of broths, light animal food, &c. until health is perfectly restored. He who labours under obstructed liver, and hopes to prolong his existence, must abandon what are called the pleasures of the table, and observe a rigid temperance with respect to diet. If wine is drank, it ought to be diluted with water, but in most cases this last alone will be the best beverage. Malt liquors will seldom agree, and spirituous ones ought to be shunned as poison. Late hours and night air ought to be cautiously avoided.

SPLENITIS, OR INFLAMMATION OF THE SPLEEN.

This disease comes on with rigors succeeded by heat, thirst, and other febrile symptoms; soon after which an acute pain is felt in the left hypochondrium, that is much increased when pressed upon. In its other symptoms, it much resembles hepatitis. Like the liver, the spleen is often attacked with chronic inflammation, and then becomes indurated and enlarged.

The causes of the disease are most generally the same with those of other inflammatory diseases; but enlargements of the spleen are frequently the consequence of long continued intermittents; and these, as well as indurations of the liver, are called ague-cakes. They arise, no doubt, from too great a determination of blood to these viscera during the several attacks of the cold fits.

Like other inflammations, it may terminate either in resolution, suppuration, or scirrhus. Where it terminates in suppuration, and the contents of the abscess are evacuated in the cavity of the abdomen, the event may prove fatal sooner or later; but a simple enlargement of the spleen is often supported for many years without any very great inconvenience or hazard to the patient.

[The treatment does not differ from that employed in Hepatitis. E.]

NEPHRITIS, OR INFLAMMATION OF THE KIDNEYS.

Nephritis, properly considered, appears to be of two kinds; the one arising from the general causes of inflammation, and being seated principally in the external membrane of the kidney; the other occasioned by the stimulus of gravel or a stone in the pelvis of it, and the inflammation occupying the interior parts. It is, however, only the first of these that I mean here to investigate; the other will be noticed under the head of Calculus.

This species of inflammation may be distinguished from the colic, by the pain being seated very far back, and by the urine being of a deep red colour, voided frequently, and in small quantity at a time; and it may be known from rheumatism, as in nephritis the pain is not much increased by motion of the body.

It is to be distinguished from a calculus in the kidney or ureter, by the symptoms of fever accompanying, or immediately following, the attack of pain, and these continuing without any remarkable intermission; whereas in a calculus of the kidney, or ureter, they do not occur until a considerable time after a violent pain has been felt. In the latter case too, a numbness of the thigh, and a retraction of the testicle, on the affected side, usually take place, together with a constant nausea and vomiting.

Nephritis is to be distinguished from lumbago by the seat of the complaint, discovered upon pressure, by the dysuria and micturition, by its being frequently attended with vomiting, and by the pain extending along the course of the ureter, and not being much increased on motion, or by an erect posture.

The causes which give rise to this species of nephritis are, external contusions, strains of the back, acrids conveyed to the kidneys in the course of the circulation, violent and severe exercise either in riding or walking; subsequent exposure to cold; and also sand or stone in the kidney. In some habits there is an evident predisposition to this complaint, particularly the gouty; and in these, there are often translations of the disease to the kidneys, which very much imitate nephritis. In plethoric and inflammatory habits, an immoderate use of spirituous liquors may give rise to nephritis.

An inflammation of the kidney is attended with a sharp pain on the affected side, extending along the course of the ureter, and there is a frequent desire to make urine, with much difficulty in passing it; the body is costive, the skin is dry and hot, the patient feels great uneasiness when he endeavours to walk or sit upright, he lies with most ease on the affected side, and is incommoded with nausea and vomiting, and there are often costiveness and colic pains.

In forming an opinion as to the event, we are to draw our conclusion from the severity of the symptoms, and from the quantity and appearance of the urine which is voided. When the disease is protracted beyond the seventh or eighth day, and the patient feels an obtuse pain in the part, has frequent returns of chilliness, and shiverings, there is reason to apprehend that matter is forming in the kidney, and that suppuration will ensue. Remission of pain, fever, and tension, followed by a copious secretion of high-coloured mucous urine, universal diaphoresis, or a flow of blood from the hemorrhoidal veins, are favourable symptoms.

The terminations of nephritis are of the same nature as other inflammations. In slight and favourable cases, resolution may be obtained; but where the disease has continued with considerable violence for upwards of a week, suppuration may be apprehended. It may happen, however, that when the disease has been kept down by proper remedies, resolution may take place as late as the fourteenth day. It is marked by the disappearance of the fever, and all the symptoms. Suppuration is marked by a remission of the pain,

with rigors, throbbings, and hectic fever: in some cases, pus is discharged with the urine. The termination in gangrene is very rare.

Another termination of the disease is in scirrhus. Sometimes nephritis gives rise to gravellish complaints, probably from extravasated blood, or lumps forming a nucleus.

Dissections of nephritis show the usual effects of inflammation on the kidney, and they likewise often discover the formation of abscesses, which have destroyed its whole substance. In a few instances the kidney has been found in a scirrhous state, and prodigiously enlarged; in others nearly wasted away.

On the first coming on of this complaint, a quantity of blood proportionable to the severity of the pain, and the age and habit of the patient, ought immediately to be taken away; and if the first bleeding does not afford considerable relief, the operation should be repeated on the same day, or on the next at farthest. Topical bleeding with several leeches will also be proper.

After bleeding, we may advise flannel cloths, wrung out of a warm decoction of emollient herbs, or a bladder filled with warm water, to be kept constantly applied over the part which is painful; and by way of internal fomentation, an emollient clyster may frequently be injected. The patient is at the same time to be directed to drink plentifully of mild diluents, such as barley-water, thin gruel, whey, linseed or marsh-mallow tea, &c.

[In addition to general and local bleeding, the same remedies should be prescribed as directed in the other internal inflammations, already described. E.]

When the urine deposits a quantity of muco-purulent matter, showing that the inflammation has terminated in a suppuration, or that an ulcer has already formed in the kidney, one of the best medicines with which I am acquainted is the uva ursi, which may be given in doses of half a drachm, or a drachm, three times a day. I have tried it in several instances, and in general with a happy effect.

Those who are liable to frequent returns of the disease, or to obstructions in the kidneys, ought carefully to avoid getting wet in the feet, as likewise all exposures to cold; they ought to lie on a mattress in preference to a feather-bed; their exercise should be moderate, and they should use no kind of wine which abounds with tartar.

CYSTITIS, OR INFLAMMATION OF THE BLADDER.

Tension and pain over the pubes, with a frequent desire of making water, difficulty in voiding it, or a total suppression, together with tenesmus and pyrexia, mark this disease.

It is seldom a primary affection, but arises in consequence of inflammation in the neighbouring parts. It is sometimes, however, occasioned by a suppression of urine and consequent over-dis-

tention of the bladder, or by a stone of considerable size lodged in it.

The treatment advised in nephritis, or in ischuria and dysuria, will be proper here, except that we should not give liquids in great quantities, lest we distend the bladder beyond what it is capable of bearing.

In consequence of previous inflammation from some exciting cause, the mucous membrane of the bladder now and then becomes thickened, indurated, or ulcerated; and a considerable quantity of mucus mixed with pus, passes off with the urine, giving to it the appearance of whey, and now and then blood is discharged.

In the treatment of such cases, we are to prevent any collection of fæces in the rectum by means of some cooling laxative taken from time to time; to allay irritation in the organ by injecting into it now and then some emollient decoction by means of a vesicæ lotura, and to abate pain by small doses of opium. Some of the detergent balsams, such as the copaiba, terebinthina Canadensis, &c. may likewise be adviseable. Where we have reason to suspect scirrhosity, the extractum conii, or hyoscyami, will be more proper medicines in addition to the former.

PODAGRA, OR GOUT.

Of the gout there are four species or varieties: the regular, atonic, misplaced, and retrocedent.

The only disorder for which gout can possibly be mistaken is the rheumatism, and cases may occur wherein there may be some difficulty in making a just discrimination; but the most certain way of distinguishing them will be to give due consideration to the predisposition in the habit, the symptoms which have preceded, the parts affected, the recurrences of the disease, and its connection with the other parts of the system; which circumstances are usually different in the two diseases.

In the gout, the pains generally attack the small joints, and are at the same time less inclined to shift; but when they do, they usually seize the corresponding limb, or some of the viscera; the parts are more red and swollen than in rheumatism, and the dyspeptic symptoms which rarely precede rheumatism, are present in a considerable degree for some days preceding the taking place of a fit of the gout.

Rheumatism and gout are, however, sometimes combined, in which cases, a diagnosis is neither necessary nor possible.

The attacks of gout are chiefly in the spring of the year, and the beginning of winter, and the disease seldom appears at an earlier period of life than from five and thirty to forty. When it does, it may be presumed to arise in general from an hereditary predisposition, susceptibility, or constitutional bias.

Gout chiefly attacks men, and particularly those who live well, and lead a sedentary life; those who are addicted to literary pur-

suits; those who keep late hours, or who are in the decline of life; but we meet with it now and then in females of a full and robust habit of body. Men who are employed in constant bodily labour, or who live much upon vegetable food, as well as those who make use of wine and other fermented liquors very sparingly, are not often afflicted with the gout.

The causes of the gout may be divided into those which induce a plethoric state of the body, and those which occasion weakness of the body in general, or of the stomach in particular. Among the latter may be enumerated intemperance of every kind, late hours, intense application to study, long want of rest, much grief or anxiety of mind, great sensuality, long continued fatigue, exposure to cold, particularly by getting wet in the feet, too free a use of acidulated liquors, a sudden change from a full to a spare diet, excessive evacuations, violent passions of the mind, &c. A full diet of animal food, ragouts, and rich sauces, with a free use of spirituous and fermented liquors, particularly of wines abounding with tartar, together with indolence and inactivity, are the causes which give rise to corpulency, and a full habit of body; hence the frequency of gout among the rich.

A fit of the gout is sometimes brought on by severe exercise or walking far; and sometimes by a sprain; and that the disease occasionally takes place from an hereditary predisposition or susceptibility is beyond doubt, as youths of a tender age, and females who have been remarked for their abstemiousness, have been attacked with it.

The gout has appeared in some instances to be under the influence of the imagination, for terror suddenly excited, such as by the house of the patient taking fire, has been known in a few minutes to restore the use of his limbs, and admit of his escape with great ease.

A paroxysm of regular gout sometimes comes on suddenly, without any warning; at other times it is preceded by an unusual coldness of the feet and legs, a suppression of perspiration in them, and numbness; or by a sense of pricking along the whole of the lower extremities; and with these symptoms the appetite is diminished, the stomach is troubled with flatulency and indigestion, a degree of torpor and languor is felt over the whole body, great lassitude and fatigue are experienced after the least exercise, the body is costive, and the urine pallid. Some previous affection of the stomach or dyspepsia is almost constantly met with.

On the night of the attack the patient perhaps goes to bed in tolerable health, and after a few hours is awakened by the severity of the pain, which has affected either the joint of the great toe, the heel, calf of the leg, or perhaps the whole of the foot; and this becoming at length still more violent, is succeeded by rigors, and other febrile symptoms, together with a severe throbbing and inflammation in the part. Sometimes both feet become swelled and inflamed, so that neither of them can be put to the ground, nor can

the patient endure the least motion without suffering excruciating pain.

Towards morning he falls asleep, and a gentle sweat breaks out, and terminates the paroxysm, a number of which constitutes what is called a fit of the gout, the duration of which will be longer, or shorter, according to the disposition of the body to the disease, the season of the year, and the age and strength of the patient.

When the paroxysm has thus taken place, although there is an alleviation of pain at the expiration of some hours, still the patient is not entirely relieved from it, and for some evenings successively he has a return both of pain and fever, which continue with more or less violence until morning.

In time the paroxysms, however, prove more mild every day, till at length the disease goes off either by perspiration, urine or some other evacuation; the parts which have been affected becoming itchy, the cuticle falling off in scales from them, and some slight degree of lameness remaining.

At first, an attack of gout occurs, perhaps, only once in two or three years; it then probably comes on every year, and at length it becomes more frequent, and is more severe and of longer duration each succeeding fit.

In the progress of the disease various parts of the body are affected, and translations of morbid action take place from one joint or limb to another, and after frequent attacks the joints lose their strength and flexibility, and become so stiff as to be deprived of all motion. In some instances, little swellings of a very hard nature arise in the joints of the fingers, to which a late writer* has applied the title of nodosities. Nephritic affections of the kidneys arise also, calculi are produced, and concretions of a chalky nature are formed upon some of the joints, particularly on those of the fingers, owing to a deposit of the same kind of matter in them. The fluid which is so effused is at first white; by degrees the watery and serous particles are absorbed, leaving a substance which is soft and clayey, and that afterwards becomes hard and friable, and when put into acids, is perfectly soluble.

This effusion occurs not only during fits of gout, but likewise in the intervals, and as the extremities, particularly the hands and feet, are the principal seat of gout, it is there that the greatest accumulations of chalk take place. Though this process is usually preceded by, and accompanied with inflammation, the chalk is never enclosed in a cyst like pus in an abscess. It lies usually in the cellular membrane, in the bursæ mucosæ, or in the cavities of the joint.

The chalky liquid when first secreted, gives to the finger upon pressure with it the feeling of a fluctuation, and cannot be distinguished from the ordinary serous effusion of gout, but unfortunately the absorbents do not take up the chalky particles. The consist-

* See Dr. Haygarth's Clinical History of Diseases.

ence of the liquid, therefore, becomes thicker and thicker, till at last nothing remains but a hard mass. It requires, however, repeated effusions to form any gouty mass of chalk, and the consistence will depend upon its age, and the activity of the absorbents. By repeated paroxysms, the quantity at last accumulated becomes considerable, and seriously augments the sufferings of the patient, by its bulk it greatly distends the surrounding parts, and obstructs the motion of the tendons and joints, often occasioning a complete anchylosis. The cutis, when distended to the utmost by frequent deposits of chalk, sometimes gives way, and an opening is formed, through which a quantity of it is evacuated.

It sometimes happens, that although a gouty diathesis prevails in the system, yet from certain causes no inflammatory affection of the joints is produced; in which case, the stomach becomes particularly affected, and the patient is troubled with flatulency, indigestion, violent pain, loss of appetite, eructations, nausea, vomiting, and a peculiar sense of cold in the epigastric region; and these affections are often accompanied with much dejection of spirits, and other hypochondriacal symptoms. In some cases the head is affected with pains and giddiness, and now and then with a tendency to apoplexy; and in other cases the viscera of the thorax suffer from the disease, and palpitations, faintings, cramps, and asthma arise. This is what is called atonic gout.

It likewise happens sometimes, that after the inflammation has occupied a joint, instead of its continuing the usual time, and so going off gradually, it ceases suddenly, and is translated to some internal part. The term of retrocedent gout is applied to occurrences of this nature. When it falls on the stomach, it occasions nausea, vomiting, anxiety, or great pain, with a sensation of coldness in the epigastric region; when on the heart, it brings on syncope; when on the lungs, it produces an affection resembling asthma; and when it occupies the head, it is apt to give rise to apoplexy or palsy.

In retrocedent or repelled gout, we generally find the disease on the stomach, producing violent pain, sickness, vomiting, &c., and patients have died in a few minutes after such an attack: indeed the symptoms are so violent, that they generally think themselves dying. It seems closely connected with a spasmodic affection of the stomach.

A third species of irregular gout is the misplaced, which implies where the gouty diathesis, instead of producing the inflammatory affection of the joints, occasions an inflammatory affection of some internal part, and which appears with the same symptoms that attend inflammations of those parts from other causes.

All occurrences of this nature, as well as of the two former, are to be regarded as attacks of irregular gout, and are to be guarded against as much as possible. Cases of misplaced gout are rare.

In a regular fit of the gout, there is seldom any imminent danger; it is only when the disease appears in its irregular or repel-

led form that danger arises, and in which the stomach, heart, lungs, or head, are affected. In some cases, the whole system becomes weak and languid, dyspepsia and syncope supervene, and the disease terminates in palsy, asthma, or dropsy, appearing most commonly in the form of hydrothorax. In youth, the disease admits more readily of alleviation than in an advanced period of life, and its attacks may be rendered milder when acquired, than when it proceeds from an hereditary disposition; moreover, the fit is generally shorter in proportion to the violence of the febrile symptoms and the length of intermission.

When the constitution has suffered great ravages from frequent and severe attacks of the gout, various morbid affections of the viscera are to be observed on dissection: calculi of different sizes and colour are to be found in the kidneys; and on examining the joints which have been rendered stiff and immoveable, it appears as if their motion had been destroyed by the formation of chalky concretions of a similar nature with those lodged in the kidneys. These calculous concretions, or chalk-stones, as they are called, are supposed to be the consequence of local diseased action, and not of systematic origin; or, in other words, that they are only the effects, and not causes, of gouty action.

In a paper read before the Royal Society June 22d, 1797, Dr. Wollaston demonstrated that the concretions which form on the joints of gouty persons are composed of the lithic acid and soda, forming a compound salt, the lithiate or urate of soda. Dr. G. Pearson likewise, in a paper read before the same Society in December 1797, in which he relates the result of the analysis of upwards of three hundred urinary calculi, particularly mentions the existence of this acid in arthritic concretions. The word lithic, borrowed from the term lithiasis, he recommends to be changed to that of uric. Fourcroy also about the same time discovered the uric acid in these concretions.

Notwithstanding the many remedies which have been highly extolled at different times for the cure of gout, it is a fact well established, that not one which has yet been offered possesses any such power; and all that can be done with safety to the patient, is to conduct him through the paroxysm when it has once commenced; afterwards by abstaining from the remote causes, such as full living, acescent food, strong liquors, &c., and making use of gentle daily exercise, to render recurrences of the disease less frequent and more mild than they otherwise might be. In short, temperance and exercise are the most likely means to prevent severe and frequent attacks.

During a paroxysm of the gout, the patient is to be kept as quiet and free from all irritation as possible, and as gouty people are generally captious from the severity of the pain which they suffer, they should be solaced, and not be thwarted. He should abstain from all sorts of animal food, aromatics, and fermented liquors, living on water-gruel, panado, sago, arrow root, and other

farinaceous substances. His drink should be some mild diluting beverage, such as barley water, toast and water, or tea. In elderly people, where the tone of the stomach is weak, or where the patient has been in the constant habit of using strong liquors, and of living principally on animal food, a more generous diet, with a moderate use of wine, may be allowed; and as Madeira and Sherry wines are the least apt to become acid on the stomach, they ought therefore to be used in preference to any other kind.

The fostering of arthritic inflammation by the topical use of increased temperature, or covering the parts with flannel, &c., together with the internal employment of stimulant medicines, with a view to obviate its retrocession, and insure its final extinction on the part affected, is supposed by Dr. Kinglake* to be a very erroneous practice, and as repugnant to the indication of relief furnished by every constitutional feature of the disease.

He tells us, that observation and reflection have forced on his conviction the *fact*, that, however loose the analogy may be between the respective proximate causes of ordinary phlegmonous and arthritic inflammations, the resemblance is sufficiently close in the degree of concomitant temperature. In both, the vascular actions of the system and of the part affected, generate a morbid excess of heat, alike referrible to distempered conditions of motive power. Impressed with the persuasion, that with regard both to inordinate temperature, and to its general as well as topical manifestations, a radical similitude subsists between these nominally different inflammations, it has appeared to him strictly warrantable to institute a perfectly similar plan of cure, viz. that of reducing heat by keeping cloths wetted with cold water constantly to the parts affected. In support of the efficacy of this plan he recites several cases which were successfully treated by topically abstracting the stimulus of heat from the parts by water, and such other cold media.

We are further told by him, that he thinks himself justifiable in drawing the following inferences, viz. that a high temperature, whether the cause or effect of the morbid conditions of vital power, which proximately constitute gout, is safely and speedily controllable by the simple application of cold water; that the prevailing opinion relative to the critical nature of that disease on the extremities is liable to much distrust; that the local deposite is not, as commonly supposed, a particular preponderance and detention of the constitutional disorder, but that it originates in the parts themselves, and is thence distributed by associated influence over the system; and lastly, that the longer the local affection endures, the greater probability there will be of morbid sympathies being generated and established on the vital organs, which may terminate in rapid and painful death.

Such is Dr. Kinglake's theory, and being somewhat vague, is

* See his Treatise on the Gout.

not, I think, likely to make many proselytes. Popular prejudice is, moreover, very strong against the remedy recommended by him, and therefore the young practitioner, in particular, should be cautious in advising it.*

[During a paroxysm of regular gout, when inflammatory symptoms are evident from the pain, heat and frequency of pulse, especially when hard or tense, as well as frequent; bleeding, repeated more or less copiously, in proportion to the existing inflammatory action, followed by such purges as have the effect of operating speedily and freely, have been found not only safe but highly beneficial by several of the physicians of the city, but especially by the late Doctors Rush and Kuhn; and we know, that the present professor of the practice of medicine, in the University of Pennsylvania, considers the last mentioned remedy as indispensable, under such circumstances. After general bleeding and purging have been employed, leeches or cupping glasses are to be applied to the local affection, followed by a blistering plaster. The diet and drinks, to be similar to those directed in other genuine inflammatory affections. E.]

On the termination of a fit of the gout, a fresh paroxysm is to be delayed or rendered less violent by observing great temperance during the intervals; by avoiding the exciting causes of the disease; by moderate regular exercise every day; by avoiding cold, and by strengthening the body. In young persons, a cold bath with moderate exercise afterwards, might probably be used with advantage during the intervals, but in elderly people, or where there is

* Dr. Kinglake is evidently mistaken in supposing the local morbid action of the extremities in regular gout, to be unconnected with any primary morbid condition of the general system, and that the constitutional symptoms are only the effect of a sympathetic association with the vessels of the part affected; on the contrary, there is good reason to conclude, from the notorious effects of the remote or predisposing causes of the disease, and from comparing all the circumstances which precede the disease, with the effects of the same exciting causes when applied to persons of different constitutions, or to those who have been accustomed to a different mode of living, that the gout is a diseased state of the whole system, but more predominant in some particular part, generally in the lower extremities, owing to the exciting causes to which the patient has been exposed, operating more powerfully, or in greater quantity upon that particular part than upon the rest of the system, and if in the course of the disease, any other organ or part of the body becomes more excitable and disposed to morbid action than the one originally affected, and from any circumstance should become impaired in its power of resisting the exciting cause, the same morbid action will take place here as in the extremities.—Hence, perhaps, the danger of suddenly suspending the diseased action in the part originally affected, by means of repeated topical bleedings and cold applications constantly renewed, unless a predisposition to diseased action in every other part of the system could be removed at the same time. E.

any inflammation of the joints, this remedy should never be recommended. Drinking half a pint daily of the double acidulated soda water, possibly, may have a good effect during the intervals of the paroxysms.

When any swelling and stiffness remain in the joints after the paroxysms have ceased, the stimulus of galvanism, or electricity, conjointly with the frequent use of the flesh-brush, may be attended with some benefit.

The Eau Medicinale d'Husson is a remedy much in vogue at present in gouty attacks, and in some cases it appears to have considerably alleviated the paroxysm, but in few others, it has produced alarming effects, such as syncope, cold sweats, extreme prostration of strength, excessive evacuations from the stomach and bowels, accompanied with a pulse scarcely perceptible, and a degree of insensibility that indicated approaching dissolution. Such consequences have, however, only ensued, when an improper dose of the nostrum has been taken. Besides possessing the properties of an emetic and a cathartic, it appears also to be endowed with the virtues of a narcotic, as in some instances it seems to act as an anodyne, previous to any sensible evacuation taking place. The remedy consists of some vegetable of a bitter nauseous taste (supposed by some to be white hellebore, by others gratiola, or hedge-hyssop, and again by others to be colchicum* or the common meadow saffron) infused in Spanish white wine, with an addition of tincture opii. If the veratrum, colchicum, or gratiola, are not the basis, probably the roots of betony (the taste of which is bitter and nauseous, and in a small dose will vomit and purge violently) may be the chief ingredient in the Eau Medicinale.

In the stomachs of gouty people, a morbid acidity, accompanied by heartburn and flatulence, is usually to be met with, and even this has been thought to have the power of bringing on the disease. Antacids have therefore been found a useful and salutary class of medicines for gouty persons. Alkalies have been considered as of too acrid a nature, and therefore absorbents are preferred; that most commonly used is magnesia, which proves both absorbent and laxative. To quicken its operation, if found necessary, we may combine† it with a small portion of rhubarb.

* Two ounces of the root of colchicum autumnale cut into slices, and macerated in four ounces of proof spirit, until the latter is fully imbued with the properties of the former, is said by Mr. Want to be the exact composition of the Eau Medicinale.

† R. Magnesiæ Carbon. ʒi.
Pulv. Rhei gr. viij.
—— Aromat. gr. v. M.
ft. Pulvis.

Vel

R. Magnesiæ Carbon. ʒss.—ʒj.
Pulv. Rhei gr. x.
Aq. Menth. Pip. ℥iss. M.

Vel.

R. Potassæ Aerati ʒss.
Magnesiæ Carbon. ʒi.
Aq. Menth. Pip. ℥vijss.
Tinct. Gentian. ʒss. M.
ft. Mistura. Sumantur Cochlearia duo media bis terve in die.

Alkalies in various forms, such as the fixed alkali both mild and caustic, lime-water, and soap, have however been employed in gouty habits, and of late the alkaline aerated water has been much used. Since it became common to exhibit those medicines in nephritic calculous cases, it has often happened that they were given to those who were at the same time subject to the gout; and it has been observed, that under a use of these medicines, gouty persons have received relief, and been longer free from attacks of the disease than before.

When the stomach or intestines become affected in consequence of retrocedent gout, immediate relief ought to be attempted by making the patient drink freely of wine, or even brandy, joined with aromatics. In affections of this nature, strong spirits impregnated with assafœtida or garlic may also be given with much advantage. Opiates* joined with aromatics, or with camphor, musk, or ammonia, may be of service. From one to four tea-spoonfuls of equal parts of camphorated tincture of opium, and ammoniated tincture of guaiacum, in any suitable vehicle, will be a proper medicine. Æther will likewise be a useful remedy. At the same time that we administer these medicines internally, warmth should be applied externally to the region of the stomach by hot cloths, fomentations, or a bladder filled with warm water, and hot bricks wrapped in flannel must be put to the feet. Frictions with brandy, or the linimentum ammoniæ fortius over the stomach, will also be proper. If nausea and vomiting come on, the stomach is to be relieved by taking a few draughts of wine, somewhat diluted with warm water, having recourse afterwards to opiates combined with camphor.

In retrocedent gout, where the heart becomes affected, the above means may be adopted.

If there is a translation of the disease from the extremities to the head, so as to threaten apoplexy or palsy, a large blister ought to be applied to the back, as likewise small ones to the inside of the legs, with cataplasms to the soles of the feet, and the patient must take from twenty-five to forty drops of the spiritus ammo-

* ℞. Opii gr. j.
Camphoræ gr. vj.
Ammoniæ Subcarbon. gr. vj.
Confect. Aromat. gr. x. M.
ft. Bolus pro re nata adhibendus.

Vel

℞. Misturæ Camphoræ ℥jss.
Ammoniæ Subcarbon. gr. x.
Tinct. opii ♏ xij.
Spt. Æther. Sulph. ♏ xv. M.
ft. Haustus tertia quaque hora sumendus.

Vel

℞. Moschi gr. iv.

Misturæ Camphor. ʒx.

Spirit. Ammon. Aromat. ʒss.

Syrup. Zingib. ʒi.

Tinct. Opii ♏ xij. M.

ft. Haustus.

niæ aromaticus, every three or four hours, or a combination of volatile alkali, æther, and aromatics, as specified in the formulæ at the bottom of the preceding page, omitting the opium. About six drachms or an ounce of the tinctura aloes may also be taken as a gentle purgative.

When the gout attacks the lungs, and produces asthma, blisters should be applied to the breast or back, and stimulating cataplasms to the soles of the feet, and opiates and antispasmodics should be administered internally. From twenty to fifty drops of æther may be taken every two or three hours in a glass of wine, and an opiate* may be repeated as the necessity of the occasion requires.

In this particular retrocession of gout, where the attack is so severe as to threaten suffocation, as well as where there is a translation to the head, venesection may be resorted to with advantage.

Where the disease attacks the kidneys, and imitates a fit of the gravel, the patient ought to keep warm fomentations, or bladders filled with warm water, constantly applied over the parts affected; he should drink freely of tepid diluting liquors, and an emollient clyster, with an addition of a small quantity of tinctura opii, ought frequently to be injected. In order to alleviate the pain, thirty or forty drops of the same tincture may likewise be taken by the mouth in any kind of vehicle.

To render the occurrences of gouty paroxyms less frequent, and their attacks less severe, we may rest assured that more is to be done by proper regimen and regular moderate exercise, than by any other means whatever, being at the same time attended with greater safety. The exercise must be suited to the condition of the patient. Walking will certainly be the best, but if he be unable to use it, he must employ some other kind, as riding on horseback, or in a carriage. Although walking may probably be irksome at first, and the feet feel tender, yet by perseverance it will become more agreeable, and great advantage will be derived. Where no exercise can be taken, some benefit may possibly arise from frictions.

In those who have an hereditary disposition to gout, it is certain that it may often be prevented from taking place, by paying an early and strict attention to regimen, temperance and exercise, and even after it has shown itself by a regular attack, its returns may possibly be prevented for the remainder of life; but it is only those who have sufficient resolution to observe a steady perseverance in such a course, that can have any reason to expect a cure.

* ℞. Confect. Aromat. ʒj.
Aq. Cinnam. ℥jss.
Tinct. Opii ♏. xxx. M.
ft. Haustus.

Exercise in persons disposed to the gout, not only strengthens the system, but tends likewise to prevent a plethora. To prove advantageous, it must, however, be constant, regular, and continued through life, and should only be moderate. In the beginning of the disease, when the disposition or tendency to it is not strong, exercise will often prevent an attack which might otherwise have taken place, and in the intervals it will always be proper as long the patient retains the use of his limbs. In a more advanced stage of the disease, where there is an evident disposition to a paroxysm, much walking ought to be avoided, as it might tend to hasten its approach, by increasing the inflammatory disposition in the lower extremities.

While the vigour of the system still remains unimpaired, either by intemperance, or frequent attacks of the gout, an abstinence from animal food may be entered upon with safety, in order to prevent a recurrence of the disease; but if this abstinence shall not have been adopted until the constitution has been hurt by intemperance, frequent fits, or the decline of life, it certainly will prove injurious, and might tend to bring on an irregular attack. A sudden change from a full to a spare and low diet, will in all cases whatever be highly improper; and whenever an alteration is made in the mode of living, it ought to be done in a gradual manner.

Where an abstinence from animal food is to be observed, a diet consisting of milk, and the farinaceous seeds, will be the most proper, and all kinds of spirituous and fermented liquors are to be avoided; but where custom or a declining state of the system has rendered them absolutely necessary along with a use of animal food, they are then to be used with moderation.

Besides regimen and exercise, it will be necessary for the patient to observe universal temperance; he is to shun night studies, and any excess in sensual gratifications; he should go to bed betimes, and rise early; and he should avoid all exposure to cold, but more particularly getting wet in the feet. In short, the common rules for preserving health should be attended to in a particular manner by gouty subjects.

Some persons much disposed to gout, who have been reduced to poverty and obliged to work hard and use a low diet, have been cured by it, which clearly demonstrates the efficacy of exercise, temperance, and a spare regimen.

RHEUMATISMUS, OR RHEUMATISM.

The characteristics of rheumatism as assigned by Dr. Cullen are pyrexia, pain about the parts following the tract of the muscles, attacking the knees and larger articulations, in preference to those of the feet or hands, increased by external heat.

The disease is distinguished into the chronic and the acute; being known by the former appellation, when there is no great de-

gree either of inflammation or fever present, but merely pains; and by the latter, when both fever and inflammation exist in a high degree.

It may arise at all times of the year, when there are frequent vicissitudes of the weather from heat to cold: but the spring and autumn are the seasons in which it is most prevalent: and it attacks persons of all ages; but very young people are more exempt from from it than adults. Those whose employments subject them to alternations of heat and cold, are particularly liable to rheumatism.

Acute rheumatism usually comes on with lassitude and rigors, succeeded by heat, thirst, anxiety, restlessness, and a hard, full, and quick pulse; the blood when drawn from a vein, exhibits an inflammatory surface upon cooling, and the tongue preserves a steady whiteness; after a short time excruciating pains are felt in different parts of the body, but more particularly in the joints of the shoulders, wrists, knees, and ankles, or perhaps in the hip; and these keep shifting from one joint to another, leaving a redness and swelling in every part they have occupied, as likewise a great tenderness to the touch. Towards evening there is usually an exacerbation or increase of fever, and during the night the pains become more severe, and shift from one joint to another.

Sometimes the pain is confined to a few joints, in other cases it affects many at the same time. In no disease do we meet with such remarkable instances of metastasis, and no muscular part is exempted from the pain. The internal muscles, as the diaphragm and heart, have been said to be sometimes affected with metastasis. The pain is met with in every degree of violence, and is highly aggravated by pressure or motion. The face in general is not flushed, there is seldom much head-ache, and in most cases there seems to be little tendency to delirium. The stomach is not much affected, but the bowels are usually costive.

Early in the course of the disease some degree of sweating usually occurs; but it seldom removes the pains, or proves either salutary or critical, and it is somewhat singular that the pained limbs remain dry, when a sweat is on the rest of the body. In the beginning the urine is without any sediment: but as the disease advances in its progress, and the fever admits of considerable remissions, a lateritious sediment is deposited; but neither does this prove critical.

Chronic rheumatism is attended with pains in the head, shoulders, knees, and other large joints, which at times are confined to one particular part, and at others shift from one joint to another without occasioning any inflammation or fever, and in this manner the complaint continues often for a considerable time, and at length goes off, leaving the parts which have been affected in a state of debility, and very liable to fresh impressions on the approach of moist damp weather.

Little danger is attendant on chronic rheumatism; but a person having once been attacked with it, is ever afterwards more or less liable to returns of it, and an incurable anchylosis is sometimes formed in consequence of very frequent relapses. Neither is the acute rheumatism often accompanied with much danger, as it usually goes off spontaneously, or is removed by the timely employment of proper remedies, but in some instances the patient has been destroyed by general inflammation, and now and then by a metastasis to some vital part, such as the head, heart, and lungs. Acute rheumatism, although accompanied with a considerable degree of inflammation in particular parts, has seldom been known to terminate in suppuration; but a serous or gelatinous effusion sometimes takes place.

A general, but not unnaturally profuse, perspiration; the deposit of a lateritious or furfuraceous sediment in the urine, eruptions on the skin, or moderate hemorrage of blood from the nose or other parts, may be regarded as favourable symptoms; whereas the inflammation becoming erysipelatous, and assuming a dark red or rose colour, and this followed by vesications, metastasis of the inflammation to the head, chest, or abdominal viscera, producing the symptoms of the idiopathic diseases of these organs, are to be looked upon as unfavourable.

The principal thing to be attended to in the treatment of acute rheumatism, is to obviate the general inflammation which prevails, and this is to be effected by strictly pursuing an antiphlogistic regimen, and by blood-letting in all cases where the vascular action is strong, the constitution robust, and the heat considerable, proportioning the quantity we take away to the violence of the symptoms, and the age, strength, and habit of the patient. If the pains continue very severe, and the pulse full, hard, and quick after bleeding, and the blood appears very sizy on becoming cool, we may with great propriety repeat the operation either on the same day or the next. The reduction of vascular action is, however, more particularly to regulate the repetition, than the buffy appearance of the blood, which in many cases continues to increase, notwithstanding the abstraction of blood, and is not diminished by bleeding. This circumstance should be carefully attended to.

In weak irritable habits, where no great degree of general inflammation prevails, and little or no fever attends, and where the inflammation is chiefly local, or the pain not violent, topical bleeding, by means of several leeches applied to the part affected, may be substituted instead of using the lancet, and will often be found to afford essential relief. They may likewise be used with benefit where much inflammation prevails in the system, as well as in particular parts, provided that general bleeding has been premised or adopted. When leeches cannot be procured, scarifying and cupping may be employed in their stead.

In conjunction with bleeding two or more evacuations should be procured daily by making use of some gentle cooling purga-

tive, such as the neutral salts, &c.* When the pain is chiefly confined to one part, after sufficient depletion, the application of a blister, or of some rubefacient, will be likely to prove serviceable, but where the pains are wandering, and there are frequent translations from one joint to another, neither of these remedies will be of much use. In acute rheumatism, warm fomentations ought never to be employed, as they are found to aggravate the pains, instead of alleviating them.

The reduction of heat by keeping linen cloths wetted in cold water, or in a solution of muriated ammonia, with the nitrate of potass, constantly to the inflamed parts, may, I think, be adopted with safety and much advantage in acute rheumatism.

After the necessary evacuations have been made, diaphoretics may then be used, and either those of the antimonial kind, as advised under the head of Simple Fever, may be prescribed in small and frequently repeated doses, or from ten to fifteen grains of the pulvis ipecacuanhæ compositus† may be given every three or four hours. This indeed appears to be the best sudorific we can exhibit in acute rheumatism.

Dr. Hamilton, of Lynn Regis, informs us,‡ that in those cases of acute rheumatism where blood-letting and sudorifics have been pushed as far as may be thought prudent, without being productive of the desired effect,§ very great benefit is often to be derived from the use of the muriate of mercury combined with opium, which combination he has frequently employed in the proportion of from five grains to one of the former, and from one to one-fourth of the latter, according to the age and strength of the patient, and administered every six, eight, or twelve hours, as the degree of inflammation, or the threatening aspect of the disorder seemed to require. Along with this remedy, he enjoins a plentiful dilution with barley-water, or any other weak tepid beverage.

In acute rheumatism the patient must be kept on a cool spare diet, as milk, whey, buttermilk, light vegetable matters, panado, ripe fruits, &c., but animal food and fermented and spirituous liquors should be avoided.

A different mode of treatment from what has been advised in

* A bed pan should be made use of in order to avoid the motion occasioned by frequent getting up to stool, which would prove irksome and painful to the patient. E.

† R. Pulv. Ipecac. C. gr. x.
Confect. Rosæ gr. xij.
Syrup. q. s. M.
ft Bolus 3tia vel 4ta hora sumendus, superbib. Cochl. iij. Misturæ sequentis.

R. Succ. Limon. ℥jss.
Ammoniæ Subcarbonat. ʒj.
Aq. Fontan. ℥ivss.
Potassæ Nitrat. ʒss.
Syrup. Althææ ℥ss. M.
ft. Mistura.

‡ See vol. ix. of the Edinburgh Medical Commentaries.

§ The disease being now in a chronic state. E.

acute rhumatism must be adopted in the chronic species. Here bleeding from the system will seldom be necessary or proper.

Where the ligaments and membranes of the joints are the peculiar seat of the disease, or an enlargement of the extremities of the bones has taken place, the first attempt at relief, especially in young and vigorous subjects, should be directed to local bleeding, either by leeches, or what is to be preferred, the operation of scarifying and cupping. When the pain and irritation are abated by repeated bleeding, no time should be lost in securing a drain from the part by the aid of issues, making them with caustic in preference to the knife. In hip cases of long standing, as well as in obstinate ones of sciatica, the same practice will be found highly beneficial.

In most cases, it will be adviseable to rub the parts which are the seat of the disease, several times a day with some rubefacient liniment.* The regular use of a flesh-brush, with electricity or galvanism, may be requisite in cases of long standing and where there is any rigidity in the parts.

Exercise either of the whole body or of particular limbs will be highly important. As an exercise for the arms, the dumb-bells answer very well. For the lower extremities, none will answer better than walking, and although it may prove a little irksome at first in some cases, still by perseverence much benefit will soon be experienced. The want of exercise is apt to induce stiffness in the limb.

Camphor dissolved in æther, and applied externally in painful affections of the joints, has likewise afforded singular relief in a great variety of instances.

The ointment and embrocation of tartarised antimony have the property of producing a crop of pustules wherever they are rubbed, and when this effect is procured, they ought of course to be discontinued.

Immersing the whole body in a warm bath, or applying it topically, by pouring warm water upon the limb from a kettle several times a day, has in many instances proved very useful, together with proper exercise, either of the part itself or of the whole body, if the patient is capable of taking it. A quarter of an hour, or twenty minutes, will be a sufficient time to remain in the bath, the temperature of which may at pleasure be varied from 90 degrees to 114.

If the pains are of a recent date, and chiefly attack the muscles and thin membranous coverings, occasionally shifting from one part to another, and the strength is at the same time but little reduced, there can be no doubt that a moderate use of the warm bath may be serviceable; but where it proves unsuccessful after two or three trials it ought to be discontinued. In soothing pain, relaxing the

* Or a Sinapism may be applied. E.

stiffened joints and rigid fibres, particularly in elderly patients, whose strength has been much reduced by the length and violence of the disorder, a tepid bath, of from 84 to 90 will often prove a useful auxiliary to the other means we employ.

Both remedies, however, may, I think, be considered of inferior value in the cure of rheumatism, when compared with the topical, and sometimes general use of hot water in the form of vapour. Whenever the joints are very rigid, and the pain upon motion exquisitely severe, or where the muscles have become contracted and almost paralytic; and indeed, in all protracted cases of the disease of the hip joint, lumbago, or sciatica, the vapour of hot water, locally and properly applied, will seldom fail, in conjunction with other proper topical applications, to prove a safe and successful remedy. The mode of applying it must be regulated according to circumstances. A large boiler, with a pipe affixed to it, forms a simple apparatus. With this, the parts affected may be steamed for about half an hour at a time, repeating the process two or three times a day.*

After exposing the diseased parts for a due length of time to the action of vapour, and diligently rubbing in some rubefacient liniment during the operation, we may immediately after employ electricity, either in slight shocks, or by drawing sparks. Perhaps the latter may be the preferable way. The process being completed, the parts are then to be enveloped in flannel.

Cold bathing has been advised by some physicians; while others again have disapproved of it. In some instances it has certainly proved very beneficial. The cold bath is a stimulant indirectly, and promotes perspiration, and by strengthening the body prevents a relapse. While there are any febrile symptoms it should not be used.

Blisters are sometimes employed in this complaint; but they seem to be most serviceable in those cases where the disease partakes of the nature of acute rheumatism, or where the pain is fixed in any particular joint. With respect to the mode of their application, it seems proper to observe, that a repetition of fresh blisters will be far preferable to keeping up a constant sore by stimulating the vesicated parts with the unguentum lyttæ; and in the former way, we shall likewise produce greater effect upon the disease. In some instances it will be found more beneficial to apply the remedy at a little distance from the seat of the disease, than to lay it immediately on the affected part. Indeed, whenever the complaint seizes upon any of the larger and deep seated muscles at their ori-

* In the opinion of the Editors, however, a decided preference is to be given to the use of cold water, topically applied by means of a shower bath; or where this conveniency cannot be procured, by pouring the water on the part through a common kitchen colander. The part is afterwards to be wiped dry with a coarse towel, and covered with a muslin roller. E.

gin near the joints, applying blisters to the inferior extremities of such muscles, and near to the points of their insertion, will be found highly beneficial. Thus in recent and slight cases of sciatica, the application of a blister to the inferior extremity of the thigh-bone often proves speedily useful.

Several cases of chronic rheumatism of great severity and long standing, and which had resisted all previous means, but which were promptly and effectually removed by bandages of flannel round the diseased limb, carried from below upwards, are recorded by Dr. Balfour in the Edinburgh Medical and Surgical Journal.* In applying them, he found it necessary in some instances, especially at the beginning, to roll them tighter than they could well be borne for any length of time, and in such cases the frequent removal of the bandages, with frictions in the intervals, he says are indispensable. The practice of applying pressure by bandages, in his opinion, may prove an useful adjuvant or auxiliary to the other means, particularly warm bathing, for the removal of this painful disease.

Where the knee or any other joint becomes enlarged from effusion, it ought to be diligently rubbed twice or thrice a day with about an ounce of the muriate of ammonia dissolved in twelve ounces of common vinegar.

The internal remedies which have been most generally recommended in chronic rheumatism are sudorifics and medicines of a stimulating nature, which abound in essential oils and resins.† In the most aggravated instances of this species of rheumatism, where great torpor and debility prevail, guaiacum, in as large doses as the stomach will bear, often proves a powerful remedy when aided by topical applications. The ammoniated tincture of this medicine, joined to a strong decoction of cinchona, often proves serviceable in very obstinate cases. Internal medicines, however, without the aid of the external means before noticed, will seldom or never effect a cure in severe and obstinate cases.

Hydrargyri submurias and other preparations of mercury have been given in this disease along with the decoctum sarsaparillæ compositum; but they seem best adapted for those cases where we suspect it to be connected with a syphilitic taint. In palliating symptoms and allaying pain and irritation, small doses of the antimonial powder and opium combined with the submuriate of mercury, sometimes prove useful.‡

* See — No. XLII.

† But as these, in general, only give a temporary relief, we are of opinion that tonics which produce a more permanent effect are to be preferred, such as the tinct. muriat. ferri in doses of from ten to fifteen grains three times a day, with an equal quantity of spir. lavend. compos. taken in a draught of a strong decoction of the bark of the cinchona and rad. serpentaria. E.

‡ In very protracted cases the editors are convinced that the hydrar-

In chronic rheumatism it will be absolutely necessary to persevere for a considerable length of time in the use of whatever medicines we employ, otherwise but very little benefit can be expected from them.

If in the course of the disease the patient's rest should be much disturbed throughout the night by the severity of the pains, an anodyne draught may be ordered for him to be taken at bed-time.*

Where the different combinations of guaiacum, opium, antimony, and mercury, have proved ineffectual, very speedy and good effects have been derived from a cautious exhibition of the arsenical solution as noticed under the head of intermittents. It may be given with an equal proportion of tinctura-opii in doses of ten drops repeated twice or thrice a day in any convenient vehicle, and probably a decoction of the cinchona bark may be as good as any we can employ. It seems, however, to be pretty generally admitted, that it is chiefly in the protracted chronic rheumatism, where the vital powers are much diminished, and the ends of the bones, periosteum, capsules, or ligaments of the joints, are likewise partially affected, that the use of arsenic is likely to prove essentially serviceable, or successful.† In such cases we can begin with the quantity before mentioned, and so increase the dose gradually according to the effect produced on the stomach and bowels. In some instances, a degree of erythema arises on different parts of the body in consequence of administering this remedy; and in others, a soreness of the mouth and ptyalism are excited. Costiveness generally ensues; and this we must obviate by some proper laxative taken from time to time. It may be sometimes necessary to intermit its use for a day or two, and then return to it again.

Arsenic will do little good in recent cases of rheumatism, and especially in young subjects; indeed it can rarely be persevered in where the patient is not much reduced in strength, owing to the greatness of its stimulating power; for which reason it succeeds best in old persons.

As a mean of relief in chronic rheumatism, particularly in protracted cases, the cinchona bark may be employed.

No change whatever will be necessary in the patient's ordinary mode of living in chronic rheumatism, unless it happens to be intermixed with the acute, and then the diet should be cooling, light, and nutritive. In chronic rheumatism, mustard, and horse-radish,

gyri sub. murias administered in small doses, occasionally combined with a small portion of opium, and daily repeated until the mouth becomes moderately affected, is a very efficacious remedy. E.

* ℞. Liquor. Ammon. Acet. ℥iij.
Aq. Cinnam. ℥j.
Tinct. Opii ♏ xl.
Vin. Antimon. ♏. xxxv. M. fiat Haustus.

† See Dr. Bardsley's Medical Reports.

may be taken freely in their natural state. Weak wine-whey, or barley-water, with a small quantity of the supertartrate of potass dissolved in it, may be used for common drink. Those who are subject to either kind of rheumatism should wear flannel next to the skin.

Where there are any suspicions of the disease being connected with a syphilitic taint, a long continued course of mercurial alteratives (see Syphilis) must be entered upon.

Chronic rheumatism sometimes affects the lumbar region, with an acute pain shooting down into the os sacrum, so that the patient cannot stand upright without suffering great pain; neither can he enjoy ease when in bed. This affection is known by the name of Lumbago. The disease sometimes fixes likewise in the hip-joint, and is then called Sciatica. Both of these affections are to be treated in the same manner as rheumatism of other parts.

To reduce the swelling, and promote a re-absorption of the effused fluid, when that can be safely done, Dr. Falconer directs a trial to be made of the lime poultice, composed of one part of quick-lime, fallen to powder in the air, and two parts of oat-meal, which being made into a poultice with hog's-lard, and spread thick on a cloth, is to be applied temperately warm to the part. This poultice is to be repeated every night, but to be removed in the morning. It generally produces some degree of moisture or exudation under it, though without raising a blister: and this gradual local discharge is often an effectual though gradual method of reducing tumours both of the hip and of the knee.

Those who are subject to rheumatic complaints ought carefully to avoid all exposure to cold and wet, and they should go warmly clothed, and wear flannel next the skin.

Order III. OF EXANTHEMATA, OR ERUPTIVE FEVERS.

VARIOLA, or SMALL POX.

[The Small Pox being now nearly extinguished by the general adoption of vaccination, the Editors have omitted the author's chapter on this disease and on the mode of innoculation. E.]

VARIOLÆ VACCINÆ, or COW-POX.

In many of the dairy counties it has been long known that the cows are liable to an eruption on their paps or udders, which was occasionally communicated to the hands or arms of those who milked them, producing an ulcer, and some degree of fever; and it had been observed by the people of those counties, that those who had undergone this disease, known by the name of cow-pox, were not liable to the small-pox.

The disease had not, however, undergone any medical investigation until Dr. Jenner, then of Berkley in Gloucestershire, paid particular attention to it. He very satisfactorily ascertained that it was a much milder disease than the small-pox, and that the fact was true that it secured those who had been infected with it from afterwards being liable to variolous infection. He also observed that the vaccine-pox is not infectious, but by inoculation; and that on this account it might be inoculated in a family without endangering others: a circumstance of the greatest importance. On the suggestions of Dr. Jenner many practitioners were induced to adopt the practice of substituting the one disease for the other, and its efficacy is now fully established.

The vaccine virus is certainly of a very singular nature, inasmuch as that a person who has been infected by it, is found to be for ever after secure from the infection of the small-pox; neither exposure to variolous effluvia, nor the insertion of the matter into the skin, being capable of producing the disease. Many direct experiments made by innumerable practitioners, prove that the susceptibility of the small-pox is totally destroyed by inoculating with the vaccine matter. The permanency of the effect was indeed a matter of some doubt, but that is now fully established. It appears from the report of the Small-pox Hospital in London, that up to December 1802, eleven thousand eight hundred patients and upwards had been vaccinated, of which number twenty-five hundred were afterwards *proved* to be secured from the natural small-pox, by receiving a further inoculation with small-pox matter, while they were at the same time exposed in an hospital full of its infection, without effect. It was said at first, that although the cow-pox destroyed the susceptibility of the small-pox, still it possessed not the same power with regard to itself, as a person might have the disease more than once. Instances certainly have been adduced of the cow-pox taking place a second time; but they are of very rare occurrence, and should be looked on as irregular. The same has happened with the small-pox.

Soon after Dr. Jenner's first publication on the vaccine disease, a few instances were adduced, tending to invalidate his supposition of the preventive power of the cow-pox with regard to variolous infection; but these he considers to have been cases of a spurious disease, and therefore not affecting his general conclusion.

In using this term, he does not mean, however, to imply that there is a true and false cow-pox, but merely to express an irregularity or difference from that common form and progress of the vaccine pustule from which its efficacy is inferred. Those who perform vaccination ought therefore to be well instructed, and should have watched with the greatest care, the regular process of the pustule.

Persons who have been vaccinated and passed through the cow-pox with all the usual accompanying symptoms, and who have afterwards taken the small-pox, of which a very few instances may have

happened, have generally imperfect pustules, which die away in a few days, without exciting any constitutional complaint; but the matter taken from these pustules will communicate the small-pox. This circumstance has been brought forward by the anti-vaccinists as a proof that persons who have had the cow pox, may afterwards take the small-pox by inoculation, and otherwise, not making the proper distinction between local and constitutional infection: or perhaps not understanding how any one can communicate a disease to others, with which he is not himself infected.

The characteristics of the true cow-pox are as follow, viz. a circumscribed, circular, elevated eruption, surrounded by a red halo or efflorescence; smooth surface; brown, black, or mahogany and tamarind-stone coloured, long adhering scab.

The succeeding arguments have been urged in favour of inoculation for the cow-pox over that for the small-pox.

1st. Of several thousand persons who have had the inoculated cow-pox, only one or two have died.

2dly. Very few well attested instances have been produced out of many thousands of the above persons, known to have had the inoculated vaccine-pock, and who were subsequently inoculated for the small-pox, of this disease being afterwards taken; although many of these were also exposed to the infectious effluvia of the natural small-pox. And traditionally, this fact has been established time immemorial, with regard to the casual cow-pox.

3dly. It may safely be affirmed, that the inoculated cow-pock is generally a much slighter disease than the inoculated small-pox; and that the proportion of severe cases in the latter is to the former as at least ten to one, (in Philadelphia five hundred to one.)

4thly. It does not appear that the genuine vaccine-pock can be propagated like the small-pox, by effluvia from persons labouring under it. Hence, if the vaccine inoculation should be universally instituted in place of the small-pox, it is reasonable to conclude, that this most loathsome and fatal malady will be extinguished.

5thly. It does not appear that the vaccine poison, like that of the small-pox, can be conveyed so as to produce the diseases indirectly from diseased persons, by adhering to clothes, furniture, bedding, letters, &c. Hence no danger of its propagation in these channels is to be apprehended from the universal practice of inoculation of the cow-pox.

6thly. It has been found, that a person whose constitution has distinctly undergone the vaccine disease, is in future unsusceptible of the same disorder. Hence no objection can be made to the new inoculation, as was once urged, on account of its being believed, that by the commutation of the small-pox for the vaccine-pock, an eruptive disease would be introduced, to which the same person would be repeatedly liable.

7thly. Experience shows, that there is no reason to apprehend

the smallest chance of deformities of the skin from the vaccine inoculation.

8thly. The extensive practice of the vaccine inoculation, and the accounts of the disease in the casual way, do not show that any other disease will be excited subsequently, which is peculiarly imputable to the new practice.

On a review of these arguments founded on facts, there can remain no doubt but that the vaccine inoculation will soon wholly supersede and do away the variolous. Could all parents be persuaded to inoculate their children with vaccine matter soon after birth, the small-pox might be entirely eradicated in time. The introduction of this species of inoculation generally through both the army and navy, and its extension to France, Spain, Germany, and every part of the continent, as well as to both the Indies, (and to the Continent of America,) fully stamp its value and efficacy.

From the report of the physicians of the Vaccine Pock Institution, it appears that the matter of a single pustule, being mixed with one quarter of an ounce measure of warm water, such diluted matter excited as distinct a vaccine pock by inoculation, as an equal quantity of undiluted matter. A pock so excited, was not attended with less inflammation, or constitutional affection, than that excited by a larger quantity of undiluted matter; which points out an easy method of inoculating several persons from a single vaccine pock—a great conveniency indeed, when the poor to be inoculated at one time, are very numerous.

VARICELLA, OR CHICKEN-POX.

This disease, like the small-pox, seems to depend upon a specific contagion, and affects a person but once in his life.

The eruption is sometimes preceded by chilliness, succeeded by flushings and heat, pains in the head and back, thirst, restlessness, and a quick pulse; but at other times no such symptoms are perceptible. About the second or third day, the pustules become filled with a watery fluid, which is never converted into yellow matter, as in the small-pox (to the milder species of which it seems, however, to bear some resemblance;) and about the fifth day they usually dry away, and are formed into crusts or scabs.

No danger ever attends the chicken-pox.

The small-pox and chicken-pox differ, in the eruption of the former being preceded by a fever of a certain duration, while that of the latter is either preceded by none, or one of uncertain continuance; in the vesicles appearing much earlier in the chicken-pox than in the small-pox, and about the second or third day being filled with serum; in the matter of the former never acquiring the purulent appearance, which it always does in the distinct small-pox, and in the crusts which cover the pustules being formed about the

fifth day, at which time those of the small-pox are not at the height of their suppuration.

These distinguishing marks it will be necessary to attend to, as there is great reason to suppose the chicken-pox has not only been sometimes mistaken for small-pox, but that its matter has been used for that of small-pox in inoculation, to which may be ascribed many of the supposed cases of small-pox having appeared a second time in the same person.

In general, it is only necessary to make use of a spare regimen on the first appearance of the eruption, and to give one or two cooling purgatives afterwards; but should the febrile symptoms run high, it may then be adviseable to make the patient take frequent small doses of some antimonial, with saline draughts and nitre, as advised under the head of Simple Fever, drinking plentifully at the same time of cold diluting liquors, and keeping the body open with gentle laxatives, or emollient clysters.

RUBEOLA, OR MEASLES.

THIS disease is an inflammatory infectious fever, attended by cough, sneezing, a defluction of thin humours from the eyes and nose, and a determination of acrid matter to the surface of the body showing itself in red spots over every part of it, but which never come to any suppuration, as in the former disorders, but go away in a small mealy desquamation of the cuticle after a few days continuance.

In systems of nosology, several varieties of the measles are mentioned, but they may all be comprehended under two heads: the benign and malignant; the former attended with more or less of the symptoms of general inflammation: the latter accompanied by a typhoid fever.

The measles may prevail at all seasons of the year as an epidemic, but the middle of winter is the time they are usually most prevalent, and they attack persons of all ages, but children are most liable to them. They prove rather unfavourable to such as are of a plethoric or scrofulous habit. Like the small-pox, when genuine, they never affect persons but once, their contagion appearing to be of a specific nature.

The eruption of benign measles is usually preceded by a chilliness and shivering, succeeded by heat, thirst, anxiety, pains in the head, back, and loins, heaviness, and redness of the face and eyes, with an effusion of tears, swelling of the eyelids, nausea, and probably a vomiting of bilious matter; and with these symptoms there are a dry cough, hoarseness, hurried respiration, difficulty of breathing, frequent sneezing, and a discharge of acrid water from the nostrils. The pulse is at the same time frequent and strong.

In alarming cases, spasms of the limbs, subsultus tendinum, delirium or coma supervene. This last symptom, however, so fre-

quently attends the eruptive fever of measles, that by some practitioners it is regarded as one of its diagnostics.

In measles, as in other febrile diseases, the symptoms generally suffer some remission towards the morning, returning, however, in the evening with increased severity.

About the third or fourth day small red spots, somewhat similar to flea-bites, appear in clusters about the face, neck, and breast, and in a day or two more, the whole body is covered with them. They do not rise into visible pimples, but by the touch are perceived to be a little prominent.

The febrile symptoms do not, however, abate on the appearance of the eruption, as happens in the small-pox; but, on the contrary, are usually much increased, and they do not cease till after the desquamation takes place. The cough, hoarseness, difficulty of breathing, and defluxion from the eyes and nostrils, seem likewise greatly aggravated.

On the fifth or sixth day the spots from a vivid red are changed to a brownish hue, and they begin to dry away about the face, never having proceeded to any kind of suppuration; about the eighth or ninth day they disappear on the breast, and other parts of the body with a mealy desquamation of the cuticle. About this period it is no uncommon occurrence for a diarrhœa to ensue.

The malignant form of the disease is accompanied with typhus fever, and with petechiæ. Moreover, the eruption appears more early and all the concomitant symptoms are in an aggravated form. The fauces not unfrequently assume the same appearance as in cynanche maligna, probably from a combination of the two diseases. Some cases of this nature have lately fallen under my care, two of which proved fatal.

The febrile and other symptoms being mild, a gentle diarrhœa, a free and copious expectoration, a moisture on the skin at the appearance of the eruption, and an early and free desquamation, denote a favourable termination of the disease; but a high degree of fever, hot and parched skin, hurried and difficult breathing, flushed countenance, unusually hard pulse, ulcerated fauces, severe diarrhœa, the vomiting continuing after the eruption, great pain in the head and eyes after it, considerable degree of coma or delirium, the eruption becoming of a livid hue, with great prostration of strength, small intermittent pulse, and petechiæ, point out the highest degree of danger.

The consequences attendant on the measles are frequently more to be dreaded than the immediate disease: for although a person may get through it, and appear for a time to be recovered, still pulmonary consumption and hectic fever shall afterwards arise and destroy him, or an obstinate ophthalmia will ensue.

Another bad consequence of the measles is, that the bowels are often left by them in a very weak state; a chronic diarrhœa remain-

ing, which has sometimes proved fatal. Dropsy has also been known as a consequence of measles.

A singular circumstance attending the contagion of the measles is, that if it be taken a sufficient time before inoculation for the small-pox, so that the eruption may commence before the variolous fever comes on, it stops the progress of the small-pox in the inoculated wound, and delays it till the fever of the measles has finished its career.

The morbid appearances to be observed on dissections of those who die of the measles, are pretty much confined to the lungs and intestines; the former of which always shows strong marks of inflammation, with sometimes a tendency to sphacelus.

Where the patient dies under the eruption, the trachea, and larger branches of the bronchiæ, as in the small-pox, are often found covered with it; which may account for the increase of the cough after the appearance of the eruption.

In some instances, the measles make their attack in a mild manner, and go through their natural course without medical aid; but in others, the febrile symptoms run high, particularly after the appearance of the eruption, and are accompanied with a strong pulse, much coughing, great difficulty of breathing, and other symptoms of pneumonic inflammation; in which cases it will be proper to draw off a quantity of blood proportioned to the state of arterial excitement.

During the whole course of the disease it will be highly proper to keep the body open; and therefore, if costiveness prevails, it should be obviated by giving cooling laxatives, such as the neutral salts, and emollient clysters. Should the difficulty of breathing and oppression at the chest not be relieved by the bleeding, and other antiphlogistic means, a blister may then be applied in the neighbourhood of the part or between the shoulders. In removing local inflammation, the application of a blister often proves a valuable remedy.

The cough being usually very troublesome, it will be necessary to make frequent use of some demulcent pectoral, either of an oily or mucilaginous nature, as advised under the head of Catarrh, which will sheath the throat, and obviate that rawness and soreness of it which are generally much felt. Besides using pectoral medicines, the patient may drink freely of barley-water, linseed-tea, or the decoctum hordei compositum gently acidulated with lemon-juice.

If the febrile symptoms run high, and great heat, thirst, and restlessness prevail, small nauseating doses of antimonials combined with nitre, may be given every two or three hours, as advised under the head of Simple Continued Fever, in order to aid in diminishing arterial action.

Opiates are to be administered with great caution in this disease, as well as in all other inflammatory ones, and ought never to be employed where there is much fever present, with great dif-

ficulty of breathing. When these symptoms have been removed by timely bleeding, and the cough and watchfulness are those only which are urgent, opiates will prove both safe and efficacious.

When the eruption of measles disappears before the proper period, and great anxiety, delirium, or convulsions take place, accompanied with low, weak pulse, and general debility, the indication will be to restore the eruption to the skin. To effect this, immediate recourse must be had to the warm bath, blisters to the chest and legs, and the administration of wine properly diluted with warm water: ammonia, camphor, æther, and antimonials, will be the best medicines.

Should the symptoms manifest a malignant kind of the disease, we must then adopt a very different mode of treatment from what has been advised for the inflammatory. The cure must be conducted on the general tonic plan by cinchona, wine, acids, (particularly the mineral) and pure air, &c.

Throughout the whole course of the measles the patient ought to be confined to his bed, and to avoid any exposure to cold air, which might repel the eruption; but in observing this precaution, he is not to run into the opposite extreme, and excite external heat either by loading himself with bed-clothes, or by not allowing a sufficient ventilation through his chamber. The degree of temperature should be regulated by the patient's feelings. Rubeola does not either require or bear the free application of cold, which is so potent a remedy for the most distressing symptoms of scarlatina; but nevertheless the propriety of coolness in the apartment and bed, as also in the drink of the patient, must be obvious.

A diluent and antiphlogistic diet being one of the best means of obviating inflammatory complaints, we ought to recommend it in this disease. Where the disease shows a malignant tendency, a diet of this nature would be highly improper. In such cases, a quantity of wine proportioned to the age of the patient, the urgency of the symptoms, and the effect it produces, ought to be allowed, in addition to the bark of cinchona, acids, and opiates.

After the disappearance of the eruption, it will be proper to give one or two doses of some cooling purgative. This practice, although disregarded by many, seems nevertheless worthy of attention, as ophthalmia and other troublesome complaints may probably be prevented by conforming to it.

If a difficulty in breathing, pain in the side, and cough, should ensue in consequence of the measles, it will be adviseable to take away a proper quantity of blood, in order to remove the inflammatory state of the system, which has been induced by the disease; besides which, the patient must pursue the other steps advised under the head of Incipient Phthisis Pulmonalis, making use of a milk and vegetable diet, breathing as pure an air as possible, and carefully avoiding cold.

As a weeping from the eyes and slight ophthalmia are apt to ensue after the measles, it may be right to wash them occasionally

with a little rose-water, in which a few grains of the sulphate of zinc have been dissolved, and to avoid exposure to any glaring light.

SCARLATINA ANGINOSA, OR SCARLET FEVER.

It has been disputed, whether the scarlet fever and malignant sore throat ought to be esteemed different diseases, or only varieties of the same disease.

In my opinion they are the same in species, which is confirmed by our finding that they are both epidemical at the same time: even in the same family, where a number of children have been ill either together or immediately after one another, some have had the distinguishing symptoms of scarlet fever, and others of the malignant sore throat. Indeed it is now pretty generally admitted, that scarlatina in all its forms, as well as the cynanche maligna, is produced by the same specific contagion.*

The disorder to which scarlatina bears the greatest resemblance is the measles, but from this it may be distinguished by attending to the following characteristic marks.

The efflorescence in scarlatina generally appears on the second day of the fever; in the measles, it is seldom very evident until the fourth. It is much more full and spreading in the former disease than in the latter, and consists of innumerable points and specks under the cuticle, intermixed with minute papulæ, in some cases forming continuous, irregular patches; in others, coalescing into an uniform flush over a considerable extent of surface. In the measles, the rash is composed of circular dots partly distinct, partly set in small clusters or patches, and a little elevated, so as to give the sensation of roughness when a finger is passed over them. These patches are seldom confluent, but form a number of crescents, with large intervening portions of cuticle, which retain their usual appearance. The colour of the rash is also different in the two diseases, being a vivid red in the scarlatina like that of a boiled lobster's shell; but in the measles, a dark red, with nearly the hue of a raspberry.

During their febrile stage, the measles are distinguished by an obstinate harsh cough, forcing up, in repeated paroxysms, a tough phlegm: by an inflammation of the eyes and eyelids, with great sensibility to light; by an increased discharge from the lachrymal glands, sneezing, &c. Scarlatina is frequently attended with a cough, as also with a redness of the eyes; but on minute observation, it will generally be found that the cough in scarlatina is short and irritating, without expectoration; that the redness of the eyes is not attended with intolerance of light; that the ciliary glands are not affected; and that, although the eyes appear shining and watery, they never overflow.

* See Dr. Willan on Cutaneous Diseases, Order iii.

In scarlatina anginosa the patient is seized not only with a coldness and shivering, but likewise with great languor, debility, and sickness, succeeded by heat, nausea, vomiting of bilious matter, soreness of the throat, inflammation and ulceration in the tonsils, uvula, and velum pendulum palati, a frequent and laborious breathing, and a quick, small, and depressed pulse. When the efflorescence appears, it brings no relief; on the contrary, the symptoms are much aggravated, and fresh ones arise.

In the progress of the disease, one universal redness, unattended however by any pustular eruption, pervades the face, body, and limbs, which parts appear somewhat swollen. The eyes and nostrils partake likewise more or less of the redness; and in proportion as the former have an inflamed appearance, so does the tendency to delirium prevail. There is moreover an acrid discharge from the nostrils, which excoriates whatever part it falls upon.

On the first attack of scarlatina anginosa, the tonsils and uvula are much inflamed, but the inflammation is soon succeeded by dark-coloured sloughs from three to five lines in diameter, or under the surrounding surface, and which conceal beneath them spreading ulcers. These occasion the breath to be highly fetid. The patient is often cut off in a few days.

Even if he recovers, it will be by slow degrees, and probably anasarcous swellings will ensue. In some instances, swellings of the submaxillary, parotid, or other small glands arise, and prove troublesome and tedious in suppurating.*

When scarlatina is to terminate in health, the fiery redness abates gradually, and is succeeded by a brown colour; and the skin becoming rough, peels off in small scales: the tumefaction subsides, and health is gradually restored. On the contrary, when it is to terminate fatally, the febrile symptoms run very high from the first of its attack, the skin is intensely hot and dry, the pulse is very frequent but small, great thirst prevails, the breath is very fetid, the efflorescence makes its appearance on the second day, or sooner, and about the third or fourth is probably interspersed with large livid spots; and a high degree of delirium ensuing, or hemorrhages breaking out, the patient is cut off about the sixth or eighth day. Some again, where the symptoms do not run so high, instead of recovering, as is usual, about the time the skin begins to regain its natural colour, become anasarcous, or fall into an atrophy, and are carried off in the course of a few weeks.

Scarlatina in its mild state is not usually attended with danger; but when it occurs in the form of cynanche maligna, it often proves fatal.

When scarlet fever is very mild and wholly unattended by any inflammation or ulceration in the throat, little more will be requi-

* The malignant form of scarlatina being the same disease as that described under the head of Cynanche Maligna, the reader is referred to the latter for its description and mode of treatment. E.

site than to keep the apartment clean and open; to enforce a light diet without animal food; to direct cooling acidulated liquors for common drink, and to administer gentle medicines suitable to the symptoms that present themselves.

In more severe cases, where the skin is very hot and dry, the pulse much accelerated, the head very painful, and advice is called for at the onset of the disease, the best step we can adopt is to have recourse to affusion, or immersion in cold water, for the speediest and most effectual relief will be obtained by it. In private practice, where there often arises much difficulty in subduing prejudices, and we are prevented from making use of cold affusion, or immersion, we must be content to substitute simple ablution pretty generally over the whole body with a sponge dipped in equal quantities of cold water and vinegar.

On the first coming on of scarlatina anginosa, it would seem proper to administer an emetic of ipecacuanha. In the last more particularly, I am fully convinced, it ought never to be omitted; and probably a repetition of it might be the means of preventing any disposition to diarrhœa, which is so apt to arise, from a considerable quantity of acrid matter passing from the fauces into the stomach, and from thence to the intestines.

After vomiting, it will be proper to dislodge all feculent matter from the bowels by means of some gentle aperient;* and during the remainder of the disease, if costiveness arises, it must be obviated by laxative clysters administered from time to time, as the occasion may require. These, as inducing no debility, will be far preferable to purgatives, when the disease has made some progress. Purgatives ought, indeed, carefully to be avoided, except on the first onset of scarlatina; and even then, whatever we employ, should be of the mildest nature, lest we should induce diarrhœa, which is apt to occur of itself.

The physicians on the Continent have recommended drawing blood from the arm, in this disease, or, when the head is much affected, from the jugular veins; and it appears that Morton adopted the same practice in most of the cases he attended, even in London; but I think there will be found very few, if any, among our modern physicians who would advise it.†

In those cases of scarlatina where the tonsils are so much inflamed and swelled as to impede deglutition, or considerably interfere with respiration, it will be much safer to apply leeches under

* ℞. Hydrargyri Submuriat. gr. iv.
Pulv. Rhei gr. vj.—xij. M.
ft. Pulvis aperiens, ex melle sumendus.

† In this form of fever as well as in every other, bleeding should be regulated by the state of excitement as indicated by the pulse, respiration and temperature of the skin, and when this runs high, after bleeding and gentle laxatives, antimonials in nauseating doses should be exhibited, as in other febrile diseases, under similar circumstances. E.

each ear, and draw blood in this way from the neighbourhood of the parts immediately affected, than from the system by venesection. Where the eyes look red and fiery, and a high degree of delirium prevails in scarlatina, the application of leeches to each temple may be resorted to with safety, and possibly with some relief.

Throughout the whole course of the disease if there is either inflammation or ulceration in the throat, it will be proper to make frequent use of some detergent gargle, as recommended under the heads of Cynanche Tonsilaris and Maligna, which in young children may be thrown into the fauces with a syringe, as they seldom can be prevailed upon to gargle.

A little of the linimentum ammoniæ carbonatis, may at the same time be rubbed twice or thrice a day externally, covering the parts afterwards with flannel. Where the throat is much affected, a mustard poultice may be applied, and kept on, as long as it can be borne, without producing too great a degree of irritation. When the fauces are in a sloughing or gangrenous state, a warm fomentation of nitric acid largely diluted, together with the stimulating gargle of Cayenne pepper, as mentioned under the head of Cynanche Maligna, will be likely to prove highly serviceable.

Blisters have been employed by some practitioners in those cases where the deglutition is difficult, the head much affected, or a high degree of delirium has arisen; but they have too frequently been observed to prove detrimental, by rather increasing the irritation of the patient. Immersing the feet and legs in warm water, might probably be attended with a good effect. When blisters are applied under a tendency to putrefaction, they are apt to become gangrenous. In scarlatina maligna, they never therefore should be used.

The œdematous disposition which ensues after some cases of scarlatina anginosa, is to be removed by diuretics, joined with tonics and a generous diet, as advised under the head Anasarca, giving at the same time, some gentle laxative occasionally.

In cases of scarlatina, when the fever has subsided, cinchona, stomachic bitters, chalybeates, the mineral acids, wine, a nourishing diet, pure air, and gentle exercise, will greatly accelerate the recovery of the patient.

PESTIS, OR THE PLAGUE.

[As this disease has never occurred in America, the editors have omitted the author's account of its history, treatment and mode of prevention. E.]

MILIARIS, OR MILIARY FEVER.

THIS fever takes its name from the small pustules or bladders which appear on the skin, resembling in shape and size the seeds of

millet, being in general numerous on the breast, back, and other parts where there is most moisture on the skin. It may be distinguished from the other exanthemata by its pathognomic symptoms, the peculiar sour and rank odour of the sweat, attended with dejection of spirits, oppression and sense of constriction about the precordia, anxiety, and frequent sighing.

[This being a symptomatic disease and generally confined to the female sex during their confinement after parturition, the reader is referred for its history and treatment to Professor James' edition of Burns' Principles of Midwifery, vol. II. E.]

PEMPHIGUS, OR VESICULAR ERUPTION.

[This is a disease of very rare occurrence, should the reader however, be desirous of acquainting himself with the particulars of its history, &c. he may consult Willan's Treatise on Cutaneous Diseases, &c. E.]

URTICARIA, OR NETTLE-RASH.

THIS disease takes its name from its being attended by an eruption on the skin similar to what is produced by the stinging of nettles, and terminates in desquamation of the cuticle. Dr. Willan, in his Treatise on Cutaneous Diseases, notices six varieties of it.

In some instances a slight degree of fever either precedes or attends the eruption: this is not confined to any particular parts of the body, but is somewhat dispersed, being always accompanied with a considerable degree of heat and itching. In some persons, it lasts only a few days, in others many months, appearing and disappearing at intervals. It usually disappears in the day-time, and in the evening breaks forth again, accompanied sometimes with slight febrile symptoms. In some cases, urticaria is characterized by large wheals or bumps, which on pressure appear of a solid nature, without any cavity or head; nor do they contain any kind of fluid.

The causes of urticaria are by no means obvious, but it has been supposed to arise from suppressed perspiration, or some irritating matter in the stomach. A disease very similar to febrile urticaria is produced in particular constitutions by substances received into the stomach, which prove offensive, such as almonds, mushrooms, crab-fish, muscles, lobsters, herrings, &c. When a person is poisoned by fish of a deleterious nature, it frequently shows itself as a consequence thereof. The effect is rapid, and the symptoms are violent for some hours. In consequence of such circumstances, physicians have been induced to conclude that urticaria, attended with fever, originates generally from indigestion, or from some substance of a noxious quality taken into the stomach.

The nettle-rash readily gives way in general to a cool regimen,

and keeping the body open with mild laxatives, such as the potassæ supertartras, or any of the neutral salts. When it has arisen from any thing noxious being eaten, an emetic should be administered at the commencement of the attack. If it prove obstinate, we may resort to small doses of the submuriate of mercury and nitric acid. An infusion of serpentaria, made in the proportion of two drachms to a pint of water, is spoken very favourably of by a late writer on chronic urticaria.

Order IV.—HEMORRHAGIÆ, OR INVOLUNTARY DISCHARGES OF BLOOD.

Under this title are comprehended active hemorrhages only, that is, those attended with some degree of symptomatic fever, and which depend upon an increased impetus of the blood in the vessels from which it flows, chiefly arising from an internal cause. On venesection the blood appears as in the cases of phlegmasiæ; that is, the gluten separated, or a crust formed.

The general remote causes of hemorrhages of this nature are, external heat, a sanguine and plethoric habit, whatever increases the force of the circulation, as violent exercise, strong exertions, anger, and other active passions, particular postures of the body, ligatures producing local congestion, a determination to certain vessels, rendered habitual from the frequent repetition of hemorrhage, the suppression of accustomed evacuations, external violence, and exposure to cold.

The general treatment of such hemorrhages must consist in putting a stop to the discharge of the blood; in preventing its recurrence, by removing the causes by which they were excited, and by destroying the inflammatory diathesis when any exists. These means remain to be pointed out under each distinct hemorrhage, as in the subsequent pages.

EPISTAXIS, or HEMORRHAGE from the NOSE.

In the nose there is a considerable net work of blood vessels expanded on the internal surface of the nostrils, and covered only with a thin tegument; hence upon any determination of a greater quantity of blood than ordinary to the vessels of the head, those of the nose are easily ruptured. In general, the blood flows only from one nostril; but in some cases it is discharged from both, then showing a more considerable disease.

Persons of a sanguine and plethoric habit, and not yet advanced to manhood, are very liable to be attacked with this complaint; females being much less subject to it than males, particularly after menstruation has commenced. Peculiar weakness in the vessels of the part and the decline of life, may also be considered as predis-

posing causes. Great heat, violent exertion, external violence, particular postures of the body, and every thing that determines the blood to the head, are to be looked upon as its exciting causes.

Epistaxis comes on at times, without any previous warning; but at others, it is preceded by a pain and heaviness in the head, vertigo, tinnitus aurium, flushing in the face, heat and itching in the nostrils, a throbbing of the temporal arteries, and a quickness of the pulse. In some instances, a coldness of the feet, and shivering over the whole body, together with a costive belly, are observed to precede an attack of this hemorrhage.

The complaint is to be considered as of little consequence when occurring in young persons, being seldom attended with danger: but when it arises in those who are more advanced in life, flows profusely, and returns frequently, it indicates too great a fulness of the vessels in the head, and not unfrequently precedes apoplexy, palsy, &c., and therefore in such cases is to be regarded as a dangerous disease.

When this hemorrhage arises in the latter stage of any malignant fever, it is to be considered as a very dangerous symptom.

As a bleeding from the nose proves salutary in some disorders, such as vertigo and head-ache, and is critical in others, such as phrensy, apoplexy, and inflammatory fever, where there is a determination of too great a quantity of blood to the head; we ought properly to consider at the time it happens whether it really is a disease, or an effort of the constitution to remove some other.

When it arises in the course of some inflammatory disorder, or in any other where we have reason to suspect too great a determination of the blood to the head, we may suppose that it will prove critical, and therefore we should suffer it to go on, at least as long as the patient is not much weakened by it.

Neither should it be suddenly stopped, when it happens to persons in good health, who are of a full and plethoric habit. In short, where a bleeding at the nose relieves any disagreeable symptom, and does not proceed so far as to induce great debility, it ought not to be hastily checked.

When it arises in elderly people, or returns too frequently, or continues till the patient becomes faint, it ought to be put a stop to as quickly as possible: to effect this, the person is to be exposed freely to cool air, and to be placed nearly in an erect position, with his head somewhat inclined backwards; to drink freely of cold liquors, and to make use of an antiphlogistic regimen. Besides these means, he may immerse his head in water impregnated with ammonia muriata, or common salt, and snuff vinegar and water frequently up the nose, or he may throw some astringent wash* repeatedly up the nostril from which the hemorrhage proceeds, by means of a syringe.

* See Prescription (*) on the next page.

Should the bleeding nevertheless continue, a dossil dipped either in a solution of the sulphate of copper in water, or the sulphate of iron in brandy, may be introduced up the nostril.†

Dr. Darwin mentions in his Zoonomia the case of a lady who had a continued hemorrhage from her nose for several days; the ruptured vessel was not to be reached by plugs up the nostrils, and the sensibility of her fauces was such, that nothing could be borne behind the uvula. After venesection, and other common applications, she was directed to immerse her whole head in a pail of water, which was made colder by the addition of several handfuls of salt; in consequence of which, the hemorrhage immediately ceased, and returned no more; but her pulse continuing hard, she was necessitated to lose blood from the arm on the succeeding day.

In epistaxis, the application of pressure to the mouth of the bleeding vessel is often attended with a good effect, when other means prove unsuccessful; to effect which, a piece of hog's gut that has been previously dried, and moistened again, may be used. One end of it being firmly tied with a bit of small packthread, is, by means of a probe, to be pushed along the course of the nostril from which the blood is discharged to the upper part. The gut is then to be filled with cold vinegar and water by means of a syringe inserted at the end hanging out of the nostril, and as much being injected as the gut will admit, the whole is to be pressed up as far as possible, and to be then secured in this situation by a proper bandage.

While we are pursuing these steps, we are at the same time to open the body, if necessary, with cooling purgatives, in order to make some derivation from the vessels of the head, and the patient is carefully to avoid all those circumstances which might either determine the blood to the head, or prevent its free return from it.

Refrigerants, such as the saline medicine, with nitre, may be advised every hour or so, the patient drinking cold acidulated liquors, and exposing himself freely to cool air.

In obstinate cases, after copious depletion, the application of a blister to the neck has occasionally produced a good effect.

After the bleeding has ceased, the patient must be careful not to remove the tents or clotted blood, but should allow them to come away of themselves; and in order to avoid any return of the

(*) ℞ Zinc. Sulphat. ʒj.
Plumbi Superacet gr. x.
Aquæ Distillat. ℥x. M.
ft. Injectio.

Vel

℞. Aluminis in pulv. trit. ʒij.
Aq. Rosæ ℥vj.
Acidi Acetici ℥j. M.

† To assist the effect of these remedies, linen cloths wetted in a solution of nitre in cold water should be applied to the forehead and temples, and frequently repeated. E.

hemorrhage, he must be kept as still and quiet as possible, taking care not to apply any thing of a stimulating nature to the nose.

It sometimes happens, that when the bleeding is stopped outwardly, it nevertheless continues inwardly, and prevails in so high a degree as to threaten suffocation, particularly when the person falls asleep. In such cases, the passage may be stopped by introducing a pliable probe up the nostril, through the eye of which some strong threads have been passed, and so bringing it out at the mouth, then fastening pieces of sponge to their extremities, afterwards drawing them back, and tying them on the outside with a sufficient degree of tightness.

Where epistaxis arises in adults of a full plethoric habit, a frequent use of cooling purgatives, and an antiphlogistic regimen, may probably prevent any return of the complaint. When occasioned by too great a determination of blood to the head, topical bleeding by means of leeches to the temples will be adviseable.

When it is occasioned by the suppression of some accustomed evacuation, such as the menstrual or hemorrhoidal flux, this is to be restored if possible; but if we do not succeed, some other discharge, by means either of an issue or seton, must be substituted.

HÆMOPTYSIS, OR SPITTING OF BLOOD.

In hæmoptysis there is a discharge of blood of a florid colour, and often frothy, from the mouth, brought up with more or less of coughing or hawking, and preceded usually by a saltish taste in the saliva, a sense of weight about the precordia, difficult respiration, and a pain in some part of the thorax.

It is readily to be distinguished from hæmatemesis, as in this last, the blood is usually thrown up in considerable quantities, is moreover of a darker colour, more grumous, and mixed with the other contents of the stomach, and is unattended by any cough; whereas blood proceeding from the lungs, is usually in small quantity, is of a florid colour, fluid, mixed with a little frothy mucus, and brought up by coughing.

A spitting of blood arises most usually between the ages of sixteen and twenty-five, and may be occasioned by any violent exertion, either in running, jumping, wrestling, singing, speaking loud, or blowing wind-instruments; as likewise by wounds, plethora, pneumonia, weak vessels, cough, irregular living, excessive drinking, or the suppression of some accustomed discharge, such as the menstrual or hemorrhoidal. It may likewise be occasioned by breathing air which is too much rarefied to be able properly to expand the lungs.

Persons in whom there is a faulty proportion either of the vessels of the lungs, or in the capacity of the chest, being distinguished by a narrow thorax and prominent shoulders, or who are of a delicate make and sanguine temperament, or who have had pre-

vious affections of the same disease, seem much predisposed to this hemorrhage; but in these, the complaint is often brought on by the concurrence of various occasional and exciting causes before mentioned.

A spitting of blood is not, however, always to be considered as a primary disease. It is often only a symptom, and in some disorders, such as pleurisies, peripneumonies, and many fevers, often arises, and is the presage of a favourable termination, if only very slight.

Sometimes it is preceded (as has already been observed) by a sense of weight and oppression at the chest, a dry tickling cough, some slight difficulty of breathing, and a hard jerking pulse. At other times it is ushered in with shiverings, coldness of the extremities, pains in the back and loins, flatulency, costiveness, and lassitude. The blood which is spit up is sometimes thin, and of a florid red colour; and at other times it is thick, and of a dark or blackish cast; nothing, however, can be inferred from this circumstance, but that the blood has lain a longer or shorter time in the chest before it was discharged.

An hæmoptoe is not usually attended with danger, where no symptoms of phthisis pulmonalis have preceded or accompanied the hemorrhage; where it leaves behind no cough, dyspnœa, or other affection of the lungs; or where there is no malconformation of the pulmonary system: nor is it dangerous in a strong healthy person of a sound constitution, unless the hemorrhage is very great; but when it attacks persons of a weak lax fibre, and delicate habit, it may be difficult to remove it.

It seldom takes place to such a degree as to prove fatal at once; but when it does the effusion is from some large vessel. The danger, therefore, will be in proportion as the discharge of blood comes from a large vessel or a small one, and as the quantity is profuse or trifling.

When the disease proves fatal in consequence of the rupture of some large vessel, there is found on dissection a considerable quantity of clotted blood between the lungs and pleura, and there is usually more or less of an inflammatory appearance at the ruptured part. Where the disease terminates in pulmonary consumption, the same morbid appearances are to be met with as described under that particular head.

In an hæmoptoe, the effusion is to be moderated by a strict observance of the antiphlogistic plan; by carefully avoiding heat, and every kind of bodily exertion; by employing occasionally cooling purgatives, such as manna, tamarinds, phosphorated soda, sulphate of potass, &c. and by making use of a light vegetable diet with refrigerants. Cold acidulated liquors should be taken for ordinary drink.

If the patient is hot and feverish, youthful, or of a plethoric habit, and has a hard jerking pulse, bleeding from the arm may be used with advantage, and the operation should be repeated accord-

ing to circumstances; but on the contrary, where there are marks of debility and laxity, and the blood is of a dark colour, depletion will be improper.*

In all cases where the hemorrhage is considerable, besides resorting to cooling purgatives, and refrigerant medicines in the manner before mentioned, we ought to give sedatives, or such remedies as have the effect of diminishing the activity of the arterial system, in order to stop it as quick as possible.

The acetate of lead has been used freely, and with great advantage, in hæmoptysis. One grain every four or six hours may be employed with perfect safety. In cases attended with imminent danger we may venture on two grains. It may be given in an infusion of roses.

The remarkable operation of digitalis in retarding the pulse has suggested its use in cases of active hemorrhage, and particularly in hæmoptoe, in which disease it has be used by many practitioners, and repeatedly by myself, with a very happy effect. It may be given in small doses, repeated twice or thrice a day, as prescribed here.†

If the hemorrhage resist all the means which have been advised and there is reason to fear that the patient may sink under the loss of blood, it will be proper to apply a blister to the chest; which remedy has often been attended with much advantage in cases of this nature.

Dr. Rush tells us, that a table spoonful or two of common salt is often successful, when other means will fail.‡

When much coughing attends on hæmoptoe, (in a chronic or passive state of the disease) it will be necessary to have recourse to opium, exhibited in small and frequently repeated doses along with the other remedies.

After the effusion is stopped, we are to use every possible means for preventing its return. If the complaint has arisen from predis-

* Provided there be no pain in the thorax, and the pulse is low, soft, and not more frequent than in health; otherwise bleeding should never be omitted. E.

† ℞ Pulv. Digitalis Purp. gr. j.
Confect. Rosæ gr. x. M.
ft. Bolus mane, hora meridiana, et vespere sumendus.
Vel
℞. Infus. Digitalis ʒvi.—ℨi.
Plumbi Superacet. gr. ij.
Tinct. Opii ♏. v. M.
ft. Hausta 6ta quaque hora adhibendus.

Vel
℞. Fol. Digital. Purp. Sicc. ℨj.
Spirit Vini Rectif.
Aq. Puræ āā ℨij. ft. Infus.
Post horas xxiv. Col. et capitat æger ♏. xxx. bis terve die in
Aq. Menth. Viridis ℨj.

‡ This remedy is only proper in what is called the passive state of the hæmorrhage, or when it has been of long duration and depends entirely upon a loss of tone in the extreme arteries of the part affected. E.

position, and where an inflammatory diathesis prevails, it may be necessary to obviate this by small bleedings, repeated according to the urgency of the symptoms, besides which, we may employ refrigerants and cooling purgatives occasionally, the patient at the same time adhering strictly to an antiphlogistic regimen, and avoiding all vigorous exertions of the body, agitations of the mind, and other occasional causes.

Sailing, travelling in an easy carriage, and swinging, will be the most proper exercise.

Where the disease arises in persons of a lax fibre and delicate habit, it has been customary to exhibit the bark of cinchona and chalybeates. These seem, but more particularly the latter, to be unsafe medicines in all cases of active hemorrhage, and have been experienced frequently to prove prejudicial in hæmoptoe, by increasing the phlogistic diathesis.

HÆMATEMESIS, OR VOMITING OF BLOOD.

A HEMORRHAGE of blood from the stomach is readily to be distinguished from one which proceeds from the lungs, by its being usually preceded by a sense of weight, pain, or anxiety in the region of the stomach; by its being unaccompanied by any cough; by its being discharged in a very considerable quantity; by its being of a dark colour, and somewhat grumous, and by its being mixed with the other contents of the stomach.

The disease may be occasioned by any thing received into the stomach, which stimulates it violently or wounds it; or may proceed from blows, bruises, or any other cause capable of exciting inflammation in this organ, or of determining too great a flow of blood to it: but it arises more usually as a symptom of some other disease (such as a suppression of the menstrual or hemorrhoidal flux, or obstructions in the liver, spleen, and other viscera) than as a primary affection.

Where this complaint has arisen in a plethoric habit, and is attended with febrile symptoms, or such as indicate an inflammatory diathesis, it will be necessary to take away some blood from the arm; but the great debility which the disease produces of itself, will not admit of this operation under all circumstances.

In moderate attacks of the disorder it may be sufficient to make use of refrigerants, as advised under the head of Hæmoptysis, confining the patient at the same time to food of a light nutritive nature, and directing him to take some kind of cool acidulated beverage for his ordinary drink: but if these means do not quickly allay the hemorrhage, we ought then to employ powerful sedatives, as advised under the last mentioned disease. During the use of these medicines, it will be necessary, however, to give some gentle laxative (such as the oleum ricini) now and then, in order to obviate costiveness, and prevent any deleterious effects.

In chronic cases of hæmatemesis, I have the strongest reasons for presuming that there is not a more effectual astringent than the tinctura ferri muriatis; for by being applied here immediately to the mouth of the bleeding vessel, it acts as a styptic. It may be given in doses of twenty or thirty drops in a little cold water, and be repeated every hour or two till the hemorrhage ceases.

The application of a blister to the abdomen in severe attacks is sometimes attended with a good effect.

When the hemorrhage has stopped, it will be adviseable to discover, if possible, the cause from which it proceeded, and, by removing that or the primary disease, to prevent any return of the complaint.

A modern writer* informs us, that he has met with a variety of this disease in females from eighteen to thirty years of age, and by no means originating in organic affection of the stomach or viscera connected with it, that resisted the usual routine of treatment with cold acidulated liquors and different emmenagogues, but which readily gave way by procuring copious and free alvine evacuation by the exhibition of purgatives.

HÆMATURIA, OR VOIDING OF BLOOD BY URINE.

This disease is sometimes occasioned either by falls, blows, bruises, or some violent exertion, such as hard riding and jumping; but it often arises from a small stone lodged either in the kidney or ureter, which, by its size or irregularity, wounds the inner surface of the part it comes in contact with; in which case, the blood discharged is most usually somewhat coagulated, and deposits a sediment of a dark brown colour, resembling the grounds of coffee. It is rarely, if ever, an idiopathic disease.

A discharge of blood by urine, when proceeding from the kidney or ureter, is commonly attended with an acute pain and sense of weight in the back, and some difficulty of making water, the urine which comes away first being muddy and high-coloured, but towards the close of its flowing becoming transparent, and of a natural appearance. When the blood proceeds immediately from the bladder, it is usually accompanied with a sense of heat and pain at the bottom of the belly.

It is distinguished from the high-coloured urine attendant on many diseases, by the deposite of a coagulum to the bottom of the vessel, and by its staining linen of a red colour.

The voiding of bloody urine is always attended with some danger, particularly when mixed with purulent matter.

In the treatment of hæmaturia we must be guided by the cause which has occasioned it.

* See Observations on the Utility of Purgative Medicines, by Dr. Hamilton, page 109.

If it has arisen in consequence of some external injury, such as a blow or fall, or the patient is of a full plethoric habit, it may then be proper to make use of evacuation by bleeding, giving him a couple of table-spoonfuls of an infusion of roses, with a small quantity of nitre dissolved in it every two or three hours, and employing some gentle purgative, such as the oleum ricini, magnesia sulphas, or sodæ sulphas every second or third day, to keep the body open.

If the hemorrhage should continue after these steps have been taken, we must resort to astringents as noticed under the former heads, beginning with those of the milder kind. To allay irritation, we may also give opium in small doses every four or six hours. Where there is any deposite of muco-purulent matter in the urine, about half a drachm of uva ursi in powder, three times a day, may be of service, the patient taking the double acidulated soda water for common drink.

When hæmaturia proceeds from a stone either in the kidney, ureter, or bladder, it is only to be cured by removing the cause; but as this may not be always practicable, we must then be contented to moderate the symptoms, by making the patient drink plentifully of mucilaginous liquors, such as thick barley-water, solutions of gum. acaciæ, or a decoction of marsh-mallows, sweetened with honey; by giving him repeated small doses of opium joined with refrigerants, as advised under the head of Hæmoptysis, and by throwing emollient clysters frequently up the intestines.

A case of hæmaturia is recorded in the 8th volume of Medical Facts and Observations, which had resisted repeated bleedings and warm bathing, saline purgatives, emetics of different kinds, camphor and opium in large doses, uva ursi, mephitic alkaline water, &c. and which was quickly and effectually removed by giving the patient a pint a day of a decoction of peach leaves. This was prepared by boiling an ounce of dried leaves of the peach tree (Amygdala Persica, Linn.) in a quart of water, till it was reduced to a pint and a half.

MENORRHAGIA, OR IMMODERATE FLOW OF THE MENSES.

A Flow of the menses is to be considered as immoderate, when it either returns more frequently than what is natural, continues longer than ordinary, or is more abundant than is usual with the same person at other times. With the extraordinary flux of blood, there are usually pains in the back and belly somewhat like those of child-birth.

The usual period of its visitations is from twenty-seven to thirty days. As to the time of its continuance, this is various in different women; but it seldom continues longer than six days, or less than three, and does not cease suddenly, but in a gradual manner.

The quantity generally discharged in a healthy and regular woman, is from four to six ounces at each visitation. Those of a lax and delicate constitution have, however, a more copious and longer continued discharge than persons of a robust habit.

The causes of menorrhagia may be referred to,

1st. A plethoric state, or general fulness of habit.

2dly. Accidental circumstances determining the blood more copiously and forcibly into the uterine vessels, as violent exercise in dancing, straining at stool. strokes or contusions on the abdomen, strains and violent passions of the mind, or the application of wet and cold to the feet, which may determine a greater flow of blood than natural to the uterus.

3dly. Laxity and debility of the organ, arising from frequent child-bearing, difficult and tedious labours, or repeated miscarriages.

4thly. Those which induce debility of the whole system, as a sedentary and inactive life, indulging much in grief and despondency, living upon a poor low diet, drinking freely of warm enervating liquors (such as tea and coffee,) and living in warm chambers; and

5thly, Organic affections, such as scirrhus, polypus, ulceration, &c.

An immoderate flow of the menses arising from plethora, is often preceded by head ach, giddiness, or dyspnœa, and is afterwards attended with pain in the back and loins, some degree of thirst, universal heat, and a frequent, strong, hard pulse; but where it arises in consequence of a laxity of the organ, or of general debility, and such attacks are frequently repeated, the symptoms which attend are, paleness of visage, chilliness, laxity and feebleness in the muscular fibres, unusual fatigue in exercise, a hurried respiration on the slightest effort, pains in the back on remaining any length of time in an erect posture, and coldness of the extremities, together with loss of appetite, indigestion, and a long train of nervous complaints.

If the disease has induced much debility by frequent and severe attacks, it is no uncommon occurrence for the feet to be affected with œdematous swellings, particularly towards the evening, and for a leuco-phlegmatic habit to take place.

In forming our prognostic in this disease, we must be directed by the nature of the cause which has given rise to it. If occasioned by plethora, or a general fulness of the system, we need apprehend no danger, as a temporary debility will be the only inconvenience the woman will experience; but where it is produced by a laxity of the vessels of the organ, and is profuse, long continued, and of frequent recurrence, there will always be a risk of its inducing much general debility, and a leuco-phlegmatic habit. Leucorrhœa is a common consequence of it. Where it arises from an organic affection of the part, which is sometimes the case after the age of forty-five, it is usually deemed incurable.

When menorrhagia proves fatal in consequence of a scirrhus of the uterus, this organ is observed on dissection to be much increased in size, and in substance to be thick and hard, and when cut into, shows a firm structure intersected with membranous septa. The internal surface is at the same time usually ulcerated, and beset with ragged processes, and from these ulcerated parts the hemorrhage proceeds.

If polypi are the organic affection, these on dissection are generally to be found adhering to some part near the neck of the womb, and they are surrounded with varicose vessels, which throw out the blood in considerable quantity, when a rupture of any of them happens to take place.

Where the profuse flow of the menses is attended with pains in the back, and the patient is of a full and robust habit, with pyrexial symptoms, it may be proper to draw off blood, in proportion to the state of excitement; but in other instances, venesection may be safely omitted.

In general, it will be sufficient to employ the other antiphlogistic means, such as keeping the body gently open with laxative medicines that give but little stimulus; administering refrigerants, such as nitre; making use of a spare regimen; drinking freely of cool acidulated liquors, such as a lemonade or tamarind beverage, and keeping the chamber of a moderate temperature, and the bed, or mattrass (which will be more proper) lightly covered with clothes. Besides adopting these means, the patient is to avoid an erect posture, and all such things as might prove exciting causes.

When no symptoms denoting an increased action in the vessels of the uterus are present, and we are satisfied that the hemorrhage has arisen in consequence of a laxity of the vessels, besides keeping the woman in a recumbent posture, shunning much external heat, making use of refrigerants internally, and avoiding venery, costiveness, and the other remote causes, we should have recourse to sedatives and astringents, both of which may be used externally, as well as internally.

Linen cloths dipped in cold vinegar and water, and kept constantly applied to the back and private parts, have a powerful effect in many cases of uterine hemorrhage. These means ought therefore always to be employed in those instances where the discharge of blood is profuse.

Opium has been much used internally in menorrhagia, and where the patient experiences spasmodic pains in the uterus, it undoubtedly will prove a very valuable and useful medicine.* On such occasions it may be given in small and frequently repeated doses, combined either with refrigerants or astringents: but as opium possesses the power of greatly relaxing the system when

* Opium may be proper when all symptoms of increased action in the vessels of the part are absent, but not otherwise. E.

used liberally, it ought not to be administered in cases of general debility, unless under the circumstance just mentioned.

The astringents most employed in this disease are, alum, catechu, and gum kino. The sulphate of zinc, and superacetate of lead, may be substituted in cases of profuse hemorrhage.* (See Hæmoptysis.) We may give the latter in doses of one, two, or even three grains, every three or four hours, according to the urgency of the symptoms.

In those cases where the hemorrhage is profuse, and resists the means already recommended, it will be proper to throw up astringent injections into the uterus. Any of those here† prescribed may be used on the occasion.

Where menorrhagia proceeds from a scirrhous or ulcerated state of the uterus, all that can be done is to afford a temporary relief by administering opium in considerable doses. A combination of it with the extract of hemlock might possibly add somewhat to its palliative effect. Hyoscyamus may likewise be tried.

In those cases where menstruation becomes profuse, continues longer than ordinary, or returns more frequently than what is natural, in consequence of general laxity in the system, it will be proper for the patient, during its intervals, to enter on a course of tonic medicines, such as cinchona, the cortex cuspariæ, myrrh, and preparations of steel, as advised under the head of Dyspepsia.

To assist the effect of these remedies, she may make use of cold bathing, together with gentle horse exercise and generous nutritive diet with wine. Where chalybeate springs can be resorted to with convenience, a use of these waters will be likely to afford much benefit.

With regard, however, to hemorrhagy from the uterus, it is often accompanied with a degree of general fever, pains in the back and loins, and local irritation, when every internal stimulant medicine would aggravate the disorder; and therefore the use of chalybeate waters in these cases, requires much judgment and a proper discrimination.

To repress the too great or permanent menstruation, which occurs in weak constitutions at the time of life when it ought to

* This latter should only be employed in cases where there exists an increased action of the arteries either general or local.—When this is not the case, alum whey has been found beneficial. E.

† ℞. Decoct. Querc. ℥vj.
Aluminis ʒjss. M.
ft. Injectio.
Vel
℞. Zinc. Sulphat. gr. xv.
Plumbi Superacet. gr. x.
Aq. Distillat. Oj. M.

Vel
℞. Aluminis ℈iv.
Zinc. Sulphat. gr. x.
Aq. Fervent. Oij. M.
ft. Injectio.

cease, we should have recourse to chalybeates, alum, bitters, and opium, the last of which may be administered in the dose of a grain every night, with about five grains of rhubarb.

HÆMORRHOIS, OR PILES.

THE piles consist of small tumours situated on the verge of the anus, which are sometimes separate, round, and prominent, but sometimes the tumour consists only of one tumid or varicose ring surrounding it. In some cases there is a discharge of blood from these tumours, particulary when the patient goes to stool, and then the disease is known by the name of the bleeding piles; and in others there is no discharge, when it is called blind piles.

These affections may be occasioned by habitual costiveness, plethora, hard riding, excesses of various kinds, the suppression of some long-accustomed evacuation, and by a use of strong aloetic purges; and are most apt to arise in those of a robust habit, and who lead a sedentary life. Pregnant women are frequently afflicted with the piles, owing to the pressure of the uterus upon the rectum, which interrupts the return of venous blood from that part, and the costive habit to which such women are usually liable.

The piles are sometimes accompanied by a sense of weight in the back, loins, and bottom of the belly, together with a pain or giddiness in the head, sickness at the stomach, and flatulency in the bowels. On going to stool, a pungent pain is felt in the fundament, and small tumours are perceived to project beyond its verge. If these break, a quantity of blood is then voided, and a considerable relief from pain is obtained; but if they continue unbroken, the patient in that case experiences great torture every time he goes to stool, and feels an inconvenience even in sitting down on any hard seat. The tumours are sometimes considerable, and from pressure upon the bladder, produce much irritation and even pain in voiding urine.

Hæmorrhoids are by no means dangerous, but they often prove both troublesome and disagreeable. In some instances they are to be regarded as a salutary evacuation. Hæmorrhoidal tumours are sometimes attended with a considerable degree of inflammation, which proceeding to a suppuration, terminates in sinuous ulcers or fistula.

Dissections of piles show that the tumours consist partly of the fine skin round the anus on the outside, and partly of the internal membrane of the gut. In general, they are entire, but they sometimes have small openings in them through which the blood issues.

In the treatment of piles, due attention should be paid to the cause from which they have arisen: and as costiveness is one of the most frequent, the bowels ought to be kept open and regular

by medicines which will prove gently laxative,* without irritating the rectum: and as habit may be acquired, it will be right for the patient to observe stated times in the day for endeavouring to obtain motions.

When the tumours are attended with much pain, and a considerable degree of inflammation, it may be adviseable to apply leeches; after which, pledgets wetted in the solution of the acetate of lead or sulphate of zinc may be laid on, the patient taking care after each stool to anoint the parts with some kind of emollient ointment. In the se cases, fomentations and poultices are likewise employed, but the former are preferable; except in those cases where a suppuration has commenced. This, however, should be prevented if possible, as a fistula is sometimes the consequence thereof. In plethoric habits, small doses of nitre may prove serviceable, particularly if mixed with sulphur. Balsam of copaiba given to the extent of forty or fifty drops morning and evening, often relieves the pains so frequently produced by piles.

In some cases, where the tumours are numerous and tumid, relief may be obtained by making a firm and gentle pressure of each pile between the finger and thumb.

If a prolapsus ani attends the piles, the part is carefully to be replaced each time after going to stool, by laying the patient in a horizontal posture, and pressing gently with the fingers, till the reduction is effected. Its return is to be prevented by avoiding the occasional causes as much as possible; and where it proceeds from a laxity of the rectum, besides applying a proper bandage, we may employ astringents both internally† and externally. Pledgets dipped in a strong decoction of galls, or oak bark, may be kept constantly to the parts as an external astringent, and they may be anointed from time to time with an ointment‡ possessing similar virtues. As a general tonic, cold bathing may be employed with advantage.

* ℞. Confect. Sennæ ℥ij.
Pulv. Jalap. ʒij.
Potassæ Nitrat. ʒjss.
Syr. Simp. q. s. M.
ft. Electuarium de quo sumat magnitudinem juglandis pro re nata.
Vel
℞. Sulph. Sublimat. ℥j.
Confect. Sennæ ℥ij.
Potassæ Supertart. ʒij.
Syrup. Rosæ q. s. M.
ft. Electuarium.
Vel
R. Ol. Ricini ʒvj.—℥j.

† ℞. Pulv. Terr. Catechu gr. viij.
—— Aluminis gr. x. M.
ft. Pulvis ter in die sumendus.
Vel
℞. Gum. Kino gr. vj.
Aluminis gr. x.
Confect. Rosæ q. s. M.
ft. Bolus.

‡ ℞. Adipis Præparat. ℥j.
Camphoræ ʒss.
Pulv. Gallarum Subtilis. ʒij.
Tinct. Opii ʒj. M.
ft. Unguentam.
Vel
℞. Cerat. Plumbi Superacet. ℥j.
Pulv. Gallar. ʒij. M.

It has been noticed that hemorrhoids are to be regarded in some instances as a salutary evacuation. In all such, therefore, the hemorrhage should not be stopped.

In those cases where it is so profuse as to occasion great loss of strength, we must have recourse to astringents both internally and externally, as has just been advised, taking care to obviate costiveness by some gentle laxative. Confinement to an horizontal posture will be adviseable in such cases.

Where the hemorrhage has been very considerable, good effects have been derived from the early application of pressure, made by introducing up the rectum, a piece of sheep's or pig's gut tied at one end, and by filling it at the other extremity with any cold liquid, such as vinegar and water, forcing up the liquid so as to increase the degree of pressure, and then securing it with a proper bandage.

When the hemorrhage proceeds from tumours seated high up in the rectum, and is so severe as to induce great debility, we may throw up some astringent injection,* if it cannot be stopped by the means just recommended.

In those cases where the discharge has become habitual, arising from plethora, this state of fulness must be prevented by moderate exercise on foot, or in a carriage; by the use of a spare diet, by taking cooling purgatives from time to time, and by carefully avoiding all strong liquors.

The advantages of sulphur as a mild unirritating purgative, and one which seems to continue its operation through the whole of the intestinal tube, has long established its virtue in those hæmorrhoidal affections that require this evacuation.

Those who are afflicted with piles should shun all such causes as may either increase the determination of blood into the hæmorrhoidal vessels, or prevent its return back from them, but more particularly riding on horseback.

During the continuance of this complaint the diet should be cool and nutritious, consisting principally of vegetables, ripe fruit, jellies, broths, &c. Fermented and spirituous liquors will be hurtful, and therefore the patient should only drink cooling acidulated liquors, water, or toast and water.

Where piles have been of long standing, the intestinal varicose tumours or hæmorrhoidal excrescences sometimes become so troublesome as to render their extirpation necessary either by ligature or excision. Under certain and prudent limitations the latter

* R. Cort. Querc. Contus. ℥j.
Aq. Fontan. Oij.
Coque ad Oj. Colaturæ adde
Aluminis ℥ij.
Gum. Opii gr. iv. M.
ft. Injectio.

Vel

R. Zinc. Sulphat. ℥j.
Aq. Rosæ Oj. M.

Vel

R. Gallæ Contus. ℥ss.
Aq. Fervent. Oij. Col.

has been strongly recommended by Mr. Ware,* and by Sir James Earle† their removal has been powerfully urged, but very serious consequences have, however, now and then resulted from both modes.‡

If the disease is recent, it may sometimes be relieved by milder means, such as by the introduction of a large sized bougie up the rectum. Where the radical operation is not thought adviseable, or there may be any other objection to its performance, we ought to make trial of the bougie, as it promises, nay, has been found,§ very considerably to relieve the inconveniences produced by hæmorrhoidal excrescences.

Order V.—PROFLUVIA, OR FLUXES WITH PYREXIA.

Pyrexia with an increased excretion, not naturally bloody, constitutes this order of diseases.

CATARRHUS, or CATARRH.

A catarrh consists in an increased excretion of mucus from the membrane of the nose, throat, and bronchiæ, accompanied with a slight degree of fever, and other symptoms usually attendant thereon.

It attacks persons of all ages and constitutions, but more particularly the young, and those who have had any former affection of the lungs; and it may take place at any time of the year when there are sudden changes of the weather from heat to cold, and *vice versa*. In the former instance, the application of cold to the body seems evidently to be the remote cause of the disease: and in the latter it appears to depend on a specific contagion, having, in the years 1732 and 1733, spread in a progressive manner over the whole of Europe, and part of America, and in 1785 and 1803 over the whole of Britain. When the disease has prevailed epidemically in this manner, the term of influenza has been applied to it.

The proximate, or immediate cause of catarrh, seems to be an increased afflux of fluids to the mucous membrane of the nose, fauces, and bronchiæ, in consequence of some degree of inflammation in these parts.

* See his Remarks on Fistula Lachrymalis, with Observations on Hæmorrhoids.

† See Observations on the Hæmorrhoidal Excrescence. Pott's Works, by Sir James Earle, vol. iii.

‡ Evacuating the contents of each pile by means of a lancet, has been found to afford relief in several cases. E.

§ See Observations on the Diseases of the Rectum, &c. by T. Copeland.

The disease usually comes on with a dull pain, or sense of weight in the forehead, a redness of the eyes, and a fulness and heat in the nostrils, which symptoms are soon followed by the distillation of a thin acrid fluid from these parts, together with a soreness in the trachea, hoarseness, frequent sneezing, some difficulty of breathing, a dry cough, loss of appetite, general lassitude over the whole body, and chilliness; towards evening, the pulse becomes considerably quickened, and a slight degree of fever arises.

In the progress of the disorder, the cough is attended with an excretion of mucus, which at first is thin, white, and expectorated with some difficulty; but becoming gradually thicker and of a yellow colour, is at length brought up with greater ease and less coughing.

Even where there is not much affection of the system, it often happens, that the natural evening paroxysm is considerably increased; and from restlessness, and frequent coughing, the patient is prevented from sleeping till the morning; at which time a crisis takes place for the present, and he then remains tolerably easy until the return of the evening paroxysm.

When the secretion of mucus ceases, the inflammation goes off also, so that a natural cure almost always arises in the disease.

Catarrh is seldom attended with fatal consequences, except when it either arises in elderly persons, attacks those of a consumptive habit, or has been much aggravated by some fresh application of cold, or by improper treatment; and it usually terminates in the course of a few days, if not neglected, either by an increased expectoration, or a spontaneous sweat. In some instances, it, however, lays the foundation of phthisis pulmonalis, or gives a tendency to asthma and hydro-thorax. In others, it becomes habitual, and is accompanied by severe dyspnœa, particularly in the winter: such patients often suffer fatally from the accession of a sharp frost; their usual complaint immediately attacks them, and passes on to the peripneumonia notha on the one hand, in which they are suffocated by the profuse effusion of viscid phlegm into the air cells and tubes; or on the other, it puts on the more active form of common peripneumony. Very old persons are apt to be carried off by comparatively moderate attacks of catarrh, which seemed to wear out their feeble portion of vitality, merely by the slight interruption to the function of respiration, which the phlegm, secreted in the bronchial passages occasioned, and they quietly sink into the sleep of death, without any urgent symptom, or appearance of distress.

The inner membrane of the trachea usually appears on dissection, in fatal cases of catarrh, to be much inflamed, and its cavity to be filled with a considerable quantity of mucous fluid. The same morbid state is likewise communicated to the lungs, which seem loaded with matter of a similar nature, producing suffocation.

In mild attacks of this disease, it may not be necessary to have recourse to the aid of medicine. In general, it will be sufficient to

confine the patient to bed, and to make him use an abstemious regimen, and drink plentifully of warm diluent mucilaginous liquors, such as barley-water, thin gruel, &c. acidulated with a small quantity of lemon juice, or crystals of tartar; but in violent attacks, where there is great difficulty of breathing, much febrile heat, and a full frequent pulse, it will be necessary, besides adopting these means, to guard against the effects of general inflammation, by employing various remedies.

In those cases, therefore, where there is much general affection of the system, and the inflammatory diathesis is great, we should have recourse to the lancet, and other antiphlogistic remedies, proportioning the quantity of blood which we draw off, to the violence of the symptoms, and the age of the patient.

If the difficulty of breathing and oppression at the chest are not soon relieved by venesection, local blood-letting will be advisable, after which it will be proper to apply a blister over the part affected; which application will seldom fail to afford relief, if employed early in the disease.

To encourage a determination to the surface of the body, and promote expectoration, it will be necessary to administer small and frequently repeated doses of antimonials, as advised under the head of Simple Continued Fever, the effect of which may be assisted by making the patient drink plentifully of mucilaginous diluent liquors acidulated, and confining him to bed.

Nitre is a medicine which is often given in this disease, as well as in gonorrhœa. In the latter, it will be sure to augment the pain by its stimulus on the excoriated or inflamed urethra; and, in the former, where the discharge is too thin or saline, it cannot fail to increase the coughing.

When the cough is troublesome, and there is great soreness and rawness in the fauces, demulcents* may be used with advantage; and after the inflammatory symptoms have subsided, opiates will afford effectual relief, and may be joined with the former.

If costiveness prevails in the course of the disease, it ought to be removed by gentle laxatives, such as castor oil, &c.

When the mucous membrane of the nose is much affected, it may be smeared from time to time with a little tallow, or spermaceti ointment.

The diet of the patient should be cooling and spare, as water-gruel, chicken broth, beef tea, vegetables, &c.

Such is the treatment which should be adopted during the first

* R. Mucilag. Gum. Acaciæ ℥v.
Ol. Amygdal. D. ℥j.
Syrup. Tolutan. ℥ss.
Liquor. Ammon. Carbonat. ʒss.
M. ft. Emulsio cujus sumat Cochl. larg. j. sæpe in die.

Vel

R. Mel. Optim.
Ol. Amygd. D. āā ℥ij.
Suc. Limon. ℥j.
Syrup. Tolutan. ʒij. M.
ft. Linctus.

stage of the disease; but it often happens, that after the inflammatory symptoms have subsided, a weakness remains, and there is an increased secretion from the lungs, which perhaps continues for many months, without the least appearance of purulence. In such cases, the patient is carefully to avoid all fresh exposures to cold, and he should defend himself by going warmly clothed.

Where the disease runs on for any length of time, or has become habitual, the patient should continue long in bed in the morning, so that the natural evening paroxysms of fever may be entirely carried off there, and he should go early to bed at night. He is likewise to abstain from wine, and all food which is hard of digestion; to breathe as pure open air as possible: and to use gentle exercise daily on horseback: which will take off the blood from the interior parts, and thereby diminish the internal secretions.

By paying a proper attention to the means which have been advised, by keeping up a constant inflammation on the breast by plasters of Burgundy pitch or pix arida, and blisters, and by employing opiates to mitigate the cough, and tonics, we shall in general be able to remove all consequences of the disease.

If, notwithstanding these means, the cough should be dry, or be unattended with proper expectoration, and, together with a soreness, produce shooting pains through the breast and between the shoulders, accompanied with difficulty of breathing, flushing in the cheeks after meals, a burning sensation in the hands and feet, and other symptoms of hectic fever, no time should be lost, as there is reason to fear that tubercular suppurations will follow. Under such circumstances, the steps advised in the treatment of incipient phthisis pulmonalis ought immediately to be adopted.

The catarrhal fever known by the name of Influenza, which prevailed so universally in most parts of this kingdom in 1803, as well as in France, where it was called La-gripe, first showed itself in London towards the latter end of the month of February, when a damp and mild state of the atmosphere had succeeded to severe cold, and when this again had been followed towards the beginning of March by frost and keen easterly winds.

Like preceding epidemics of the same kind, this disease exhibited various degrees of morbid affection, having been in some instances so slight as not to incapacitate persons from following their ordinary occupations and pursuits, and scarcely to require the aid of medicine; while in others the attack was of so severe a nature as to endanger life, and even to destroy it. To young children and elderly people it proved very fatal indeed, but more particularly so to the latter. Those likewise of middle age, who either laboured under habitual asthma, or had any predisposition to phthisis, experienced its dire effect.

It was generally preceded by chilliness and shiverings, which were succeeded by some degree of heat, pains in the head, a discharge from the eyes and nostrils, severe sneezing, hoarseness, and cough. In the course of a few hours the head-ache became much

increased, as well as the heat; the pulse was quickened, but small; the breathing was difficult and oppressed, or transitory stitches across the chest were felt. Some patients complained of pains in the shoulders and limbs, very much resembling chronic rheumatism, and there were instances in which the difficulty of breathing might be, in part, attributed to a similar affection of the intercostal muscles. The tongue was usually white; the thirst considerable; the bowels were costive; the urine was high-coloured and clear; and very frequently there was a nausea at the stomach, with more or less vomiting.

Towards the second or third night the cough became greatly aggravated, and was strong and almost incessant, being usually accompanied, even on its first coming on, with an expectoration of thin sharp mucus. The evening paroxysm of fever was likewise more severe, being attended with extreme anxiety and restlessness, as well as considerable heat, and often with a great confusion in the head and rambling. At this stage of the disease the pulse was usually from 100 to 120 strokes in a minute. Towards the morning there was commonly a remission of the febrile symptoms, but the cough continued urgent, and greatly interfered with the patient's getting any sleep after this time.

Where gentle perspirations came on early, and the bowels were kept open, the fever usually declined about the fifth or sixth day, and the urine, which was before high-coloured and clear, now became turbid, or deposited a copious sediment; but the cough continued for many days, the sputum being however of a milder quality and thicker consistence, and the expectoration more free. Depression of spirits, languor, and debility, which were universal attendants on this epidemic, together with restless nights, harassed the patients for a considerable length of time after the decline of the fever.

Such was the common form of the disease, but its modifications were extremely numerous; for in some instances there was a violent head-ach with a swelling of the eyes or inflammation of the conjunctiva, or pains in the limbs, with but little cartarrhal affection; in others, the throat was principally affected, and in others again, a peripneumonic condition existed. In a few instances the fever assumed the typhoid type.

By some physicians the disease was supposed to be contagious; by others not so: indeed its wide and rapid spread made many suspect some more generally prevailing cause in the atmosphere, as alone capable of accounting for its extensive and speedy diffusion. It arose, probably, at first from a peculiar state of the atmosphere, like other epidemics, and was afterwards kept up and propagated by contagion.

[As the symptoms of the Influenza, bear a near resemblance to those of the measles, excepting in the absence of the cuticular eruption, and as the treatment is the same in both, the reader is referred for what should follow, to the latter disease. E.]

DYSENTERIA OR DYSENTERY.

THE dysentery, is a disease in which there is an inflammation of the mucous membrane of the intestines, accompanied with frequent stools, severe griping pains, a tenesmus, and some degree of fever; the stools, although frequent, being small in quantity, and without any natural fæces intermixed, but consisting principally of mucus, which is sometimes streaked with blood. When the natural fæces do appear, they are usually under the form of small, compact, hard substances, known by the name of scybala.

Dysentery occurs chiefly in the autumn, and is often occasioned by cold or moisture succeeding quickly to intense heat or great drought, whereby the perspiration is suddenly checked, and a determination made to the intestines. It is likewise occasioned by a use of unwholesome and putrid food, and by noxious exhalations and vapours; hence it appears often in armies encamped in the neighbourhood of low marshy grounds, and proves highly destructive; but the cause which most usually gives rise to it is a specific contagion; and when it once makes its appearance, where a number of people are collected together, it not unfrequently spreads with great rapidity. The free use of fruits has been assigned as one of the causes productive of the disease in warm climates, but very erroneously, for they have quite the opposite effect, and tend to preserve those from it who partake freely of them. A particular disposition in the atmosphere seems often to predispose, or give rise to the dysentery, in which case it prevails epidemically.

It frequently occurs about the same time with autumnal intermittent and remittent fevers, and with these it is often complicated. It is likewise frequently combined with typhus. A late writer* supports the proposition that the simple dysentery is of itself never contagious, nor the intermittent and remittent forms of the disease; that the combination with typhus is alone possessed of that property, and this, he insists, originates not in the virus specific to the dysentery, but in the contagion of fever. Others have however given it as their opinion, that the contagion arises from the effluvia of the fæces of dysenteric patients, and not from the febrile perspiration or breath.

The dysentery is much more prevalent in warm climates than in cold ones; and in the months of August, September, and October, which is the rainy season of the year in the West Indies, it is apt to break out, and to become very general among the negroes on the different plantations in the colonies. It likewise prevails much in the unhealthy parts of the East Indies, and in the factories on the coast of Africa, both during the wet season and some time after it. The body having been rendered irritable by the great heat

* See Observations on Simple Dysentery, and its Combinations, by William Harty, M. D.

of the summer months, and being exposed suddenly to cold or moisture with open pores, the blood is thereby forced from the exterior vessels upon the interior, so as to give rise to dysenteries. In camps and fleets, the disease occurs very frequently, and spreads rapidly.

Dysentery may readily be distinguished from the diarrhœa by the absence of fever, and tenesmus in the latter: the appearance of the stools, and the other symptoms, will further assist us.

An attack of dysentery is sometimes preceded by loss of appetite, costiveness, flatulency, sickness at the stomach, and a slight vomiting, and comes on with chills succeeded by heat in the skin, and frequency of the pulse. The symptoms are in general the forerunners of the griping and increased propensity to stool, which afterwards occur; but it sometimes happens that the local affection is perceived first.

When the inflammation begins to occupy the lower part of the intestinal tube, the stools become more frequent and less abundant, and in passing through the inflamed parts, they occasion great pain, so that every evacuation is preceded by a severe griping, as also a rumbling noise, and there is unusual flatulence in the bowels.

The motions vary both in colour and consistence, being sometimes composed of frothy mucus streaked with blood, and at other times of an acrid watery humour, like the washings of meat, and of a very fetid smell. Sometimes pure blood is voided; now and then, lumps of coagulated mucus, resembling bits of cheese, are to be observed in the evacuations, and in some instances a quantity of purulent matter is passed.

Sometimes what is voided consists merely of a mucous matter, without any appearance of blood, exhibiting that disease which is known by the name of dysenteria alba, or morbus mucosus.

While the stools consist of those various matters, and are voided frequently, it is seldom that we can perceive any natural fæces among them, and when we do, they appear in small hard balls, called scybala, which being passed, the patient is sure to experience some temporary relief from the griping and tenesmus.

It frequently happens from the violent efforts which are made to discharge the irritating matters, that a portion of the gut is forced beyond the verge of the anus, which in the progress of the disease proves a troublesome and distressing symptom, as does likewise the tenesmus, there being a constant inclination to go to stool, without the ability of voiding any thing, except perhaps a little vitiated mucus, or a small quantity of blood.

More or less of pyrexia usually attends with the symptoms which have been described, throughout the whole course of the disease.

When the symptoms run high, and are accompanied with violent irritation of the whole intestinal tube, great prostration of strength, strangury, and hiccup, or with a putrid tendency, and

fetid and involuntary discharges, the disease often terminates fatally in the course of a few days: but when they are more moderate, it is frequently protracted to a considerable length of time, and induces great emaciation and debility, but goes off at last by a gentle perspiration diffused over the whole body; the fever, thirst, and griping then ceasing, and the stools becoming of a natural colour and consistence. When the disease is of long standing, and has become habitual, it seldom admits of any easy cure, and when it attacks a person labouring under an advanced stage of scurvy or pulmonary consumption, or whose constitution has been much impaired by any other disorder, it is sure to prove fatal. It sometimes appears at the same time with autumnal intermittent and remittent fevers, as has before been observed, and is then more complicated and difficult to remove.

A great degree of tenesmus, severe griping pains, frequent inclination to go to stool and but little voided, much depression of strength, fetor of the evacuations, a tense abdomen, violent pyrexia, cold clammy sweats, coldness of the extremities, aphthæ, hiccup, petechiæ, and a weak irregular pulse, are to be regarded as very unfavourable symptoms. Whereas a gentle and universal diaphoresis, moderate pyrexia, the evacuations becoming less frequent, and more of a natural consistence, and a gradual diminution of the griping and tenesmus, are favourable appearances. The patient is very liable to a relapse from any exposure to cold, wet, or fatigue.

Upon opening the bodies of those who die of dysentery, the internal coat of the intestines (but more particularly of the colon and rectum) appears to be affected with inflammation, and its consequences, such as ulceration, erosions, contractions, scirrhosities and gangrene. The peritonæum and other coverings of the abdomen, in many instances, have likewise an inflammatory appearance.

Two different stages seem evidently to exist in the course of this disease; wherefore, to treat it properly, due attention should be paid to that which is present at the time when advice is applied for. An important point to be attended to, is not to neglect it at its commencement.

In its first stage, if symptoms of an inflammatory disposition are present, we should have recourse to bleeding; but if the febrile or inflammatory symptoms do not run high, and the pulse is not full and strong, or frequent and tense, we should by no means have recourse to the operation, as the fever which accompanies dysentery is very apt in the course of the disease to assume a typhoid type, particularly in warm climates.

It has been a matter of doubt with some physicians whether to consider the inflammation that attends on dysentery, as the consequence, or cause of the disease. My own opinion is certainly in favour of the latter; but nevertheless, I do not recommend an in-

discriminate use of the lancet, but on the contrary, a cautious one.*

In most cases, we may begin the cure by giving a gentle emetic in the evening, and the next morning we may administer some saline purgative, which should be repeated every second or third day, in order to procure an evacuation of the natural fæces, which seldom pass off in any quantity, unless by artificial means. Should these not procure copious stools, we must then employ stronger purgatives.†

With the view of determining the circulation to the surface of the body, small doses of some diaphoretic‡ may be taken every three or four hours, after proper evacuations, so as to produce and keep up a gentle perspiration without exciting much nausea. A semicupium may possibly assist. By these means we may be able sometimes to cut the disease abruptly short, and arrest its progress.

In dysentery, when the abdomen is hard, tense, and painful to the touch, and the gripings are frequent and severe, the application of flannels, wrung out in a warm decoction of chamomile-flowers and poppy-heads, with a small addition of camphorated spirits, to the part, may afford considerable relief; but should fomentations not procure the desired effect, a blister ought to be put on.§ Most cases of dysentery, and particularly during the acute stages of the disease, may be relieved by immersing the patient in a warm bath of a moderate temperature, and keeping him in it for some time.

* In dysentery, as well as in all other diseases connected with or depending on acute inflammation, bleeding, proportioned to the state of excitement, as indicated by the pain and fever, is an indispensable remedy; it should be repeated at short intervals, in conjunction with such cathartics as operate freely without occasioning much griping, such as soda sulphas, magnesia sulphas, oleum ricini, &c.; but should these be insufficient to procure copious stools, we must then employ stronger purgatives, as 8 to 10 grains of calomel, followed every two hours by the sulphate of magnesia or soda in the dose of a quarter of an ounce, until it operates freely, after which the saline cathartics or the oil should be given daily, omitting the calomel, in small doses, repeated every fourth or sixth hour, until the pain and feverish symptoms cease, and a change has been produced in the appearance of the stools. E.

† ℞. Hydrargyr. Submuriat. gr. iij.
Pulv. Jalapæ ℈j.
Syr. Rhamni q. s. M.
ft. Mass. in Pilulas v. pro dos. dividenda.

‡ ℞. Pulv. Ipecac. gr. iij.
Confect. Rosæ gr. x. M.
ft. Bolus 4tis horis sumendus.
Vel
℞. Pulv. Ipecac. Comp. gr. iij.
Confect. Aromat. gr. x. M.
ft. Bolus.

§ Neither fomentations nor blisters will be proper, until after the pulse has become sensibly reduced by the evacuations already directed —after this, however, blistering the abdomen has been found highly beneficial. E.

Perhaps rubbing the abdomen with some warm and stimulating embrocation on his being taken out of the bath, might increase its effect.

To defend the inner coat of the intestines from the acrimony of its contents, and to counteract the vain attempts at evacuation, we should not only administer mucilaginous substances, such as solutions of gum acaciæ in milk, preparations of barley, rice, arrow-root, &c. by the mouth; but we should likewise inject a clyster of a similar nature three or four times in the course of the day. All vain attempts to go to stool, as also all violent strainings in evacuating the contents of the bowels, ought carefully to be avoided by the patient, throughout the disease, for if obedience be paid to every seeming call of nature, the straining which ensues will be highly detrimental, as little or nothing, except mucus and blood, comes away in four out of five efforts.

If the fundament becomes inflamed or excoriated, the parts should be anointed with a little soft pomatum or prepared lard, after each evacuation.

When the bowels have been effectually relieved, it often happens after the disease has continued for some time, from the tender state of the rectum, that a severe and troublesome tenesmus remains. Under such circumstances, anodyne clysters are often beneficial; and where the introduction of a pipe may be likely to excite greater irritation in the rectum, speedy and effectual benefit may be derived from the insertion of a grain or two of opium in the form of a pill into it.

In the advanced and chronic stage of the disease, as acidity at the stomach is apt to prevail, absorbents, such as the mistura cretæ, pulvis cretæ compositus, liquor calcis, &c., combined with opiates, will be useful.

The impaired tone of the intestines is to be restored by a use of tonics and bitters,* together with a light nutritive diet and moderate exercise. The application of cold water to the abdomen, and particularly to the lower parts of it, by means of cloths, or sponges; or the immersion of the lower part of the trunk in a tub of water, may probably prove a good auxiliary mean.

The fever accompanying this disease sometimes appears under an intermittent or remittent form, and is protracted much longer than it otherwise would have been in consequence of its being so complicated. In such cases, its treatment is to be regulated as directed under these heads by a use of the bark of cinchona, &c.

In those instances, where a dusky sallow hue of the countenance, tenderness upon pressure over the region of the liver, and a clayey appearance in the fæces which happen occasionally to be voided, manifest the presence of a diseased or obstructed state of the liver: we should resort to mercury, pushing it to such an extent

* Such as small doses of tinc. kino, taken in an infusion of quassia, cinchona, or columbo; lime water, with an equal quantity of milk, &c. E.

as to keep up a gentle affection of the mouth until the symptoms are mitigated.

In the first stage of dysentery, a use of ripe fruits will be proper; but in a more advanced period, where any morbid acidity seems to prevail in the stomach they should not be recommended.

Every sort of food which readily tends to putrefaction ought carefully to be avoided throughout the whole course of the disorder, as also all kinds of fermented and spirituous liquors, supporting the patient's strength with preparations of barley, rice, sago, flour, panado, Indian arrow-root boiled in milk, occasionally varied for gelatinous broths. During the state of convalescence, Port wine or Madeira, or even a moderate quantity of brandy, properly diluted with water, may be allowed.

Persons recovering from a dysentery should observe the greatest caution and regularity in their mode of living, and they should go warmly clothed, as the disease is very liable to relapse from any fresh exposure to cold, wet, damp night-air, or sudden atmospherical vicissitudes.

The importance of warm clothing, both in the prevention and cure of bowel complaints, is too obvious to require my saying much on the subject; I will therefore only observe, that warmth ought not to be a secondary object; on the contrary, it ought to be the first.

CLASS II.

NEUROSES OR NERVOUS DISEASES.

THE character assigned to this class of disease is, preternatural affection of sense and motion, without idiopathic or primary pyrexia, and without local disease.

ORDER I.—COMATA.

DIMINUTION of voluntary motion, with sleep or a suspension of sense, is the character of this order of diseases.

APOPLEXIA, OR APOPLEXY.

THIS disease consists in a sudden diminution, or abolition of all the senses external and internal, and of all voluntary motion, while, at the same time, the heart and lungs continue to perform their action. The state of the pulse, difficult respiration, stertorous

breathing, profound sleep, and the affection of all the powers of volition, will distinguish apoplexy from palsy; the stertor, sopor, diminution of the power of volition, and the absence of convulsions, will distinguish it from epilepsy. In general, it may readily be distinguished from intoxication by the patient not being roused by shouting in his ear, by applying volatile spirits to his nostrils, nor by shaking or pinching him. His respiration is low, labouring, and irregular, his countenance flushed, the pupils of his eyes often contracted, and his breath not tainted with the smell of wine or spirituous liquors.

Apoplexy makes its attack chiefly at an advanced period of life, and most usually on those who are of a corpulent habit, with a short neck and large head, and who lead an inactive life, make use of a full diet, or drink to excess. Young subjects are not, however, exempted from apoplexy, but it is very rare when compared with persons advanced in the vale of years.

The immediate cause of apoplexy is most generally a compression on the brain, produced either by an accumulation of blood in the vessels of the head, and distending them to such a degree as to compress the medullary portion of the brain; or by an effusion of blood from the red vessels, or of serum from the exhalants, which fluids are accumulated in such a quantity as to occasion compression; but it takes place sometimes without extravasation, exudation, or effusion being the consequence, as in many instances we see patients recovering quickly from a fit of apoplexy without any paralytic affection being left behind, which could not happen if either of these had existed.

When the disease arises from an accumulation of blood in the vessels of the head, or by an effusion of blood from the red vessels, it is called sanguineous apoplexy, and when occasioned by serum from the exhalants, it is known by the name of serous apoplexy.

The states of over distention and effusion may be brought on by whatever increases the afflux and impetus of the blood in the arteries of the head; such as violent fits of passion, mental anxiety, indolence, great exertions of muscular strength, severe exercise, excess in venery, gluttony, drunkenness, intense study, stooping down for any length of time, wearing any thing too tight about the neck, long exposure to intense cold or a vertical sun, the sudden suppression of any long-accustomed evacuation, the application of the fumes of certain narcotic and metallic substances, such as opium, alcohol, charcoal, mephitic airs, mercury, &c.; and by blows, wounds, and other external injuries. In short, apoplexy may be occasioned by whatever fills, distends, obstructs, ruptures, lacerates, corrodes, or compresses the vessels of the brain and its meninges too much, and thereby urges, retards, or entirely impedes the flow of blood through the same; or in any manner destroys the intimate fabric and structure of the brain.

The circumstances disposing to sanguineous apoplexy are a full and luxurious mode of living, with but little exercise, a sanguine temperament, a full habit, middle age, short neck, suppressed evacuations, and warm weather. Those which dispose to serous apoplexy are a phlegmatic temperament, cachectic habit of body, poor living, depressing passions of the mind, much study, watching and old age.

Sanguineous apoplexy is sometimes preceded by giddiness, dimness of sight, drowsiness, loss of memory, or faltering of the tongue in speaking; but it more usually happens, that without much previous indisposition, the person falls down suddenly, the face is red, and appears puffed up, the veins of the head, particularly of the eyes, temples and neck, seem turgid, the head feels hot, the eyelids are half open and rigid, the eyes are prominent and fixed, the breathing is difficult and stertorous, and for the most part the pulse is full and strong. In a few instances, a grinding of the teeth, with slight convulsive motions is observable. When the disease continues for any length of time, the pulse becomes languid, weak, and slow, and the breathing is shortened, until at length it ceases altogether.

In serous apoplexy the attack is more gradual in general, the face is pale and tumid, the veins are depressed, the pulse is small, weak, irregular, and intermittent, respiration is impeded and stertorous, and the extremities are cold and flaccid. Sometimes these appearances are preceded by vertigo, torpor, and an impediment in the speech, together with a failure of memory.

Although the whole body is affected with the loss of sense and motion in apoplexy, it takes place nevertheless very often more upon one side than the other, which is called a hemiplegia; and in this case the side least affected with palsy is somewhat convulsed.

In some few instances of apoplexy, the patient lies for several days insensible and motionless, and yet gradually recovers the use of his understanding, and his muscular strength; but for the most part he is permanently deprived of the command of one side of his body, or he regains it imperfectly after a time; his mind sustains a shock which is never recovered from; his sensations and perceptions becoming less accurate, and his memory and powers of combining being much weakened, or at least, his faculty of expression: for even while his memory and imagination are unimpaired, he is not always able to find appropriate words to express the idea which is excited in his mind.

In forming our opinion as to the event, we must be guided by the violence of the symptoms, and according as the vital functions are more or less disordered. If the fit is of long duration, the respiration laborious and stertorous, the deglutition continues to be impeded, the pulse quick and hard, the extremities cold, and the person advanced in years, the disease in all probability will terminate fatally. In some cases it goes off entirely, either by diarrhœa, hemorrhage, return of the hemorrhoidal or any other habitual dis-

charge, and sometimes by the appearance of fever, but more frequently it leaves a state of mental imbecility behind it, or terminates in a hemiplegia, or in death. Even when a person recovers from an attack of this disorder, it is very apt to return after a short period of time, and in the end prove fatal.

Where there is extravasation, the patient's recovery will be slow and difficult; for the power of absorption cannot be equal to its being immediately taken up. When the person's recovery is immediate, it is a presumptive evidence that there has been neither extravasation, effusion, nor exudation, but that the compression arose from a repletion in the vessels of the brain. The sanguineous apoplexy is more dangerous than the serous.

Dissections of those who have died of sanguineous apoplexy, offer ample proof of the arterial, as well as the venous system, being in a remarkable state of repletion. When the scalp is divided, there is sometimes a considerable flow of blood from the occipital and frontal veins; indeed, during the dissection, the venous blood flows from all parts of the head. The dura mater is sometimes thickened and bound to the cranium by strong adhesions: sometimes the tunica arachnoides loses its transparency, is opaque and much thickened. The pia mater is often remarkably vascular; the veins are turgid with dark blood, and in particular parts of this membrane there appears high arterial action: the whole surface sometimes acquires a bright vermilion tint. Between the pia mater and tunica arachnoides there often is to be observed a serous effusion, which in some bodies is colourless; in others, turbid, bloody, or even mixed with streaks of coagulable lymph. With respect to the substance of the brain, it is frequently found unusually firm, and when cut into, the numerous points of blood show that the divided vessels are enlarged. A considerable quantity of serous fluid is often found in the ventricles, and these are much enlarged. For the most part, extravasated blood is met with in the cranium: sometimes between the membranes, and sometimes in the substance of the brain, and sometimes in the ventricles. Dissections have confirmed the observation, that the blood is generally found extravasated in the hemisphere opposite to the side of the body which was paralysed. In most instances, the extravasation of blood is confined to the cerebrum, but it has not unfrequently been observed in the cerebellum:* we do not always discover extravasation of blood, but we never fail to find the remains of greatly increased action, and great congestion in the arterial and venous systems of the brain. Sometimes the longitudinal and lateral sinuses are swelled and distended.

In those who die of serous apoplexy, dissections show the cerebral arterial system nearly empty, their veins contain more blood, but less than in the sanguineous apoplexy; the brain is somewhat

* See Cases of Apoplexy by J. Cheyne, M. D.

flaccid and soft, with perhaps a little watery effusion on its surface, between the convolutions or in the ventricles; the left cavities of the heart, as well as the arteries, are empty; the right cavities contain some coagula of black blood; the pulmonary organs are full; frequently the digestive passages are impeded, and in a state of remarkable plenitude. In some dissections of serous apoplexy, venous turgescence as well as effusion of serum has been discovered; and in others, there were satisfactory proofs of increased arterial action having existed shortly before death.

In the cure of sanguineous apoplexy, no time should be lost in employing powerful remedies. On the person's being seized, due care must be taken to remove all compression from about the neck, to support him in as erect a position as possible, and to allow a free admission of cool air. These steps being adopted, sixteen or eighteen ounces of blood* should immediately be taken away, and if it can be drawn from the jugular vein instead of the arm, it will be the more likely to be attended with a good effect. When any branch of the temporal artery seems so turgid as to admit of being easily opened, drawing blood from thence may probably prove a still more effectual way of unloading the vessels of the brain.

In those cases where one side of the body is perceived to be more affected with loss of motion than the other, the bleeding should be made, if possible, on the opposite side to that affected, as dissections show that the congestions producing apoplexy are always on the side which is not affected.

If the first bleeding has not been of service, and the disease is unequivocally established, the operation should be repeated a second time, and if it is ascertained that this also is ineffectual in stopping the progress of the disease, a third bleeding ought to follow, as blood-letting is to be regarded as the most effectual remedy we can employ in sanguineous apoplexy. The quantity of blood to be drawn off must be regulated by the appearance and habits of the patient; by the circumstances of the attack; its violence and duration; the effects of the previous evacuations; the appearance of the blood, which is often sizy; and the state of the circulation; particularly the relief of the pulse and breathing, and the reduction of the complexion.

After general bleeding, leeches may be applied if necessary to the temples, or the scarificator and cupping-glass to the occiput; and when sufficient evacuations have been procured by these means, we may then apply a large blister to the nape of the neck, and small ones to the extremities.

If the power of swallowing remains, some active purgative†

* We should in general take away double this quantity of blood, at the first operation. E.

† The most preferable of which will be calomel in the dose of ten grains repeated every two hours, and followed in the course of an hour by a solution of two drachms of the sup: tartrass: potas. in two ounces of a strong infusion of senna. E.

should be given by the mouth in divided portions, and at proper intervals, so as not to excite any vomiting; but if not, the contents of the intestines are to be dislodged by a strong clyster, or one composed of a solution of soap, which is to be repeated every three or four hours, until a sufficient effect is procured.

Emetics are made use of by some practitioners. Where the disease has been brought on by intoxication, or by a large indigested meal distending the stomach, pressing upon the aorta descendens, obstructing the free expansion of the lungs, and thus crowding the arteries of the head with more blood than ought to be there, the exhibition of a gentle emetic may be admissible and proper, provided it has been preceded by copious venesection: or should vomiting arise naturally, the stomach may be relieved by washing it out with a little chamomile-tea; but where the disease arises spontaneously and is occasioned by an extravasation either of blood or serum on the brain, more particularly the former, it cannot be denied, I think, that an emetic would be a very hazardous remedy.

In serous apoplexy, blood-letting may be more sparingly used than in the sanguineous. To promote an absorption of the effused serum, after bleeding proportionate to existing circumstances, it will be proper to have recourse to warm purgatives, and a free application of blisters to the head, back, and extremities, and of sinapisms to the soles of the feet.

Stimulants of various kinds, such as volatile salts, cephalic elixirs and cordials, have been much employed in serous apoplexy; but as they determine the circulation to the head, their use appears not adviseable.

When apoplectic symptoms proceed from opium, or any other narcotic poison taken into the stomach, the offending matter ought to be got rid of as soon as possible, by exciting vomiting, with tartarised antimony or sulphate of zinc, should none have arisen spontaneously. Having procured its discharge, we are to have recourse to bleeding, and the exhibition of acrid clysters, with the view of relieving the congestion in the brain and lungs, together with the other means recommended under the head of Vegetable Poisons.

If the disease arises in consequence of the suppression of piles, leeches should be applied to the hæmorrhoidal veins, fomentations must be employed, and the intestines be stimulated by means of aloetic purges.

Those who from a plethoric state of the blood-vessels of the head are predisposed to an attack of apoplexy, will act prudently in confining themselves to a very spare diet, carefully abstaining from strong liquors, from all high-seasoned food, and from meat suppers. A limitation of the use of fluids in habits predisposed to plethora and apoplexy will likewise be worthy of attention. Dr. Mossman tells us he is taught by long observation and experience to expect effects highly beneficial from the adoption of this plan;

for he constantly noticed the phenomena of plethora and obesity are referrible not to the taking in of *solid*, but of *liquid* nutriment. Persons predisposed to apoplexy should likewise be careful to keep their body open by some gentle laxative taken occasionally, and such moderate exercise ought to be used, as will support the perspiration without hurrying respiration, or exciting heat. Nothing tight should be worn round the neck; and when in bed, the head ought to be supported of a proper height. The feet should be kept warm and dry, and the extremes of heat and cold must be avoided. Nothing has a better effect in preventing apoplexy in those who are predisposed to its attacks, than a perpetual issue between the shoulders, or a seton in the neck; but great care must be taken not to allow them to dry up without opening some other drain in their stead.

When an attack of apoplexy is immediately threatened, bloodletting is the remedy most to be relied on, and the blood should be drawn either from the jugular vein or temporal artery, as before advised. The extent of the bleeding can only be determined by the nature of the case. Under doubtful circumstances, where the symptoms are not very urgent, the application of leeches to the temples, or scarifications with cupping at the back of the head or neck, may prove amply sufficient.

Where a lethargic disposition prevails, we should advise bleeding, but particularly topical from the temples by means of leeches or from the nape of the neck by the scarificator and cupping. We should also administer cathartics frequently, and make use of a blister to the head or in the immediate neighbourhood of it. Every thing which may tend to stimulate the system of the brain, such as ardent spirits, strong wines and tobacco, ought to be avoided.

The coup de soleil, or stroke of the sun, which so frequently occurs in warm climates to those who are long exposed under its immediate influence, seems evidently to be an attack of apoplexy, and is to be treated in the same manner as pointed out in the preceding pages. The application of linen cloths wetted in cold vinegar and water to the temples, may likewise be applied.

It may not be improper to remark here, that as the vital principle frequently remains in a latent state for some time, and as we are yet unacquainted with any certain criterion between positive and apparent death, besides that of putrefaction, some appearances of incipient decomposition should therefore be allowed to take place, in every case of sudden disease before interment. In warm countries, where it is customary to bury the body within four-and-twenty hours, I have great reason to fear that premature interment sometimes happens.

PARALYSIS, OR PALSY.

PALSY is a diminution or total loss of the powers of motion and sensibility in certain parts of the body, often attended with drowsiness. In some instances, the disease is confined to a particular part, or set of muscles, but it more usually happens, that one entire side of the body from the head downwards is affected, which is known by the name of hemiplegia.

If the power of motion and sense of feeling in the half of the body taken transversely be impaired, the complaint is denominated paraplegia.

Palsy may arise in consequence of an attack of apolexy, and, like it may be occasioned by any thing that prevents the nervous power from being conveyed from the brain to the organs of motion; hence tumours, over-distention and effusion, distortions of the spine, and a thickening of the ligaments that connect the vertebræ together, often give rise to it. It may also be occasioned by translations of morbid matter to the head, by the suppression of usual evacuations, and by pressure made on the nerves by luxations, fractures, wounds, or other external injuries. The long-continued application of sedatives will likewise produce palsy, as we find those whose occupations subject them to the constant handling of white-lead, and those who are much exposed to the poisonous fumes of metals or minerals are very apt to be attacked with it. Whatever tends to relax and enervate the system, may likewise prove an occasional cause of this disease: hence those who lead a sedentary or luxurious life; those who are guilty of great irregularities or great debaucheries; those who are engaged in intense studies during the night, or labour under great distress or anxiety, are very subject to this malady.

All its varieties more generally appear in the aged and infirm than in the young and robust. The left side is more frequently affected than the right.

Palsy usually comes on with a sudden and immediate loss of the motion and sensibility of the parts; but in a few instances it is preceded by a numbness, coldness, and paleness, and sometimes by slight convulsive twitches. When the head is much affected, the eye and mouth are drawn on one side, the memory and judgment are much impaired, and the speech is indistinct and incoherent. If the disease affects the extremities, and has been of long duration, it not only produces a loss of motion and sensibility, but likewise a considerable flaccidity and wasting away in the muscles of the parts affected.

Palsy is to be distinguished from apoplexy by the pulse, which in the former disease is full and slow, by the loss of sense and motion being only partial, by the absence of stertor, and likewise by the other symptoms.

When palsy attacks any vital part, it soon terminates fatally. Palsy is, in every instance, a dangerous disease, particularly at an

advanced period of life. A feeling of warmth, and a slight pricking pain as if stung by ants in the parts affected, with returning sensation and motion, are favourable symptoms.

The morbid appearances to be observed on dissection in palsy, are pretty similar to those which are to be met with in apoplexy. In palsy, as well as in apoplexy, the collection of extravasated fluid is generally on the opposite side of the brain to that which is affected.

When this disease arises in a young person of a full plethoric habit, comes on suddenly, and the head appears to be much affected, or seems to arise from the causes producing apoplexy, it will be adviseable to take away some blood, by opening the jugular vein or temporal artery, or from a vein in the arm, after which, it will be proper to give an active purgative, as advised under the head of Apoplexy: but in old age, or where palsy arises in a debilitated constitution, neither bleeding nor purging should be resorted to.* Where costiveness prevails, in such habits, it may be obviated by some stomachic laxative, such as the tinctura rhei composita.

In all cases, but more particularly where the disease has arisen in aged or decrepit persons, the external application of stimulants will be highly proper;† wherefore the parts affected, as well as all along the spine, may be rubbed several times a day with flannels or a flesh-brush impregnated with flour or essence of mustard, or else with the palms of the hand, and some kind of rubefacient liniment;‡ and in addition to these remedies, we may recommend the application of blisters, and sinapisms.

Warm bathing is a remedy which has been much employed in most cases of palsy, as an external stimulant. In those, however, which arise in sanguineous habits, from a congestion of blood in the vessels of the brain, its use would in all probability prove injurious, both by stimulating the solids and rarefying the fluids, and thereby becoming a stimulus to the sanguiferous system; but in those cases where palsy has arisen, in consequence of the application of narcotic powers, diminished vital heat, or an enfeebled constitution, the use of warm bathing will be likely to prove highly beneficial. In palsy, we ought therefore most cautiously to ascertain whether an increased or diminished degree of vital heat or action in the sanguiferous vessels, is the cause of the disease.

Electricity, both by sparks and shocks, is another remedy which is universally employed in the cure of the palsy as an external stimulant, and often with the most happy effect: but in using it,

* This is not correct, local bleeding, and purging, properly regulated, will both be required. E.

† After sufficient depletion. E.

‡ R. Ol. Olivæ ℥ij.
— Terebinth. ℥j. M.
ft. Linimentum.
Vel

R. Liniment. Ammon. Carbonat. ℥xij.—Ol. Oliv. ℥ss. Spirit Terebinth. ℥iij. M. ft. Linimentum.

proper care should be taken to apply it only with a moderate force, as more is to be expected from its repetition than from employing it with violence, and likewise to confine its application to parts which are somewhat remote from the head, as in those cases which depend upon a compression of the brain, it might do injury, by acting on the vessels of this organ.

Galvanism is also a remedy from which advantages might probably be derived. Indeed some practitioners have gone so far as to declare, that they have experienced its effects in palsy to be superior to electricity. Dr. Bardsley tells us,* he has found it to succeed, when the latter has failed.†

Dr. Clutterbuck informs us, in a pamphlet published not very long ago, that he had found mercury to be an excellent antidote to lead, and that he had used it with the most happy effects in many instances of paralytic affections, which had arisen among those who were employed in manufacturing the several preparations of lead, and in applying them to their respective uses. In confirmation of the success of the remedy, he has recited several cases, which seem clearly to prove its utility; and he has likewise added a letter from Dr. Bradley, physician to the Westminster Hospital, bearing testimony in favour of the use of mercury in such cases.

In palsy the diet should be light and palatable, but not of a very nutritive nature. If the patient is able to walk, he should take such daily exercise as his strength will admit; but if deprived of the use of his legs, he ought then to be carried abroad in a carriage, or on horseback. Flannels should be worn next to the skin, and all exposures to cold, damp, and moist air, ought carefully to be avoided.

In those cases where the appetite fails, and the person sinks into a state of debility, from the long continuance of the disease, it will be proper to employ the bark of cinchona, stomachic bitters, and other tonics, to strengthen the system, as advised in dyspepsia.

Order II.—ADYNAMIÆ.

A diminution of the involuntary motions, whether vital or natural, is the character of this order.

SYNCOPE, or FAINTING.

This disease consists in a decreased action, and sometimes total cessation of the pulse and respiration. It is sometimes preceded

* See his medical Reports and Cases, p. 183.

† These remedies should, however, be confined to an advanced stage of the disease, when symptoms of debility are evident in both the vascular and nervous portions of the system. E.

by anxiety about the præcordia, a sense of fulness ascending from the stomach towards the head, vertigo, or confusion of ideas, dimness of sight, and coldness of the extremities. Attacks of syncope are frequently attended with, or end in vomiting, and sometimes in convulsions, or in an epileptic fit.

The causes of this affection are sudden and violent emotions of the mind, pungent and other kinds of odours, derangement of the primæ viæ, debility from preceding disorders, defect of the stimulus of distention, as after blood-letting, hæmorrhage, or the operation of paracentesis in ascites; organic affection of the heart, or of the parts immediately connected with it, such as aneurism either of the heart itself, or of the arch of the aorta; ossification of the valves of the heart, or its large blood-vessels, or polypi.

During the paroxysm, the nostrils are to be stimulated with volatile spirits or salts, and the face to be sprinkled with cold water. Where the disease arises as the consequence of an hæmorrhage, the patient should be placed in a recumbent posture, and in all cases a free admission of pure cool air should be allowed. If the disease arises as the consequence of debility or excitability, the system should be strengthened by the use of cinchona, sulphuric acid, stomachic bitters, and chalybeates, together with cold bathing. (See Dyspepsia.) It need hardly be added, that avoiding the occasional causes, and removing them, if in our power, is a matter we should always keep in view.

VERTIGO, OR GIDDINESS IN THE HEAD.

VERTIGO proceeds most usually either from too great a fulness of blood in the vessels of the head, or is symptomatic of dyspepsia, hypochondriasis, or hysteria.—[To which heads the reader is referred for its mode of treatment.]

DYSPEPSIA, OR INDIGESTION.

THIS disease chiefly arises in persons between thirty and forty years of age, and is principally to be met with in those who devote much time to study, or who lead either a very sedentary or irregular life. A great singularity attendant on it is, that it may, and often does continue a great length of time, without any aggravation or remission of the symptoms. The disease is a frequent attendant on chronic weakness.

Great grief, and uneasiness of mind, intense study, indolence, profuse evacuations, excess in venery, hard drinking, particularly of spirituous liquors; irregularity of life, too frequent a use of warm diluent liquors, and of tea, tobacco, opium, and other narcotics, immoderate repletion, and over-distention of the stomach, very frequent rejection of the saliva, or a diminution or interruption of the due secretion of it, a deficiency in the secretion of the bile, pancreatic, or gastric juice, diseases of the liver, and spleen,

hysteria, hypochondriasis, and exposure to moist and cold air, when without exercise, are the causes which usually occasion dyspepsia.

Scirrhus in the pyloric orifice, or outlet of the stomach, is very apt to take place in those who addict themselves to ardent spirits, and there are numerous glands at this part, which from such a practice are liable to be affected, giving rise to a high degree of acidity in the stomach. Many, perhaps most of the diseases of the digestive organs, caused by various circumstances, consist in or have for their proximate cause, a weakness or atony of the affected parts, accompanied by a deficiency or depravity of the fluids secreted by them, and upon the healthy qualities of which a right performance of the functions depend.

In some states of depraved digestion, there is nearly a complete disrelish for food; but still the appetite is not greatly impaired, as at the stated periods of the patient's meals, he can eat heartily, although without much gratification. With hard drinkers, nausea and vomiting frequently occur in the morning, and in ruined constitutions, there is an almost constant thirst, with feverishness, loss of appetite and strength, shortness of breath, paleness of the countenance, languor, and towards the close, anasarcous swellings.

In stomach complaints, in addition to defective appetite, indigestion, flatulence in a high degree, acidity and cardialgia, the patient is often afflicted with costiveness, vertigo, pain in the balls of the eyes, imperfect vision, ringing in the ears, and palpitations. The mind in such cases is frequently irritable and desponding, and great anxiety is observable in the countenance. The pulse is usually feeble and frequent, and slight exercise produces considerable fatigue and perspiration. Restlessness prevails at night, the sleep is disturbed by frightful dreams and startings, not affording much refreshment, and occasionally there is much moaning, with a sense of a heavy weight on the chest, or what has been denominated the night mare. In some instances, the disease is complicated with gastrodynia, or severe pain in the stomach itself, and now and then with pyrosis.

Although dyspeptic complaints when they exist in consequence of debility of the stomach may be alleviated, or be entirely removed by timely desisting from bad habits, and taking proper medicines, still when they have been of long continuance so as to produce great debility, and pass into some other disease, such as dropsy; or when they originate from an organic affection, such for instance as a scirrhus of the pylorus, they will be sure to prove fatal.

The morbid appearances to be observed on dissections of this disease are principally confined to that part of the stomach which is called the pylorus, this being often found either in a contracted, scirrhous, or ulcerated state. In every instance the stomach is perceived to be considerably distended with air.

In the treatment of the disease, three indications must be attended to.

The first is to avoid or remove the remote causes which have been enumerated.

The second is to obviate the symptoms which contribute to continue or aggravate the disease.

The third is to restore the tone of the organ.

To effect the first of these intentions, it must be the business of the physician to point out to the patient the indispensable necessity of renouncing such habits or pursuits as may have tended to give rise to the disease, as the continued application or frequent repetition of these causes may defeat the use of what remedies are employed.

If he leads a fashionable life, it will be necessary for him to forsake the haunts and habits of dissipation; to leave the crowded city, and its alluring amusements, conducted in rooms, where the air he breathes is vitiated and contaminated by the great number of persons collected together: to shun luxurious tables, indolence, and late hours; to retrace the footsteps by which he had deviated from simple nature, and to court the country, pure air, moderate exercise, early rising, simple diet, the society of a few select friends, and pleasing occupations.

To accomplish the second intention of obviating the symptoms which contribute to continue or to aggravate the disease, it will be necessary to remove the crudities in the stomach, by giving a gentle emetic. It will also be necessary to correct the morbid acidity in the organ, by alkalies and absorbents,* as the potassæ subcarbonas, soap, liquor calcis, magnesia, chalk, &c.; to assuage the pain and flatulency in the stomach and intestines by carminatives,†

* R. Liquoris Calcis
Lactis vaccinæ āā oj. M.
Capiet æger ℥ij.—℥iv. bis in die——*vel*
R. Aq. Sub. Carb. Ammon. ʒj.
Liq. Calcis ℥viiss. M.
Capiet æger Cochleare magnum bis in die cum poculo jusculi bovini.

† R. Cret. Præparat. gr. xij.
Aq. Menth. Pip. ℥ss.
—— Font. ℥j.
Spirit. Pimentæ ʒij.
ft. Haustus ter die sumendus

Vel

R. Sacchar. Alb. ℥ss.
Ol. Anisi ♏. xv.
Aq. Fontan. ℥iv.
Spirit. Carui ℥j.
—— Lav. C. ʒj. M.
ft. Mistura cujus sumat Cochl. ij. ter quaterve die.

Vel

[R. Magnes. Calcinat. ʒiv.
Aq. Ammon. Sub. Carb. ʒiiss.
Spir. Lavend. Comp. ʒiij.
Aq. Font. ℥viij M.
ft. Mistura cujus æger cap. cochl .mag. j. 4ta in die in q. s. Aq. Sach.—One half the above quantity is also

antispasmodics, and opiates; and, lastly, to obviate costiveness, by a use of such gentle laxatives, as will promote a ready discharge of the contents of the intestines, without hurrying their action, or increasing the excretions made into their cavity.*

An habitual attention to the removal of costiveness by instituting a regular custom of periodically soliciting an evacuation by voluntary and persevering efforts, will powerfully aid the beneficial effects of the other means we employ. The morning is the proper time for the attempt, and the trial should be prosecuted during at least fifteen minutes, if the peristaltic motion be not earlier excited.

Where dyspepsia is combined with a diseased state of the liver, and the stools are of an unnatural clay colour or whitish appearance, indicating a want of due mixture of bile with them, the skin being of a jaundiced hue, we should employ mercury, especially the hydrargyri submurias. See Chronic Hepatitis.

For the removal of cardialgia and vomiting which attend on dyspepsia, the application of a blister over the stomach often proves serviceable.

To accomplish the third intention of restoring the tone of the stomach, the loss of which is to be considered as the chief and immediate cause of dyspepsia, we are to employ such medicines as operate directly on this organ, and such remedies, and other means, as have a tendency to strengthen the system in general.

The medicines best calculated to restore the tone of the stomach are aromatics and astringents combined with bitters,† as likewise the cinchona bark, either in decoction or tincture, the mineral acids, and chalybeates.‡ The latter, in particular, are of eminent service in an impaired or capricious appetite, and weakness

also to be taken after every attempt to vomit, or after each eructation of wind.—In case of restlessness, a proper dose of Tinct. Opii may be added to each night dose. E.]

* Such as pills composed of equal parts of assafœtida and aloes; or equal quantities of calcined magnesia and rhubarb. E.

† ℞. Infus. Rad. Columb. ʒx.
Tinct. Cascaril.
—— Cort. Aurant. āā ʒi. M.
ft. Haustus.

Vel

℞. Quassiæ ʒij.
Aq. Fervent. ℥v.
Colat. adde
Tinct. Columb.
—— Card. C. āā ℥ss. M.
Capiat æger Cochl. iij. ter in die.
Adde pro re nata
Acid Sulph. Dilut. ♏. xx.

‡ ℞. Tinct. Ferri Muriat. ℥ss.
Guttæ x.—xx. ter die sumendæ in quovis vechiculo.

Vel

[℞. Carbonat. Ferri ℈j.
Rad. Zingiber gr. xv. M. ft.
Pulv. 4. Cap. j. quæque hor. E.]

of the assimilating organs, irregular digestion, flatulent distention of the abdomen, anxiety about the præcordia, difficult respiration from sympathy with the stomach, and occasional vomiting of viscid mucus.

In cardialgia, gastrodynia, pyrosis, and such other complaints of the stomach, the oxyd of bismuth is a remedy which has been employed with considerable advantage in a variety of instances.* The proper dose is from three to ten grains with about twenty-five grains of gum tragacanth, repeated three times a day. It will be best, however, to begin with a dose of only three grains, increasing it gradually. The remedy is perfectly safe, as well as useful.

To strengthen the system, whereby the powers of the stomach will be made stronger, the patient should take daily exercise on horseback, or by some other easy mode of conveyance, which will be preferable to walking, as being less fatiguing; he should breathe a pure, dry, and temperate air, rise early every morning, go soon to bed at night, lead a temperate life, use light animal food for his diet, but avoid farinaceous vegetables, adapt his dress to the climate and changes of the weather, and bathe frequently in cold water.

The use of a tepid bath of about 96 or 98 degrees of heat for half an hour every other day for two or three months, has likewise in many instances proved of great service to dyspeptic persons. Indeed it would be best to begin with tepid bathing, and so reduce the temperature gradually. Tepid bathing communicates heat to the system, and it likewise stimulates it, and causes absorption more than exhalation.

The mind is to be amused at the same time that the body is employed; hence it is that mineral waters, and places of public resort, have always been found very efficacious in removing dyspeptic complaints. Mineral waters are indeed of themselves powerful remedies in cases of dyspepsia; but their efficacy is greatly increased by drinking them at the spring, where the patient's mind being constantly engaged by the company, and a great variety of amusements, he is sure to receive both hope and entertainment. The advantages of air, exercise, particularly on horseback, and agreeable prospects, admirably coincide, in most cases, with the general curative effect of the spring itself.

The diet in dyspepsia ought to be nutritive and generous, consisting chiefly of animal food on account of the disposition to acescency, and it should be taken every three or four hours, and never exceed a few ounces at any one time. Moreover, due care is to be taken to masticate it properly, in order that it may be reduced by comminution and salival commixture to a semi-fluid state. Instead of fermented bread, the patient should eat crackers

* See Memoirs of the London Medical Society, vol. v.
—— Medical Reports, by Dr. Bardsley.

with his food. Only a small quantity of diluent fluids should be taken at his meals, nor until some time after each repast, lest the solvent property of the mixed saliva should thereby be diminished; nor should the quantity of fluid taken at once ever exceed half a pint, nor be repeated oftener than at intervals of three hours. About half an hour before swallowing the portion of aliment proposed, brisk friction should be performed with a flesh-brush over the region of the stomach during some minutes, and a similar operation may follow the meal.

A moderate use of wine, such as Madeira or Sherry, ought to be allowed; but should these disagree with the patient and become acid on his stomach, weak brandy and water may be substituted for ordinary drink. Under no other circumstances should a use of ardent spirits be resorted to, as, by an indulgence in them, a habit imperceptibly steals on, before the person is aware of the consequences to which it leads. By too free a use of spirituous liquors, obstructions in the principal organs ensue; the nervous system becomes blunted and depraved to every feeling; the energies of the mind suffer; loss of memory takes place; a train of nervous disorders come on, and an attack of jaundice, dropsy, or consumption, or mania, at length terminates existence.

In this progress, even the passages to the stomach lose their feeling, become indurated and callous, and the organ itself, taking on the same state, has its digestion impaired, and becomes unfit to prepare nourishment for the body. Pure wine in a moderate quantity gently stimulates, increases the action of the heart and arteries, and augments the nervous energy over the whole body, communicates a serenity and ease of mind, a liveliness of imagination, and a powerful exertion of every faculty; but, on the other hand, if taken immoderately, these favourable appearances are changed; the powers of the nervous system are weakened, the mind is deranged, and in the end both motion and sensation are lost.

In that species of chronic debility which is brought on by drinking spirituous or fermented liquors to excess, there is not much reason to expect a return to healthful vigour, where the power of digestion is considerably destroyed; but in other cases, the person may probably recover his health by a prudent and gradual diminution of the quantity of spirits. In such a case, he should at first omit one-fourth of the quantity of spirit he has lately been accustomed to, and if in a fortnight his appetite increases, he should be advised to omit another fourth; but if he perceives that his digestion becomes more impaired from the want of the usual quantity of spirituous potation, he should then be advised to continue as he is, and rather bear the ills he has, than risk the encounter of greater. Animal food, with or without spice, is at the same time to be recommended, as likewise the cinchona bark with myrrh and steel between his meals. At night he may take half a grain or a grain of opium, with five or eight grains of rhubarb.

HYPOCHONDRIASIS, OR HYPOCHONDRIAC AFFECTION.

THIS disease, known likewise by the name of low spirits or the vapours, is a certain state of the mind along with dyspepsia, wherein the greatest evils are apprehended upon the slightest grounds, and the worst consequences imagined from any unusual feeling even of the slightest kind; and in respect to such apprehensions and feelings, there is always the most obstinate belief and persuasion.

Hypochondriasis may be distinguished from dyspepsia by appearing at a more advanced age than the latter, by the languor, listlessness, want of resolution and activity, fear of death, and suspicious disposition being always present, and by the dyspeptic symptoms being often absent, or when present, they are in a much slighter degree.

Men of a melancholic temperament, whose minds are capable of great attention, and whose passions are not easily moved, are at an advanced period of life most liable to be attacked with this disease, and when it has once taken place, it goes on increasing as life advances, being usually most troublesome in the autumnal and winter seasons, which accounts for more acts of suicide being committed at these times of the year than at any other.

Hypochondriasis seems to depend on a loss of energy in the brain or on a torpid state of the nervous system, induced by various remote causes, such as close and intense study, long and serious attention to abstruse subjects, the constant remembrance of some material loss or disappointment which has occurred, great anxiety of mind, leading an inactive, indolent, or sedentary life, immoderate venery, or a use of crude, flatulent, or unwholesome food, being guilty of great irregularity and intemperance, as likewise by obstructions in the viscera, and by long-continued evacuations.

The hypochondriac affection is attended with inactivity, a want of resolution with respect to all undertakings, lowness and dejection of spirits, great despondency, and apprehension of evil upon the slightest grounds, and a dread of danger from any unusual feeling even of the slightest kind, together with flatulency in the stomach and bowels, acid eructations, costiveness, a copious discharge of pale urine, spasmodic pains in the head and other parts of the body, giddiness, dimness of sight, and palpitations. In short, it is attended with such a long train of symptoms, that it would fill many pages to enumerate them all, as there is no function or part of the body that does not suffer in its turn by its tyranny: the miserable patient indulges wild imaginations, and fancies that he labours under almost every disease; and with respect to these feelings and apprehensions, he entertains the most obstinate belief, being highly displeased if any attempt is made to reason with him on the absurdity of his persuasions.

There are few examples of hypochondriacal people, who find themselves worse at night than in the morning; the generality of them, like most of those who are afflicted with any of the complaints styled nervous, are seemingly hurt by their sleep, little as it is; and the longer they happen to sleep, the worse they are: they awake out of it with confusion, and do not come immediately to themselves; and when they do, they can think only of melancholy subjects, and feel the worst horrors of their disorder. This state continues till dinner, with very little abatement; after dinner they feel themselves a little revived; and at night the tide of their spirits returns, which being desirous to enjoy, and dreading their certain ebb when they lie down, they go late and with reluctance to bed.

As to the prognostic, the disease, if recent, is rather to be regarded as troublesome than dangerous; but if long-continued, it is apt to produce scirrhi of the viscera, cachexy, dropsy, incurable melancholy, or madness.

On dissections of hypochondriacal persons, some of the obdominal viscera (particularly the liver and spleen,) are usually found considerably enlarged. In some few instances, effusion, and a turgescence of the vessels, have been observed in the brain.

The indications of cure in this disease seem to be,

1st, To excite the nervous energy which has been depressed, and that particularly by attending to the state of the mind.

2dly, To remove or alleviate the symptoms which serve to continue and aggravate the disease.

3dly, To strengthen the alimentary canal, and promote the secretions.

To answer the first of these indications, the patient's attention is to be engaged and diverted to other objects than his own feelings; he is to be directed to vary the scene frequently by going from one place to another; to associate as much as possible with agreeable cheerful company; to engage in such pursuits as will afford him moderate exercise in the open air, which gardening, riding on horseback and field sports, as hunting and shooting, are particularly calculated to do; and by all means to avoid absolute idleness: but in doing this, all application to former studies, especially professional ones, is to be forbid: entertaining books will, however, be serviceable, as assisting to divert the mind from itself. Gardening is a pursuit highly proper for hypochondriacs, as it will keep the mind alert, and the body in exercise. Such as live in the country should therefore engage in it. In cities or large towns where this healthy recreation cannot be enjoyed, no better substitute can be employed than that of fitting up an apartment as a work-shop. Working in a cool and free atmosphere would prove a deliverance from that chilliness, which for above half of our years so miserably persecutes the tender, and it might act equally as a charm on the ruffled spirits.

Compassion, and not raillery, is to be bestowed on the hypochon-

driac, as the firm persuasion which he entertains will not allow his feelings to be treated as imaginary, nor his apprehensions of danger to be considered as groundless, however the physician may be of opinion, that it is the case in both respects. To gain his confidence, it will be necessary to attend to his complaints, as if they were all real; and to satisfy him, it will by all means be adviseable to give him some kind of innocent medicine or placebo, changing it from time to time, whenever he expresses any disappointment of relief. The general health is at the same time to be put into the best state possible.

The complaints of hypochondriacs should be treated by the physician as of real existence; and from whatever cause they may arise, it is his province to employ his art to subdue it; not to ruffle an irritable mind by unseasonable levity, or expose a morbid sensibility to insult and reproach.

From the slow evacuation of the stomach in melancholic temperaments, acidity often prevails in a high degree with hypochondriacs; to obviate which, and answer the second indication of cure, it will be necessary for the patient to make use of absorbents, and alkalies, as advised under the head of Dyspepsia.

Vomiting, though sometimes employed, is by no means suited to this disease.

Costiveness, which is another frequent symptom in hypochondriasis, is to be obviated by instituting a regular custom of periodically soliciting an evacuation by voluntary and persevering efforts once or twice a day at certain hours; and until the desired intention can be established in this way, some gentle laxative may be taken occasionally, as mentioned under the head of Dyspepsia.

Flatulency is another constant attendant, and is to be prevented by making use of carminatives, essential oils, and spices, formulæ of which will likewise be found under the head of Dyspepsia.

Besides these affections, hypochondriacs are apt to be troubled with spasmodic pains in the stomach; to relieve which, it may be proper to employ such medicines as æther, musk, and opium, either given separately, or combined together.

Assafœtida, castor, camphor, valerian, volatile salts, sal and oil of amber, are medicines which are likewise much employed in the cure of the disease: and therefore when the patient loses a confidence in the one, we can readily substitute another, hypochondriacs being seldom satisfied, unless they are liberally supplied with some drug or other.

Nervous people are apt to be troubled with what are termed muscæ volitantes (atoms floating before the eyes,) which though harmless and slight, often excite alarm and apprehension on the part of such patients, and may be mistaken for amaurosis, or incipient cataract.

The plan of cure for these is, to relieve the mind from intense application, and from objects of anxiety; to clear the bowels by a

brisk purgative, and then to give volatile medicines. Local bleeding, or any other debilitating treatment, is seldom beneficial.

In hypochondriasis, as well as in most other nervous diseases, it is too much the custom with many, to addict themselves to a frequent and immoderate use of opium in some form or other; but this remedy should be carefully shunned, unless on urgent occasions; for although it may afford some little relief for the present, it will nevertheless, by a constant use, greatly add to the disease. The immediate effect produced by opium upon such as addict themselves to its use is, that with an increase of the frequency of the pulse, the heat of the body is generally somewhat augmented, so as to produce very often flushings in the face; and from a depressed state, they become active and alert with an exhilaration of spirits; but after the operation of the remedy is over, depression of mind ensues, the body is cold and heavy, and in this dull and indolent condition it remains until the dose is repeated.

Many of those who labour under a lowness of spirits have recourse to wine, and, what is still worse, to spirituous liquors, in order to raise them. No words can be too strong to point out the danger of such a practice in its proper colours. It is difficult to determine whether the use of opium or of strong fermented liquors is most detrimental to the human constitution; unluckily the victims who addict themselves to either are ensnared by a habit which they find it impossible to relinquish, because the constitution, when habituated to a strong stimulus, becomes incapable of carrying on the functions of life without continual excitement, which of itself brings on debility and premature decay.

To answer the third indication of strengthening the alimentary canal, and promoting the secretions, a plaster of pix arida, or of ladanum, is to be applied to the abdomen, and chalybeates are to be employed, as advised under the head of Dyspepsia.

As a general stimulant, cold bathing may sometimes seem useful to the hypochondriac, as well as to the dyspetic; but this does not often happen, as tepid bathing proves in general much more useful, from the rigidity of the solids which prevails. A bath of about 96 or 98 degrees of heat used for half an hour once a day, or every other day, has in many instances proved of great service. Where a natural warm bath can be procured, a preference should be given to it.

Frictions of the whole body every morning and evening for ten minutes or longer, with coarse flannel cloths, will be likely to prove beneficial; and so will be also gentle exercise on horseback in the open air every day.

The diet in this disease should consist of what is light, generous, and nutritive, avoiding what is apt to prove either acescent or flatulent; and therefore animal food will be most proper. The stomach ought never to be over-loaded; neither should it be suffered to remain perfectly empty. If a faintness is perceived at any time between meals, a bit of cake or biscuit may be taken with part of

a glass of wine; which precaution will be the more necessary with those in fashionable life, from the late hour at which dinner is usually served up. Port wine, Sherry, or good Madeira, properly diluted with water, may be used for ordinary drink, instead of malt liquors, but should these disagree with the stomach, water, with a very small proportion of brandy, may be drank in their stead. Tea is an improper article of diet for hypochondriacs; but more particularly when taken very warm. For breakfast cocoa, chocolate, or milk, may be substituted instead of it.

Order III.—SPASMI, OR SPASMODIC DISEASES.

Irregular or preternatural motions of the muscles or muscular fibres are characteristic of this order of diseases.

HYSTERIA, or the HYSTERIC DISEASE.

This disease appears under such various shapes, imitates so many others, and is attended with such a variety of symptoms, which denote the animal and vital functions to be considerably disordered, that it is difficult to give a just character or definition of it; and it is only by taking an assemblage of all its appearances, that we can convey a proper idea of it to others.

The disease attacks in paroxysms or fits. These are sometimes preceded by dejection of spirits, anxiety of mind, effusion of tears, difficulty of breathing, sickness at the stomach, and palpitations at the heart; but it more usually happens that a pain is felt on the left side, about the flexure of the colon, with a sense of distention advancing upwards, till it gets into the stomach; and removing from thence into the throat, it occasions by its pressure a sensation, as if a ball was lodged there, which by authors has been called globus hystericus. The disease having arrived at this height, the patient appears to be threatened with suffocation, becomes faint, and is affected with stupor and insensibility: while at the same time the trunk of the body is turned to and fro, the limbs are variously agitated, wild and irregular actions take place in the alternate fits of laughter, crying, and screaming; incoherent expressions are uttered, a temporary delirium prevails, and a frothy saliva is discharged from the mouth. The spasms at length abating, a quantity of wind is evacuated upwards, with frequent sighing and sobbing, and the woman recovers the exercise of sense and motion without any recollection of what has taken place during the fit; feeling, however, a severe pain in her head, and a soreness over her whole body. In some cases there is little or no convulsive movement, and the person lies seemingly in a state of profound sleep, without either sense or motion.

Hiccup is a symptom which likewise attends in some instances on the hysteric disease; and now and then it happens that a fit of hysteria consists of this alone. In some cases of this nature it has

been known to continue for two or three days, during which it frequently seems as if it would suffocate the patient, and proceeds gradually weakening her, till it either goes off, or else occasions death by suffocation; but this last is extremely rare. Besides hiccup, other slight spasmodic affections sometimes wholly form a fit of hysteria, which perhaps continue for a day or two, and then either go off of themselves, or are removed by the aid of medicine.

In some cases the patient is attacked with violent pains in the back, which extend from the spine to the sternum, and at length become fixed upon the region of the stomach, being evidently of a spasmodic nature, and often prevailing in so high a degree, as to cause clammy sweats, a pale cadaverous look, coldness of the extremities, and a pulse hardly perceptible.

Hysteric affections occur more frequently in the single state of life than in the married, and most usually between the age of puberty and that of thirty-five years, and they make their attack oftener about the period of menstruation, than at any other.

They are readily excited in those who are subject to them, by passions of the mind, and by every considerable emotion, especially when brought on by surprise: hence sudden joy, grief, fear, &c. are very apt to occasion them. They have also been known to arise from imitation and sympathy.

Women of a delicate habit, and whose nervous system is extremely sensible, are those who are most subject to hysteric affections; and the habit which predisposes to their attack, is acquired by inactivity, and a sedentary life, grief, anxiety of mind, late hours, dissipation, a suppression or obstruction of the menstrual flux, excessive evacuations, and a constant use of a low diet or of crude unwholesome food. A disease resembling hysteria is sometimes met with, in the more delicate of the male sex.

The hysteric passion differs from a syncope, as in this there is an entire cessation of the pulse, a contracted face, and a ghastly countenance; whereas in the uterine disorder there is often something of a colour, and the face is more expanded; there is likewise a pulse, though languid; and this state may continue two or three days, which never happens in a syncope.

It differs from epilepsy, in that this is supposed to arise in conquence of a distention of the vessels of the brain; whereas in hysteria, the spasmodic and convulsive motions arise from a turgescence of blood in the uterus, or in other parts of the genital system. Hysteria may be distinguished from epilepsy by the globus hystericus, by the great flow of limpid urine, by the sudden transitions from laughing to crying, and by the fear of death preceding and succeeding to the paroxysm.

However dreadful and alarming an hysteric fit may appear, still it is seldom accompanied with danger, and the disease never terminates fatally, unless it changes into epilepsy, or mania, or the patient is in a very weak reduced state.

In the cure of hysteria two indications are to be attended to.

The first is to allay the spasmodic symptoms which constitute the fit; and

The second, to lessen the excitability of the nervous system, and strengthen the whole frame during the intermissions of the paroxysms.

The first of these indications is to be answered by bleeding, if the patient is young and plethoric, the pulse full, and the attack quite of a recent nature; but in weak and delicate constitutions, or where the disease has been of long standing, we should never have recourse to this operation.

During the fit it will be the safest practice to rouse the patient by applying burnt feathers, assafœtida, or volatile salts or spirits, to the nose; by rubbing the temples with æther, and by putting the feet into warm water. Dashing cold water over the extremities and face is sometimes attended with a good effect.

In case of costiveness, a laxative clyster, with an addition of assafœtida or castor, may be thrown up into the intestines. Where the fit continues for any length of time, I have seen very speedy and effectual relief afforded by administering clysters composed of turpentine.* We may at the same time apply a small blister to the inside of each leg. During the fit, due care is to be taken that the patient sustains no injury from the violence of her struggles.

As soon as she is perceived to be capable of swallowing, some antispasmodic, as assafœtida, castor, ammoniated tincture of valerian, æther, &c. should be given to her frequently. Such medicines may either be administered separately, or be combined together, as in the formulæ below.† In those cases where the spasms are very violent, and the fit of long duration, opium may be employed in addition to other antispasmodics. In common cases it will, however, be best to avoid its use, as it seldom fails to leave the patient remarkably low, particularly if long continued.

In cardialgic paroxysms of the hysteric kind, the liquor potassæ subcarbonatis in doses of twenty drops, frequently repeated, has been found an excellent palliative remedy, and may therefore be prescribed.

* ℞. Ol. Terebinth. ℥iij.
Mucilag Gum. Acac. ℥ss.
Misceantur bene simul in Mortario et adde
Decoct. Avenæ ℥xi.
ft. Enema.

† ℞. Gum. Assafœtid. ℥j. Solve in
Aq. Puleg. ℥vj. et adde
Tinct. Valerian. Amm. ℥ss.
Æther. Sulphuric. ℥j M.
ft. Mistura cujus sumat ægra Cochl. ij. tertia hora.

Vel

℞. Tinct. Valerian. Ammon. ℥j.
——— Lavend. C. ℥ij.
Spirit. Ammon. Aromat. ℥j.
Aquæ Puræ ℥vj. M.
ft. Mistura. Capiat. Cochl. j. pro dos.

Vel

℞. Spirit. Ammon. Fœtid. ℥ss.
♏. xx.—xxx. pro dos.

Vel

℞. Æther. Sulphuric. ℥ss.
Capiat ♏. xx.—xxx. in quovis vehiculo.

The second indication is to be answered by giving medicines during the intermissions of the paroxysms to strengthen the system, such as the cinchona bark, and other bitters, with the sulphuric acid, and chalybeates; proper formulæ of which have been inserted under the head of Dyspepsia.

Mineral waters are found to be very efficacious in hysteric affections, and their powers may greatly be increased by proper exercise, particularly riding on horseback, together with early rising, a generous nutritive diet, cool dry air, and cold bathing.

In addition to these, the mind is to be kept constantly easy and cheerful, and, if possible, to be always engaged in some agreeable and interesting pursuit; for which reason, watering places are well adapted for those who are subject to hysteric affections, and particularly where they have taken their origin from grief, anxious thoughts, or other distresses of the mind.

If the stomach is affected at any time with phlegm, so as to excite nausea, a gentle emetic may be taken to remove it; or if there is a tendency to costiveness, it may be obviated by some gentle laxative, as advised under the head Dyspepsia.

When hysteric affections arise from a suppression or obstruction of the menses, these evacuations must again be promoted by adopting the means recommended under those particular heads.

Hysterical women are often afflicted with slight spasmodic affections in various parts of the body, and particularly with cramps, which are most apt to seize them in bed, and when asleep. In mild cases of this nature, immersing the feet and legs in warm water will often be sufficient to remove them; but where the spasms are violent, and of some duration, we must attempt the cure by opiates, musk, æther, camphor, &c. internally, and by the warm bath, and frictions externally.

In those cases where the stomach becomes affected with cramp, we must have recourse to considerable doses of æther combined with opium. Its external region may likewise be anointed with a liniment of the same nature.* If the feet are cold, bottles filled with warm water should be applied to them. Throwing up an emollient clyster into the intestines may also be proper, particularly where costiveness accompanies the spasmodic affection of the stomach.

To lessen the irritability or excitability of the system, and produce permanent effects, some physicians have recommended a use of antispasmodics along with tonics.

From the great disposition of the stomach to acescency in this disease, as well as in hypochondriasis, a diet of animal food will

[* R. Ol. Terebinth. ℥ij.
Camphoræ ʒij.
Aq. Ammon. sub-carbonat. ℥ij.
Ol. Olivar. ℥ss. M. ft. Linimentum. E.]

be most proper. Wine diluted with a sufficient quantity of water should be preferred to all other liquors for common drink.

EPILEPSIA, OR EPILEPSY.

THIS disease consists in a sudden deprivation of the senses, accompanied with a violent convulsive motion of the whole body.

It attacks by fits, and after a certain duration goes off, leaving the person most commonly in his usual state; but sometimes a considerable degree of stupor and weakness remains behind, particularly where the disease has frequent recurrences. It is oftener met with among children than grown persons, and boys seem more subject to its attacks than girls. Its returns are periodical, and its paroxysms commence more frequently in the night than in the day, being somewhat connected with sleep. It is a disease sometimes counterfeited, in order to extort charity or excite commiseration.

Epilepsy is properly distinguished into sympathic and idiopathic, being considered as sympathic, when produced by an affection in some other part of the body, such as acidities in the stomach, worms, teething, &c.; and idiopathic, when it is a primary disease, neither dependant on, nor proceeding from any other.

The causes which give rise to epilepsy, are blows, wounds, fractures, and other injuries done to the head by external violence, together with plethora of the vessels of the head, lodgments of water in the brain, tumours, concretions, polypi, and a deformity in the shape of the bones in any part of the skull. Violent affections of the nervous system, sudden frights, fits of passion, great emotions of the mind, frequent intoxications, acute pains in any part, worms in the stomach or intestines, teething, the suppression of some long-accustomed evacuation, too great emptiness or repletion, and poisons received into the body, are causes which likewise produce epilepsy. Sometimes it is hereditary, and at others it depends on a predisposition arising from a mobility of the sensorium, which is occasioned either by plethora or a state of debility.

An attack of epilepsy is now and then preceded by a heavy pain in the head, dimness of sight, noise in the ears, palpitations, flatulency in the stomach and intestines, weariness, and a small degree of stupor, and in a few cases there prevails a sense of something like a cold vapour or aura rising up to the head; but it more generally happens, that the patient falls down suddenly without much previous notice; his eyes are distorted or inverted, so as that only the whites of them can be seen; his fingers are closely clenched; his limbs and the trunk of his body, particularly on one side, are much agitated; he foams at the mouth, and thrusts out the tongue, which often suffers great injury from the muscles of the lower jaw being also affected; he loses all sense of feeling, and not unfrequently voids both urine and fæces involuntarily.

After a continuance of the convulsions for some time, they abate

gradually, and the patient continues for a short period in a state of insensibility, but, on coming to himself, he feels very languid and exhausted, and retains not the smallest recollection of what has passed during the fit.

When the disease proceeds either from tumours, polypi, concretions or a deformity in the bones of the skull, the case is hopeless. When it arises from an hereditary disposition, or comes on after the age of puberty, or where the fits recur frequently, and have become habitual, or are of long duration, it will be very difficult to effect a cure; but when it attacks at an early age, and is occasioned by worms, or any accidental cause, it may, in general, be removed. In some cases, it has been entirely carried off by the recurrence of a fever, or by the appearance of the menses, or of a cutaneous eruption. It has been known to terminate in apoplexy, and, in some instances, to produce mental derangement, or a loss of the powers of the mind, and so to end in idiotism.

Epilepsy has been perceived to disappear suddenly about the age of puberty where it has attacked children of five or six years old, and where no treatment has had any effect. The number of fits are always increased by parturition, and by every other thing which has a tendency to debilitate the system.

The appearances usually to be observed on dissection, are serous and sanguineous effusion, a turgid tense state of the vessels of the brain without any effusion, a dilatation of some particular part of the brain, excrescences, polypi, and hydatids adhering to it, and obstructing its function, and likewise ulcerations. In many instances, the pituitary gland is found in a diseased state, even when every other part of the brain has appeared natural.

In epilepsy, the intentions of cure should vary according to the cause which occasions the disease.

When it is sympathic, and arises from worms, medicines possessed of the power of destroying or dislodging these vermin, ought to be employed. As an anthelmintic, the oil of turpentine, in doses of from half an ounce to one ounce, has been found a very useful medicine in some cases of epileptic fits. When they proceed from teething, that part of the gum which appears to be inflamed, should be deeply scarified, the body should be kept open by laxative medicines or emollient clysters, and the feet be bathed in warm water. When cases occur without any symptom of direct pressure on the brain, and there is occasional sickness, attended with flatulency, disturbed sleep, and other marks of disordered digestion, either preceding or following epileptic paroxysms, it will be right, especially in the former case, to evacuate the contents of the stomach by an emetic, consisting of a solution of the sulphate of zinc in an aqueous infusion of ipecacuanha, and to repeat it in six, eight, or ten days, according to circumstances.* The dose must vary according to the age of the patient, and the different degrees

* See Dr. J. Clarke on the Diseases of Children.

of irritability of the stomach, as no general rule can apply to every case.

Afterwards, if the stomach should exhibit marks of weakness, light bitter infusions may be given, assisted by some active stimulant, as ammonia or oleum cajeputi.

When there is a great prevalence of acid, from the imperfect digestion of vegetable food, soda, liquor potassæ, or liquor potassæ subcarbonatis, may be combined with the bitter.

If the bowels are confined at the same time, magnesia may be employed advantageously. On the contrary, if too much relaxed, which is seldom the case, cretaceous preparations may be resorted to.

If epilepsy appears to proceed from any suppressed discharge, in particular the hæmorrhois, leeches should be applied to the hæmorrhoidal vessels, together with fomentations, and we should at the same time administer aloetic cathartics.

Where it attacks children of a costive habit, and seems to take its rise merely from a foulness of the bowels, active purgatives should be employed. A combination of the submuriate of mercury and jalap will be very proper.

If it arises from any stimulus, which, by exciting pain, occasions the complaint, this ought to be removed as quickly as possible. If it is a case of sympathic epilepsy, and is accompanied with the aura epileptica, we should then endeavour to destroy the part either by cutting it out, or by applying caustic to it; and when these means cannot be adopted, we ought then to endeavour to correct the morbid affection of it either by blisters, or by inserting an issue in the part.

Should the disease seem to proceed from the partial division of a nerve, and it can be got at readily, we ought to cut through it in the same manner as in tetanus. Cutting off the communication with the brain has likewise been attempted, by the application of ligatures upon the limb, above the part from which the aura arises.

In the idiopathic epilepsy, the cure consists in avoiding the occasional causes, and in removing or correcting those which predispose to it.

The occasional causes which are to be avoided, are over distention, turgescence, intoxication, fits of passion, and all other emotions of the mind; and as the disease is confirmed by repetition and habit, so the avoiding frequent recurrences of it, is of the utmost importance.

It is a fact well supported, that, in some instances, the disease has been found to continue from habit alone, after the original cause had long ceased to act. In such cases, our endeavours should be exerted to make nature discontinue this custom, if possible. When an attack can be foreseen, no medicine, perhaps, under such circumstances, will be more likely to prevent an epileptic fit, than

an emetic given about an hour before its approach.* Removing to another country, and changing former habits and the manner of living, may likewise be serviceable in such cases.

If the predisposition to the disease has arisen from a plethoric state of the system, or from a turgescence in the vessels of the head, this is to be obviated by bleeding, both generally and topically, but more particularly the latter: by an abstemious diet and proper exercise, and by issues between the scapulæ, or a seton in the neck. These last may not only be supposed to be good remedies for obviating the plethoric state of the system, but may likewise be the means of determining occasional turgescences to such places, and therefore of diverting them, in some measure, from their action upon the brain.

Epilepsy is one of the diseases in which the digitalis has been found serviceable, but most so in those cases where a plethoric state or turgescence in the vessels of the head prevails. To produce, however, a permanent effect, the constitution must be kept under its influence for some weeks, by giving from half a grain to one grain of the powder, or from fifteen to thirty drops of the tincture, three or four times a day. Under the head of Mania, I have mentioned a severe case of epilepsy in a middle-aged married woman, accompanied with mental derangement, wherein, by administering the digitalis in the manner just noticed, and carefully guarding against the exciting cause (frequent intoxication,) a complete cure was effected.

When the predisposition is owing to a state of debility, which is most usually the case, we are to obviate and prevent its effects by recommending the patient to breathe a cool air, to make use of a generous nutritive diet, to take daily exercise adapted to his strength, particularly on horseback, and to go frequently into a cold bath; and besides adopting these steps, he may enter on a regular course of antispasmondic, astringent, and tonic medicines.

The antispasmodics in most general use are, valerian, castor, musk, æther, oil of amber, oleum animale, oleum cajeputæ, arnica montana, belladonna, hyoscyamus, digitalis, and opium. A combination of opium and valerian, or of opium and musk, will be likely to prove valuable remedies. In particular, they should be given a short time before the expected return of the paroxysm, and be repeated at proper intervals, increasing the dose in a gradual manner, in proportion to the violence or frequent recurrence of the fits.

Where the disease depends upon a plethoric state, it would be highly improper to give opium, but where no plethora exists, and it seems to depend upon irritation, or upon an increase of excitability opium, will prove a safe and powerful remedy. When given in

* Following the emetic by the pediluvium and an opiate, has been found to render its effect more certain. E.

a large dose, such as two grains in substance, or sixty or seventy drops in tincture, on the approach of a fit, it has been known to prevent it altogether; but should it even fail in this, it will infallibly be found to lessen its violence.

As a tonic, the cinchona bark has been much employed in the cure of this disease. Its use seems, however, best adapted to those epilepsies which recur at certain periods, and which are without plethora; in which cases, if it is given in a considerable quantity some little time before the expected recurrence, it will be very likely to prove serviceable. When taken for a constancy, it may be combined with valerian, &c.

Metallic tonics having been found more powerful than the vegetable ones, have therefore been more generally employed. The preparations of iron most used are, the ferri sulphas, the ferrum ammoniatum, and the ferri carbonas. Those of copper are the cuprum ammoniatum of the Edinburgh Dispensatory, and the cupri sulphas, which may be given in small doses at first, repeated twice a day, increasing them gradually to as much as the stomach will bear. The pulvis stanni, and other preparations of tin, have likewise been used in the cure of epilepsy; but their effects seem doubtful.

The oxyd of zinc has been much extolled for its virtues in this disease. The dose is from one grain to three, four or five. It will always be the best way to begin with a single grain, repeated three or four times a day, and so to increase the dose gradually according to the effect it produces on the stomach.

The sulphate of zinc is another metallic tonic much recommended in this disease. We may give half a grain of it thrice a day.

Arsenic has likewise been employed in the cure of epilepsy with some success. It will be best admistered in the form of solution, as recommended under the head of Intermittent Fever.

Some instances of the cure of epilepsy having occurred from an accidental use of mercury, this also has been proposed as a remedy.

The nitrate of silver has been recommended as a valuable medicine in the cure of epilepsy, even where the disease has been of many years' standing. See Medical and Physical Journal, vol. 1 and 2.

In some of the worst cases of epilepsy, in which the fits were long and violent, as well as frequent throughout the course of the day, and where the disease had been of some standing, electricity has been found to render them weaker, and to reduce their number very materially in a short space of time. When other means fail to procure the desired effect, we ought therefore to have recourse to this remedy, or galvanism.

The Oleum Terebinthinæ has lately been used in some cases of epilepsy with success,* as well as in some other spasmodic diseases; the dose should be considerable, to produce any effect.

* See Edinburgh Medical and Surgical Journal, No. 35.

The diet in epilepsy should consist of such things as are light, nutritive, and easy of digestion, taking care to avoid whatever is apt to prove flatulent. During the intervals, the patient is to keep himself as cheerful and tranquil as possible, carefully guarding against all violent passions or other emotions, and he should take care never to put himself in a hazardous situation, lest a fit should happen to attack him at that period.

When it is present, due care must be taken to prevent him from bruising himself in his struggles; and especially that he does not get his tongue between his teeth. Rubbing the nose, temples, and pit of the stomach with æther, may possibly help to abbreviate the fit by its action on the olfactory organ.

A smaller degree of epilepsy is where the sensibility and irritability remain, but there are spasmodic contractions of the muscles; hence we see many persons affected with twitchings of the face. There are also certain spasmodic pains that come on by paroxysms, which seem likewise of the epileptic kind.

When any of these arise as sympathic affections, they are only to be cured by removing the primary disorder upon which they depend; but where they take place independent of any other disease, they are to be treated in the manner just recommended to be pursued in the cure of epilepsy.

CHOREA SANCTI VITI, OR DANCE OF ST. VITUS.

THIS disease is marked by convulsive actions, most generally confined to one side, and affecting principally the arm and leg. When any motion is attempted to be made, various fibres of other muscles act which ought not, and thus a contrary effect is produced from what the patient intended. It is chiefly incident to young persons of both sexes, but particularly those of a weak constitution, or whose health and vigor have been impaired by confinement, or by the use of scanty and improper nourishment, and makes its attacks between the age of ten and fifteen, occurring but seldom after that of puberty.

By some physicians it has been considered rather as a paralytic affection than as a convulsive disorder, and has been thought to arise from a relaxation of the muscles, which being unable to perform their functions in moving the limbs, shake them irregularly by jerks.

Chorea Sancti Viti is occasioned by various irritations, as teething, worms, acrid matter in the bowels, offensive smells, poisons, &c. It arises likewise in consequence of violent affections of the mind, as horror, fright, and anger. In many cases it is produced by general weakness and irritability of the nervous system, and in a few it takes place from sympathy at seeing the disease in others.

The fits are sometimes preceded by a coldness of the feet and limbs, or a kind of tingling sensation, that ascends like cold air up the spine, and there is a flatulent pain in the left hypochondrium, with obstinate costiveness. At other times the accession begins with yawning, stretching, anxiety about the heart, palpitations, nausea, difficulty of swallowing, noise in the ears, giddiness, and pains in the head and teeth, and then come on the convulsive motions.

These discover themselves at first by a kind of lameness or instability of one of the legs, which the person draws after him in an odd and ridiculous manner as if it was paralytic, nor can he hold the arm of the same side still for a moment; for if he lays it on his breast, or any other part of his body, it is forced quickly from thence by an involuntary convulsive motion. If he is desirous of drinking, he uses many singular gesticulations before he can carry the cup to his head, and it is forced in various directions, till at length he gets it to his mouth, when he pours the liquor down his throat with great haste, as if he meant to afford amusement to the by-standers. Sometimes various attempts at running and leaping take place, and at others the head and trunk of the body are affected with convulsive motions. The eye loses its lustre and intelligence, and the countenance is pale and expressive of vacancy: deglutition is occasionally performed with difficulty, and articulation is often impeded, and sometimes completely suspended. In the advanced periods of the disease, flaccidity and wasting of the muscular flesh take place, the consequence of constant irritation, of abated appetite, and impaired digestion.

In many instances the mind is afflicted with some degree of fatuity, and often shows the same causeless emotions, such as weeping and laughing, which occur in hysteria.

When this disease arises in children, it usually ceases again before the age of puberty, and in adults is often carried off by a change from the former mode of life. Unless it passes into some other disease, such as epilepsy, or its attacks are very violent, it is not attended with danger.

Where chorea arises in those of a weak irritable habit, and is wholly unconnected with any species of irritation, either of teething, worms, or acrid matter in the first passages, we should not employ evacuants, but have recourse to strengthening remedies with the view of increasing the tone of the muscular system.

Cinchona bark in large doses, with the assistance of cold bathing, has often effected a cure: but the metallic tonics which have been advised under the head of Epilepsy, will be more likely to prove efficacious than those of the vegetable class.

During a use of these medicines, if costiveness prevails, it should be removed by some gentle laxative.

Should the disease resist these means, it probably may be carried off by strong electrical shocks directed through the whole body. Terror suddenly excited has been known to effect a cure.

The application of a perpetual blister to the os sacrum has in addition to electricity been found a valuable remedy. Dry cupping has in some instances been thought to have proved useful. In some cases of chorea where from the frequency of the paroxysms, a morbid condition of the brain has arisen, the insertion of a seton in the neck, and kept open for a considerable time, has been attended with a happy effect.

Chorea has pretty generally been considered by systematic writers as a disease of debility, and this opinion has been almost universally adopted by practical physicians, inducing them to employ tonics, stimulants, and antispasmodics for its cure; but in many cases this has proved very difficult; and when not removed by the change which the system undergoes at the age of puberty, the disease has continued to harass the wretched sufferer ever afterwards. This fact being well established, we should undoubtedly regard the symptoms of chorea as sometimes depending on local irritation and not on debility, and in such cases they are to be obviated by removing the causes of irritation, by scarifying the gums, by expelling worms, or by a use of brisk purgatives. From some cases reported in the first number of the Edinburgh Medical and Surgical Journal, and which were received into the Royal Infirmary of that city, it appears that very complete cures were effected by the frequent exhibition of drastic purges consisting of mercury and jalap. Irritation in the first passages no doubt had occasioned the chorea in these instances.

A modern writer tells us,* that having met with many cases of chorea which he treated in the usual way, but without success, he was induced to desert the practice, and to consider the disease in a different light from that in which it had been commonly viewed. He conceived that the debility and spasmodic motions hitherto so much considered, might not be the leading symptoms of the disease, but might depend upon previous and increasing derangement of health, as indicated by irregular appetite and constipation of the bowels. Under this impression, he resolved to alter the mode of treating the disease, and began trying the effects of purgative medicines, given regularly in moderate doses.

The success of the new practice established, he mentions the justness of his opinion, and encouraged him to persevere with steadiness and activity. To procure a discharge of the indurated and fetid fæces, he found it necessary to employ active and strong purgatives in the confirmed stage of the disease, given in successive doses, in such a manner that the latter doses might support the effect of the former; but in the first stage of chorea, while the intestines yet retain their sensibility, and before the accumulation of fæces is great, gentle purgatives, repeated as the occasion may require, he experienced readily to effect a cure, or rather prevent

* See Observations on the Utility of the Purgative Medicines, by Dr Hamilton.

the full formation of the disease. He mentions that an occasional stimulus from purgatives will be requisite to support their due action, and to restore their healthy tone, even after a regular appetite for food, a more intelligent eye and lightened countenance, cheerfulness, increasing aptitude for firmer motions, the restoration of articulation and the power of deglutition, and a renovation of flesh and strength, succeed each other.*

TETANUS.

Tetanus is an involuntary, and almost constant contraction of all or several of the muscles, while the senses remain perfect and entire. It may be considered as of two kinds, viz. symptomatic, the consequence of wounds; and idiopathic, occasioned by exposure to cold.

By practical writers, tetanic complaints have been distinguished into opisthotonos, emprosthotonos, and trismus, in allusion to the situation of the parts affected; but they are all evidently only different degrees of one and the same disease.

These affections arise more frequently in warm climates than in cold ones, and are very apt to recur there idiopathically when much rain or moisture quickly succeeds excessively dry and sultry weather. They attack persons of both sexes, of all ages, temperaments, and complexions, but the male sex more frequently than the female, and those of a robust and vigorous constitution oftener than those of a weak habit.

Tetanic affections are occasioned either by exposures to cold when under profuse perspiration, sleeping in the open air on damp ground, or by the presence of irritating substances in the stomach and bowels, such as worms; or by some irritation of the nerves, in consequence of local injury by puncture, incision, or laceration. Lacerated wounds of tendinous parts prove, in warm climates, a never-failing source of these complaints. In cold climates, as well as in warm ones, the locked jaw, or trismus, frequently arises in consequence of various surgical operations, particularly the amputation of a limb, or of gun-shot wounds.

When the disease has arisen in consequence of a puncture, wound, or any other external injury, the symptoms show themselves generally about the eighth day; but when it proceeds from an exposure to cold, they generally make their appearance much sooner.

In some instances tetanus comes on suddenly, and with great violence; but it more usually makes its attack in a general manner; in which case a slight stiffness is at first perceived in the back part of the neck, which, after a short time, becomes consi-

* Dr. Coxe of Philadelphia, has delivered it as his opinion, that this disease frequently depends upon a partial collection of water in the ventricles of the brain. (See Coxe's Med. Museum.) E.

derably increased, and at length renders the motion of the head both difficult and painful.

With the rigidity of the head there is likewise an uneasy sensation at the root of the tongue, together with some difficulty of swallowing, and great tightness is perceived about the chest, with a pain at the extremity of the sternum shooting into the back. A stiffness also takes place in the jaws, which soon increases to such a height that the teeth become so closely set together as not to admit of the smallest opening. When the tetanic affection is confined to the jaws, the disease is called trismus.

In some cases the spasmodic affection extends no farther: in others, the spasms at this stage of the disease returning with great frequency, become likewise more general, and now affect not only the muscles of the neck and jaws, but likewise those of the whole of the spine, so as to bend the trunk of the body very forcibly backwards, and this is what is named opisthotonos. Where the body is bent forwards, the disease is called emprosthotonos.

During the whole course of the disorder the abdominal muscles are violently affected with spasm, so that the belly is strongly retracted, and feels very hard, most obstinate costiveness prevails, and both the flexor and extensor muscles of the lower extremities are commonly affected at the same time, so as to keep the limbs rigidly extended.

The flexors of the head and trunk become at length so strongly affected, as to balance the action of the extensors, and keep the head and trunk so rigidly extended and straight as to render it incapable of being moved in any direction. The arms, which were little affected before, are now likewise rigidly extended, the tongue also becomes affected with spasm, and being convulsively darted out, is often much injured by the teeth at that moment snapping together. It is to this state of the disease that the term of tetanus has been strictly applied.

The disorder continuing to advance, every organ of voluntary motion becomes affected, the eyes are rigid and immoveable in their sockets, the countenance is hideously distorted, and expresses great distress, the strength is exhausted, the pulse becomes irregular, and one universal spasm puts a period to a most miserable state of existence.

Attacks of tetanus are seldom attended with any fever, but always with violent pain, and the spasms do not continue for a constancy, but the muscles admit of some remission in their contraction, which is renewed every ten or fifteen minutes, especially if the patient makes the least attempt to speak, drink, or alter his position.

On dissections of this disease, in some instances, the blood has been found not in coagula, but fluid like molasses, as in animals killed by lightning, appearing to indicate, that the whole muscular fibres of the arterial system had partaken of the general spasmodic action.

In tetanus on being applied to for advice, the practitioner should endeavour, in the first place, to find out the cause which has given rise to the disease. If supposed to proceed from a wound or puncture, he ought carefully to examine the injured part, and to extract, as quickly as possible, any extraneous body that may have lodged therein, taking care at the same time freely to dilate the wound.

These steps being taken, it may possibly be attended with some advantage to pour a small quantity of a strong solution of opium into the wound, dressing it afterwards with a little lint dipped in the same, and laying a pledget spread with some digestive ointment over the whole. Every time the dressings are renewed, the wound is again to be wetted with the solution.

The partial division of a nerve (or rather of a tendon) being sometimes supposed to occasion tetanic affections, the practitioner ought, when this is suspected to be the case, to make a deep incision into the part which has been injured, so as to divide the tendinous and nervous fibres entirely, after which he should adopt the mode of treatment that has just been recommended.

Pencilling the wound freely with lunar caustic, and afterwards covering it with a poultice of bread and milk, with the view to obtain suppuration as soon as possible, is another mode of proceeding which has been pursued in tetanus arising from external injury.

Dr. Darwin recommends* the wound to be dilated, and then to fill it with lint moistened with spirits of turpentine, which brings on an inflammation in it, and thereby cures or prevents the convulsions.†

A case of trismus, which was successfully treated by Dr. Stevenson of Baltimore, Maryland, in this manner, is recorded in the 3d No. of the New Medical and Physical Journal, p. 220. S. P. a stout, plethoric, black woman, aged about thirty-five years, in walking bare-foot, chanced to tread upon a piece of glass, which wounded her foot near the first joint of the little toe. It bled copiously, and no attention was paid to it. It healed, as usual, in a few days after the accident. At the expiration of three weeks she was suddenly seized with a spasm in the muscles of the lower jaw, accompanied with intolerable pain, particularly near the coronoid and condyloid processes. This, in spite of large quantities of opium, increased, and a rigidity of the jaw superseded to such an extent that she could not masticate her food. Two grains of opium were given every two hours without any alleviation of the symptoms. In this dreadful state the Doctor made an incision about half an inch deep, and an inch and a half in length, immediately above the cicatrix, in a transverse direction, and then poured strong spirits

* See Zoonomia, vol. iv. page 47.

† This practice by the Physicians of this city, has been found more efficacious than any other, and we would therefore advise it to be invariably adopted. E.

of turpentine into the wound. In a few minutes violent pain was created in the part; in half an hour the spasms left the jaw; and in a few hours more the rigidity entirely vanished. The pain in the wound became excessive, and continued so for four or five hours; but the trismus was completely removed, nor did it ever recur. Little or no suppuration ensued, the wound healing by the first intention, or adhesive inflammation.

Opium is the medicine which has been employed with the best effect in cases of tetanus; but it should always be given in moderate doses at first, and so be increased gradually.* In administering opium in this disease, the attention must, however, be directed to the effect that it produces on the patient, and not to the quantity which is taken, as many cases are on record, where an ounce of it in substance has been given in the course of twenty-four hours, the spasms having been very frequent and violent.

By many it has been supposed that joining it with musk, camphor, and æther, has greatly added to its effect. A combination of these medicines had therefore best be used, taking care to increase the quantity of opium in each succeeding dose.

An alternate internal use of opium and carbonate of potash is said to have been employed in the hospitals of Germany among the wounded soldiers in the late war with a most happy effect. The remedy is, therefore, worthy of our attention in tetanic affections.

In those cases where the jaws are so firmly locked together as to prevent a spoon from being introduced between them, and where the teeth are quite perfect in front, it will be necessary to extract some of them, for the purpose of giving the patient his medicines and food. When he loses the power of deglutition, opium is then to be administered in clysters.

To procure a relaxation of the spasms, it has been customary to make use of a warm bath in conjunction with anodyne frictions, and occasionally a clyster of tobacco† has been administered about twice a day with success; but in all the instances of a recovery from tetanus which have taken place under my care, the cold bath was substituted instead of the warm. These, however, were cases (one excepted) which arose from exposures to cold. The plan generally pursued was, to throw a large pail-full of cold water every two hours on the patient, after which he was wiped dry, and again put into bed; an opiate draught, similar to what has been advised, was then given to him, and the parts most affected were well rubbed with a strong anodyne liniment. When he was so far recovered as to be able to swallow with facility, the cinchona bark was also

* This practice in the opinion of the Editors should be reversed, for it has been found that after the spasms have been suspended by large doses of opium, their recurrence has been prevented by small doses exhibited every three, four, six or eight hours. E.

† See the Edinburgh Med. and Surgical Journal, No. XLII. p. 198.

given to him with a very free allowance of wine; which course was pursued for a considerable time after the spasmodic affection had ceased.*

In the Transactions of the College of Physicians of Philadelphia, vol. i. part I. is inserted a case of tetanus, from the extraction of two teeth, which was successfully treated by Dr. Rush, by a use of mercury and wine; and others are elsewhere recorded on indisputable authorities.

In the New York Medical Repository for 1799, is mentioned another case of tetanus arising from the puncture of a pin in the wrist, which was successfully treated by Dr. Hosack with wine (Madeira) *alone;* the woman having taken three gallons in a few days, in doses of a wine-glassful (containing about two ounces) every hour. It seems necessary to observe, however, that in this case the wound was freely pencilled with lunar caustic, after which it was covered with an emollient poultice.

When tetanus has proceeded from an exposure to cold, it is apt to be attended with some slight inflammatory symptoms; to remove which, bleeding is sometimes had recourse to, but it usually proves injurious instead of beneficial.†

As costiveness is a constant attendant on tetanus it should be obviated by the frequent exhibition of active aperients, while the power of swallowing remains; and after it has ceased, by the regular exhibition of clysters. Of the utility of purgatives in cases of tetanus, whether idiopathic or occurring after wounds, there can be no doubt, and their efficacy is strongly enforced by Dr. Hamilton.‡

Electricity is reported to have lately been employed in some cases of the lock-jaw, with a happy effect. The remedy seems therefore deserving of further trials.

Throughout the whole course of all tetanic affections, the patient's strength is to be supported by wine, mixed with such things as he can easily swallow, and where this power ceases, nutritive clysters must be substituted.

The trismus nascentium is a species of tetanus; but this is inserted among the diseases peculiar to infants.

To prevent tetanic affections from arising after wounds and chirurgical operations, I understand it is almost an universal prac-

* In addition to producing an inflammation of the wound in symptomatic tetanus, it is now very generally recommended to excite as speedily as possible a salivation by the employment of mercury both externally and internally.—The warm bath should at the same time be made use of, and wine and opium in liberal quantities exhibited at short intervals. E.

† If inflammatory symptoms are indicated by the pulse, temperature of the body, &c. bleeding judiciously conducted cannot be injurious, whatever may be the name or cause of the disease. E.

‡ See his Treatise on Purgatives.

tice on board of ships of war, to mix tincture of opium with the dressings, and that since this practice has been adopted, these complaints seldom occur.

SINGULTUS, OR HICCUPS.

HICCUPS are a spasmodic affection of the stomach and diaphragm, arising from some peculiar irritation. They are in general a symptomatic disease.

PERTUSSIS, OR WHOOPING COUGH.

PERTUSSIS is a convulsive cough, interrupted by a full and sonorous inspiration, and returning in fits that are usually terminated by a vomiting or expectoration. In its first stage, it may be considered as a febrile disease.

Children are most commonly the subjects of pertussis, and it seems to depend on a specific contagion, which affects them but once in their life. The disease being produced, the fits of coughing are often repeated without any evident cause; but in many cases, the contagion may be considered as only giving the predisposition, and the frequency of the fits may depend upon various exciting causes, such as violent exercise, a full meal, the having taken food of difficult digestion, and irritation of the lungs by dust, smoke, or disagreeable odours. Emotions of the mind may likewise prove an exciting cause.

Pertussis has been observed to be much milder in warm climates than in cold ones.

The proximate or immediate cause of pertussis seems to be a viscid matter or phlegm lodged upon the bronchia, trachea, and fauces, which sticks so close as to be expectorated with the greatest difficulty.* Some have supposed it to be a morbid irritability of the stomach, with increased action of its mucous glands; but the affection of the stomach which takes place in the disease, is clearly only of a secondary nature, so that this opinion must be erroneous.

The whooping cough usually comes on with an oppression of breathing, some degree of thirst, a quick pulse, and other slight febrile symptoms, which are succeeded by a hoarseness, cough and difficulty of expectoration. These symptoms continue, perhaps, for a fortnight, or more, at the end of which time the disease puts on its peculiar and characteristic form, and is now evident, as the cough becomes convulsive, and is attended with a peculiar sound, which has been named a whoop.

When the sonorous inspiration has taken place, the coughing is again renewed, and continues in the same manner as before, till

* This viscid matter in place of being the proximate cause is merely an effect of the disease. E.

either a quantity of mucus is thrown up from the lungs, or the contents of the stomach are evacuated by vomiting. The fit is then terminated, and the patient remains free from any other for some time, and shortly afterwards returns to the amusements he was employed in before the accession of the fit, expresses a desire for food, and when it is given to him, takes it greedily. In those cases, however, where the attack has been severe, he often seems much fatigued, makes quick inspirations, and is rather faint.

On the first coming on of the disease, there is little or no expectoration, or, if any, it consists only of thin mucus; and as long as this is the case, the fits of coughing are frequent, and of considerable duration; but on the expectoration becoming free and copious, the fits of coughing are less frequent, as well as of shorter continuance.

By the violence of coughing, the free transmission of blood through the lungs is somewhat interrupted, as likewise the free return of the blood from the head, which produces that turgescence and suffusion of the face which commonly attend the attack, and, in some instances, brings on a hemorrhage either from the nose or ears.

The disease having arrived at its height, usually continues for some weeks longer, and, at length, goes off gradually. In some cases it is, however, protracted for several months, or even a year.

Although the whooping cough often proves tedious, and is liable to return with violence on any fresh exposure to cold, when not entirely removed, it nevertheless is seldom fatal, except to very young children, who are always likely to suffer more from it than those of a more advanced age. The danger seems, indeed, always to be in proportion to the youth of the person, and the degree of fever and difficulty of breathing which accompany the disease, as likewise the state of debility which prevails.

It has been known, in some instances, to terminate in apoplexy and suffocation. In some, it lays the foundation for asthma, and phthisis pulmonalis. If the fits are put an end to by vomiting, it may be regarded as a favourable symptom, as may likewise the taking place of a moderate and free expectoration.

Dissections of those who die of the whooping cough, usually show the consequence of the organs of respiration having been affected, and particularly those parts which are the seat of catarrh. In many instances, the lungs have exhibited highly morbid appearances, the trachea and its ramifications bearing vestiges of recent inflammation, and the air cells and the bronchiæ, near to their bifurcation, filled with a whitish purulent looking mucus. Serous accumulation in the pericardium is also frequently met with. In some instances the lungs have been found adhering to the pleura. When the disease has been long protracted or has degenerated into pulmonary consumption, asthma, or visceral obstructions,

the glands of the mesentery are found in a hard and enlarged state.

In the treatment of pertussis, we are in its first, or early stage, to moderate its violence, and palliate the urgent symptoms, and at an advanced period, to arrest its progress, and put a stop to it by suitable remedies sooner, perhaps, than it would spontaneously have ceased.

Where the disease takes place in a child of a full plethoric habit, and is accompanied with a difficulty of breathing, full pulse, and other febrile symptoms, it will be attended with advantage to take away a small quantity of blood, and this will be done best, by applying a sufficient number of leeches either to the neck or chest; which operation may be repeated after a time, if the degree of dyspnœa is not lessened; but, in common cases, where no such symptoms prevail, bleeding of any kind will not be necessary.

In those cases where there is much difficulty of breathing, the application of a blister to the chest will be highly proper at the commencement of the disease. (Provided it has been preceded by bleeding and purgatives.)

Some practitioners have recommended the lower region of the stomach to be rubbed very frequently with a stimulating embrocation,* covering the part afterwards with flannel. Inhaling the steam of warm water twice or thrice a day, may be of service.

The body being usually very costive, it will be necessary to have recourse to gentle laxatives, such as an infusion of senna with manna, &c. to remove it. In many instances, an attention to diet may probably be sufficient to answer the purpose of removing or preventing this symptom; and, therefore, stewed prunes, roasted apples, &c. may be given, which things children take very readily.

Emetics administered frequently, have been found the most useful of all remedies in whooping cough, for which reason they ought never to be neglected; and as children may easily be deceived by what has no appearance of medicine, a solution of tartarized antimony,† seems the most proper for the occasion.

A medicine composed of opium, ipecacuanha, and the carbonate of soda, is recommended by Dr. Pearson,‡ to be given in pertussis, after the accumulated phlegm has been brought away by an antimonial emetic.

Bathing the feet frequently in warm water, has been supposed

* ℞. Antimon. Tartarizat. ℈j.
Aq. Puræ ℥ij.
Tinct. Lyttæ ℥ss. M.
ft. Embrocatio.

† ℞. Antimon Tartarizat. gr. iij.
Aq. Puræ. ℥vj.
Syr. Simpl. ℥ij. M.
ft. Solutio. cujus capiat cochl. min. duo statim et cochl. j omni quartâ parte horæ, donec operavit.

‡ See Medico Chirurgical Transactions, Article 3d.

to afford relief in many cases. A tepid bath is sometimes serviceable.

The acetate of lead has been lately recommended in the whooping cough, and is said to relieve the symptoms of the disease very speedily, without producing any bad effects.

For obviating the fatal tendency of the disease, and putting it into a safe train, the remedies which have been advised are evidently the most proper; but in its second stage, where it may be considered as continuing from the power of habit alone, all danger and violence being over, we must alter the plan of treatment, and have recourse to antispasmodics and tonics.

Of the first class, musk, castor, assafœtida, oleum succini, camphor, and opium, have principally been used; but their effects seem rather doubtful, and as they are all nauseous medicines, particularly the three first, it may not be easy to persuade children to take them.

The uncertainty of the dose of opium, as well as the inconvenient effects produced by it on children, operate somewhat against the internal use of this drug, but its external use promises much benefit. In order to disguise tincture of opium, a few drops of æther may be added, and in this way it may be employed as an embrocation twice or thrice a day over the chest and stomach.

Artificial musk is a medicine which is reported to have been given in the whooping cough with the most decided advantage, even when other remedies have failed. A small quantity may be dissolved in a little rectified spirit, and about three or four drops be given twice a day, gradually increasing the dose to six, thrice in the twenty-four hours.

The tincture of digitalis is another medicine which has of late been recommended in the whooping cough. I have prescribed it in a few cases with seeming advantage.

In order to strengthen the general habit, it will be adviseable to employ the bark of cinchona. It may be given joined with the other remedies, but as it is often impossible to persuade children to take it in substance, we must be content with substituting a decoction, or strong infusion of it.

Arsenic has lately been recommended in pertussis by Mr. Simmons, of Manchester,* and he asserts that it is attended with the most salutary effects, moderating the symptoms in a few days, and generally making a complete cure in the space of a fortnight. It has been given to children of a year old with safety in the doses recommended by the late Dr. Fowler, (see Intermittents,) whose solution was used. It appears however, that Mr. Simmons employed venesection and emetics occasionally; and he recommends, after the solution has been omitted for a week, to repeat it, in order to guard against a relapse.

A frequent change of air having always been found very serviceable in this disease, ought therefore to be advised. A flannel waist-

* See Annals of Medicine for 1797.

coat should be worn by the patient, as it prevents the vicissitudes of the climate taking that effect on the skin, which we know it does, acting thereby as an exciting cause of coughing.

Young children should lie with their heads and shoulders raised, and should be cautiously watched, that, when the cough occurs, they may be held up, so as to stand upon their feet, bending a little forward to guard against suffocation. Their diet should be light and of easy digestion, and mucilaginous diluents should be taken freely.

PYROSIS, OR WATER-BRASH.

A DISCHARGE of a thin, watery, or glairy fluid from the stomach, with eructations, and likewise a sense of burning heat in the epigastric region, are the chief characteristics of this disease.

It principally attacks those of a middle age, and more frequently affects females than males. Those who are afflicted with fluor albus have been found to be much predisposed to it.

Being a disease not much known, and occurring but seldom, its causes have not been properly ascertained, but a low diet has been ascribed, as being apt to give rise to it. The application of cold to the lower extremities, and violent emotions of the mind, are likewise enumerated among its occasional causes.

The fits of pyrosis usually come on in the morning and forenoon, when the stomach is empty; and the first symptom which the patient perceives, is a pain at the pit of the stomach, with a sense of constriction, as if it was drawn towards the back, and this is usually much increased by an erect posture. The pain, after proving severe, and continuing for some time, is followed by eructations, and the discharge of a considerable quantity of a thin watery fluid, sometimes of an acid taste, but often quite insipid. In some instances, however, it is very ropy, and of an appearance somewhat similar to the white of an egg, as happened in a case which some time ago came under my observation.

On a frequent repetition of the eructation and discharge, the fit at length goes off.

This disease never proves fatal, but is often tedious, and troublesome to remove, being apt to recur occasionally, a long time after it has once taken place.

For its cure, no certain method has yet been proposed; but its fits are relieved by antispasmodics, such as æther, musk, castor, ammonia, oleum cajeputæ, opium, and the chewing or smoking of tobacco. In the intervals, the cinchona, with the acidum sulphuricum, chalybeates, and other tonics will be adviseable. To carry off the offending fluid or mucus, I am of opinion, that we may employ purgatives about twice a week with advantage. As adjuvants will be occasionally serviceable, magnesia and alkalies, (especially am-

monia) will correct acidity, and relieve heart-burn and other dyspeptic symptoms.

In pyrosis as well as in gastrodynia and other like affections of the stomach, the oxyd of bismuth has been found to afford much relief, interposing now and then gentle aperients. It appears to be a remedy recommended on the ground of safety as well as utility. An adult may take five grains of it with about a scruple of gum tragacanth three times a day. An obstinate case of pyrosis accompanied with gastrodynia, which lately came under my care, was perfectly cured by this remedy in conjunction with stomachic bitters.

ANGINA PECTORIS.

An acute constrictory pain at the lower end of the sternum, inclining rather to the left side and extending up into the left arm, accompanied with great anxiety, violent palpitations at the heart, laborious breathing, and a sense of suffocation, are the characteristic symptoms of this disease.

It is found to attack men much more frequently than women, particularly those who have short necks, who are inclinable to corpulency, and who at the same time lead an inactive or sedentary life. In most instances the attacks are sudden, and occur in those who have previously enjoyed good health. Although angina pectoris is sometimes met with in persons under the age of twenty, still it more frequently occurs in those who are between forty and fifty.

In slight cases, and in the first stage of the disorder, the fits come on by going up hill, up stairs, or by walking at a quick pace after a hearty meal; but as the disease advances, or becomes more violent, the paroxysms are apt to be excited by certain passions of the mind, by repletion of the stomach, by walking, by riding on horseback or in a carriage, or by sneezing, coughing, speaking, or straining at stool. In some cases they attack the patient from two to four in the morning, or while sitting or standing, without any previous exertion or obvious cause. On a sudden he is seized with an acute pain in the breast, or rather at the extremity of the sternum, inclining to the left side, and extending up into the arm as far as the insertion of the deltoid muscle, accompanied by a sense of suffocation, great anxiety, and an idea that its continuance or increase would certainly be fatal.

In the first stage of the disease the uneasy sensation at the end of the sternum, with the other unpleasant symptoms which seemed to threaten a total suspension of life by a perseverance in exertion, usually go off upon the person's standing still, or turning from the wind; but in a more advanced stage they do not so readily recede, the paroxysms are much more violent, and in a few cases, have continued for several days. During the fit the pulse sinks in a great-

er degree, and becomes irregular, but in some instances it is not much disturbed; the face and extremities are pale, and bathed in a cold sweat, and for a while the patient is, perhaps, deprived of the powers of sense and voluntary motion. Sometimes the stomach is morbidly affected, becomes unusually irritable, and rejects whatever is swallowed. The disease having recurred more or less frequently during the space of some years, a violent attack at last puts a sudden period to his existence. He dies after having suffered all the agonies of dissolution, for this is a complaint in which during the fit, there are the most overwhelming sensations and apprehensions of instant death.

Angina pectoris had passed unnoticed among practitioners until Dr. Heberden published a description of it about fifty years ago, in the Transactions of the College of Physicians of London; since which many gentlemen of eminence in their profession have attempted to investigate its nature, and have obliged us with their observations, particularly Drs. Percival, Fothergill, and Wall. By most of them it has been judged spasmodic. Dr. Parry, physician to the Bath General Hospital, who has published* his sentiments on it, is of opinion, however, that it is in reality a case of fainting or syncope, differing from the common syncope, only, in being preceded by an unusual degree of anxiety or pain in the region of the heart, and in being readily excited, during a state of apparent health, by any general exertion of the muscles, more especially that of walking. The supposed cause of angina pectoris (for which he has thought proper to substitute the name of syncope anginosa) is referred by him to a diseased state (generally ossification) of the coronary arteries of the heart.

The rigidity of the coronary arteries, thus induced, may act, he thinks, proportionably to the extent of the ossification, as a mechanical impediment to the free motion of the heart; and though a quantity of blood may circulate through these arteries, sufficient to nourish the heart, as appears in some instances, from the size and firmness of that organ, yet there may probably be less than what is requisite for ready and vigorous action. Hence, though a heart so diseased may be fit for the purposes of common circulation, during a state of bodily and mental tranquillity, and of health otherwise good; yet, when any unusual exertion is required, its powers may fail under the new and extraordinary demand. In conformity with this opinion, Dr. Parry endeavours to show that the chief symptoms of the disease are the effect of blood retarded and accumulated in the cavities of the heart and neighbouring large vessels: and that the causes exciting the paroxysms, are those which produce this accumulation; either by mechanical pressure, or by stimulating in an excessive degree the circulating system; in consequence of which, the heart, weakened by the malorganization, readily sinks into a state of quiescence, while the blood continues to advance in the veins. After this quiescence has

* See his Treatise on Angina Pectoris.

continued for a certain period, the heart may recover its irritability, so as again to carry on the circulation, in a more or less perfect degree, from the operation of the usual stimuli; or death may at length ensue, from a remediless degree of irritability in the heart.

In a few instances, such a state in these vessels has indeed been observed, and occasionally aneurism or a dilatation of the heart have been found, but the occurrence is by no means general or even frequent. Neither have the lungs been discovered on dissection to be at all altered. In one or two cases, the blood was observed not to coagulate, but to remain of a cream-like consistence, without any separation into serum or crassamentum.

We should always consider angina pectoris as attended with a considerable degree of danger at an advanced period of life, and where the paroxysms are frequent or violent: and it usually happens that the person is carried off suddenly. When it really depends upon an ossification of the coronary arteries, it is evident that we can never expect to effect a cure. In young persons, and when the disease is gradual in its progress, a hope of recovery may be entertained.

During the paroxysms of angina pectoris, the patient is to be laid in a recumbent posture, and if there be a great degree of oppression and constriction about the chest, we are, even although the pulse be faultering and weak, to draw off a few ounces of blood; for in some cases we find that the heart is prevented from beginning to act again, by the blood with which it is overloaded. Our decided object should be to allow the heart slowly to recover its lost energy.

When the person is in a state of actual syncope, we are to sprinkle the forehead, temples, and breast with the coldest water we can procure. As soon as he begins to breathe, or after long intervals, fetches a deep convulsive sigh, we may hold volatiles to the nose, and convey into the stomach some aromatic and carminative medicine.* An expulsion of wind from the stomach will probably be the consequence, which seldom fails to afford some relief.

If the state of syncope continue long, or appear very complete, the application of a large blister to the chest will be very adviseable.† In very desperate cases we may venture to pass slight electric shocks through it, rubbing the limbs at the same time with stimulating embrocations.

* ℞. Aq. Menth. Pip.
Spirit Carui āā ℥ss.
Æther. Sulph. ♏. xx.
Tinct. Lav. C. ♏. xv. M.
ft. Haustus.

† The Editors would prefer the application of a stimulating cataplasm of mustard and Cayenne pepper. E.

With the view of rousing the patient during a state of fainting, or whilst he is just recovering from this condition, and from contemplating the great prostration of strength which takes place, wine and other cordials have been administered by some practitioners, but there is reason to doubt if they have proved beneficial.* In the case of the late Mr. John Hunter, and reported by Sir Everard Home, it was evident that stimuli were not attended with a good effect.

Where the sleep is interrupted considerably, the extract of hyoscyamus, or some of the preparations of the humulus lupulus may be tried instead of opium, should this drug produce an injurious effect.

In angina pectoris, the insertion of a large issue in each thigh is spoken of in the highest terms by Drs. Macbride and Darwin.†

Two remarkable cases of this disease are recorded in the sixth volume of the London Medical and Physical Journal, which were cured by applying pieces of calico to the sternum, wetted with a solution of tartarised antimony in the proportions mentioned below,‡ several times a day. The stimulus from this application produced an uncommon and violent eruption on the skin in a short time, having the peculiar malignant appearance of carbuncles, itching and smarting excessively, many of which suppurated, while hundreds were continually rising up, some as large as peas, others as small as pins' heads. As soon as the eruption appeared, considerable relief from the spasmodic affections was obtained in both instances, and the patients went on gradually recovering, after continuing the remedy two or three times a day for about a month.

Having pointed out the best means for moderating and removing the paroxysms of angina pectoris, it is proper to notice those from a rigid and steady adherence to which, such as are subject to its attacks will experience much benefit, and these be prevented from proceeding to any alarming extent.

The patient should sedulously shun every source of mental inquietude and irritation, and the circulation be vigilantly guarded from the influence of sudden gusts of passion. Moderate exercise in the open air should daily and regularly be taken, but no violent or long continued corporeal exertion should be attempted; nor should rising ground ever be ascended without the utmost deliberation and care. He should observe a similar regimen to that recommended in dyspepsia.

Whenever he perceives any tendency to plenitude in the vascular system, he should rigidly adhere to an antiphlogistic regimen,

* See Observations on Diseases of the Heart, by Mr. Allen Burns.

† See Medical Observations and Inquiries, vol. vi. and Zoonomia, vol. iv.

‡ ℞. Antimon. Tartar. ʒj.
Spirit. Camphoræ ℥ss.
Aq. Fervent. Oj. M.

and occasionally take some purgative, such as the sub-muriate of mercury and jalap, conjoined with a little ginger or any other aromatic. Some relief possibly may be obtained by keeping up a permanent counter-irritation and discharge on the surface, as near as possible to the seat of the disease by means of a perpetual blister, or by a seton passed through the integuments over the region of the heart.

PALPITATIO, OR PALPITATION.

THIS disease consists in a vehement and irregular motion of the heart; it is most generally symptomatic, and is only to be cured by removing the original complaint. It, however, arises in many instances, from an organic affection of the heart itself, or of the aorta, or other large vessels connected with it; all that may be in our power in such cases will be to caution the patient against exposing herself or himself to such circumstances as may increase the action of the sanguiferous system, particularly fits of passion, sudden surprises, violent exercise, or great exertions of the body.

ASTHMA.

THIS disease is a spasmodic affection of the lungs, which comes on by paroxysms most generally at night, and is attended by a frequent, difficult, and short respiration, together with a wheezing noise, tightness across the chest, and a cough; all of which symptoms are much increased when the patient is in a horizontal position.

Asthma rarely appears before the age of puberty, and seems to attack men more frequently than women, particularly those of a full habit, in whom it never fails, by frequent repetition, to occasion some degree of emaciation. Dyspepsia always prevails, and appears to be a very prominent feature in the predisposition. Its attacks are most frequent during the heats of summer, and in winter when heavy fogs or sharp cold winds prevail.

When the disease is attended with an accumulation and discharge of humours from the lungs, it is called the humid asthma; but when it is unaccompanied by any expectoration, it is known by the name of the dry or spasmodic asthma.

On the evening preceding an attack of asthma the spirits are often much affected, and the person experiences a sense of fulness about the stomach, with lassitude, drowsiness, and a pain in the head. On the approach of the succeeding evening he perceives a sense of tightness and stricture across the breast, and a sense of straightness in the lungs impeding respiration. The difficulty of breathing continuing to increase for some length of time, both inspiration and expiration are performed slowly, and with a wheezing noise; the speech becomes difficult and uneasy, a propensity to coughing succeeds, and the patient can no longer remain in an ho-

rizontal position, being as it were threatened with immediate suffocation.

These symptoms usually continue till towards the approach of morning, and then a remission commonly takes place; the breathing becomes less laborious and more full, and the person speaks and coughs with greater ease. If the cough is attended with an expectoration of mucus, he experiences much relief, and soon falls asleep.

When he awakes in the morning, he still feels some degree of tightness across his breast, although his breathing is probably more free and easy, and he cannot bear the least motion without rendering this more difficult and uneasy; neither can he continue in bed, unless his head and shoulders are raised to a considerable height.

Towards evening he again becomes drowsy, is much troubled with flatulency in the stomach, and perceives a return of the difficulty of breathing, which continues to increase gradually, till it becomes as violent as on the night before.

After some nights passed in this way, the fits at length moderate, and suffer more considerable remissions, particularly when they are attended by a copious expectoration in the mornings, and that this continues from time to time throughout the day; and the disease going off at last, the patient enjoys his usual rest by night without further disturbance.

During the fits the pulse is not usually much affected, but in a few cases there is a frequency of it with some degree of thirst, and other febrile symptoms. In some persons the face becomes turgid and flushed during the continuance of the fit, but more commonly it is pale and shrunk. Urine voided at the beginning of a fit is generally in considerable quantity, and with little colour or odour; but after the fit is over, what is voided is in the ordinary quantity, of a high colour, and sometimes deposits a sediment.

Asthma having once taken place, its fits are apt to return periodically, and more especially when excited by certain causes, such as by a sudden change from cold to warm weather, or from a heavier to a lighter atmosphere; by severe exercise of any kind, which quickens the circulation of the blood; by an increased bulk of the stomach, either from too full a meal or from a collection of air in it; by exposures to cold, obstructing the perspiration, and thereby favouring an accumulation of blood in the lungs; by violent passions of the mind; by disagreeable odours, and by irritations of smoke, dust, and other subtle particles floating in the air.

A consequence of convulsive motions is the habit of repetition the muscles have contracted by laws peculiar to the animal economy; so asthma is believed to depend frequently upon this cause.

The proximate or immediate cause of the disease has by Dr.

Cullen, and by most other writers, been supposed to be a preternatural or spasmodic constriction of the muscular fibres of the bronchiæ, produced by some irritating substance, which not only prevents their being so dilated as to admit of a free and full inspiration, but also gives them a rigidity, which interferes with a free and full expiration.

This doctrine has, however, been disputed by Dr. Bree, who, in a very ingenious treatise on this disease, offers it as his opinion, that irritation seated within the air-cavities, and arising either from an effusion of serum, or from aerial acrimony, is the true proximate cause of convulsive asthma. The mucus which is excreted in the course of the disease, and which has been looked upon by Dr. Cullen and others, as only an effect, Dr. Bree views as a prominent cause of the paroxysm; or, when it is absent, only yielding to a different cause equally irritating to the organ, and exciting spasmodic contractions of the respiratory muscles.

The sudden accession of the paroxysms generally after the first sleep, their returning at intervals, and the sense of constriction about the diaphragm, occasioning the patient to get into an erect posture, and to fly for relief to the cold air, will readily distinguish asthma from other diseases.

If the attacks of asthma are neither frequent nor severe, the constitution unimpaired and the patient is young, there may be a possibility of removing the disease entirely; but where it comes on at an advanced period of life, has frequent paroxysms, and proceeds either from an hereditary predisposition, or from a condition of the body subject to serous defluxions, it will be impossible to eradicate it. By changing into other diseases, as consumption and hydrothorax, or by occasioning an aneurism of the heart, or of some large vessel, it is apt to prove fatal; but without such occurrences it is by no means attended with much danger, although it may seem in many instances to threaten almost immediate death by suffocation. Anasarcous swellings of the lower extremities, and some degree of diabetes, are complaints which frequently attend on asthma, where it has been of long duration.

The respiration becoming suddenly quick and short, the pulse weak and irregular, paralysis of the arms, great depression of strength, a scanty secretion of urine, and frothing at the mouth, indicate extreme danger.

The inspection of dead bodies has thrown but little light either on the nature or cause of this disease. A series of observations from Morgagni, and the works of many other anatomists, have however proved the existence of extravasated serum in the vesicles of the lungs of asthmatics, in most instances. Where the disease has been of long continuance, various morbid affections of the system have been discovered on dissection.

In the treatment of asthma, we should endeavour to moderate the violence of the paroxysms, and when they are subsided, to hinder their recurrence.

[When the disease is accompanied with catarrhal symptoms, and the pulse is in any degree fuller or more frequent than in health, bleeding during the exacerbation of the paroxysm, will be adviseable, followed by mild laxatives, such as the purging salts, oleum ricini, sulphur. sublimat. or magnesia calcinat.: and during the remissions a mild emetic should be exhibited. But as soon as all symptoms of increased excitement have subsided, as well as in all cases of the disease where considerable debility is present from the beginning, bleeding will be improper; gentle emetics and laxatives, however, in doses sufficient to clear out the stomach and remove costiveness, should be made use of occasionally. In these cases, remedies which diminish sensibility and excite the system to more vigorous action are indicated. Hence the beneficial effects derived from an employment of the warm bath or pediluvium followed by a dose of opium combined with camphor, or of laudanum and Hoffman's anodyne liquor, &c. a short time previous to the accession of each paroxysm. E.]

Emetics by their determining the blood from the lungs to the surface of the body, and their supposed power of assisting expectoration, have been thought highly useful in all species of asthma, except that which depends on habit. A vomit given in the evening, when a fit has been expected to come on in the night, has in some instances appeared to prevent its attack. It therefore seems an adviseable practice to make use of gentle emetics during the intervals of the paroxysms, and to repeat them from time to time. Ipecacuanha being milder and more certain in its operations than any of the preparations of antimony should have a preference given to it.

It might be attended with some danger to administer an emetic during a paroxysm of the asthma, particularly where the respiration is considerably impeded, the patient's strength much exhausted, or where there are symptoms of inflammation.

Blistering the chest and issues have been much employed in asthmatic cases, but they seem only to be serviceable in those which have arisen from the stoppage of some long-accustomed or habitual discharge, or in the complicated cases of old people. In pure spasmodic asthma they have not been found either to prevent or relieve the fit.

To moderate the severity of the paroxysm in asthma, we cannot employ a more powerful and efficacious mean of relief than the inhaling of warm steam frequently from an inhaler, or the spout of a tea-pot. An infusion of chamomile flowers, with the addition of a little æther, may be used on the occasion.

In spasmodic asthma, smoking tobacco has in some cases proved very beneficial. Of late the stramonium, or thorn apple, has been much employed in the same manner in spasmodic asthma, and from the striking relief procured by it, has excited considerable attention. The roots of the plant are chiefly used; these after being dried in the shade, and beaten so as to separate the fibres, are to be

cut into small pieces, and to be smoked in a common tobacco pipe. The smoke is to be drawn as much as possible into the chest, where it usually occasions some degree of heat, followed by expectoration. There can be no doubt but that it acts as a narcotic; but I have observed it to produce more powerful effects on the disease in question than the smoke of tobacco.

In most cases of asthma, dyspepsia is a prominent symptom, and the patient is much troubled with flatulency of the stomach, acidities, and other symptoms of indigestion. To remove these, it will be necessary to make use of absorbents with stomachics and bitter infusions, as recommended under the head of Dyspepsia. Dr. Bree observes, that chalk and opium will astonish the asthmatic, by the excellence of their effects, when the irritation proceeds from dyspepsia of the first passages only. Vinegar separately exhibited, was likewise found by him to counteract the flatulence and distention of the stomach.

The digitalis is a medicine which has lately been administered in asthma. In the fourth volume of the Medical and Physical Journal, page 329, mention is made of a case by Dr. Sugrue, of Cork, in which its salutary effects were speedily and decisively produced. The tincture (as advised to be prepared by Dr. Darwin) was the preparation had recourse to, and this was administered in doses of fifteen drops, repeated twice a day.*

It does not admit of the smallest doubt but that a combination of digitalis with opium has proved highly advantageous in spasmodic asthma when given in the dose of half a grain of each every four or five hours. I have tried it, and found it to answer in two or three cases.

Such are the remedies to be employed during a paroxysm of asthma; but in the intermissions we should have recourse to tonics, such as the cinchona bark, bitter infusions, chalybeate waters, and preparations of iron, particularly the ferri carbonas, and ferri sulphas, formulæ of which will be found under the head of Dyspepsia. To assist the effects of these remedies, cold bathing may be used during the intermissions; and where this cannot be obtained, washing the breast frequently with cold water, may probably be of some service. In addition to other tonics, exercise either in swinging, sailing, riding in a carriage, or on horseback, but particularly the latter, together with a change of air, will be beneficial to asthmatics: they should try different situations until by perseverance one is found out to live in, in which the disease is rendered less distressing, or is entirely removed. Their clothing should be warm.

Whatever preparation of iron we may employ, it should always be given in small doses at first, increasing the quantity by degrees. If heat, or any other unpleasant symptom, is occasioned by it, its

*The efficacy of this remedy in asthma, has been confirmed by Dr. Ferriar (see Med. Hist. and Reflections.) E.

use must be suspended for a time, and saline draughts with opium be substituted. A want of firmness in continuing the use of tonics, when properly indicated, is however a great source of their discredit. In cases of some temporary inconvenience being experienced from employing any particular medicine, or form, the practitioner, should change it for another, never abandoning the general intention of strengthening the system, and thereby preventing a return of the disease.

During the intervals of asthmatic paroxysms, the bowels are to be kept open and regular by gentle aperients, such as rhubarb, magnesia and manna, and all exciting causes are carefully to be avoided. The flatulency accompanying asthma is to be relieved by alkalies and absorbents,* formulæ of which are inserted under the head of Dyspepsia. Sometimes a small portion of acetous acid will remove flatulency.

A dry and settled atmosphere is most friendly to asthmatical people, not only because it is free from impure vapours, but also as having more elasticity to press upon the vesicles of the lungs. While some asthmatical persons cannot live, however, with any comfort, in the atmosphere of large cities; there are others again who feel themselves better in an air replete with gross effluvia, and breathe with greater ease in a crowded room where there are candles and a fire. Indeed the removal from a cold to a warm climate is sometimes found beneficial.

In every species of asthma the patient's diet should consist of such things as are light, and easy of digestion, carefully avoiding, at the same time, whatever may tend to generate flatulency; and as many kinds of vegetables are apt to be attended with this effect, they are almost all improper. Coffee has been employed in asthma with much advantage when taken in a powerful dose. In the pure spasmodic kind, if made so strong as an ounce to the cup, without milk or sugar, and repeated, if necessary, at the distance of a quarter or half an hour, the fit has been entirely removed; and this practice has been continued by patients labouring under the disease for years, affording certain relief to their paroxysms. Some practitioners have, however, disapproved of the use of coffee.

Garlic is a vegetable production which is found of service to asthmatical people.

HYDROPHOBIA, RABIES, OR CANINE MADNESS.

THIS disease arises from the introduction of a small portion of the poison, by the bite, of a rabid animal, and that commonly of the canine or cat kind, as being those which are most domesticated.

There can be no doubt, however, but that symptoms exactly re-

* To which may be added with advantage, small doses of Hoffman's anodyne, or essence of peppermint. E.

sembling those of the genuine rabies canina have arisen in the human body from other causes. Local irritation from wounds in irritable habits, especially when conjoined with a perturbed state of the passions, and also violent affections of the mind, independently of corporeal injury in hysterical and hypochondriacal constitutions have at times produced all the pathognomic symptoms of canine madness. Violent alternations of heat and cold, and all other causes which induce great debility, and at the same time increase the irritability of the system, have also at times proved adequate to the production of symptoms exactly corresponding with those of rabies. Such cases have been denominated by medical writers, spontaneous hydrophobia.

The disease in the dog, seems to arise from a specific virus, which, being once produced by causes not well ascertained, continues to be propagated by the intercourse which dogs have with one another. It is alleged that the distemper is not communicable from one hydrophobous person to another, by means of a bite or any other way; but this seems to require further confirmation.

The possibility of re-producing this disease by inoculation of the quadruped with virus secreted in the human system, had long remained a doubtful fact, having often been tried without success; but this point seems now determined by Messrs. Magendie and Breslet,* having succeeded in affecting a dog with rabies, by inoculating him with the saliva of a man under that disease.

We have no proof that any of the secretions of a rabid animal but the saliva can excite hydrophobia. It is known to a certainty, that the specific poison of rabies exists in the saliva, but it has been a question how far the fluids and solids have been generally contaminated. The experiments of Mr. Gillman have furnished results which go far to prove that the infecting material of rabies is hardly to be found but in the saliva.

A large portion of such persons as have really been wounded by the bite of a rabid animal are never affected with the disease. Mr. Hunter mentions an instance of twenty persons being bitten by the same dog, and only one was seized with it. It is therefore obvious that different persons are not alike predisposed to be acted upon by the same contagion, and likewise that the predisposition to receive contagion varies in the same person at different periods. The depressing passions, as well as other causes producing debility, probably may predispose the system to the action of this virus.

In the canine and cat species about seven or eight days may be considered as a fair average of the shortest period in which hydrophobia shows itself after the animal is bitten, and six or seven weeks the longest period from the date of the bite. In the human species, only a few days have in some instances elapsed previous

* See London Medical Repository, vol. iv. p. 35.

to the symptoms showing themselves; but the most common time of their appearance is from twenty to forty days after the bite. There are no well-authenticated instances of the poison lying dormant longer than eleven or twelve months; and we may therefore consider a person pretty safe at the expiration of a year without any symptom appearing.

Hydrophobia in a dog is attended with the following appearances. He generally shows some marked deviation from his accustomed habits. In those which are domesticated, as lap dogs, some strange peculiarities have been observed, as the picking up of the different little objects, such as paper, thread, straw, &c. or any thing which may happen to be presented to their notice. Sometimes they show a depraved appetite and eat their own excrement, or lap their own urine. Still, however, in this stage, they seldom attack any person unless irritated to it. Although a diseased dog often observes the usual obedience to his master, and evinces the same attachment, still he is usually extremely irritable, and always treacherous, suffering any one to fondle him, but suddenly snaps or bites with the smallest provocation. In the progress of the disease, his eyes sometimes becomes inflamed, a purulent discharge issues from the lids. Instead of barking, he often makes a dismal howl. In many instances, he will show not the least dread of fluids (for this symptom does not invariably exist, although it has generally and popularly been considered as marking the disease,) and frequently he will even eat with a voracious appetite, but mad dogs have usually a listless and melancholy appearance.

As the disease advances, the animal becomes extremely anxious and impatient and has an inordinate desire to gnaw every thing around him. When chained, or confined, he uses his utmost endeavours to break loose, and if he succeeds, he wanders about seeking other animals to bite, particularly some of his own species. It has before been observed, that frequently he does not avoid water, but laps it greedily; still in this stage of the disease, he is often deprived of the power of swallowing it. Very often he has the appearance of being paralytic behind, and labours under an inflammation in his bowels, which occasions him to sit on his rump, seemingly in great pain. In the last stage, all the preceding symptoms are highly aggravated: he now becomes very feeble, his jaws drop as if paralysed, and the saliva runs from his mouth, he wanders or rather staggers about with scarcely the power of biting, and at length being exhausted by disease, generally dies on the fourth or fifth day from its commencement.

In the human species, the general symptoms attendant upon the bite of a mad dog, or other rabid animal, are:

The part bitten, after some time, begins to be painful; then come on wandering pains, with an uneasiness and heaviness, disturbed sleep and frightful dreams, accompanied with great restlessness, sudden startings and spasms, sighing, anxiety, and a love of soli-

tude. These symptoms continuing to increase daily, the cicatrix of the wound becomes hard and elevated, a peculiar tingling sensation is felt in the part, and pains begin to shoot from the place which was wounded, all along up to the throat, with a straitness and sensation of choking, and a horror and dread at the sight of water and other liquids, together with tremors. The person is, however, capable of swallowing any solid substance with tolerable ease; but the moment that any thing in a fluid form is brought in contact with his lips, it occasions him to start back with much dread and horror, although he labours, perhaps, under great thirst at the time.

This appears to be a circumstance peculiar to the human race; for rabid animals do not evince any dread of water. It has indeed been remarked by a late writer,* (and very justly in my opinion) that the dread expressed, is not of the water, but of the act of deglutition. It may, however, be said, that the very sight of water produces this dread, but in that case, the sight of the water associates with it, the idea of deglutition.

Many other practitioners are also of opinion that this peculiar symptom or starting back with horror at the sight of water and other fluids, does not proceed from any dread of them, but from the fear of swallowing them, owing to the diseased state of the parts in consequence of inflammation. To swallow liquids, a greater contraction of the muscles of deglutition is requisite than to get down solids, and of course it produces a higher degree of pain and spasm, which explains the greater capability in the patient of being able to swallow solid substances than fluids.

Dr. Vaughan, who has favoured the public with his opinions on hydrophobia, denies, however, that the excruciating pain, which never fails to attend every attempt to drink, is felt in the fauces and throat. He says, that it is the scrobiculis cordis which is principally affected, this being the part to which the patient always applies his hand. From this circumstance, therefore, from the presence of risus sardonicus, from the muscles of the abdomen being forcibly contracted, and from the sense of suffocation which seems to threaten almost immediate death, he is led to think, that in hydrophobia a new sympathy is established between the fauces, the diaphragm, and the abdominal muscles.

Dr. Rush, from some appearances which he observed on dissecting a boy who died of hydrophobia, from the bite of a mad dog, has been induced to suppose that it is the temporary closure of the glottis which produces the dread of swallowing liquids; hence the reason why they are taken in suddenly and at intervals. The same danger and difficulty attend the swallowing saliva; and hence, he thinks, the symptom of spitting proceeds, which has been so often noticed in hydrophobia. In the case here alluded to, the morbid appearances were as follow: the epiglottis was inflamed, and the

* See Dr. Marshall's Anatomy of the Brain, p. 80.

glottis so thickened and contracted, as barely to admit of a probe of the common size. The trachea below it was likewise inflamed and thickened, and contained a quantity of mucus in it. The œsophagus exhibited no marks of the disease, but the stomach had several inflamed spots upon it.

Dr. Parry is of opinion,* that the part which is primarily affected, so as to give rise to the symptom denominated hydrophobia, is not the pharynx, œsophagus or stomach, but the upper portion of the trachea together with other parts of the apparatus concerned in the function of respiration.

In the course of the disease a vomiting of bilious matter comes on, and an intense high fever ensues, attended with continual watching, great thirst, dryness and roughness of the tongue, hoarseness of the voice, and the discharge of a viscid saliva from the mouth, which the patient is constantly spitting out; together with spasms of the genital and urinary organs: in consequence of which the evacuations are sometimes forcibly ejected. In general, he is incapable of enduring light, or the motion of air; his respiration is laborious and uneasy, but his judgment is unaffected, and as long as he retains the power of speech, his answers are distinct. In some few instances, a severe delirium arises, and closes the tragic scene; but it more frequently happens, that the pulse becomes tremulous and irregular, that convulsions arise, and that nature, being at length exhausted, sinks under the pressure of misery.

Our prognostic in this disease must always be unfavourable, as in most instances, all means whatever have proved ineffectual. Death commonly takes place about the third or fourth day from the first appearance of the symptoms.

The appearances to be observed in the human species on dissection in hydrophobia are unusual aridity of the viscera and other parts; marks of inflammation in the lower portion of the œsophagus, and cardiac extremity of the stomach, and even in the stomach itself. Some marks of inflammation are likewise to be observed in the brain, consisting in a serous effusion on its surface, or in a redness of the pia mater; which appearances have also presented themselves in the dog. Now and then we meet with an accumulation or effusion of blood in the lungs. In some cases of dissection, not the least morbid appearance has been observed either in the fauces, diaphragm, stomach, or intestines. The poison has therefore been conceived by some physicians to act upon the nervous system, and to be so wholly confined to it, as to make it a matter of doubt whether the qualities of the blood are altered by it or not, or whether the poison at all enters the system by the absorbents. As far as my knowledge extends, the lymphatic glands in the course of absorption have never been found diseased.

As in rabies, when once manifested in the system, the power of

* See his Cases of Rabies Contagiosa and Tetanus.

medicine and all human skill have failed in most instances, our views should be early directed to prevent the accession of the disease, and for this purpose the most effectual is excision of the wounded part, with free ablution and scarifications.* Immediately, therefore, on the infliction of the bite, or as soon afterwards as possible, ablution with water and soap, should be had recourse to, and a free and complete excision of the bitten part is to be made, taking care to carry the knife to a sufficient depth, so as to ensure its complete removal. The excised part being removed, ought carefully to be examined to see if there is any place in the piece through which the dog's teeth appear to have passed, and in case there is, the excision ought to be carried still deeper than before. Should the knife, on a close examination, appear to have entered the wound made by the dog's teeth, it may be adviseable to recommence the operation with a clean knife, lest the other should be contaminated by its having entered the wounded parts, and by which the sound ones might become inoculated with the canine virus.

The sooner that the wounded part is extirpated after the accident, the better; but it will be right to do it, even at the distance of several days, or even at any time prior to the developement of the disease, rather than that the person should be debarred of the chance which extirpation affords, as there is great reason to presume that the canine poison does not enter the system so quickly as a variety of others are perceived to do.† This conclusion we are somewhat authorized to draw, as in several well-attested cases many weeks, nay months, have intervened between the accident of being bitten, and the appearance of the disease.

Even in cases where assistance has not been requested until the consequent disease has began to appear, I am of opinion that the wounded part should be excised: for if the excision of the part, in which the virus of small pox, syphilis, or any similar disease is deposited, after the local action has evidently commenced, prevents absorption, and consequently, the complete formation of the general disease; what reason is there for supposing, that the same effect would not result from this operation, at the same period, in the case of the bite of a rabid animal, if the poison enters the system by the absorbents.

After excision, ablution is again to be performed with a solution of volatile alkali in water, and when the flow of blood begins to cease, suction with the cupping-glass may be resorted to.

* Before any thing else is done, every article of clothing which the patient had on when he received the bite should be removed, lest any part of the saliva of the animal should adhere to them, and be conveyed into the wounds made by the surgeon. E.

† See Mr. Gillman's Prize Dissertation on the Bite of a rabid Animal.

The alternate employment of ablution and the exhausted receiver may be continued for some hours. Having proceeded thus far, caustic, such as the argenti nitras, or potassa fusa, may be applied to the wound, so as to produce a slough in the first instance, and afterwards a purulent discharge for some weeks. By this mode of treatment many persons have been known to escape the disease; while others who have been bitten by the same animal, and who neglected those means, have become affected.

It sometimes happens that the wounded or bitten part is so situated as not to admit of excision, or from the timidity of the patient, he cannot be persuaded to submit to the operation. Under this dilemma we must be content to have recourse to a careful and persevering ablution, and afterwards to the application of cups, bathing the parts with warm water to promote a free flow of blood, in order to assist in washing away any remaining particle of the poison. With respect to the fluid to be employed at first in the ablution, a weak solution of volatile alkali, in the proportion of one part of the alkali to four of water, may be as proper as any we can use. With this solution, which is fully capable of dissolving the saliva, the wounded part should be freely washed, and injections with a syringe, forcibly be made into the wound. After this, water may be substituted to assist in washing away any remaing particles of the canine poison. Having washed the wound for a considerable time, it may be touched with caustic, the argenti nitras, or the potassa fusa.

The bitten part must be destroyed to the bottom, by repeated applications of the caustic. To assuage the inflammation caused thereby, the wound is to be dressed for some time with poultices; and afterwards with acrid dressings and hot digestives, to remove the escar, create discharge, and drain the injured parts. Where there has been any delay after the accident, the wound should thus be kept open for two or three weeks, or even longer.

In addition to these modes of prevention, it has strongly been recommended to commence, very speedily, a course of mercurial unction, which is to be continued regularly, and to be applied in a considerable quantity at once, so as to occasion some degree of salivation, to expedite which, the submuriate of mercury may be given internally, night and morning, and warm bathing be used occasionally. Mercurial fumigations may also assist.*

Although medicine has hitherto proved ineffectual in most of the cases where the disease had fully established itself, still it is necessary to mention the plan which has usually been pursued on such occasions.

* Where the part bitten has been completely and speedily extirpated, the use of mercury would be unnecessary, but in cases where this has not been accomplished, it would then be adviseable to employ it in the manner advised by the author. E.

From certain symptoms which attend on hydrophobia, such as heat, thirst, restlessness, fever, difficulty of breathing, priapism, watchfulness, and furor; from the inflammatory appearances usually observed on dissection, and from the successful employment of venesection in some supposed causes of rabies, this remedy has been much used by many practitioners.*

Where the true characteristics of the disorder were really present, it had not heretofore afforded relief; but two successful cases have lately been reported in the 167th No. of Phillips's Medical Journal by Dr. Shoolbred, of Calcutta, in which bleeding ad deliquium animi, and repeating the operation at intervals as long as firmness of arterial action or the symptoms of hydrophobia remained, completely removed the disease. In these instances, venesection was resorted to immediately on the disorder becoming apparent. The cure in these cases, although attributed by Dr. Shoolbred to blood-letting alone, has by some been supposed to be owing to the combined use of mercury at the same time.

The trials which have as yet been made of the depletory practice in Europe, are too limited and defective to admit of their being received as decisive of the question as to the utility of copious bleeding at the onset of rabies.

The inflammatory diathesis, which has been supposed to exist in this disease, has of late been disputed, and particularly by Dr. Pearson. He observes, that some of the symptoms are merely accidental, others scarcely perceptible, and some, even if present, would not denote the disease to be of a nature requiring venesection. Dr. Parry says, that with respect to the proximate constitutional character of rabies there cannot be a greater mistake than to suppose either that the fever consequent on the disease is of the inflammatory kind, or that its peculiar symptom arises from local inflammation of the fauces, the cardia, or any other part.

A variety of other, and very opposite modes of treatment have been recommended by different writers, for the cure of this formidable disease, but notwithstanding these, and the host of nostrums that have in all ages, and in different countries been extolled as antidotes to the poison of rabid animals, we may rest assured that the only remedy on which we can place a confidence is excision or cauterization, but particularly the former. Even in wounds completely healed, perhaps it would be adviseable to adopt one or other of these, and thereby expose the part within reach of the animal's teeth. If the remedy is resorted to before lancinating, pains and uneasiness begin to show themselves about the cicatrix, we may be more confident of succeeding by our preventive means, as such symptoms indicate the passage of the virus through the absorbents.

* This was the practice among others, of the late Dr. Rush, who bled largely at the commencement of the disease. E.

It now remains only to observe, that during the furious stage of the disease the greatest care must be taken that the patient is so confined by means of a strait waistcoat, as to be rendered incapable of doing any injury either to his attendants or himself. As long as he can swallow, his strength is to be supported by things that are light and nutritive, and when deprived of this power, clysters of animal broths must be injected. To assauge his thirst, wine and water may be poured down his throat from the spout of a tea-pot; but if his dread at liquids and act of deglutition are insurmountable, a sponge dipt in hot vinegar may be kept constantly to his mouth and nostrils.

If great costiveness prevails at any time in the course of the disease, it should be removed by a laxative clyster.

Dr. Rush has suggested that it might be proper, in cases of hydrophobia, to make an artificial opening into the windwipe, obviating by this means the most fatal symptom, and giving time for the employment of other remedies, according to the state of the system.

COLICA, OR COLIC.

COLIC is a painful distention of the whole of the lower region of the belly, with a twisting round the navel in particular, often accompanied with vomiting, costiveness, and a spasmodic contraction of the abdominal muscles.

The disease is produced by various causes, such as crude and acescent food, flatus, a redundance of acrid bile, long-continued costiveness, hardened fæces, certain metallic poisons, derangement of the primæ viæ, metastasis of gout or rheumatism, hysteria; the application of cold and moisture, worms in the intestinal tube, and the having swallowed poisonous substances. It has commonly been considered as being of different species, and has been variously denominated according to the cause which has given rise to it, as the bilious, the flatulent, and the hysteric: but in all of them the proximate cause seems to be the same, viz. a spasmodic constriction of some part of the intestines.

In the bilious colic there is loss of appetite, bitter taste in the mouth, thirst, costiveness, and a vomiting of bilious matter, attended with an acute pain all round the umbilical region; and as the disease advances, the former becomes more frequent, and the latter more severe and lasting.

In the flatulent colic there is great costiveness, attended with pain, soreness and griping of the bowels, a rumbling noise, distension of the stomach, an inclination to throw up, and coldness of the extremities.

In the hysteric colic there is nausea and sickness at the stomach, accompanied with severe spasms, costiveness, and dejection of spirits.

The disease, when rising to a violent height, and attended with

a stercoraceous vomiting, obstinate costiveness, and an evacuation of fæces by the mouth, constitutes what is called the iliac passion.* In this as well as in intus-susceptio, the peristaltic motion is inverted, and a high degree of inflammation is the consequence.

The colic is to be distinguished from enteritis by the spasmodic contraction of the abdominal muscles; by the absence or trifling degree of fever, by the state of the pulse, and by the diminution of the pain upon pressure of the abdomen.

When the pain remits, or shifts its situation, not being obstinately confined to one place, and when the patient experiences considerable ease after a discharge either of wind or fæces, and stools are obtained, we may have reason to expect a favourable termination to the disease; but the sudden cessation of pain, with the costiveness remaining obstinate, cold sweats breaking out, a weak tremulous pulse, frequent syncope, and the ensuing of hiccups, denote supervening inflammation terminating in gangrene.

When the disease proves mortal, the usual appearances to be observed on dissection are, inflammation on the surface of the intestines, distention and irregular contraction of some particular part of the tube, or a passing of one portion of it within another to a considerable extent, the part received within the other being in a contracted state, or probably gangrenous.

In all cases of colic, where the patient is young and vigorous, and the symptoms proceed with such violence as to endanger the ensuing of an inflammation of the intestines, it will be adviseable to take away some blood, being regulated, as to the quantity, by the state of the pulse and the appearance of what is drawn off. In repeating the operation, we are to be guided by the severity of the attack, the continuance of the constriction on the intestines, the habit of the patient, and the state of the pulse.

In the bilious colic, if there is great irritation at the stomach, with frequent vomiting, we may direct a saline draught to be taken every two or three hours in the act of effervescence, with an addition of about five-and-twenty drops of tinctura opii; but if only a nausea prevails, the patient may be directed to drink plentifully of camomile tea, to clear out the stomach. Externally we may apply a bladder filled with hot water, or the common stimulating application.

When the nausea and vomiting have ceased, he should take some active purgative† to carry off the offending matter, the opera-

* Whenever we are called to a patient labouring under these symptoms, we should suspect the existence of strangulated hernia, and a very minute examination should in every such case be made, particularly in the female sex. E.

† R. Pulv. Rhei ℈j.
Hydrargyr. Submur. gr. x.
Syr. Simp. q. s. M.
fiant Pilulæ vj. pro dos. E.

tion of which may be assisted by a free use of diluent liquors, such as thin gruel and animal broths. Should the purge be rejected by the mouth, or not operate quickly, we must then attempt to dislodge the contents of the intestines by clysters, making use of mild laxatives ones at first, and afterwards resorting to those which are more powerful, if necessary: and these are to be repeated, until a sufficient effect is produced.

In the flatulent colic we may begin the cure by giving a wine-glass of some aromatic cordial combined with an opiate.* If relief is not soon obtained, a carminative clyster† may be injected every three or four hours, and warm fomentations, with an addition of rectified spirit, be applied over the whole region of the belly. Should clysters not procure a copious evacuation of fæces and wind, some stomachic purgative‡ may be administered by the mouth. Ammonia joined with carminatives will be very proper in the flatulent colic.

If the disease continues to increase with violence notwithstanding these means, so as to threaten the approach of an inflammation in the bowels, we must then resort immediately to bleeding, the warm bath, and blistering over the part more particularly affected. On apprehending a similar consequence in the bilious colic, we may adopt the same means. See Enteritis.

When colic is accompanied with symptoms of hysteria, it will seldom be necessary to make use of evacuation; but should obstinate costiveness prevail, it will be proper to give some gentle laxative, administering at the same time every four or six hours the clyster of turpentine recommended in the flatulent colic, as I have known it in many instances to have been attended with much benefit and this almost immediately. If a vomiting attends, the stomach may be cleansed by drinking one or two cups full of camomile tea, after which the patient may be ordered some antispasmodic medicine.

Obstinate constipations, arising from an accumulation of indurated fæces in the rectum, and attended with severe colic pains, which resisted the usual means of relief, have been removed by

* ℞. Aq. Menth. Pip. ℥jss.
Tinct. Lav. C. ʒij
——— Opii ♏. xxx. M.
ft. Haustus.

† ℞ Sem. Anis. Contus.
Flor. Anthemidis āā ℥ss.
Coque ex Aq. Font. Ojss. ad. ℥xj. et
Colaturæ adde
Sodæ Sulphat. ʒvj.
Ol. Olivæ ℥j. M.
ft. Enema.

Vel

℞. Ol. Terebinth. ʒiij.
Vitel. Ovi q. s.
Misceantur in mortario marmoreo
dein adde gradatim Decoct.
Avenæ ℥xij.
ft. Enema.

‡ Such as a sufficient dose of calcined magnesia mixed with peppermint water, or some other cordial aromatic fluid. E.

introducing the finger, or scoop used in lithotomy, in ano, and then breaking and loosening the scybala. Two cases of this nature are recorded in the Edinburgh Medical Commentaries for the year 1795, which undoubtedly suggest an important caution; to advert to the cause above pointed out, in cases of obstinate costiveness and colic, where the usual means of aperient medicines and clysters have had a reasonable trial, without the desired effect.

Throwing cold water on the extremities, has been found, in some cases of obstinate constipation, to have been attended with a good effect, where all other remedies have failed.

Those who are subject to attacks of the colic should cautiously abstain from all kinds of crude, flatulent food, and from fermented liquors: they should also avoid, as much as possible, any exposure to wet and moisture, taking due care to obviate costiveness, by a timely use of some gentle laxative.

COLICA PICTONUM, OR PAINTERS COLIC.

THE characteristics of this disease are, obstinate costiveness, with a vomiting of acrid or porraceous bile, pains about the region of the navel, shooting from thence to each side with excessive violence, strong convulsive spasms in the intestines and abdominal muscles, with a tendency to a paralysis of the extremities.

[It is now the general opinion that this disease invariably results from the introduction into the system of lead in some form or other, and from the circumstance of house-painters being particularly subject to it, it has received its name. E.]

Colica pictonum comes on gradually with a pain at the pit of the stomach, extending downwards to the intestines, particularly round the navel, accompanied with eructations, slight sickness at the stomach, thirst, anxiety, obstinate costiveness, a frequent but ineffectual desire to evacuate the contents of the bowels, and a quick contracted pulse, but seldom exceeding one hundred in a minute. After a short time, the pains increase considerably in violence, the whole region of the belly is highly painful to the touch, the muscles of the abdomen are contracted into hard irregular knots or lumps, the intestines themselves exhibit symptoms of violent spasm, insomuch that a clyster can hardly be injected from the powerful contraction of the sphincter ani; and there is constant restlessness, with a frequent vomiting of an acrid or porraceous matter, but more particularly after taking either food or medicine.

Upon a further increase of the symptoms, or their not being quickly alleviated, the spasms become more frequent as well as violent, the costiveness proves invincible, and an inflammation of the intestines ensues, which soon destroys the patient by terminating in gangrene.* In an advanced stage of the disease it is

* Or rather Paralysis ensues which finally terminates in death. E.

no uncommon occurrence for dysuria to take place in a very high degree.

The severity of the pain round the navel, the retraction of the belly, the costiveness, the pulse, and the preference given by the patient to a bent position of the body, will readily distinguish this from every other disease of the abdomen.

The palsied and dropping hand, and slightly contracted fingers, unaccompanied by spasm in the upper extremities, or by any affection of the lower, supervene with remarkable uniformity in the saturnine colic.

Colica pictonum is always attended with some degree of danger, but which is ever in proportion to the violence of the symptoms and the duration of the disease. Even when it does not prove fatal, it is too apt to terminate in palsy, and to leave behind it contractions of the hands and feet, with an inability in their muscles to perform their office; and in this miserable state of existence, the patient lingers out many wretched years. Such consequences are very frequent in warm climates, and many fell under my immediate care and observation, during my practice in the West Indies.

Dissections of this disease usually show the same morbid appearances as in common colic, only in a much higher degree.

In all complaints of the intestines, partaking of the nature of colic, it will be proper to make inquiries respecting the patient's habits of life, and if these be discovered to subject him to the influence of lead, the identity of the disease is proved beyond the possibility of doubt.

The indications of cure in the colica pictonum seem to be,

1st, To guard against the consequences of inflammation, where the attack is severe, and the patient young and plethoric.

2dly, To take off the spasm, by means of various antispasmodic powers; and,

3dly, To excite the action of the intestines, by purgatives and other means.

To answer the first of these intentions, if the symptoms are so violent as to endanger the taking place of an inflammation of the intestines, it will be adviseable to draw off a quantity of blood proportionate to the age and habit of the patient, and that at an early period of the complaint. (See Enteritis.) I am sensible that bleeding has been disapproved of by some practitioners in this disease, on the supposition of its being purely spasmodic; but as inflammation, and its fatal termination in gangrene, have occasionally ensued, when the disease has run on for many days and symptoms of inflammation present, it seems to be an adviseable operation in those cases where the symptoms run high at first. In debilitated habits, and mild attacks, its use may with propriety be dispensed with.

The step advised being adopted, when judged necessary, we should next resort to antispasmodics for the purpose of answering

the second intention, viz. that of removing the spasms. The remedies in general use for this purpose are, fomentations applied to the abdomen by means of flannel cloths wrung out in a warm decoction of poppy-heads with an addition of rectified spirit; frequent immersion in a warm bath; or taking the patient out of bed, making him walk on a cold damp floor barefooted, throwing at the same time cold water on his feet, legs and thighs,* and the internal use of opium in considerable doses.

Where these means fail to produce the desired effect, it is customary to have recourse to anodyne clysters,† &c.

The application of a large blister to the abdomen is frequently found a useful auxiliary.

As soon as the spasms suffer some little relaxation, and the stomach is somewhat composed, we should advise such cathartics as operate with most certainty, such as calomel combined with ext. colocynth, or aloes;‡ assisting the operation of the medicine by administering a common laxative clyster every three or four hours, should the desired effect not be produced speedily. If stools are not procured by these, we must have recourse to more active purgatives.

In colica pictonum, where there is great irritability of the stomach, with frequent vomiting, we should give a preference to the hydrargyri submurias over all other purgatives, as it may be administered in the form of pills, which will be less likely to be rejected than any medicine in a liquid form. According to the severity of the pains, we are to continue the use of opium either joined with cathartics, or given separately, but perhaps the former might be preferable.

When our endeavours to put a stop to the vomiting and spasms, as likewise to procure stools, are crowned with success, we are then carefully to guard against a return of the disease, by keeping the body regular and open with some aperient medicine, by giving small doses of opium from time to time, and by cautioning the patient against exposing himself to cold, or any other occasional

* Immediately afterwards he should be wiped dry and put to bed between blankets, perspiration being at the same time promoted by means of opium, &c. E.

† ℞ Decoct. Hord. ℥x.
Tinc. opii. ℈iv. M.
ft. Enema.

‡ The following formula of Dr. Hamilton, is preferred by the Editors.

℞. Pulv: Zingib: gr. x.
Hydrarg: Submuriat. ℥ss.
Pulv. aloes. socc: ℥jss.
Sapo. Hispan: ℈ij.
Aq: comm: q. s. M. ft.
Pill. xl. cap iij.—v. bis die. E.

cause. The tone of the primæ viæ is afterwards to be restored by a use of tonics, and stomachic bitters recommended for the cure of dyspepsia.

Should a tingling sensation be felt down the spine, together with a feebleness and numbness in the extremities, the parts affected may be rubbed with some kind of stimulating application, as advised under the head of Palsy; besides which, the patient should frequently make use of warm bathing, always giving a preference to natural baths where they can be resorted to. In addition to these remedies, a long-continued use of cinchona bark, bitters, chalybeates, and friction with a flesh-brush, assisted by electricity, may be employed. Flannel should be worn next to the skin.

In an ingenious pamphlet published by Dr. Clutterbuck,* several cases are given of the successful use of mercury in the colic and paralysis of the wrists, produced by lead; and therefore, when the disease is clearly ascertained to have arisen from this mineral, it may be adviseable to adopt the plan which he pursued. In some of these patients, a drachm of strong mercurial ointment was rubbed morning and night on the wrists, till the mouth became sore. In others, one grain of hydrargyri submurias was given daily with oleum ricini; and in others a quarter of a grain of the hydrargyri oxymurias was given three times a day with great apparen tadvantage.

Where paralysis of the wrists has been the consequence of colica pictonum, although the cure has always been protracted and doubtful, the nitrate of silver has however been reported to be a powerful agent in overcoming both the cause of the spasmodic contractions, and the consequent paralysis†.

In the treatment of this species of palsy Dr. Pemberton is of opinion,‡ that besides the remedies appropriate to the removal of the original disease, some assistance of a mechanical nature might be applied likewise for the purpose of relieving the topical paralysis, by placing the muscles in such a state, as that they might be again enabled to resume their lost action; and for this purpose, he recommends a splint to be fastened under the fore arm, and continued to the extremities of the fingers.

It has been mentioned before, that the effect of some metals in destroying or preventing the acidity of cider or wine, often induces dealers in these articles to employ some of the preparations of lead for this purpose. The method most in use for discovering the injurious mixture of litharge with wine, is by pouring into it

* See his Treatise on the Poison of Lead.

† See Medical Transactions of the Royal College of Physicians, vol. v. p. 46.

‡ See his Treatise on the Diseases of the Abdominal Viscera, p. 155.

some sulphuric acid, which causes a white precipitate to fall to the bottom of the vessel. This is not, however, so accurate a test of lead as water charged with sulphurated hydrogen, which is thus prepared: Put into a phial a paste of sulphur and iron filings, pour on it a little sulphuric acid, and pass the gas produced into a flask of water by a bent tube.

This water poured on wine mixed with litharge, renders it black and flaky, produces an abundant precipitate, which soon falls to the bottom of the vessel.

CHOLERA MORBUS, OR VOMITING AND PURGING.

FREQUENT and violent discharges of bilious matter, both upwards and downwards, with painful gripings, constitute cholera morbus.

In temperate climates, this disease is most prevalent during the summer and beginning of autumn when there is excessive heat, or there are sudden transitions from heat to cold; and the violence of the disease has usually been observed to be greater in proportion to the intenseness of the heat.

It usually comes on with nausea, soreness, pain, distension, and flatulency in the stomach, and acute griping pains in the bowels, succeeded quickly by a severe and frequent vomiting and purging of bilious matter, heat, thirst, a hurried respiration, and a frequent but weak and fluttering pulse.

When the disease is not violent, these symptoms, after continuing for a day or two, cease gradually, leaving the patient in a debilitated and exhausted state; but where the disease proceeds with much violence, there arises great depression of strength, with cold clammy sweats, considerable anxiety, a hurried and short respiration, cramps in the legs, coldness of the extremities, and hiccups, with a sinking and irregularity of the pulse, which quickly terminate in death; an event that sometimes happens within the space of twenty-four hours.

Cholera morbus is to be distinguished from diarrhœa and dysentery by the matter which is discharged being pure bile, unmixed with blood or mucus, and with scarcely any admixture of fæces. It may be distinguished from colica pictonum by the evacuations: for in the latter, although there is sometimes a considerable quantity of bilious matter thrown off by vomiting, yet the bowels remain obstinately costive.

The appearances generally to be observed on dissection, where cholera terminates fatally, are, an accumulation of bile in the stomach and intestines, particularly in the duodenum; relaxation and distention of the biliary ducts and choledochus, and a removal of many of the viscera from their proper places, occasioned probably by the violence of straining in vomiting.

From the very irritable state of the stomach on the first attack of

the disease, it is almost impossible for any kind of medicine to be retained on it, and every thing is thrown up again, almost as soon as swallowed. To abate this irritation, and evacuate the redundant or acrid bile, it will be necessary, during this stage of the disorder, to make the patient drink plentifully of diluent liquors, such as barley-water, linseed-tea, rice-gruel, animal broths, or toast and water; and, to assist the effect of their operation, tepid mucilaginous clysters of the same nature may likewise be injected.

In addition to these means, flannel cloths wrung out in a warm decoction of poppy-heads slightly bruised, with an addition of about one-fourth of spiritus camphoræ, may be applied to the region of the stomach, taking care to renew them as often as they become cool. Warmth should likewise be applied to the extremities by means of bottles filled with hot water.

As soon as the stomach is sufficiently cleansed by the diluents just recommended, we should endeavour to allay or put a stop to the irritation, by administering opium in sufficiently large doses, but, at the same time, in as small a bulk as possible. It may be given in the quantity of a grain or a grain and a half in the form of a pill, and be repeated every two hours, as long as the urgency of the case may require: if the pill is rejected, about forty drops of tinctura opii may be added to a saline draught, swallowed in the act of effervescence; and this may be repeated as frequently as the former.* In some instances, where the spasms have been so violent as quickly to induce an alarming state of debility, I have known the quantity of opium to have been increased to eight or ten grains in each dose.

In the advanced stage of the disease, where the pulse is weak, and the extremities are cold, opiates joined with aromatics, as in the confectio opii, and musk in large doses, may be employed with advantage.†

Opium when given by the mouth, even in the smallest possible bulk, is frequently rejected by vomiting in cholera morbus; but if given in an enema, will often in a very short space of time completely remove all the urgent symptoms, and transfer the patient from a state of torture to one of ease. Clysters of this nature ought therefore to be injected from time to time as long as the irritation at the stomach continues.

A cataplasm of opium and camphor, or a mixture of camphor and spirits of turpentine applied to the region of the stomach will sometimes revert its retrograde motions. In several cases where there prevailed great pain and irritation at the stomach, and where the patient could retain nothing on it, I have experienced the best

* In such cases the artificial Seltzer or Soda waters have been found frequently beneficial in allaying the vomiting. E.

† At the same time Sinapisms may be applied to the stomach and extremities, and kept on for the space of about an hour. E.

effects from the external application of opium to the epigastric region in the form of an embrocation.*

Putting the patient into a warm bath will assist the effects of opiates in all desperate cases of cholera morbus, particularly those accompanied with much spasmodic affection.

The application of a blister to the stomach will sometimes put a stop to the vomiting by stimulating the skin and by sympathy affecting the stomach.

When the violence of the attack has somewhat subsided, it will be proper to carry off the remainder of the bile as soon as possible, and thus prevent the continued application of it to the coats of the bowels. A purge of calcined magnesia and rhubarb may be taken for this purpose.

Although we may have been so fortunate as to procure a remission of the symptoms, still as there is a great tendency in this disease in the spasms to recur after the operation of the opium is over, it will by all means be adviseable to continue its use for several days, in such a manner as to keep up a constant effect.

As the debility induced by the disease greatly favours the disposition to spasmodic affections, it may be proper, at the same time that we use opiates, to employ tonics, as wine, cinchona, and chalybeates, (see Dyspepsia,) in order to restore the tone of the stomach, taking care at the same time to obviate costiveness by some gentle laxative, such as rhubarb.

On recovery, the patient should pay particular attention to his diet, carefully abstaining from all things which might promote a return of the disease, and using only such as are light and nutritive, and which do not readily become accscent. He is likewise to guard against exposures to cold.

There are some people who are subject to periodical attacks of cholera, returning by intervals of a few weeks, producing for two or three days sickness and vomiting, increased heat of the skin, and quickness of the pulse, white tongue, and thirst. Sometimes, however, the bowels are torpid. Heaviness of the eyes and great disposition to drowsiness are commonly the precursors to the attack; and if a dose of hydrargyri submurias joined with some gentle purgative be then given, it will either considerably lessen its violence, or altogether prevent it.

Exercise, particularly on horseback or in a carriage, and tonics, are well calculated to afford relief, and prevent recurrences of the complaint in all such cases.

* ℞. Spirit. Camphoræ ℥ss.
Tinct. Opii ℥j. M.
ft. Embrocatio supra ventriculi regionem sæpe infricanda.

DIARRHŒA, OR LOOSENESS.

DIARRHŒA consists in frequent and copious discharges of feculent matter by stool, accompanied by griping, and often, at first, with a slight degree of vomiting, but unattended either by inflammation or fever. The presence of these, with tenesmus and an evacuation of blood and purulent mucus with hardened balls or scybala, instead of natural fæces, which prevail in dysentery, will always enable the practitioner readily to discern the two diseases from each other. It is to be distinguished from cholera morbus by there being no vomiting of bile.

In diarrhœa there is evidently a morbid increase of the peristaltic motion; which morbid increase is the effect of a variety of causes applied either to the body in general, or acting solely on the parts affected.

Of the former may be noticed the application of cold to the surface of the body, so as to give a check to perspiration, and thereby determine the flow of blood more to the interior parts; as likewise passions of the mind, and certain diseases, as dentition, retrocedent gout and rheumatism, fever, &c.

Of the latter may be enumerated, first, substances taken into the stomach, and acting either from their quantity, as in the case of overcharging the organ, or from their nature on the state of the stomach itself, producing fermentation, as acid fruits, as also oily and putrid substances, and purgative medicines: secondly, matters generated in the body, and thrown into the intestines, as acrid bile, pancreatic juice, purulent matter, water in dropsy, worms, &c.: thirdly, mucous matter poured from the mucous follicles of the intestines themselves, in consequence of an increased excretion, and producing what is known by the name of diarrhœa mucosa.

In diarrhœa, each discharge is usually preceded by a murmuring noise and flatulence in the intestines, together with a sense of weight and uneasiness in the lower part of the belly, which cease on the discharge taking place, but are again renewed before the one which is to succeed, ensues. The appearance of the stools is various. Sometimes they are thinner than natural, from the admixture of a larger quantity of fluid poured out by the exhalents of the intestines than common. Sometimes they are slimy, and sometimes they are green, when first discharged; sometimes they are evacuated of a yellow colour, but become green on exposure to the air, and now and then they are of a dark brown colour, and very fetid. As the disease advances, the stomach becomes affected, and sickness, nausea, and vomiting occasionally prevail, the countenance turns pale, and the skin is dry and rigid. If it continues for any length of time, universal emaciation, dropsy of the lower extremities, and relaxation of every part ensue, together with a great loss of strength.

In forming our prognostic in this disease, we are to be determined by the particular cause from which it arises; whether symptomatic of another disorder, and whether of a critical nature; as likewise by the degree of debility present in the system, and the length of time it has continued. Where it attacks pregnant women, it is generally to be considered as attended with danger.

Dissections of diarrhœa, which have terminated fatally, have shown that where it prevailed as a primary disease, ulceration of some portion of the intestines is the morbid change most usually met with; in which case, the inner membrane is often abraded for a considerable extent, and its muscular coat laid bare.

In the treatment of diarrhœa it will be necessary to attend to the following indications:

First, To obviate or remove the morbid cause:

Secondly, To suspend the increased action which constitutes the disease: and,

Thirdly, To restore the impaired tone of the parts.

Emetics not only cleanse the stomach, but promote all the secretions, and therefore when diarrhœa has arisen from excess, or repletion, or from crude and acrid matter in the stomach, the first indication may be answered by giving a gentle emetic in the evening and some aperient* the succeeding morning.

If it has proceeded from obstructed perspiration, in consequence of exposure to cold, we must then endeavour to restore this by nauseating doses of ipecacuanha, which may be repeated every two or three hours. At night the patient should immerse his feet in warm water.

An irritable state of the bowels with long continued diarrhœa, and which had resisted the ordinary means of cure, has been ultimately overcome by the assistance of a warm bath.

Along with these remedies we may recommend a free use of diluents and demulcents, such as a decoction of rice, arrow root, the emulsion of gum. acaciæ, linseed tea, or toast and water; which will serve both to wash out the offending matter, and to guard the intestines against its irritating action.

When diarrhœa seems to arise or be kept up by an acid generated in the intestinal canal, and known by frequent eructations of air, diffusing a hot and disagreeable sensation upon the fauces and mouth, griping pains in the bowels, with dejections of a white chalky appearance, which, in passing off, occasion a hot smarting sensation at the end of the rectum, it will be necessary to have recourse to absorbents,† joined with opiates. Alkalies will also be an useful class of medicines, and therefore we may advise frequent doses of the carbonate of potass dissolved in a little veal broth throughout the course of the day, and at night an anodyne.

To answer the second indication in the cure of diarrhœa, viz.

* Such as a combination of rhubarb and calcined magnesia. E.

† See note (*) on the next page.

that of suspending the increased action which constitutes the disease, it will be proper to have recourse to opiates, which may either be given separately, in small and repeated doses, so as to keep up a constant effect, or be combined with whatever other medicines we administer.

The third indication is to be effected by an use of astringents, joined with aromatics and tonics. These remedies are especially adapted to those cases where the irritability of the intestines depends upon a loss of tone, and which may occur either from debility of the whole system, or from causes acting on the intestines alone.

The astringents in most general use are the different preparations of logwood, catechu, and gum kino. In habitual and long-protracted diarrhœa, some patients have derived much benefit from drinking about a pint of lime-water a day, mixed with an equal quantity of milk, in which an ounce of gum. acaciæ has been dissolved.

The tonics which are most likely to prove useful are, the cinchona, cusparia, simarouba, quassia, and cascarilla barks, columbo root, preparations of iron, and chalybeate waters, together with a proper quantity of Port wine taken daily. Where this becomes acid on the stomach, Madeira, sherry, or very weak brandy and water, [with the addition of nutmeg, or any other agreeable spice] may be substituted.

From whatever cause a diarrhœa proceeds, whenever it is found necessary to check it, the diet ought to consist of rice boiled with milk, and flavoured with cinnamon, together with preparations of sago or Indian arrow root. Weak brandy and water, or diluted wine, may be substituted for malt liquor as common drink.

Those who are liable to frequent returns of this disease, either from a peculiar weakness, or too great an irritability of the bowels, should live temperately, avoiding crude summer-fruits, most kinds of vegetables, all unwholesome food, and meats of hard digestion. They ought likewise to beware of cold, moisture, or whatever may obstruct the perspiration, and they should wear flannel next to the skin, and take as much exercise as the strength will admit of.

* As the Mistura Cretæ of the Dispensatory, with the addition of a few drops of Tinct. Opii to each dose: or the following. E.

℞. Ammoniæ Carbonat. gr. x.
Aq. Menth. ℥jss.
Syr. Rosæ ʒj. M.
Tinct. Opii ♏. x. M.
ft. Haustus.

DIABETES.

Weariness and disinclination to motion or exertion, with the feeling of weakness, dryness and harshness of the skin, costiveness, great thirst, a voracious appetite, accompanied by an apparent defect in the process of chylification, gradual emaciation of the whole body, and a frequent discharge of urine, containing a large proportion of saccharine and other matter, which is generally voided in a quantity far exceeding that of the aliment or fluid introduced, are the characteristics of this disease. It has been usual to apply different names to it, as the diabetes mellitus, wherein the urine is of a fragrant smell, and of the colour and taste of honey, and the diabetes insipidus, with limpid urine, not sweet; but some have considered this division as more fanciful than real, and more systematic than useful.

Those of an exhausted constitution, and those who are in the decline of life, are most subject to its attacks. The few cases which have occurred to me in practice, all arose in persons who had addicted themselves to spirituous liquors, and who at the same time fared hard, and were much exposed to cold. It not unfrequently attends on hysteria, hypochondriasis, dyspepsia, and asthma; but it is always much milder when symptomatic, than when it appears as a primary affection.

Diabetes may be occasioned by any thing that tends to produce an impoverished state of the blood, or general debility. In some cases it has arisen from an exposure to cold and suppressed perspiration. It has however taken place, in many instances, without any obvious cause.

That which immediately gives rise to the disease, has ever been considered as obscure, and various theories have been advanced on the occasion. The late Dr. Cullen offered it as his opinion, that the proximate cause of this disease might be some fault in the assimilatory powers, or in those employed in converting alimentary matters into the proper animal fluids; which theory has since been adopted by Dr. Dobson, and still later by Dr. Rollo, surgeon general to the royal artillery.

My own opinion as to the cause of diabetes mellitus is, that it consists in a perverted or deranged action of the kidneys, and that it is by virtue of this action that the saccharine matter in the urine is produced.

The primary seat of the disease is far from being absolutely determined in favour of any hypothesis yet advanced; but from an attentive consideration of all the circumstances, the weight of evidence appears to induce the majority of practitioners to consider diabetes as depending on a primary affection of the kidneys.

The morbid state in which these organs are always found on dissection, certainly strengthens the opinion that they are the primary seat of the disease. From the peculiar matter which is ela-

borated by the kidneys being secreted in twice its usual quantity, we are at least induced to conclude that their action is very considerably increased. It must however, be acknowledged that the excessive increase of appetite, accompanied with an apparent defect in the process of chylification, which are the usual attendants on diabetes, seem to demonstrate that some derangement exists also in the digestive organs. Possibly this may be secondarily.*

Diabetes sometimes comes on slowly and imperceptibly, without any previous disorder, and it now and then arises to a considerable degree, and subsists long without being accompanied with evident disorder in any particular part of the system, the great thirst which always, and the voracious appetite which frequently occur in it, being often the only remarkable symptoms, but it now and then happens, that a considerable affection of the stomach precedes the coming on of the disease, and that in its progress, besides the symptoms already mentioned, there is great dryness of the skin, with a sense of weight in the kidneys, and a pain in the ureters, and the other urinary passages. The temperature of the body is usually below the standard of health. The spirits are depressed, the disposition is equally indifferent to study or amusement, and there is evidently a decline of mental energy, with a loss of the power of virility. Ulceration of the tongue and gums are of frequent occurrence in diabetes, owing probably to the derangement of the digestive functions. Some morbid change in the alvine excretion always accompanies the diabetic habit, and costiveness is perhaps the most common of these: for, in some instances, the bowels have been so remarkably torpid, that even the most powerful medicines, in large doses, produced but a trifling effect. Very frequently some degree of inflammation and swelling about the external orifice of the urethra is to be observed.† It has has been remarked that diabetes is often preceded or accompanied with a pulmonic affection.

Under a long continuance of the disease, the patient becomes much emaciated, the feet œdematous; great debility arises, and an obscure fever, with all the appearances of hectic, prevails. In point of number, the pulse is very much diversified: in most cases, it is quicker than natural, but sometimes it is below the common standard; but whether it be quick or slow, it is generally such as to denote great debility in the system. In some cases, vision becomes very indistinct, and the patient is troubled with vertigo.

The urine in diabetes, from being at first insipid, clear, and colourless, soon acquires a sweetish or saccharine taste, its leading characteristic; and when subjected to experiment, a portion of saccharine matter is frequently to be extracted from it.

In some instances, the quantity of urine is much greater than can be accounted for from all the sources united. Cases are re-

* It is more probable that the affection of the kidneys is secondary. E.

† See Cases of Diabetes by R. Watt, p. 159.

corded, in which from twenty-five to thirty pints were discharged in the space of a natural day, for many successive weeks, and even months; and in which the whole ingesta, as was said, did not amount to half the weight of the urine. To account for this overplus, it has been alleged that water is absorbed from the air by the surface of the body, as also that an extraordinary quantity of water is compounded in the lungs themselves.

It has been usual to regard this disease as always attended with great difficulty of cure, and no inconsiderable degree of danger, particularly where it attacks persons advanced in years, or whose constitutions have suffered much by any debilitating cause whatever, especially hard drinking; but according to Dr. Rollo's report, which seems both candid and ingenuous, and has been confirmed by the testimony of other practitioners, who have adopted the mode of treatment he recommends, we may presume that it need not in future be regarded in so unfavourable a light, and that cures may be effected under the most unpromising circumstances, provided a rigid compliance with his plan is observed.

Great abatement of the thirst and extraordinary desire for food, the skin becoming soft to the touch and perspirable, the bowels more lax or regular, the urine being voided less frequently and in smaller quantity each succeeding day, being at the same time of a more natural colour, taste, and smell, the dyspeptic affection being much diminished, and the bodily strength somewhat recruited, together with a return of mental energy, are to be regarded as very favourable symptoms; whereas the contrary denote a fatal termination sooner or later.

Dissections of diabetes have usually shown the kidneys to be much affected. In some instances, they have been found in a loose flabby state, much enlarged in size, and of a pale ash colour; in others, they have been discovered much more vascular than in a healthy state, approaching a good deal, to what takes place in inflammation, and containing in their infundibula, a quantity of whitish fluid, somewhat resembling pus, but without any sign of ulceration whatever. At the same time that these appearances have been observed in their interior, the superficial veins on their surface were found to be much fuller of blood than usual, forming a most beautiful net-work of vessels, the larger branches of which exhibited an absorbent appearance. In many cases of dissection the whole of the mesentery has been discovered to be much diseased, and its glands remarkably enlarged; some of them being very hard, and of an irregular texture; others softer, and of an uniform spherical shape. Many of the lacteals have likewise been seen considerably enlarged. The liver, pancreas, spleen, and stomach, are in general perceived to be in a natural state; when they are not so, the occurrence is to be considered as accidental. The bladder is now and then found to contain a quantity of muddy urine; in some cases, its coats are much thickened, and its size less than natural.

The fat within the thorax, abdomen, and pelvis, in some instances has seemed entirely converted into a gelatinous-like matter somewhat of an amber colour, and when slightly pressed between the fingers, did not appear unctuous. The subcutaneous fat is found in general much diminished.

The treatment of diabetes has hitherto been conducted on the principles of diverting the increased discharge elsewhere, and afterwards of restoring the tone of the parts.

The first indication has been attempted by a use of remedies which open the pores, such as emetics exhibited occasionally, diaphoretics, the warm bath, additional clothing, or the removal to a warm climate. For the purpose of diverting the increased discharge, blisters are sometimes applied over the region of each kidney in succession, and the ulcerated parts kept open afterwards by the unguentum lyttæ, or ceratum sabinæ.

The second indication has been aimed at by astringents and tonics. The astringents which have been most used are, alum, zinci sulphas, gum kino, catechu, and the sulphuric and nitric acids. The tonics generally employed are the different preparations of cinchona, myrrh, and chalybeates, together with cold bathing.

As this mode of treatment, however, has in most instances, proved very ineffectual, it is proper here to detail the plan recommended by Dr. Rollo, which has often performed a cure under the most unpromising circumstances.

According to him the indications to be attended to, are to destroy the saccharine process going on in the stomach, and to promote a healthy assimilation; to prevent a supposed increased absorption by the surface; to diminish the increased action, and to change the derangement of the kidneys.

To answer these indications, Dr. Rollo enjoins a diet consisting wholly of animal food, abstaining rigidly from every kind of vegetable matter from which sugar may be produced; he likewise enjoins hepatized ammonia to be taken daily in the doses hereafter to be mentioned; the skin to be anointed with prepared lard; exercise to be avoided; antimonial wine with opium to be taken at night; an ulceration about the size of half-a-crown, to be formed opposite to each kidney; and the bowels to be kept open by aloes and soap.

Dr. Rollo at first was in the habit of using the potassæ sulphuretum; but was induced to substitute the hepatized ammonia, under the supposition that the alkali of the former had an improper effect on the kidneys.

We are informed by Mr. Cruikshank, chemist to the Ordinance, in some observations added to Dr. Rollo's publication, that the hepatized ammonia, which promises to be a valuable medicine, is easily prepared by making a stream of pure hepatic gas pass through the liquor ammoniæ carbonatis Pharm. Londinensis, until no further absorption is perceived, or until the alkali is saturated.

The hepatic or sulphurated hydrogene gas should be obtained for this purpose from artificial pyrites, or sulphuret of iron, and the muriatic acid. We are further informed, that the easiest method of making the artificial pyrites, is to raise a piece of iron in a smith's forge to a white heat, and then to rub it against the end of a roll of sulphur; the iron at this temperature immediately combines with the sulphur, and forms globules of pyrites, which should be received into a vessel filled with water. Those globules are to be reduced to powder, and introduced into the proof, to which a sufficient quantity of muriatic acid is to be added. The dose to an adult should not at first exceed three or four drops, three or four times a day, and this dose is to be gradually increased, so as to produce slight giddiness. It should be dropped from the phial at the time of using it into a little distilled water, and be taken immediately. When we cannot procure hepatized ammonia, we must be content to substitute the carbonate of ammonia, which may be given in the form of pills, ordering about twelve to be taken daily, each containing about four grains of the ammonia.

A case of diabetes mellitus is recorded in the thirteenth volume of the Medical Journal, by Mr. Earnest, surgeon to the Sheffield General Infirmary, which was successfully treated by putting the patient on a diet consisting principally of animal food with a generous allowance of porter, giving at the same time the nitric acid in the proportion of from one to three drachms of the acid to two pounds of water, with about an ounce of sugar, daily. We are further informed by him, that in three other cases of excessive polydipsia he had known the nitric acid essentially useful. Under a failure of the other means which have been noticed, it will therefore be adviseable to pursue this plan.

The nitric acid, no doubt, is productive of considerable advantage in mitigating the thirst and heat, and thereby lessening the quantity of urine; but of itself, it ought to be considered as incompetent to destroy the saccharine impregnation of this fluid, or to arrest the other characteristic symptoms of the disease. A total abstinence from all vegetable food is likewise absolutely necessary.

Numerous indeed are the cases now recorded by different medical writers very clearly demonstrative of the great efficacy of the animal regimen in diminishing the quantity and changing the properties of diabetic urine, and in relieving the concomitant circumstances; and from the repeated observations and experiments which have been made by some of our most eminent physicians, we may, I think, be justified in drawing the inference, that an abstinence from vegetable, and the employment of animal food, together with the nitric acid, opiates, blisters to the loins, and the warm or tepid bath, comprehend the general and most successful method of cure, and are capable of removing the disease in question in its incipient state, when unaccompanied with any dangerous organic affection;

and that even in the most acute and aggravated instances of the complaint, a steady perseverance in the proper regimen will arrest the progress of the diabetic symptoms, and bring the patient into a state of convalescence; but that the cinchona, astringents and alkalies, either alone or combined with sulphur (such as the hepatized ammonia,) afford little assistance in subduing diabetes, or even arresting the progress of its characteristic symptoms.

We are informed, however, by Dr. Ferriar* that he has cured three confirmed cases of this disease by a combination of cinchona, uva ursi, and opium, taken three times a day, in the proportion of a scruple of each of the former, to half-a-grain of the latter, and that from the great success he had met with from this medicine, he found it unnecessary to try Dr. Rollo's plan. The doses were taken with lime-water, which was also directed for the patient's common drink.

In order to restore the patient to general health and strength an admixture of vegetable and animal food is to be gradually and cautiously entered upon, as soon as ever the saccharine impregnation of the urine, and the voracious appetite, have disappeared. After the cessation of the diabetic symptoms, great attention should be paid to the state of the primæ viæ, as the tone of the stomach remains for some time much impaired, and the bowels also become torpid, and are liable to inflammation, if evacuations be not speedily procured.

The phenomena which diabetes mellitus exhibits in its progress and the great degree of vascularity and enlarged size of the kidneys, which are observed on dissection, have induced some to suppose that an inflammatory action takes place in these organs; which view of the disease, if well founded, would evidently direct to a mode of treatment the very reverse of what has hitherto been pursued.

Order IV.—VESANIÆ.

Impaired judgment, without pyrexia or coma, is the character of this order.

MANIA, or MADNESS.

Mania may be termed a false perception of things, displayed most generally in the opinion formed by the patient of his nearest friends; and a want of due connexion of the train of thought, marked by an incoherence or raving; accompanied, for the most part, with a violence of action, and furious resentment at restraint.

* See the New Edition of his Medical Histories and Reflections.

In mania, the mind is not perfectly master of all its functions; it receives impressions from the senses which are very different from those produced in health; the judgment and memory are greatly impaired, if not wholly lost; and the irritability of the body is much diminished, maniacs it is supposed, being capable of resisting the usual morbid effects of hunger and watching. It has also been a generally received opinion, that they can likewise resist the morbid effects of cold; but we are assured by Mr. Haslam,* apothecary to Bethlem Hospital, that they possess no such exemption. He tells us, that those under strict confinement in that receptacle, are particularly subject to mortifications of the feet; and that those who are permitted to go about in the hospital, are always to be found as near to the fire as they can get, during the winter season. Mr. Haslam's observation is confirmed by Professor Pinel.†

Great insensibility prevails in some states of madness, and a degree of cold which would create much uneasiness to persons of sound mind, might not incommode maniacs; but experience has shown, that they suffer equally from any severity of weather. Some indeed refuse all covering; but these occurrences are not common: and it may be presumed, that, by a continued exposure to the atmosphere, such persons might sustain with impunity, a low temperature which would be productive of serious injury to those who are clad according to the exigencies of the seasons. Such endurance of cold is probably more the effect of habit, than of any condition peculiar to insanity.

Some writers contend, that insanity is a disease wholly of the mind, and not of the body; whereas others suppose, that mania in general depends on a physical origin, or arises from disorganization, or morbid action of some part of the brain; which supposition is somewhat supported by the appearances frequently to be observed in the head on dissection. But every species of madness, whether it has originated in the mind or the body, becomes the same by continuance. In madness, both the mind and the body must ultimately be diseased; for a disease of the mind soon produces one in the body.

There are two species of madness, viz. the melancholic, and furious. In both these states, the association of ideas is equally incorrect. Between melancholic and furious madness there seems however to exist an intermediate species of the disease. Great eccentricity or singularity, dejection of spirits, and violent tendency to immoral habits, notwithstanding the inculcation of the most correct precepts, and the force of virtuous example, may be regarded as only slighter shades of the disorder. By some writers the disease has been distinguished into many varieties; but probably the best division would be into chronic and acute, periodical and habitual.

Madness is occasioned by affections of the mind, such as anxiety, grief, disappointed love, the pain of jealousy, the disap-

* See his Observations on Madness.

†——Treatise on Insanity.

pointment of ambition, insulted pride, prosperity suddenly reduced by misfortune, religious terror or enthusiasm, the frequent and uncurbed indulgence of any passion or emotion, and by abstruse study. In short, it may be produced by any thing that affects the mind so forcibly as to take off its attention from all other affairs. A very frequent cause of insanity arises from the pain of some imaginary or mistaken idea, which may be termed hallucinatio maniacalis. Among the most common of the remote causes may be enumerated, frequent intoxication, injuries and malconformation of the head, and paralytic seizures. Mania is sometimes the consequence of painful protracted parturition. Certain diseases of the febrile kind, particularly phrenitis, have been found to be followed by madness, where their action has been very violent, or accompanied by delirium.

It is an indisputable fact, that the offspring of insane persons are more liable to be affected with insanity, than those whose parents have enjoyed sound minds; which shows that a predisposition or constitutional bias to the disease may be entailed by either parent. Moreover, it frequently occurs, that the descendants from an insane stock, although they do not exhibit the broad features of madness, shall yet discover propensities equally disqualifying for the purposes of life, and destructive of social happiness.

Some late writers on mania have, however, presumed to deny the fact of hereditary predisposition or constitutional similarity between parent and progeny;* but this surely is to fly in the face of truth, and to inculcate a doctrine very injurious to society, by throwing individuals off their guard, and encouraging them to intermarry with the descendants, or offspring of insane persons.

All inquiries respecting the proximate cause of mania are involved in such a cloud of obscurity, that I shall not venture to advance any opinion on it. We only know for certain, that in the majority of maniacal persons that have been opened after death, more or less organic injury of the brain has been discovered, and that the said organic injury seems to be, for the most part, the consequence of an inordinate determination of blood to the head.

Two constitutions are particularly the victims of madness, the sanguine and melancholic; by the difference of which, its appearance is somewhat modified. It attacks persons of all complexions and colours of hair; but out of 265 patients who were examined by Mr. Haslam,† at Bethlem Hospital, 205 were of a swarthy complexion, with dark or black hair; the remaining 60 were of a fair skin, and light brown or red haired.

Children and persons of weak intellectual powers are never subject to madness; for how can a person despair who cannot

* See Dr. Adam's Treatise on Hereditary Diseases.
—— Essay on Insanity by George N. Hill.

† See his Observations on Madness.

think.* On this subject, Mr. Locke has a beautiful distinction. The difference, he says, between a madman and a fool, is, that the former reasons justly from false data; and the latter, erroneously, from just data.

The most common form of insanity is the intermitting, or that in which the paroxysms of the disease are divided by lucid intervals. The accession of the paroxysms is far from being regular, but most usually they begin soon after the summer solstice, continue with more or less violence during the heat of summer, and terminate towards the decline of autumn. Mania comes on at different periods of life; but in the greater number of cases it makes its first attack between thirty and forty years of age, probably because people at this period are more liable to be acted upon by the remote causes of the disease, or that a greater number of such causes are then applied. At this age people are generally established in their different occupations; are probably married, and have families; their habits are strongly formed, and the interruptions of them are consequently attended with greater anxiety and regret. Under these circumstances, they feel the misfortunes of life more exquisitely.

Sometimes mania, however, instead of being only temporary, or occurring in paroxysms, which go off and return again at certain periods, continues during the whole of the person's life without any intermission, and the patient sinks at last under the violence of the conflict, without any abatement of the symptoms; or a state of perfect idiotism ensues.

In no two patients is the disease ushered in, or continued, with precisely the same appearances; for the different propensities and habits of different patients lead, of necessity, to a difference of idea and of expression in each. The precursory symptoms of a maniacal paroxysm are, however, very frequently as follow. The patient complains of a sense of tightness at the region of the stomach, want of appetite, costiveness, and a sensation of heat in the bowels. He is subject to a kind of uneasiness, which he cannot describe or account for; experiences a degree of fear that sometimes amounts to terror, and feels either little disposition or absolute incapacity to sleep. Soon after these appearances, incoherence and incongruity of idea are betrayed in his outward conduct, by unusual gestures, and by extraordinary changes in the expression and movements of his countenance. He generally holds his head erect, and fixes his eyes and attention upon the heavens. He speaks with a deep hollow voice, walks with a quick and precipitate step, then stops suddenly, as if arrested by the most interesting and profound contemplations. Some maniacs are remarkable for good humour and mirth, which they express by fits of loud and immoderate laughter. There are others again, whose taciturnity is perpetual; who express their afflictions by tears, or who sink,

* See Philosophy of Human Nature by John Duncan.

without a tear, under the distressing influence of solitary anxiety. This happens in melancholia, to which there are usually added, fondness for solitude, timidity, fickleness of temper, great watchfulness, flatulency in the stomach and bowels, costiveness, and a small weak pulse. Furious madness is marked by severe pains in the head, redness of the face, noise in the ears, wildness of the countenance, rolling and glistening of the eyes, grinding of the teeth, loud roarings, violent exertions of strength, absurd incoherent discourse, unaccountable malice, to certain persons, particularly to the nearest relatives and friends, a dislike to such places and scenes as formerly afforded particular pleasure, a diminution of the irritability of the body with respect to the morbid effects of cold, hunger, and watching, together with a full quick pulse.

Insane persons are said to be usually worse in the morning; but perhaps this is not so generally the case as has been supposed. In many inst nces, at the commencement of the disease, they are more violent in the evening, and sometimes so the greater part of the night. It is indeed well known, that the majority of patients of this description have their symptoms aggravated by being placed in a recumbent position. They seem of themselves to avoid the horizontal posture as much as possible, when they are in a raving state, and when so confined as that they cannot be erect, will support themselves on the breech.

Of the organs of sense which become affected in those labouring under insanity, the ear has been observed particularly to suffer; few lunatics become blind, but numbers were noticed by Mr. Haslam to be deaf; and those who were not actually deaf, were troubled with difficulty of hearing and tinnitus aurium.

Mania is to be distinguished from phrenitis, by the absence of pyrexia and head-ach; and from delirium, by the state of the pulse, and not being conscious of external objects when roused, and even then the person soon relapses into a state of inattention; whereas in mania he is frequently sensible, and is often planning the means f preventing or revenging supposed injuries.

An intermittent fever supervening madness of long standing, has been known in some instances to have proved a cure for the disease, the senses have returned when the fever terminated. When madness has arisen in consequence of some other disorder, and when its attacks are slight, and do not return very frequently, a radical cure may possibly be effected; but when it takes place in consequence of an hereditary disposition, or is attended with great melancholy, and a fixed attention to one particular object, be it love or religion, we should not entertain much hope. The difficulty of relieving religious madness is acknowledged by all authors. Patients who are in a furious state, recover in a much larger proportion than those who are melancholic. Insane persons are found to recover in proportion to their youth. Under every form of the disease, the hope of a recovery is usually proportionate to the time which has elapsed from its actual commencement, to the period of

its being subjected to a regular treatment; advanced age always rendering the prognosis more dubious and unfavourable. Where insanity supervenes on epilepsy or palsy, a cure is seldom effected. When the furious state is succeeded by melancholy, and the violent paroxysm returns after this shall have continued a short time, the hope of recovery is but small. A person labouring under furious madness, who is attacked with small-pox, is generally destroyed.

Insanity, after continuing for a longer or a shorter period without relief, commonly terminates in fatuity. This destruction of mind is almost always incurable. Sometimes, however, young persons, after having remained in a state of complete fatuity for months, or even years, are suddenly seized with a paroxysm of insanity, on the cessation of which, they are restored to reason.

It has been observed by those who superintend mad-houses, that the number of females annually brought in considerably exceeds the number of males. The natural processes which women undergo of menstruation, parturition, and of preparing nutriment for the infant, together with the diseases to which they are subject at these periods, and which are frequently remote causes of insanity, as likewise the sedentary life they usually lead, and the exquisiteness of their feelings, may perhaps serve to explain their greater disposition to this malady. Women affected with mania in consequence of a puerperal state, recover in a larger proportion than patients of any other description: indeed the insanity subsequent to parturition is generally curable, if the curative attempts be rational. From whatever cause this disease may be produced in women, it is to be considered as unfavourable to recovery, if they are worse at the period of menstruation, or have their catamenia either in very small or immoderate quantities.

A curious circumstance attending mania is, that by its access other diseases are often cured.

Mania has ever been found on dissection to be connected with a morbid state of the brain and its membranes; but whether this peculiar state ought to be regarded as the cause or effect, is a point not yet satisfactorily ascertained.

Mr. Haslam has observed that maniacs are more liable to attacks of apoplexy and palsy than other diseases.

Insane people are very subject to mortification of the toes, feet and nates, when closely confined, which shows their susceptibility to the effects of cold. The helpless insane, and bed-ridden patients, are very liable to be attacked with a mortification of the buttocks.

The treatment of mania consists in the management of the patient, in humouring the subject of the mental disease, and the aid which medicine may afford; but although the first is of the greatest consequence, still where the mental faculties are only partially affected, the assistance of medicine is of high importance.

It should alwsys be the object of the superintendant and keeper,

to gain the confidence of the patient, and to awake in him proper respect and obedience, which is to be effected by discipline of temper and dignity of manners. Tyrannical severity may excite fear in the lunatic, but it will be mingled, probably, with resentment or contempt. In the management of insane persons, the superintendant must endeavour to obtain a complete ascendency over them. When this is once effected, he will be enabled on all future occasions, to direct and regulate their conduct according as his judgment may suggest. He should possess firmness, and, when occasion may require, should exercise his authority in a peremptory manner. He should never threaten but execute, and when the patient has misbehaved, should confine him immediately; and as example operates more forcibly than precept, it will be best to order the delinquent to be confined in the presence of the other patients, be the institution a public or private one. Such a conduct will display authority; and the person who has misbehaved, becomes awed by the spectators, and more readily submits. When the patient is a powerful and strong man, two or more persons should assist in securing him; for when the maniac finds his strength or skill in the contest prevail, he is sure to make the most of such an advantage, and the consequence of his vicory has sometimes proved fatal to the keeper.* When coercion is absolutely necessary, such an overpowering force ought to be employed as to preclude all possibility of successful resistance, by which means every idea of making any at all will most commonly be extinguished.

The keeper should convince the maniac, that all impropriety of conduct will be restrained by force. A prudent and vigorous coercion will generally restrain the fury, and sometimes restore rationality very speedily. He must then be treated with lenity and kindness, and with the manners due to his station in life, which will ensure the respect of the pupil to his master, upon which every indulgence consistent with safety and propriety may be allowed. It is obvious, therefore, that a system of intimidation without cruelty, of restraint without indignity, of rigid order and discipline, combined with lenity and conciliation, is the only rational and successful method of combating the extravagances of lunatics.

Under slight attacks of mania, where the degree of irritation is trifling, as well as during a state of convalescence, it will not be necessary to confine the patient within doors in fine weather, taking care, however, at the same time, to put it out of his power to escape, or do any injury either to himself or others. His mind is to be soothed, and his attention diverted as much as possible, by getting him to engage in some exercise or amusement, that will employ both body and mind at the same time, and that will divert the latter from pursuing any train of thought. In melancholia, this plan will be doubly necessary, and we may likewise allow entertaining

* See Observations on Madness by Mr. Haslam.

books, cheerful company, amusing scenes, music of the exhilarating kind, and playing at some entertaining game. If the patient is fond of gardening, the employment of some portion of his time in this way will prove both healthy and agreeable.

In the management of insane persons, the value of exercise and employment is to be highly estimated. Female patients may be employed in sewing, knitting, or domestic affairs, and many of the convalescents may assist the attendants. Of all the modes by which patients may be induced to restrain themselves, regular employment is perhaps the most efficacious, and those kinds of it ought doubtless to be preferred, both on a moral and physical account, which are accompanied by considerable bodily action, that are most agreeable to the patient, and which are most opposite to the illusions of his disease.

In violent states of mania, the patient should be confined alone in a dark and quiet room, so that he may not be affected by the stimuli of light and sound, such abstraction more readily disposing to sleep. To prevent him from committing any violence, his hands ought to be properly secured with manacles, and he may likewise be confined by one leg, or he may be strapped by the hands and legs in a large chair fastened to the floor. As an horizontal posture tends to increase the fulness of the vessels in the brain, this should be avoided in the day-time. The strait waistcoat is another mode of confinement well calculated to prevent maniacs from doing any injury either to themselves or others; but in the furious state, and particularly in warm weather, it is apt to irritate and increase that restlessness which patients of this description usually labour under. Where malevolence forms a prominent feature, and the person is very furious, close confinement in the manner just detailed, is doubly necessary; but chains are not to be used on any occasion.

In some asylums, but more particularly in the Ward at Guy's Hospital, appropriated to insane persons, where bodily restraint is deemed absolutely necessary, instead of the strait waistcoat, in hot weather, a strong leather belt is substituted, which is girded round the body, with a small strap round each arm, and this allows the patient the use of his hands without occasioning heat, as the strait waistcoat does. This mode of restraining violent patients appears therefore decidedly preferable to the other.

The straw on which such persons lie as are insensible to the calls of nature, ought to be changed very frequently, and the strictest attention paid to their bodily cleanliness and that of their apartments, by frequent washings, and proper ventilation throughout the day.

In slighter cases, where the patient is in a condition to be sensible of restraint, he may be punished for any improper behaviour by confining him to his room; by degrading him, and not allowing him to associate with the convalescents, and by witholding those indulgences he has been accustomed to enjoy: the infliction of cor-

poreal chastisement ought never to be resorted to. All violence and harsh treatment on the part of the domestics should strictly be proscribed, being a law of fundamental importance and highly essential to the prudent and successful management of all institutions for insane persons. Moreover, any confinement of the patient beyond what is absolutely necessary, will inevitably tend to create such an irritation of mind as might greatly interfere with the cure.

Insane persons should be made to rise early, to take such exercise as their condition will admit of, and have their food served up to them at stated times. Independently of such regularity contributing to health, it also renders them more manageable. In all cases of madness it will be proper to remove the patient from those objects with which he was formerly acquainted, as these might call up ideas and the various associations; and on this account, a change of situation, and removal from his friends, will be adviseable; for it is a fact well known to those who superintend lunatics, that patients are seldom or never recovered at home. It not unfrequently happens, indeed, that maniacs, who have been brought immediately from their families, and who are said to be in a violent and ferocious state at home, become suddenly calm and tractable, when placed in a lunatic assylum. On the other hand it is equally a fact, that there are many patients, whose disorder speedily recurs after having been suffered to return to their families, although they have for a length of time conducted themselves, under confinement, in a very orderly manner. The restraint, cunning and dissimulation which many insane persons are capable of, are well known to those who are conversant with them; but the ignorant are apt to cry out against secluding them from society, because they probably happen to conduct themselves with propriety before strangers, and in short conversations, appear coherent and rational.

To attempt the complete seclusion of a maniac at his own house, in the bosom of his family, is by no means desirable; and indeed it is seldom practicable; for a patient confined at home, naturally feels a degree of resentment, when those whom he has been accustomed to command, refuse to obey his orders, or attempt to restrain him.

It has been asserted, that some maniacs have been cured by being compelled to constant, and even hard labour; and as a forced attention to the conduct of any bodily exercise is a certain mean of diverting the mind from pursuing any train of thought, it is probable that such exercise may be useful in many cases of mania.

Monsieur Pinel, in his Treatise on Insanity, tells us, that at the principal hospitals in Spain, the maniacs capable of working are occupied the whole day in salutary and refreshing exercises, which are interrupted only by short intervals of rest and relaxation. The fatigues of the day prepare the labourers for sleep and repose during the night. Hence it happens, that those whose condition does

not place them above the necessity of submission to toil and labour, are almost always cured; whilst the grandee, who would think himself degraded by exercises of this description, is generally incurable.

The skilful physician will always endeavour to investigate the maniacal idea or hallucination, as it may not only acquaint him with the probable designs of the patient, from whence may be deduced the necessity of confinement, but also may sometimes lead to the most effectual plan of cure. A late writer* on mania, who has long kept an establishment for the reception of lunatics of both sexes, has recorded a number of striking examples, where, by humouring the subject of the mental disease, the most happy effects ensued, and the patients were perfectly restored to reason and health.

A number of cases tending to show the great utility of investigating the maniacal idea or hallucination, are likewise reported by Dr. Darwin in the 4th volume of his Zoonomia, page 66.

With regard to the diet of maniacs, it is only necessary to observe that it should be light, nourishing, and easy of digestion, the quantity being in proportion to the age and vigour of the patient, and the degree of bodily exercise which he may be in the habit of using. Maniacs who are paralytic, require to be kept warmer than insane patients of any other description. In the winter months they suffer extremely. Lunatics sometimes refuse all food for many days, so as to endanger their lives.

Bleeding has been much employed in mania. In paroxysms of madness, which are preceded by a heightened complexion, wildness and prominence of the eyes, and exuberant loquacity, or where there is obvious plethora, or evident determination and congestion about the head, a free use of the lancet, no doubt, is often attended with a happy effect; but bleeding, practised as it frequently is, without rule or bounds, among maniacs, often exasperates the complaint, and reduces the patient to a state of extreme debility, occasioning periodical and curable mania to degenerate into idiotism. Where absolutely necessary, drawing blood from the jugular veins will be preferable to taking it from the arm, or we may draw it from the head, by applying six or eight cupping-glasses to the scalp, after having it shaved. From eight to sixteen ounces may be drawn off in this way, and the operation be repeated as circumstances may require.

For the purpose of obviating the fulness and tension of the vessels of the brain, purging is generally adopted, and medicines of the drastic kind, such as hellebore, are often made use of; but more advantage will be derived from a frequent exhibition of the potassæ tartras and other saline cooling purgatives, which are the principal medicines to be depended upon in mania.

Indeed, purgatives are of the utmost importance in the treat-

* See Practical Observations on Insanity, by J. M. Cox, M. D.

ment of insanity, and as constipation is a common occurrence with maniacs, those who have their superintendance should regularly inquire into the state of their bowels. In obstinate cases the submuriate of mercury joined with a few grains of the extract. colocynth. c. may be used. In periodical mania, the paroxysms are usually preceded by obstinate costiveness; and a dose or two of some purgative medicine, at an early period, will frequently put a stop to the progress of the attack; which fact ought to have due weight. Moreover, it has frequently happened, that a speedy convalescence has ensued in mania after the coming on of a diarrhœa, and in a few instances it has proved a cure.

At the commencement of the paroxysms of furious madness, where there is high excitement, both purging and venesection will undoubtedly be proper; but in melancholia, where there is extreme depression of both strength and spirits, these remedies should seldom be employed. In such cases, cinchona and other tonics will be most adviseable. All debilitating means ought to be avoided, as tending to aggravate the symptoms of the disease, and to increase the probability of supervening idiotism.

Emetics have been recommended by some physicians* in mania, but by the generality of them they have been disapproved of, as being likely to increase the determination to the head, and occasion apoplectic or paralytic attacks. We are told by Mr. Haslam, that from many years' observation and administration of many thousand emetics to insane persons at Bethlem Hospital, he has not been enabled to place any confidence in this class of medicines, as a cure for insanity, admitting at the same time, that the lunatic, whose stomach was in a disordered state, has been equally benefited with a person in his senses, by the operation of a vomit.

Cold bathing, by diminishing irritation, is a remedy by which maniacs have been relieved, and sometimes entirely cured, especially when applied in a certain manner. This consists in throwing the person into cold water by surprise, by detaining him in it for some length of time, and pouring water frequently on his head, while the whole of the body except the head, is immersed; and thus managing the process, so as that, with the assistance of some fear, a refrigerant effect may be produced. That the external application of cold may be of service, we may have full experience, from the benefits which have been received, in some maniacal cases, from the application of ice and snow to the naked head.

Mr. Haslam mentions, that he has known in many instances, paralytic affections to have ensued in a few hours after cold bathing, especially where the patient has been in a furious state, and of a plethoric habit. In other cases, he has known vertigo, or a considerable degree of fever, to ensue after a cold immersion.

* See Observations on Insanity, by J. Cox, M. D.
—— Essay on the Cure of Insanity, by G. N. Hill.

In all cases of furious madness, connected with plethora, there can exist no doubt that a cold bath will prove prejudicial.

Warm bathing has been recommended by some physicians, and others again have disapproved of it. By the majority it seems to be thought hurtful to maniacs.

At the Retreat or asylum at York for the reception of insane persons, warm bathing has been used for several years, and is still considered of greater importance and efficacy, in most cases of melancholia, than all the other medical means which have been employed.*

Opium, when administered to madmen during a violent paroxysm, has hardly ever been found to procure sleep; but on the contrary, has rendered those who have taken it much more furious; and where it has for a short time procured rest, the patient has, after its operation, awoke in a state of increased violence.

With regard to the medical properties of the hop, or lupulus communis, the experiments made on it, show that is evidently narcotic, inducing sleep like opium; but it seems rather to dispose to laxity of the bowels, than costiveness. In this disease, as well as in some painful cases, where an opiate is greatly wanted, but where it cannot be exhibited in any of the usual forms, without producing untoward symptoms, a strong infusion of the hop used both internally and externally, has frequently, it is said, been found to soothe pain: and finally, to procure a calm, tranquil sleep. The best preparation, however, of the hop, appears to be the tincture, made by digesting four drachms of the lupulus communis in ten ounces of rectified spirit. The dose may be from forty drops to one hundred.

The sedative effects of the digitalis point it out, we have reason to presume, as an useful and powerful remedy after frequent purging and phlebotomy in cases where great excitement and increased tone prevail in the nervous and arterial systems. It has therefore been used in mania, and not unfrequently with success.† When the derangement is accompanied, and in some degree regulated, by an accelerated circulation, a use of foxglove will be highly proper. A few drops of the tincture, or half a grain of the powder, are to be given at first, and the dose to be gradually increased till the desired effect is produced. To make this permanent, it will however be necessary to keep the constitution for some length of time under the influence of the medicine.

A case of mania, preceded by strong epileptic fits of frequent recurrence, and induced by a long and intemperate use of spirituous liquors, some time ago came under my care, wherein, by

* Description of the Retreat by Samuel Tuke.

† See Observations on the Digitalis Purpurea, by Dr. Currie, vol. iv. article second, of Memoirs of the Medical Society of London.

—— Essay on Insanity by G. N. Hill.

adopting this plan, the mental affection, as well as the spasmodic, entirely ceased. On discontinuing the use of the digitalis, the patient commenced a course of the oxyd of zinc joined with stomachics, which completed the cure.

Blisters and other drains, such as issues, or a seton, have likewise been employed in this disease; and, when recent, may probably have a good effect. In cases of long standing they have been found ineffectual.

Dr. Munro, in his Observations on Mania, mentions that a blister, when applied to the head itself, seldom proves useful: and the same circumstance has been noticed by other physicians. When we have recourse to blisters, it will be most adviseable therefore to apply them to the neck, or back, and limbs. To keep up a sufficient discharge from them, I have found the ceratum sabinæ far preferable to the unguentum lyttæ.

In the cure of insanity, quietness, and the abstraction of all stimuli, are in general to be enjoined; yet there appear to be exceptions, Dr. Cox* very judiciously observes, both with regard to light and other stimuli; for in some cases total darkness aggravates all the symptoms, excites fear, dread, and apprehensions; though in others it may be had recourse to with an intention of producing these effects. It appears a curious circumstance, that the conversion of religious melancholy into furious madness is an occurrence that sometimes happens, and when it does, is generally followed by recovery, which has suggested the propriety in some cases that have resisted more common means, of producing a degree of excitement by means of stimuli; in fact, keeping the patient for some successive days in a state of intoxication. This plan, we are told, has often occasioned an alleviation of symptoms, and sometimes restored the sufferers to reason.

Dr. Cox speaks highly of swinging as a remedy in mania, and he recites many cases where the happiest effects were derived from making use of it. We are told by him, that it may be employed in the common oscillatory way, or in a circular manner or whirl; the patient at the same time sitting erect, or lying horizontally.

When employed in the latter manner, Dr. Cox has, after a very few circumvolutions, witnessed its soothing, lulling effects: the mind has become tranquil, and the body quiescent; a degree of vertigo has often followed, and this has been succeeded by the most refreshing slumbers: an object the most desirable in every case of madness, and procured with the utmost difficulty in general. Maniacs, he has noticed, are not usually sensible to the action of the common oscillatory swing, although it affords an excellent mode of secure confinement, and of harmless punishment. By the protracted action of the circular swing, or whirl, he has sometimes seen the patient almost deprived of his locomotive powers; and al-

* See his Observations on Insanity.

though it required the combined strength and address of several experienced attendants to place him it, still he has been taken out of it by a single person: the most profound sleep has followed, and this has been succeeded by convalescence, and a perfect recovery, without the assistance of any other means. One of the most constant effects of swinging is a greater or less degree of vertigo, attended by pallor, nausea, and vomiting, and frequently by an evacuation of the contents of the bladder.

Where insanity attacks patients of a delicate habit with previous consumptive or pulmonic symptoms, swinging has in many instances proved highly beneficial.

When madness has taken place in consequence of great debility and weakness, as sometimes happens at the close of typhus mitior, all evacuations whatever ought to be avoided, a nutritive and restorative diet should be allowed, and a regular course of the cinchona bark and other bitters, together with chalybeates, be entered upon; the patient taking at the same time, such daily exercise in the open air, either in a carriage or on horseback, as his strength will admit.

INCUBUS, OR NIGHT-MARE.

THIS disease comes on during sleep, with a sense of considerable weight and oppression at the chest, the person making many efforts to speak and move without effect, until, after many deep groans and much moaning, he at length awakes greatly frightened, and feels a considerable palpitation at the heart, with tremors, anxiety, and lassitude.

The causes which give rise to this complaint, are chiefly anxiety, grief, despondency, and intense thought; but it is sometimes occasioned by making use of food of a hard indigestible nature for supper. In most cases it may, however, be considered as arising from the impression of dreams, or a distemperature of thought, and therefore is not attended with any danger. A spasmodic constriction of the diaphragm and muscles of the chest is by many assigned as the proximate cause of incubus.

Those who lead an inactive sedentary life, and are of a lax fibre, are most predisposed to its attacks.

When indigestion, or any weakness of the stomach, prevails, a course of tonics, as advised under the head of Dyspepsia, will be highly proper, to which may be added a daily use of some cordial volatile medicine.

Such as are subject to this affection, should be careful, by way of prevention, not to indulge in gloomy reflections; but, on the contrary, to keep their mind as cheerful and tranquil as possible; they should likewise avoid a sedentary life, and all such food as is apt to prove hard of digestion, but more particularly for supper.

CLASS III.

CACHEXIÆ, OR CACHECTIC DISEASES.

A DEPRAVED state of the whole, or greater part of the body, without any primary febrile or nervous affection, constitutes this class.

ORDER I.—MARCORES.

EMACIATION of the whole body is the character of this order.

ATROPHIA, OR ATROPHY.

[ATROPHY being almost in every instance a symptomatic affection, the editors have thought it unnecessary to retain the author's chapter on that subject.]

PHTHISIS, OR PULMONARY CONSUMPTION.

PULMONARY consumption is accompanied with general emaciation, debility, pain in the side or chest, some degree of dyspnœa after walking or speaking, and a cough, which usually proves most troublesome towards morning. In an advanced stage, purulent expectoration ensues, with hectic fevor and diarrhœa.

Pulmonary consumption does not often occur until after the age of puberty, but in some cases it is evidently formed before that period by tubercles arising. Women are more subject to it than men, as well from their going more slightly clad, as from the greater delicacy of their organization.

The causes which predispose to this disease are very numerous; the following are, however, the most general: hereditary disposition; particular formation of the body, obvious by a long neck, prominent shoulders, and narrow chest; scrofulous diathesis, indicated by a fine clear skin, fair hair, delicate rosy complexion, large veins, thick upper lip, a weak voice, and great sensibility: certain diseases; particular employments exposing artificers to dust, such as needle pointers, stone-cutters, millers, &c. or to the fumes of metals or minerals under a confined and unwholesome air; violent passions, exertions, or affections of the mind, as grief, disappointment, anxiety, or close application to study, without using proper exercise; playing much on wind instruments; frequent and excessive debaucheries, late watching, and drinking freely of strong liquors; great evacuations, the continuing to suckle too long under a debilitated state; and lastly, the application of cold, either by too quick a change of apparel, keeping on wet clothes, lying in damp beds, or exposing the body too suddenly to cool air, when heated by exercise.

In enumerating the causes of phthisis a late writer* mentions that moist air is a very frequent one; he supposes it to operate by occasioning general relaxation and debility, and observes that the frequency of the disease in Holland has been attributed to this cause. It has not however been satisfactorily proved that phthisis is really frequent among the Dutch. The reverse indeed has been stated; for Dr. Beddoes, in his Essay on pulmonary consumption, quotes Dr. Cogan, a physician who practised many years in Holland, as remarking on the infrequency of coughs and colds in that country, in comparison with England; and consumption has been said to be much more rare in the fenny parts of Lincolnshire than in the high lands in the same county.

The more immediate or occasional causes of phthisis are hæmoptysis, pneumonic inflammation proceeding on to suppuration, catarrh, measles, asthma, and tubercles, (which in nineteen cases out of twenty depend on a scrofulous habit,) the last of which is by far the most general. The connection between scrofula and pulmonic consumption is obvious, and generally acknowledged; the latter being often no more than constitutional symptoms ingrafted upon the scrofulous diathesis. At the time when scrofula disappears from the surface of the body, it frequently falls upon the lungs.

By attending to the thick purulent expectoration connected with hectic fever, phthisis may readily be distinguished from all others.

Climate, occupation, and temperament will diversify the form of the disease; but for practical purposes, it may be sufficient to distinguish carefully between pulmonary consumption which occurs in persons of the strumous temperament, and that which attacks constitutions of a different description, from accidental causes, such as an exposure to cold, or as the consequence of other diseases. The most destructive form of the disease, is, the strumous or tubercular phthisis.

The incipient symptoms of phthisis will vary with the cause of the disease; but when it arises in persons of a strumous temperament or from tubercles, it is mostly thus marked: It begins with a short dry cough, that at length becomes habitual, but from which nothing is spit up for some time, except a frothy mucus that seems to proceed from the fauces. The breathing is at the same time somewhat impeded, and upon the least bodily motion is much hurried; a sense of straitness, with oppression at the chest, is experienced; the body becomes gradually leaner, and great languor with indolence, dejection of spirits, and loss of appetite prevail.

In this state the patient frequently continues a considerable length of time, during which he is however more readily affected than usual by slight colds; and upon one or other of these occasions the cough becomes more troublesome and severe, particular-

* See Dr. Wilson's Treatise on Febrile Diseases, Vol. IV.

ly by night, and is at length attended with an expectoration, which towards morning is more free and copious. By degrees the matter which is expectorated, becomes more viscid and opaque, and now assumes a greenish colour and purulent appearance, being on many occasions streaked with blood. In some cases a more severe degree of hæmoptysis attends, and the patient spits up a considerable quantity of florid frothy blood.

The breathing at length becomes more difficult, and the emaciation and weakness go on increasing. With these, the person begins to be sensible of a pain in some part of the thorax, which, however, is usually felt at first under the sternum, particularly on coughing.

At a more advanced period of the disease a pain is sometimes perceived on one side, and at times prevails in so high a degree, as to prevent the person from lying easily on that side; but it more frequently happens, that it is felt only upon making a full inspiration, or coughing. Even where no pain is felt, it often happens, that those who labour under phthisis cannot lie easily on one or other of their sides, without a fit of coughing being excited, or the difficulty of breathing being much increased.

At the first commencement of the disease the pulse is often natural, or perhaps is soft, small, and a little quicker than usual; but when the symptoms which have been enumerated have subsisted for any length of time, it then becomes tense or hard, and frequent. At the same time the face flushes, particularly after eating; the palms of the hands and soles of the feet are affected with burning heat; the respiration is difficult and laborious, evening exacerbations become obvious, and by degrees the fever assumes the hectic form.

This species of fever is evidently of the remittent kind, and has in many cases exacerbations twice every day. The first occurs usually about noon, and a slight remission ensues about five in the afternoon. This last is, however, soon succeeded by another exacerbation, which increases gradually until after midnight; but about two o'clock in the morning a remission takes place, becoming more apparent as the morning advances, and in the advanced stage of the disease terminating in a profuse sweat, which however is usually partial. During the exacerbations the patient is very sensible to any coolness of the air, and often complains of a sense of cold, when his skin is, at the same time, preternaturally warm. Of these exacerbations, that of the evening is by far the most considerable.

From the first appearance of the hectic symptoms, the urine is high-coloured, and deposits a copious branny red sediment. The appetite, however, is not greatly impaired, the tongue appears clean, the mouth is usually moist, and the thirst is inconsiderable. As the disease advances, the fauces put on rather an inflamed appearance, and towards the termination are beset with aphthæ, and the red vessels of the tunica adnata become of a pearly white.

During the exacerbations a florid circumscribed redness appears on each cheek; but at other times the face is pale, and the countenance somewhat dejected.

At the commencement of hectic fever the belly is usually costive; but in the more advanced stages of it, a diarrhœa often comes on, and this continues to recur frequently during the remainder of the disease; colliquative sweats likewise break out, and these alternate with each other, and induce great debility. The degree of heat in which the patient is kept has often a great effect on the diarrhœa; for by exposing him to cool air in the morning, the sweat may be much diminished, but the diarrhœa will be increased; and on the other hand, if the diarrhœa be relieved by opiates and astringents, the sweating will be aggravated: thus they frequently alternate for a long time, but in a few instances they are both severe at once.

In the last stage of the disease the emaciation is so great that the patient has the appearance of a walking skeleton; his countenance is altered, his cheek-bones are prominent, his eyes look hollow and languid, his hair falls off, his nails are of a livid colour, and much incurvated, and his feet and ankles are affected with œdematous swellings. To the end of the disease the senses remain entire, and the mind is confident and full of hope. It is indeed a happy circumstance attendant on phthisis, that those who labour under it are seldom apprehensive or aware of any danger; and it is no uncommon occurrence to meet with persons labouring under its most advanced stage, flattering themselves with a speedy recovery, and forming distant projects under that vain hope.

Shortly before death the extremities become cold. In some cases a delirium precedes that event, and continues until life is extinguished.

As an expectoration of mucus from the lungs may possibly be mistaken for purulent matter, and may thereby give us reason to suspect that the patient labours under a confirmed phthisis, when he really does not, it may not be amiss to point out a sure criterion, by which we shall always be able to distinguish mucus from pus. The medical world are indebted to the late Mr. Charles Darwin for the discovery, who has directed the experiment to be made in the following manner:

Let the expectorated matter be dissolved in sulphuric acid and in caustic lixivium, and add pure water to both solutions. If there is a fair precipitation in each, it is a certain sign of the presence of pus; but if there is not a precipitation in either, it is certainly mucus.

The oxymurias hydrargyri he found to coagulate mucus, but not pus.

Sir Everard Home, in his Dissertation on the Properties of Pus, informs us also of a decisive mode of distinguishing accurately between this and animal mucus.

Pus, he observes, is of the consistence of cream, its colour is

whitish, and it has a mawkish taste. When cold, it is inodorous; when warm, it has a peculiar smell. Examined by the microscope, it consists of semi-opaque globules, and a transparent colourless fluid, which is coagulated by muriate of ammonia. Pus may be evaporated to dryness, without coagulating. Its specific gravity is greater than that of water. It does not putrify readily; nor is it easily diffused in cold water, but in warm water it is speedily diffused, and remains so after it cools. Animal mucus and all chemical combinations of animal substances, appear in the miscroscope to be made up of flakes. This property was first noticed by the late Mr. John Hunter.

Pulmonary consumption is in every case to be considered as attended with much danger; but it is more so when it proceeds from tubercles, than when it arises in consequence either of hæmoptysis, or pneumonic suppuration. In the last instance, the risk will be greater where the abscess breaks inwardly, and gives rise to empyema, than when its contents are discharged by the mouth. Even cases of this nature, have, nevertheless, been known to terminate in immediate death. The impending danger is generally to be judged of, however, by the violence of the hectic symptoms; but more particularly by the fetor of the expectoration, the degree of emaciation and debility, the colliquative sweats, œdema of the legs, aphthæ and diarrhœa. The disease has, in many cases, been found to be considerably retarded in its progress by pregnancy, but when this is over, is hastened to a rapid termination, and in a few, has been alleviated by an attack of mania. Some people get a little better in summer, and relapse in winter.

The morbid appearance most frequently to be met with on the dissections of those who die of phthisis, is the existence of tubercles in the cellular substance of the lungs. These are small tumours which have the appearance of indurated glands, are of different sizes, and are often found in clusters. Their firmness is usually in proportion to their size: and when laid open in this state, they are of a white colour, and of a consistence nearly approaching to cartilage. Although indolent at first, they at length become inflamed, and are at last changed into little abscesses, or vomicæ, which breaking and pouring their contents into the bronchia, give rise to purulent expectoration.

When the disease is partial, only about a fourth of the upper and posterior part of the lungs is usually found diseased; but in some cases, life has been protracted till not one-twentieth part of them appeared on dissection, fit for performing their function. A singular observation, confirmed by the morbid collections of anatomists, is, that the left lobe is much oftener affected than the right.

Experience having taught, that it is only in the early stage of phthisis that remedies are likely to be employed with success, we ought by all means to pay the greatest attention to the first appearance of the symptoms.

Where a spitting of blood occurs in a person of a phthisical habit, or in one born of phthisical parents, we are to endeavour by every possible means to prevent ulceration from taking place, which is to be done by employing the means for moderating the hæmorrhage, and likewise preventing any future return of it, as advised under the head of Hæmoptysis; and these means and precautions ought to be continued, and extended beyond the period at which phthisis proves chiefly fatal, which is usually between the twentieth and thirtieth year of his age.

When a person of a phthisical habit, or born of parents who have had the same disposition, is about the age of twenty, or sooner, attacked in the spring of the year, or summer, with the symptoms which have been enumerated in the first stage of the disease, and this even in the very slightest degree, we have just grounds to apprehend that tubercles have either formed, or are about to form, in the lungs: in such a case, we are to exert our utmost endeavours to prevent their formation, and consequent inflammation and suppuration, for by so doing, the disease may be kept under for many years, if not entirely subdued.

To effect these purposes we must have recourse to a strict pursuance of the antiphlogistic plan, such as bleeding, keeping the body open with gentle laxatives, and the use of a spare regimen.

In the inflammatory, and first stage of phthisis, where the patient complains of a difficulty of breathing, with pain in his breast or side, has hot restless nights, with a hard contracted pulse, and a cough, there can be no doubt that bleeding may be of infinite service, provided the quantity taken away bears a just proportion to his strength and habit, and to the severity of the symptoms;* but having recourse to it under the stage of ulceration, where the expectoration has become purulent, and where great debility prevails, with night-sweats, and repeating the operation frequently, even in small quantities at a time, as was formerly practised, must evidently prove highly injurious. At an early period, we have in view to procure a resolution of the inflamed tubercles; but in confirmed phthisis this hope no longer exists.

During the first and inflammatory stage of the disease it will be adviseable, in compliance with the antiphlogistic plan, to employ gentle laxatives, should the bowels be costive.

When there is any febrile heat with a cough or pain in the chest, we may give diaphoretics, such as small doses of tartarised antimony or the pulvis antimonialis, repeated three or four times a day, together with the saline mixture and nitre.

[During the first stage of phthisis, it will be necessary to confine the patient entirely to a mild antiphlogistic regimen, but in a more advanced stage the diet should consist of such things as are

* The bleeding should be repeated at short intervals, as long as symptoms of an inflammatory action continue. E.

nutritive and easy of digestion; as preparations of the different farinacea with milk, most kinds of vegetables and fruits, poached eggs, light puddings, &c. The different kinds of shell fish, particularly oysters, may also be proper. All fermented and spirituous liquors are to be avoided. Milk, especially when deprived of its cream, is of itself a valuable remedy in phthisis; but where it does not agree with the stomach, rennet whey may be substituted with advantage. If the milk should disturb the patient's bowels, it may be mixed with a small portion of lime water. E.]

In cases of incipient phthisis, a free use of butter-milk as well as rennet whey, has frequently been attended with much advantage. In order to make it sit easy on the stomach, it should at first be taken sparingly, and the quantity gradually be increased.

To assist in preventing an inflammation of the tubercles in the lungs, it will be necessary that the patient avoids any particular irritation of the part affected, which may arise from the violent exercise of respiration, as in singing, playing on wind-instruments, &c.; he is likewise to avoid going into crowded rooms; he is to refrain from placing his body in such a position, either in reading, writing, or following his ordinary occupation in life, as that the capacity of the thorax shall be the least straitened in consequence of pressure against it: he is to shun all kinds of bodily exercise which require much exertion, and, in particular, he is carefully to guard against any exposure to cold, which never fails to determine a greater quantity of blood to the lungs, and other internal parts, than what is natural.

With the view of guarding against any diminution of cutaneous perspiration, in consequence of the application of cold, he should wear a flannel waistcoat next to his skin, together with sliders of the same, and stockings of cotton or worsted. Such a dress may be found a little irksome at first; but time soon reconciles it, and in the end renders it truly desirable and comfortable.

Where the patient cannot bear flannel next the skin, he may make trial of calico, which will keep up a more equable temperature on the surface of the body than linen, and guard against the action of external cold. He is by all means to avoid exposing himself to the piercing north-east winds of this country.

In our climate, tubercles are evidently induced and accelerated in winter, and retarded in summer. A person gets a dry cough in winter or spring, which goes off as the summer advances, and was regarded as a catarrh, but was tubercles forming; if therefore such a person could be removed to a warm climate before the winter comes on, he might escape an attack at this period, and by continuing there for a few years, may be perfectly recovered. Going to a warm climate is not merely avoiding what might be hurtful, it is applying a remedy which has the best chance to prove beneficial.

It may justly be admitted, that the cold and variable temperature of the winters in England is the great source of phthisis in this

country, and, when the disorder is once formed, greatly contributes to its fatal termination; and that a warm and equable temperature in some measure prevents the formation of the disease, and, when it has taken place, possesses considerable power in retarding its progress.

If the patient's circumstances will admit of his removing from this climate to one in which the temperature is warm during winter, he ought therefore to comply therewith.

When the patient's circumstances or business will not admit of his removing to a more temperate climate, he must endeavour to pass his winter in some place which is dry and well sheltered from cold bleak winds, where the air is free and pure.

With the enjoyment of a free and pure air, he should take daily moderate exercise either in a carriage or on horseback, but more particularly the latter.* By taking it in progressive journeys through different parts of the country in fair and settled weather, the efficacy of the remedy, great as it may be at other times, would be much increased; for in such a tour, the mind would find an ample store of amusement, and be diverted from any train of unpleasant thought. The pursuit of some object at the same time, might probably add to the effect. All violent exertions, such as dancing, &c., liberties in diet, and going to crowded public places, are most cautiously to be avoided.

If the disease has made considerable progress, and the patient is thereby prevented from exposing himself out of doors, during the winter and spring, he must be contented to live in chambers subject to very little change from the atmosphere, and heated from 62 to 65 degrees, which temperature will be most suitable. A stove may be employed for the purpose, and a preference should be given to one of porcelain (like the German and Russian stove,) over one of iron, as a very unpleasant smell is occasioned by the latter. Dr. Buxton† is of opinion that in the common shop stove, or ironing stove used in laundries, we possess all that is necessary for the purpose of the proposed remedy.

Short sea voyages have been much recommended to consumptive persons, under the idea that sailing is of all modes of exercise or conveyance the smoothest and most constant. The good effects produced by sea voyages seem to depend, however, chiefly on the purity of the air, assisted somewhat probably by the occasional vomiting, which persons unaccustomed to be on board of a ship, usually experience.

Swinging is another species of exercise much recommended to phthisical patients.

To remove inflammation from the lungs, and prevent the tuber-

* Provided no symptoms indicative of the existence of inflammatory action in the lungs be present. E.

† See his Essay on the use of a regulated temperature in winter cough and consumption.

cles from proceeding to suppuration, the application of a blister will be highly proper; and that it may be rendered perpetual, it should be shifted from the chest to the side, and from the side to the chest, whenever the discharge ceases to be plentiful. Issues or a seton are frequently inserted in the side, or between the scapulæ; and in cases of incipient phthisis sometimes produce a good effect. Topical bleedings by means of leeches and cupping might likewise be resorted to with advantage in this stage of the disease. Both blisters and topical bleedings will afford considerable relief where there is a fixed pain in the breast or sides, which is increased upon coughing.

On the recommendation of Dr. Beddoes, factitious airs some years back were employed in the early stage of phthisis; but they have fallen into disrepute, and other remedies have been substituted in a very rapid succession.

One of the latest remedies which has been introduced into practice for the cure of phthisis, is the digitalis purpurea. To speak properly, it is however, rather the revival of an old remedy long laid aside, than a new one. Concerning the virtues and mode of operation of this medicine, a variety of opinions have been entertained; some attributing to it the power of diminishing secretion, and of exciting the action of the absorbents; and others again, looking upon it as only useful from the power it possesses of lessening the action of the heart and arteries. Foxglove has indeed been generally considered as a direct sedative; and by this power, producing a rapid diminution in the frequency of arterial pulsation. A modern writer* contends, however, that it is a powerful stimulant; that it increases the strength and frequency of the pulse, and if continued sufficiently long, produces flushed face, headach, hot skin, restlessness, and other symptoms of febrile action. These are effects, which indeed we have never before heard attributed to this drug, being diametrically opposite to what they are by all others believed to be.

The chief advocates of foxglove† are men of considerable eminence in their profession, and their report is certainly highly in its favour. They seem however to be too confident of having discovered a specific (if I may be allowed the term) for this dreadful disease; and until it is determined that the digitalis alone, and not conjointly with other medicines, has uniformly cured pulmonary consumption, we are by no means authorised to consider it in any other light than as an auxiliary to the lancet and other remedies, its principal effect being to diminish the force and frequency of the arterial system.

In the early stage of the disease when the powers of the system are not broken down, it promises to be productive of very essential service by moderating the pulse and by diminishing the hectic fe-

* See Dr. James Saunders, on Pulmonary Consumption.

† Dr. Fowler, of Stafford, Dr. Drake, Dr. Beddoes, Dr. Mossman.

ver, the most distressing of all the symptoms, and that which seems to hurry on the patient to a fatal termination. After the purulent stage is completely formed, it has appeared to me, however, not to produce any considerable or permanent good effects; but even in this stage of phthisis it has been thought by some physicians to alleviate the sufferings of the patient.

It does not seem that any evil of magnitude can arise from its use in tubercular consumption, if properly exhibited; that is to say, if it be given in moderate doses of about ten grains of the tincture, or half a grain of the substance twice a day, and increased in a gradual manner, until it produces a sensible effect on the system.

The most unpleasant symptoms consequent on a liberal and long-continued use of this medicine, are vertigo, nausea, and sickness. In one case where the stomach and head were soon disordered by even a small dose, we are informed by Dr. Drake,* that a little lemon-juice produced an immediate good effect, removing both the sickness and vertigo, and enabling him to throw in a larger quantity of the tincture with ease and safety.

In administering foxglove, it will be necessary to attend to the state of the pulse under different positions of the body; for it appears by the report of some physicians, that there is a considerable difference of its velocity in the erect and recumbent postures. A case is recorded in the third volume of the Edinburgh Medical Journal, page 271, in which, after taking this medicine, the pulse was not lessened in frequency, when the patient stood erect, being upwards of an hundred. When he sat down, it fell considerably, and when lying on his back, it fell much more. When sitting, it was reduced to seventy-five: and when lying, to forty. The experiment was repeated many times, and always with the same effect. The like singularity is noticed by Dr. Hamilton in his Treatise on Digitalis.

In that variety of the disease which appears to be occasioned by an enlarged and indurated state of the abdominal viscera, or the lymphatic glands of the mesentery, we are told by Dr. Wilson† that he found mercury a valuable remedy, and that he has seen the patient saved by it even at an advanced stage. Mercury is, indeed, a remedy which has been much recommended, and sometimes employed in the early stages of phthisis pulmonalis by a few physicians in America, but more particularly by Dr. Rush.‡ I think, however, it promises no relief except in the cases Dr. Wilson used it. In all others, it may be more likely to aggravate the disease than amend it.

* See Medical and Physical Journal, vol. ii. page 419.

† See his Treatise on Febrile Diseases, vol. iv.

‡ Dr. Rush did not, however, employ mercury in this disease until after the inflammatory symptoms were sufficiently reduced by the usual depleting remedies. See Med. Enq. and Obs. 3d Ed. vol. ii. page 139. E.

In the early stage of phthisis, the exhibition of an emetic every second or third day, is usually attended with a very happy effect, and seems indeed to be one of the most powerful remedies we know of. As such it never should be neglected, with an exception to pregnant women.* From the cupri sulphas having been found to excite vomiting readily and easily, without relaxing the stomach, irritating the intestines, or greatly fatiguing the patient, it has been more generally used in phthisical cases than any other medicine of the same class. The dose is from three grains to ten or fifteen, in proportion to the age of the patient, dissolved in two or three ounces of water. A vomiting is excited soon after it is received into the stomach, on which the patient may drink a pint of water.

As the cough often proves troublesome in the first stage of the disease, as well as in the last, it may be found necessary to make use of some demulcent, such as the mucilage of gum arabic sweetened with simple syrup. In such cases, the patient, besides using these medicines, as necessity may render needful, should take for ordinary drink what is here† recommended. In this stage of the disease, opiates would prove prejudicial. The digitalis, by allaying the irritation of the lungs, in consequence of its retarding the circulation through them, will be of much advantage in appeasing the cough.

Hyoscyamus and the humulus lupulus have been employed with advantage, where opium cannot be administered; but we are told by Dr. Duncan, senior,‡ that of all the substitutes for opium which he had ever used in practice, he had found none of so much benefit in phthisis particularly, as the preparations formed from the inspissated white juice of the common garden lettuce, or lactuca sativa of Linnæus. Dr. Duncan thinks favourably of the effect of inhaling the vapour of sulphuric æther, in which the dried leaves of conium maculatum have been macerated, and he recommends it as particularly relieving the cough and dyspnœa, and promoting expectoration.§

The lichen Islandicus is a favourite remedy with the continental physicians, and is daily employed by them in the routine of phthisical cases. It has become a fashionable remedy likewise among our own physicians, and I have myself prescribed it in several cases of phthisis, but without any evident beneficial effect. It

* The Editors are of opinion that this remedy should be delayed until a later period of the disease. E.

† R. Decoct. Hordei Oij.
Gum. Acaciæ ʒiij.
Syrup. Limon. ℥jss. M.
ft. Potus.

‡ See his Observations on Pulmonary Consumption.

§ This undoubtedly should never be resorted to at an early period of the disease. E.

seems indeed better calculated for an article of diet than a medicine.

Such are the means which should be had recourse to during the first stage of phthisis. In the second, and latter stages, we are to mitigate the most distressing symptoms, such as the cough, diarrhœa, and colliquative sweats; and lastly, to put the body into as good general health as possible, by air, moderate exercise, and a proper course of mild nutritive diet.

It appearing that too great a degree of inflammation may have a share in preventing the ulcer from healing, and in urging on its fatal consequences, it has been proposed to employ means for moderating the inflammation in this stage of the disease, as well as in the first. With this view, small bleedings frequently repeated have been advised by some physicians. Drawing off blood, when this disease has arrived at the stage of ulceration, is, in my opinion, exhausting the vital stream very unnecessarily; is adding to debility, and must, therefore, be very improper. The same reasoning will hold good against a use of purgatives.*

When we want to lessen the action of the heart and arteries from the pulse being very frequent, and the patient much troubled with flushing heats, in consequence of hectic fever, we should employ the digitalis, instead of having recourse to such debilitating means; this having been found capable of reducing the pulse from 120, and even 140 strokes in a minute, to something below the natural standard.

As detergents, different balsamics have been much used in the ulcerated stage of the disease, but experience has proved them to be useless, if not injurious.

The cinchona bark has been employed in the ulcerated stage of phthisis; but if ever it proves serviceable, it can only be when the morning remissions of the fever are considerable, and the noon exacerbations well marked. In all other cases it will be likely to prove prejudicial.

The suckling of children longer than is consistent with the mother's ability, is sometimes a predisposing cause of pulmonary consumption; but more particularly among the lower class of females, who are of a tender and delicate constitution. In such cases the cinchona bark given early in moderate doses, and merely as a tonic, is often attended with the best effect.

Where a disposition to consumption arises in consequence of any enfeebling evacuation, such as a considerable abscess, fluor albus, or the like, without any inflammation of the lungs having yet taken place, cinchona will likewise prove serviceable. After inflammation has come on, or ulceration has commenced, it would

* In every stage of the disease, where the existence of inflammation is indicated by the symptoms, bleeding, either general or local, should certainly be resorted to; but by employing the digitalis as an auxiliary there would probably be less occasion for repeating the operation. E.

not fail to prove injurious, by increasing the inflammatory diathesis.

Vegetable acids, such as oranges, and other fruits yielding an acid but not acrid juice, have been much employed in every stage of phthisis, and apparently with a good effect; as they are grateful to the palate and serve to allay thirst, they may therefore be freely used.

In this stage of the disease, as well as in the incipient, we are to obviate inflammation, if possible, by producing a counter irritation by means of blisters, a seton, or issues.

To palliate the cough, which is very apt to prove troublesome, and to assist the expectoration, we may have recourse to demulcents as before advised. If the patient's rest is much disturbed by night, we may employ opiates; and although they are supposed to increase the phlogistic diathesis, and in some degree to check the expectoration, still they amply compensate for these by the ease and sleep they procure.

In slow hectic fever attended with frequent flushings and profuse night-sweats, and with much coughing and fetid purulent expectoration, Seltzer, or perhaps Soda water will often in a high degree check the violence of perspiration, diminish the discharge from the lungs, and correct its fetor; and under the operation of this medicine the patient will for a time be able to gain quieter nights, and a better appetite. Seltzer water mixes well with milk, and will not soon coagulate it; which mixture has been strongly recommended, in cases of hectic fever with expectoration. In very irritable habits it may be highly necessary to dilute the water in this way, as in its simple state it might prove too powerful.

When the sweats are profuse, the infusum rosæ, with a sufficient quantity of diluted sulphuric acid will be a good medicine to check them, and may answer instead of Seltzer water. When a diarrhœa arises, it is to be stopped by astringents combined with opium, as recommended under that head.

The aphthous sores in the mouth which frequently arise in the latter stage of phthisis, are to be cleansed by washing, or rincing the fauces often with an infusion of cinchona, having a little borax dissolved in it.

The strength is to be supported by food of a light nature, but which is at the same time highly nutritive; and the different exercises, such as sailing, and riding in a carriage or on horseback, but more particularly the latter, should be taken daily in fine weather. When the inflammatory diathesis is subdued, chalybeates, and the other tonics may be given with much advantage.

Should we be so fortunate as to subdue the disease by the means which have been pointed out, it will be indispensably necessary for the patient to persevere in employing the regimen recommended in the treatment of this complaint, for a considerable length of time

after every symptom has disappeared; and he should return to his former manner of living with the utmost caution.*

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* Annexed to Dr. Gallup's "Sketches of the Epidemic Diseases of Vermont," recently published, we find some interesting observations on phthisis.

This gentleman asserts that consumption, though an obstinate, is by no means to be considered as an incurable disease, its very general mortality, heretofore, arising from the injudicious practice of the physician or the negligence of the patient.

The generality of the cases of consumption which occur in this country, he further observes, are not preceded by any external scrofulous tumours. Hence he concludes, that the tubercles in phthisis, are not of a scrofulous nature, but the result of "a low degree of inflammatory action, in the vascular and glandular texture of the lungs."

The plan of treatment which Dr. Gallup recommends is—removal to a warm equable climate, or warm rooms and clothing, with the occasional use of the tepid bath, especially in case of dry skin. The application of external warmth, however, he observes, should be moderate and constant. With the same intention of increasing and preserving excitement on the surface of the body, he recommends blisters to the thorax, to be repeated every third or fourth day, and at the same time friction to the residue of the body, but particularly to the limbs, with a flesh brush or coarse flannel every night and morning, or oftener if not disagreeable to the patient. When blisters are found too irritating, he substitutes either the warm or Burgundy pitch plasters, three or four of which are to be constantly worn upon some part of the thorax, and one between the shoulders.

Blood-letting, Dr. Gallup directs to be performed more or less copiously according to the severity of the inflammatory symptoms as indicated by the strength and frequency of the pulse, and to be repeated as soon as the frequency of the pulse returns. "The oftener the bleedings are repeated," he observes, "and the larger the quantity, compatible with the particular condition of the patient, the sooner in general, will relief be obtained." "A frequent pulse with only slight hardness, let it be ever so small, will authorise bleeding in every stage of the disease, but more particularly so in its early stage, in every description of patients."

Dr. Gallup considers emetics to be in general useful auxiliaries, exciting the torpid lymphatics into action, determining the circulation to the surface, and producing a diaphoresis; he conceives them to be particularly useful in producing a discharge from the bronchia, and thereby diminishing the irritation and cough occasioned by the secreted and detained mucus. In the incipient stage he prefers the tartarised antimony or antimonial wine, but in the succeeding stages, when accompanied by much debility and great expectoration, the cupri sulphas combined with ipecacuanha in the proportion of one part of the former to two of the latter, the dose of which is two to four grains. Dr. Gallup asserts that he has seen patients take the last mentioned emetic every evening while in bed, for the space of two months, and gain strength the whole time, even in cases of profuse expectoration; this symptom during the course of the emetics gradually diminishing. The emetic operations he remarks should be gentle and repeated every evening if not counterin-

Order II.—INTUMESCENTIÆ.

Swelling of the whole or a great part of the body externally.

Intumescentiæ Flatulosæ, or Flatulent Swellings.

EMPHYSEMA.

This disease consists in a collection of air in the cellular membrane. In general it is confined to one place; but in a few cases it

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dicated; or in some cases where the expectoration is very copious and distressing the emetic may, for a short time, be given twice a day. When emetics exhaust the strength, without relieving the pain, cough and fever, he directs a strong infusion of Seneca root to be substituted, particularly when inflammatory symptoms are present; it is to be given three times a day in the usual doses. The bowels he directs to be kept moderately open by the mildest laxatives.

The above Dr. Gallup considers as the principal of the remedies adapted to effect a radical change in the system—to remove morbid excitement, and to restore healthy action to every part. The regimen of consumptive patients, our author directs to be simple, light, and of easy digestion, avoiding flesh meats, gravy, spices, spirituous liquors, and every other stimulating article. With respect to exercise, he is of opinion that rocking or swinging may be useful in every stage of the disease, but riding on horseback, or in the common carriage, he considers as too stimulating, until the force of the disease, and especially all inflammatory symptoms, have been subdued by the proper remedies. "If," he observes, "the patient feels relief from exercise it should be persevered in, but if he experiences none, but rather inconveniency, or if it occasion a shortness of breathing, and quickness of pulse, or pain in the thorax, it should be discontinued, and greater attention paid to the principal curative remedies. Exercise, he further observes, is better calculated to confirm a cure than to begin it."

Dr. Gallup believes mucilages and demulcents to do little good in effecting a cure of the disease, but are often of use in mitigating the cough. When this is dry and irritating, attended with heat, the patient he says may derive benefit, from frequently inhaling the steam of boiling water, from a Mudge's inhaler, or common tea pot without the lid, placed in the bed near the mouth, so that the steam may be blended with the air he breathes—or warm water may be poured upon a new brick made moderately hot, which should afterwards be wrapped in a cloth, and placed in bed at a convenient distance from the patient's mouth. Stimulating syrups, this gentleman declares to be inadmissible in any stage of the disease—but when the patient is very low and exhausted, moderately cordial syrups are he thinks adviseable, as

℞. Tinct. Tolu ʒj.
Aq. Calid. Oss.
Sach. Alb. q. s. M.

Syrups made of tussilago, comfrey, elecampane, &c. may, he says, be prescribed in a late stage of the disease. He disapproves of opiates in every stage of the disease, excepting occasionally to restrain diarrhœa.

spreads universally over the whole body, and occasions a considerable degree of swelling.

It sometimes arises spontaneously, which is however a rare occurrence, or comes on immediately after delivery, without any evident cause; but it is most generally induced by some wound or injury done to the thorax, and that affects the lungs; in which case, the air passes from these, through the wound, in the surrounding cellular membrane, and from thence spreads sometimes over the whole body.

Emphysema is attended with an evident crackling noise, and elasticity upon pressure: and sometimes with much difficulty of breathing, oppression, and anxiety.

We are to consider it as a disease by no means unattended by danger: but more probably from the causes which give rise to it, than any hazard from the complaint itself.

To remove this disease, the assistance of surgery will be necessary, as arising most commonly from a wound or other injury done to the thorax, which at the same time affects the lungs, as in the case of a fractured rib, the ragged edges of which penetrate the pleura and substance of the lungs, and thereby admit of an extravasation of air into the cellular membrane. In such cases, the air is to be evacuated by scarifications into the cellular membrane in different parts of the body, as circumstances may require, assisted by proper pressure with the hand.

Violent dyspnœa and anxiety are to be relieved by bleeding and laxatives; and the pain and uneasiness arising from the distention, by relaxing applications to the skin, such as the unguentum cetacei.

TYMPANITES, OR TYMPANY.

TYMPANY consists in an elastic distention of the cavity of the abdomen by wind.

It sometimes comes on suddenly, at others it is more slow in its progress, and preceded by great flatulency, borborygmi, and a frequent expulsion of the air upwards and downwards, attended with colic pains. As it advances, the abdomen becomes considerably distended, and retains the same figure under every variation of position. The swelling does not yield much to pressure, and in what it does it soon recovers its former state; it feels very elastic, but no fluctuation can be perceived. The urine at first is not alter-

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Digitalis, Dr. G. observes, has been found a useful auxiliary, after sufficient depletion of the sanguiferous system.

When the recited remedies and regimen fail in effecting a cure, he advises a very gentle salivation to be tried, using at the same time diaphoretics, for the purpose of exciting universal action in the lymphatics, and guarding against the mercury occasioning much inflammation of the glands of the throat. E.

ed either in quantity or quality; but in the advanced stage of the disease a change takes place in both respects, and dysuria and even ischuria sometimes comes on. The body is usually very costive, the appetite is impaired, thirst, heat, and pyrexia attend, and general emaciation ensues.

In time, the respiration becomes difficult, with much anxiety and cough; the strength is exhausted, the belly is enormously swelled, and the patient is not unfrequently destroyed in consequence of supervening gangrene.

Tympanites is easily to be distinguished from ascites, by the absence of fluctuation, by the tense feel of the abdomen, and by the quick re-action of the parts after removing the pressure of the finger.

To afford relief in desperate cases, where the air is diffused in the cavity of the abdomen, it will be necessary to have recourse to the operation of paracentesis or tapping with a small trocar. Tonics will likewise be adviseable.

Intumescentiæ Aquosæ, or Watery Swellings.

HYDROPS, or DROPSY.

Dropsy is a preternatural or morbid accumulation of a serous or watery fluid in some part of the body, impeding or preventing the functions of life, and receives different appellations, according to the particular situation in which it is lodged.

When it is diffused through the cellular membrane, either generally or partially, it is called anasarca.

When it is deposited in the cavity of the cranium, it is called hydrocephalus.

When in the chest, hydrothorax, or hydrops pectoris.

When in the cavity of the abdomen, ascites.

In the uterus, hydrometra; and within the scrotum, hydrocele.

Water is likewise encysted in the ovarium now and then, and is named ascites ovarii.

Infants, youth, and adults, are equally liable to these effusions in the various cavities of the body.

A modern writer* having remarked that in many cases of dropsy the urine possesses the property of being coagulated by heat, he has, therefore, divided them into those with coagulable, and those with uncoagulable urine.

The causes of these diseases are, excessive and long-continued evacuations, a free use of spirituous liquors (which never fail to destroy the digestive powers,) scirrhosities of the liver, spleen, pancreas, mesentery, and other abdominal viscera; preceding diseases, as the jaundice, diarrhœa, dysentery, phthisis, asthma, gout,

* See Observations on the Nature and Cure of Dropsy, by J. Blackall, M. D.

intermittents of long duration, scarlet fever, and some of the exanthemata; a suppression of accustomed evacuations, ossification of the valves of the heart, polypi in the right ventricle, aneurism in the arteries, tumours making a considerable pressure on the neighbouring parts, rupture of the thoracic duct, exposure for a length of time to a moist atmosphere, laxity of the exhalents, defect in the absorbents, topical weakness, general debility, and whatever powerfully disposes the body to a state of relaxation.

Diminished absorption and increased effusion, or both united, may be considered as the proximate causes of the different species of watery swellings.

ANASARCA, OR DROPSY IN THE CELLULAR MEMBRANE.

THIS species of dropsy shows itself at first with a swelling of the feet and ankles, towards evening, which for a time disappears again in the morning. The tumefaction is soft and inelastic, and when pressed upon with the finger, retains its mark for some time, the skin becoming much paler than usual.

By degrees the swelling ascends upwards, and occupies the thighs and trunk of the body, and at last, even the face and eyelids appear full and bloated. When it has become pretty general, the viscera are affected in a similar way; the cellular membrane of the lungs partakes of the affection, the breathing then becomes difficult, and is accompanied by cough, and the expectoration of a watery fluid; the urine is small in quantity, high-coloured, and deposits a reddish sediment; sometimes, however, it is of a pale whey colour, and more copious; the belly is costive, the perspiration much obstructed, the countenance yellow, and a considerable degree of thirst, with emaciation of the whole body prevails. To these symptoms succeed torpor, heaviness, and a slow fever.

In some cases the water oozes out through the pores of the cuticle; in others, being too gross to pass by these, it raises the cuticle in small blisters; and sometimes the skin, not allowing the water to escape through it, is compressed and hardened, and is at the same time so much distended, as to give the tumour a considerable degree of firmness.

The disease is always to be regarded as admitting more readily of a cure, when it arises from topical weakness or general debility, than when it has been occasioned by visceral obstruction; as likewise when recent, than where it has been of long continuance. The skin becoming somewhat moist, with a diminution of thirst, and an increase in the flow of urine, are to be regarded as very favourable symptoms. In some few cases the disease goes off by a spontaneous crisis, either by a vomiting, purging, or an unusual discharge of urine; but this does not often happen. Concomitant organic disease, great emaciation, erysipelatous inflammation, much drowsiness, petechiæ and echymosis, hæmorrhage, febrile

heat, great thirst, and a quick small pulse, are very unfavourable symptoms.

On opening the bodies of anasarcous persons after death, the whole of the cellular membrane is found distended with an aqueous fluid; the glands and the liver indurated and often suppurated; and there are ossifications as well as polypi in the larger blood-vessels. The consistence of the blood itself is more or less altered according to the degree of the disease, and the intensity of its causes. The effused fluid is for the most part serous.

In the cure of anasarca we are to keep in view the three following indications:

1st, To remove the remote causes of the disease:

2dly, To evacuate the serous fluid already collected: and,

3dly, To restore the tone of the system, and strengthen the general habit.

In dropsical cases we should always carefully investigate whether the disease is an original one, or prevails as a symptom of some other; for by removing the cause we shall often be enabled to perform a care. For instance, if it has arisen as the consequence of intemperance, a free use of spirituous liquors, exposure to a moist atmosphere, or the having had recourse to large evacuations, particularly by bleeding, these ought carefully to be avoided in future; or if it has proceeded from long-continued intermittents, obstructions in the abdominal or thoracic viscera, and the like, these should be obviated.

In the treatment of anasarcous swellings arising from the pressure of a tumour on some large lymphatic, the only thing that can be done is to remove it. When weakness of a limb, in consequence of a sprain or some contusion, has given rise to these swellings, the best method of cure will be to support the weakened parts, either with a laced stocking or a flannel roller, to prevent their yielding to distention, till in the course of time, and by the effects of cold bathing and moderate frictions, they recover their natural tone.

When œdematous swellings come on in consequence of any of the lymphatic vessels of a limb being cut, as sometimes happens in extirpating indurated glands from the axilla, small punctures made in the under part of the limb will afford immediate relief.

The treatment of the diseases on which dropsy may depend, has already been pointed out in various parts of this treatise, each under its distinct head; but unfortunately it may, and does sometimes depend on diseases which are incurable, such as polypi of the heart, ossifications of its valves and great vessels, erosions of the thoracic duct, and scirrhosity of the liver, spleen, &c. In such cases, medicine will avail but little.

To answer the second indication, of evacuating the serous fluid already collected, we must either have recourse to openings made immediately into the cellular membrane, or we must endeavour to excite certain serous excretions.

The openings most frequently used in anasarca are either slight scarifications or small punctures. In having recourse to these, we should however take care to avoid them in parts that are dependent, and they should be made so superficial as to extend to no greater depth than the cellular membrane, as deep incisions in dropsical parts are very apt to become gangrenous.

At an early stage of dropsy, issues made with caustic below one or both knees, have sometimes been employed to evacuate the water from the upper parts; but they are by no means so safe as small punctures or slight scarifications, and if inserted in parts that have lost their tone, might terminate in gangrene.

With the like intention of drawing off the water from anasarcous limbs, blisters have sometimes been applied; but the objection which has been urged against the use of issues, applies equally to these, and therefore they should be resorted to with great circumspection and caution.

An excitement of the different excretions is the other mode which has been proposed for carrying off the fluid diffused throughout the cellular membrane. This is to be done by emetics, purgatives, diaphoretics, and diuretics, all of which by their evacuating effects, tend to increase the power of the absorbents.

Emetics have been much administered in dropsical cases, under the supposition that they greatly promote absorption, and in many instances they have certainly been attended with a very good effect. To employ them, however, with advantage, we ought to repeat them frequently. If they are found to weaken the patient, without procuring any mitigation of the disorder, we should then desist from using them.

An emetic of the cupri sulphas as advised under the head of Phthisis, appears to be the most proper, as having less tendency to exhaust, than any other used in common.

Purgatives are likewise much employed in dropsical cases, with the view of carrying off a portion of the water by stool, and of exciting absorption; and as the stimulus of those which are of a drastic nature* is most readily communicated to the system, so these are more generally used than those of a mild kind. The potassæ

* ℞. Gum. Gambog. gr. iij. Terito bene cum
Tinct. Sennæ Comp. ℥ss. et adde
—— Jalapæ ʒij.
Syrup. Zingib. ʒiij. M.
ft. Haustus.

Vel

℞. Elaterii gr. j. ad iij.
Pulv. Zingib. gr. x.
Ol. Junip. ♏. iij.
Syrup. Simp. q. s. M.
ft. Bolus.

Vel

℞. Extract. Colocynth. C. ℈j.
Elaterii gr. j.
Ol. Caryophil. ♏. ij. M.
fiant Pilul. v. pro dos.

supertartras is, however, a purgative of this nature, which has been given with considerable success, but it is more usual to combine it with some of the drastics, such as jalap, elaterium, scammony, and gamboge,* than to give it alone. Evacuants, particularly of the drastic kind, are however, only admissible and useful where the habit is indolent, and the dropsy extensive, without much local determination.

To administer purgatives with the greatest advantage they ought to be repeated at as short intervals as the patient can bear; for when purging is not carried to the degree of quickly exciting absorption, the evacuation weakens the system, and thereby increases the afflux of fluids to the hydropic parts.

Diaphoretics are another class of medicines which have been employed in dropsy. But in general they prove inefficacious, and only tend to add to general debility.

By employing stimulants, we sometimes are able to increase the action of the absorbent vessels, and thereby occasion watery fluids to be absorbed from their cavities. As such, mercury has sometimes been made use of; but it is apt to leave a great degree of weakness behind it, and to prove thereby highly prejudicial. If mercury will cure the disease on which dropsy depends, then it will be a proper remedy, but not otherwise.†

The parts affected by dropsy have been stimulated by rubbing them very well every morning with warm dry flannels, and the practice is certainly productive of a very good effect.‡

To remove swellings of the legs proceeding from a deficient action of the absorbents of the lower extremities, a warm saline pediluvium has often been used with success. The quantity of sea-salt should be about one thirtieth part of the water. In such a pediluvium, the legs should be immersed for half an hour every night for a fortnight, at the heat of about 96 or 98 degrees.

The evacuation which will be attended with the least danger of inducing debility, and at the same time with the best effect, is the

* ℞. Potassæ Supertart. ʒiij.
Gambog. gr. ij.
Pulv. Nuc. Mosch. gr. x. M.
ft. Pulvis.

Vel

℞. Potassæ Supertart. ʒiij.
Pulv. Jalap. ʒjss.
In chartul. vi. distribuend. Capiat ij statim et j omni 2da vel 3da hora donec alvus copiose respondeat.

† If the other remedies should fail in affecting the removal of the disease, mercury should undoubtedly be resorted to, and administered in such a manner, as gradually to affect the whole system, but not to produce profuse salivation; after such a course the diuretic medicines have been found more certainly to succeed. E.

‡ Sprinkling the flannels with finely powdered Cayenne pepper, we have reason to believe would greatly increase the efficacy of the frictions. E.

excretion by the kidneys; and it is on this account that diuretics are more generally employed in all cases of dropsy, than any other class of medicines. Even these often fail, however; but not unfrequently, we may presume, from their use being discontinued too soon.

Of the class of diuretics, none seems to be more active than the digitalis. Its power of increasing the discharge from the kidneys, and of succeeding in effecting a cure of dropsical affections, in consequence of the increased evacuation produced by it, has of late been clearly ascertained in a great variety of instances. From its acting powerfully on the nervous system, destroying its mobility, and weakening the vital powers by repressing arterial action, it has, however, by some practitioners, been thought an improper remedy in dropsy; but even large doses of it have been given in this disease without any of those effects being observed to ensue.

It is a circumstance of curious and interesting moment, not perhaps very generally known, that a relaxed, weakened, and depressed state of the system, is the most favourable for displaying the full effects of the digitalis. Dr. Withering* had early pointed out the fact, that in persons of tense fibres and great natural strength, labouring under ascites or anarsarca, the digitalis seldom succeeded; and that, on the contrary, where the pulse was found feeble, or intermitting, the anarsacous limbs and body soft and yielding, the countenance pale, and the skin cold, the diuretic powers of the plant were more conspicuous. We are informed by Dr. Maclean‡ that these observations fully accord with those which he made.

When the organs of digestion fail, and there is frequent sickness or diarrhœa, and the bad habit of body is more remarkable than the extent or seat of the dropsy, the use of digitalis has appeared to be injurious.

It may not here be unworthy of notice, that where the foxglove is given in such doses as to excite nausea, or to produce an evident narcotic effect, it does not then operate as a diuretic. In a long use of it, its narcotic effect seems to preclude its action as a diuretic. A diarrhœa supervening on the use of this remedy, is likewise found to stop its diuretic effect.

If the digitalis does not answer within the first fortnight, the best way will be to change it for some other diuretic; as it not unfrequently happens, that where we have failed with one remedy of this class, we shall be successful with a second or a third. No class of medicines is so uncertain in their effect as this, and it will often occur that a diuretic of very inferior expectation will procure the effect we wish, after a failure of those which rank highest in power.

In employing the foxglove in dropsy, we may give it either in

* See his Essay on Digitalis, p. 189.

‡ ——— Enquiry into the Nature, &c. of Hydrothorax, p. 251.

infusion or saturated tincture, or we may give it in substance, washing it down with a teacupful of any diuretic infusion.

The potassæ supertartras is another diuretic which is often employed in dropsical affections with a very happy effect. As possessing no deleterious qualities, and being easily managed by practitioners of the smallest judgment, a preference over the digitalis has been given to it by some. Whether it possesses as great an antihydropic power, has not been satisfactorily ascertained. The experiments of Dr. Home* and Dr. Ferriar† seem to assure us that it does.

In some cases, the potassæ supertartras diminishes the swellings very speedily. It produces an increase of urine with watery stools; and for the most part lessens the patient's size more quickly than the increase of urine would lead us to expect. When it is likely to prove successful, it usually operates very early, producing, in general, an increased flow of urine within twenty-four hours; but its salutary effects have been known to have been delayed to the end of the third or fourth week. It is given in doses of from two drachms, to one or two ounces a-day, as by habit it loses a great deal of its effect. When the quantity is considerable, it will be best to divide it into three or four doses, instead of taking it all at once, which few stomachs will bear. In conjunction with gamboge, as before advised, it forms a powerful medicine, and, according to circumstances, may be made either to assist or take the lead of the digitalis.

From a junction of the potassæ supertartras with digitalis or squills,‡ or both (See hydrothorax) interposing purgatives occasionally, the greatest advantages have been derived in some cases which occurred in my practice.

A total abstinence from drink has long been considered as highly necessary in all cases of dropsy: but in many instances the practice has been carried to a considerable length without any advantage. It seems, however, to have fallen a good deal into discredit, as large quantities of watery liquors are often now allowed, where diuretics, but more particularly the potassæ supertartras are given. This mode of treatment seems indeed by far more proper than the former, as these medicines can hardly be carried in any quantity to the kidneys, without being accompanied with a large portion of water. When, upon a fair trial, the quantity of urine is not found to

* Clinical Observations, Experiments, &c. 349.

† Medical Histories and Reflections.

‡ R. Potassæ Supertartrat. ℥ij.
Pulv. Cinnam. Comp. gr. v.
—— Digitalis gr. ss—j. M.
ft. Pulvis ter in die sumendus.

Vel

R. Pulv. Digitalis. gr. ss.—j.
—— Scilla gr. j.
Potassæ Supertart. ℥ij. M.
ft. Pulvis ter in die adhibendus.

be increased by drinking water or other watery liquors,* their use may in that case be discontinued.

The different preparations of squill† have been used very much in dropsical cases; but although this medicine has sometimes been attended with a good effect, still the advantages to be derived from it are by no means so certain as those we usually obtain from the digitalis or potassæ supertartras. A combination of squill and the submuriate of mercury‡ has been tried, but it has not been found to diminish the swellings in proportion to its diuretic effect.

The spiritus ætheris nitrici is another diuretic, and may be combined with other medicines of this class.

The tobacco tincture§ is another remedy which has in some instances proved highly diuretic, when others have failed. Various other medicines are to be included in the list of diuretics, which may be resorted to in cases of need.

Spanish flies will be likely to prove an useful and powerful remedy of this class, because they debilitate neither the general system, nor the parts upon which they immediately act. In the dropsical complaints of elderly people, with whom their stimulating

* R. Bacc. Junip. Contus.
Rad. Armoraciæ Incis. āā ℥j.
Aq. Fontan. Oij. Coq. ad Oj.
Col. et adde
Potassæ Acetat. ʒiij.
Spirit Junip ℥ij. M.
Capiat Cyath. unum 3tia vel 4ta hora.

Vel

R. Rad. Armoraciæ Incis.
Sem. Sinap. C. āā ℥ss.
Aq. Bullient. Oj
Infund. per horas xij. et adde Liquori colat.
Potassæ Subcarbon. ʒiij.
Spirit. Junip. ℥ij. M.

Vel

R. Potassæ Nitrat. ℈ij.
Aq. Fervent. ℥xij.
Spirit. Junip C. ℥j ss.
Syrup. Cort. Aurant. ℥j. M.
Cap. Cyath. j. 4ta vel 6ta quaq. hora.

† R. Pulv. Scillæ gr. ij.
———Cinnam. Comp.
Potassæ Nitrat. āā gr. viij.
Syrup. Zingib. q. s. M.
ft. Bolus ter in die capiendus.

Vel

R. Scillæ Exsiccat. Pulv. gr. ij.
Pulv. Zingib. gr. x.
Ol. Junip. ♏. v.
Confect. Aurant. q. s. M.
ft. Bolus.

Vel

R. Pulv. Scillæ gr. iij.
Potassæ Supertartrat. ʒij.
Sacch. Alb. Pulv. ʒj. M.
ft. Pulvis mane et vesp. sumendus.

‡ R. Pilul. Scillæ gr. vj.
Hydrarg. Submur. gr. ¼. ½. M.
fiant pilulæ duæ nocte maneque capiendæ.

§ R Fol. Tabaci ℥ss.
Aq. Bullient. ℥vj.
Spirit Vin. ℥j M.
Capiat ♏. lx. ad. cxx. pro dos.

Vel

R. Tinct. Tabaci.
Spirit. Æther. Nitr. āā ʒij.
Oxymel Scillæ. ℥ss.
Aq. Fœnicul. ℥iij. M.
Capiat Cochleare medium ter quaterve in die.

power is not likely to be so active as with those who are young, they are particularly indicated.

Turpentine* is another stimulating diuretic which has been employed by some practitioners with much success when other remedies of a milder nature have failed. If we give the oleum terebinthinæ, we had better begin with about six drops, which dose may be repeated three or four times in a day. The quantity is to be gradually increased according to the state of the patient, and the effect produced.

The third indication which has been proposed for the cure of anasarca, is to strengthen the system. When the disease is in its incipient state, and perfectly recent, we may often be able to arrest its progress, by employing at an early period, proper means for effecting this purpose: but when it has been of long standing, we shall in general be obliged to wait until the water has been evacuated by the means which have been proposed.

The tonic remedies best adapted for strengthening the system, have already been fully noticed under the head of Dyspepsia. These therefore, when proper, must be had recourse to, together with moderate daily exercise, frictions every morning with warm flannels, and supporting the integuments of the lower extremities either by bandages or a laced stocking. If a preference is given to bandages, great care should be taken, in applying them not to make a greater compression on the upper part of the limb, than on the lower.

In some cases of dropsy, but more particularly in those where general debility has occasioned the disease, it may be proper to join diuretics to tonics, as in the manner here† advised, and this plan we may adopt from the commencement of the disease, keeping the body open at the same time with some gentle aperient.

It not unfrequently happens that an erysipelatous inflammation which shows a tendency to gangrene, arises on anasarcous legs. Linen rags moistened in a strong solution of the acetate of lead in water, in the proportion of two drachms of the former to half a pint of the latter, will be a good application in all such cases, even in

* ℞ Pulv. Sem. Sinap. ℈j.
Olei Terebinth. ♏. vj. ad xx.
Syrup. Simpl. q. s. M.
ft. Bolus ter quaterve die sumendus cum Cochl. largis iv. Decocti Genistæ, vel infus. Anthemid. *Vel*
℞. Terebinth. Venet. (in Vitell. Ovi solut.) ʒss.
Extract. Aloes Spicatæ gr. x.
Pulv Cinchonæ ʒij.
Fiant Pilulæ gr. iij. quarum æger tres sumat ter in die.

† ℞. Infus. Gentian. C. ℥j.
Tinct. Cort. Cinchon. C. ʒiij.
——- Lyttæ ♏. xv. M.
ft. Haustus ter die sumendus.
Vel
℞. Infus. Cort. Cuspariæ ℥jss.
Tinct. Columb. ʒij.
Potassæ Acetat. ʒss.
Spirit. Armorac. ʒj. M.
ft. Haustus.
Vel
℞. Tinct. Ferri Muriat. gr. x. —xv. ter die sumend.

preference to the cinchona bark, in the form either of fomentations or poultices.

The diet in all anasarcous cases ought to be light and nourishing, consisting chiefly of meats which are of easy digestion, and pungent aromatic vegetables, as garlic, mustard, onions, cresses, horse-radish, shalot, &c. For common drink, the patient may use any of the diuretic infusions before recommended. If wine be wished for, Rhenish will be the most proper. If he lives in a damp situation, he ought to be removed into a dry one, and avoid exposure to cold.

ASCITES, OR DROPSY OF THE BELLY.

THIS disease is marked by a tense swelling of the abdomen, accompanied by an evident fluctuation.

The water is usually collected in the sac of the peritonæum, or general cavity of the abdomen; but sometimes it is found entirely without the peritonæum, and between this and the abdominal muscles. Collections of water, in some instances, begin by sacs formed upon and connected with one or other of the viscera, as happens frequently in the ovaria of women. These form that disease which has been termed encysted dropsy. Hydatids have been supposed to give rise to them.

In addition to the causes which have been enumerated as productive of anasarca, certain local affections, as diseases of the viscera of the abdomen; scirrhosities of the liver, spleen, or pancreas; enlargement of the mensenteric glands, local injury, &c. do sometimes occasion ascites.

Ascites is often preceded by loss of appetite, sluggishness, inactivity, dryness of the skin, oppression at the chest, cough, diminution of the natural discharges of urine, and costiveness. Shortly after the appearance of these symptoms, a protuberance is perceived in the hypogastrium, which extends gradually, and keeps on increasing, until the whole abdomen becomes at length uniformly swelled and tense.

The distention and sense of weight, although considerable, vary somewhat according to the posture of the body, the weight being felt the most in that side on which the patient lies, while at the same time the distention becomes somewhat less on the opposite one. In general the practitioner may be sensible of the fluctuation of the water, by applying his left hand on one side of the abdomen, and then striking on the other with his right. In some cases it will be obvious to the ear.

As the collection of water becomes more considerable, the difficulty of breathing is much increased, the countenance exhibits a pale or bloated appearance, an immoderate thirst arises, the skin is dry and parched, and the urine is very scanty, thick, high-coloured, and deposits a lateritious sediment. In the general dropsy, the urine coagulates like the diluted serum of the blood,

whilst in that which proceeds from unsound viscera, it is usually high-coloured, scanty and on cooling deposits a pink coloured sediment. With respect to the pulse, it is variable, being sometimes considerably quickened, and at other times slower than natural. Although ascites is sometimes accompanied by fever, still it is frequently absent. It has, however, been observed, that during ascites, the derangement in the general system is greater than in other species of dropsy.

The principal difficulty which prevails in ascites, is the being able to distinguish with certainty when the water is in the cavity of the abdomen, or when it is in the different states of encysted dropsy. To form a just judgment we should attend to the following circumstances:

When the preceding symptoms give suspicion of a general hydropic diathesis; when at the same time some degree of dropsy appears in other parts of the body; and when, from its first appearance, the swelling has been equally diffused over the whole belly, we may generally presume that the water is in the cavity of the abdomen. But when an ascites has not been preceded by any remarkable cachectic state of the system, and when at its beginning, the tumour and tension had appeared in one part of the belly more than another, there is reason to suspect an encysted dropsy. Even when the tension and tumour of the belly have become general, yet if the system or body in general appear to be little affected; if the patient's strength be not much impaired; if the appetite continue pretty entire, and the natural sleep be little interrupted; if the menses in females continue to flow as usual; if there be yet no anasarca, or, though it may have already taken place, if it be still confined to the lower extremities, and there be no leucophlegmatic paleness or sallow colour in the countenance; if there be no fever, nor so much thirst or scarcity of urine, as occur in a more general affection; then according as more of these different circumstances take place, there will be the stronger grounds for supposing the disease to be of the encysted kind.*

By carefully attending to the symptoms of pregnancy, we cannot fail to distinguish it readily from every species of dropsy.

Ascites is always to be considered as of very difficult cure, let the cause have been what it may. The urine being little diminished, or becoming more copious; the swelling of the abdomen subsiding, the skin ceasing to be dry, the strength originally little impaired, and the respiration becoming free, may be regarded in a favourable light; on the contrary, intense local pain, great emaciation, sympathetic fever, the disorder having been induced by a diseased state of the liver, or other abdominal viscera, are to be look-

* These remarks are taken from Dr Cullen's First Lines of the Practice of Physic, as conveying a clear idea of the distinguishing signs between ascites and encysted dropsy.

ed upon as very unfavourable circumstances. Dropsy of the encysted kind, generally terminates sooner or later in the destruction of the patient.

The usual appearances to be observed in dissections of those who have died of ascites, are scirrhosities in the liver, spleen, and mesenteric glands.

Polypi are not unfrequently found in the large blood vessels, as well as ossifications in various parts of these organs. The consistence of the blood itself is more or less altered according to the degree of the disease, and the intensity of its causes. The effused fluid is for the most part serous, notwithstanding it frequently presents material differences both in colour and consistence, as well as in the acrimony of its quality. In some cases, the water, instead of being collected in the general cavity of the abdomen, in one large body, is lodged in distinct small cysts or hydatids.

In the treatment of ascites we are to attend to the two following indications.

1st, To evacuate the accumulated fluid; and,

2dly, To prevent any fresh collection.

To answer the first of these intentions, it has been customary to have recourse to purgatives of a drastic nature, or to diuretics, with the occasional use of emetics, in the same manner as has been fully noticed under the head of Anasarca, and to which I must beg leave to refer the reader, in order to save the trouble of recapitulation.

A singular method which has been recommended for procuring a discharge by urine in ascites, is by long-continued gentle friction of the abdomen with the fingers dipped in oil; which operation is to be repeated daily. The only effect to be derived from the oil appears to be that of preventing an excoriation of the skin.

We should give a fair trial to these remedies, with the view of increasing the natural secretions, and particularly to diuretics, and where any particular one of this class does not promote an increased flow of urine, we ought to make trial of another.

If all means fail, and the pressure and tension of the abdomen become insupportable, or if we have reason to suspect the pressure of the water upon the kidneys prevents the diuretics from having a due effect on them, we must then resort to tapping. This mode of evacuating the water is undoubtedly the most ready, but it has no disposition to eradicate the disease. The operation is considered by some as not being likely to be attended with injurious consequences, and is by a few practitioners, advised as the first step to be pursued; but as erysipelatous inflammation, terminating in gangrene, has not unfrequently arisen in the wound, it would seem best to make trial of other means, before we have recourse to it. In drawing off the water, a proper degree of pressure should be made on the abdomen by means of a broad bandage, and this ought to be kept up for some time.

By giving a smart purgative the day after the performance of

the operation, when there is no great debility present, and repeating it two or three times, with an interval of a few days between each dose, I have in a few instances, prevented any fresh accumulation of the water, and in a great many very much retarded it.

The re-accumulation is sometimes obviated by removing the causes which induced the disease, and by strengthening the tone of the parts in particular, and of the system in general. For instance, if the disease proceeds from chronical visceral obstruction, by mercury administered internally, as well as applied externally to the abdomen by friction; or by the union of squill with hydrargyri submurias. If from relaxation, by tonics, aromatics, and stimulants combined with diuretics, as directed for anasarca, together with a nutritive diet, exercise and pure air.*

It has been mentioned that partial or encysted dropsy often takes place, and in a few instances the womb itself has been imagined to form the seat of collections of a watery fluid like other cavities of the body. Probably this never happens, however, except where the fluid is contained within white small bladders of various sizes, known by the name of hydatids. The appendages to the womb, or ovaria, are indeed very frequently the seat of dropsy, and the disease is met with at every period of life, but more frequently after puberty than before.

A dropsy of the ovarium is at first inconsiderable, and is attended with no very disagreeable symptoms. It increases gradually in bulk, and is originally confined to one side only, and more generally the left one. Until the tumour has acquired a considerable size, the patient's health suffers no very visible diminution; it then induces pain, and numbness in the thigh corresponding with the side in which the swelling is situated, and by degrees the body becomes wasted, the appetite bad, and the strength greatly impaired.

The progress of the disease varies in different cases. In some, dangerous symptoms have ensued soon after the disorder becomes apparent; whilst others have laboured under it for a year or two previous to its destroying the patient. Nothing can be more uncertain than the progress, and termination of the complaint; for experience has proved that under the most apparently desperate circumstances, the health has been in some measure restored, or

* Under both these circumstances, mercury employed in moderate quantities and at short intervals, until it begins to occasion a swelling and soreness of the gums, has frequently been found highly beneficial; by giving a phlogistic diathesis to the whole system, and consequent activity to the absorbent vessels, it removes in a considerable degree, that condition of the system on which the disease depends; but to prevent debility from succeeding, it has generally been found necessary, previously to the subsidence of the mercurial impression, to administer at stated intervals, tonics and mild stimulants, particularly those which have been recommended in anasarca. E.

life protracted for a considerable time, while on the other hand, where no urgent symptoms have been manifest, a sudden aggravation of the disease has occurred, and a rapid advance to a fatal termination has taken place.

Nothing satisfactory can be offered respecting the causes of a dropsy of the ovaria, as women of every condition, and age, are found to be afflicted with it.

Dropsy of the ovarium is to be distinguished from ascites by attending to the symptoms which have been already enumerated under the head of the latter. Great caution will be requisite in not mistaking pregnancy for this complaint, as fatal consequences might ensue therefrom. Fortunately the two are readily distinguished from each other.

Sometimes hydatids also form in the cavity of the abdomen. These to appearance consist of membranous bags, the coats of which are so thin as to be semi-transparent, and to have no visible muscular structure. From the effects produced by the different parts of these bags, while the animal is alive, being exactly similar to the contractions and relaxations of the muscular fibres in the human body, we have great reason to conclude, however, that these membranes are possessed of a similar power; indeed, we are at present in possession of a sufficient number of facts to ascertain, not only that the hydatid is an animal, but that it belongs to a genus of which there are different species.

Encysted dropsy of every kind is to be treated in the same manner as ascites. In that of the ovaria, every means which can promote general health, and an increased action of the kidneys ought to be employed, as noticed under the head of anasarca. In addition to tonics and diuretics, the bowels may be kept open by laxative salts, where costiveness prevails. While this plan is pursued, the belly should be firmly compressed by a flannel roller, or some proper bandage.

If these means fail in unloading the patient of the accumulated fluid, (which is the case in most instances,) and dyspnœa and the other symptoms become urgent; the water must be drawn off by tapping, still persevering in the use of the diuretic and tonic medicines. Most likely the water will accumulate again after a time; if so, the operation must be repeated; but in a few instances, it has not accumulated afresh. The fluid in dropsical ovaria, however, is more frequently contained within hydatids than in a single sac, which may be known by the inequality of the tumour, but even in these cases, tapping may be beneficial, and at any rate will afford a temporary relief.

In hydrocele, the point we wish to obtain is, the obliteration of the cavity of the tunica vaginalis. To effect this, various methods have been proposed, such as excision, incision, seton, tent, caustic, and the injecting of vinous or other liquors, having previously discharged the water by a trocar.

This last method of treating the disease has been particularly

recommended by Sir James Earle. The injection employed by this gentleman is red wine, diluted with a fourth or fifth part of water.*

HYDROCEPHALUS INTERNUS, OR WATER IN THE BRAIN.

PYREXIA, violent and continued pain in the head, particularly across the brow, stupor, dilatation of the pupils, suffused redness of the eyes, great sensibility and aversion to light, suddenly interrupted sleep, with screaming, nausea, vomiting, and obstinate costiveness, with the dejections glossy and of a dark green colour when procured by medicines, the pulse at first preternaturally quick, afterwards becoming inordinately slow, and convulsions, are the pathognomic symptoms of this disease. One of the earliest criterions is the patient being uneasy on raising his head from the pillow, and wishing to lie down again immediately.

Hydrocephalus is almost peculiar to young children, being rarely known to extend beyond the age of twelve or fourteen. It is an affection which has been observed to pervade families, affecting all or the greater part of the children at a certain period of their life; which seems to show, that in some cases it depends more on the general habit, than on any local affection or accidental cause.

It is to be distinguished from apoplexy by its being attended with fever, and from simple typhus, by the paroxysms being very irregular, with perfect intermissions, many times in a day. Whatever difficulties there may be in the early stage, particularly in infants, there is no disease more easily distinguished in the more advanced stages, than hydrocephalus; indeed, how can we mistake, when we see a child rolling its head on the pillow, or perhaps sawing the air with one hand, while the opposite side is palsied; with a hectic on the cheek, his eyelids half concealing the pupil, and the eyes deprived of their vivacity by the filmy covering of the cornea; the complete dilatation of one or both pupils, and the suffusion of the adnata; drawing a long sigh; frequently grinding his teeth; quite incoherent, or in a state of complete insensibility; with a burning fever on his skin, or sweat forced from every pore, and all these symptoms alternating with, and at last finished by a palpitating breathing, and violent convulsions?†

The disease has generally been supposed to arise in consequence either of an immediate affection of the sensorium, from some general disease, as fever, or of injuries done to the brain itself, by blows, falls, &c.; from scirrhous tumours or excrescences within the skull; from original laxity or weakness in the brain, or from the brain morbidly sympathizing with a distant part. There is,

* The treatment by injection is very generally adopted by the physicians of this city, to the exclusion of every other. E.

† See Essay on Hydrocephalus Acutus, by J. Cheyne, M. D.

however, reason to believe, that the disease, in by far the greater number of cases, owes its origin to a degree of inflammation, which produces a morbid accumulation of blood, and generally an extravasation of watery fluid before death. Nosologists have been accustomed to place hydrocephalus among dropsies, and I have followed their example, although it ought to stand, I think, among the diseases connected with inflammation, and indeed it is only in this stage that remedies are likely to prove successful.

In the majority of cases of hydrocephalus, the affection of the brain has been considered by a few writers* as only secondary, and depending on a primary diseased state of the digestive organs.

With respect to its proximate cause, very opposite opinions are still entertained by medical writers, which in conjunction with the equivocal nature of its symptoms, prove a source of considerable embarrassment to the young practitioner.

Dr. Beddoes, Dr. Withering, and Dr. Rush, believed hydrocephalus to result from previous inflammation or congestion in the brain.

It appears, says Dr. Rush, that the disease in its first stage is the effect of causes which produce a less degree of that inflammation which constitutes phrenitis; and that its second stage is a less degree of that effusion which produces serous apoplexy in adults.† There are others again who view the subject in a very different light.

The great analogy subsisting between the symptoms which are characteristic of inflammation, and those which form the first stage of the acute species of hydrocephalus (for the disease has been divided into the chronic and acute by some writers,) together with the good effects often consequent on blood-letting, and the inflammatory appearance which the blood frequently exhibits, seem to point out strong proofs of the disease being in most instances an active inflammation, and that it rarely occurs from mere debility, as a primary cause.

The progress of the disorder has by some been divided into three stages.

When it is accompanied by an increased or inflammatory action of the brain, its first stage is marked with many of the symptoms of pyrexia, such as languor, inactivity, loss of appetite, nausea, vomiting, parched tongue, hot dry skin, flushing of the face, headache, throbbing of the temporal arteries, quickened pulse, aversion to light and sounds, and watching; which symptoms always suffer

* See Essay on Hydrocephalus Acutus, by J. Cheyne, M. D.

—— Dr. Yeat's Letter to Dr. Wall, on the Disease termed Water in the Brain.

† In the opinion of the Editors, the inflammation in hydrocephalus, is seated in the substance of the brain, in which circumstance it differs from phrenitis, which is seated in the membranes. E.

an exacerbation in the evening, but towards morning become milder.

When unaccompanied by an inflammatory action of the brain, the countenance of the child is strongly expressive of distress and suffering, its temper is irritable and fractious, it has a great propensity to bed and a recumbent position, has pains over the eyes, with an aversion to being moved, and as the disease advances, it rolls its head from side to side, or throws its arms over it. It often sighs, and its breathing is extremely irregular, particularly when asleep. It is averse to take any thing, either liquid or solid, especially the latter; and apparently, it suffers from constant nausea, but what is thrown up consists merely of the food and drink which have been taken. The urine has nothing remarkable in its appearance; but it is retained longer than usual: great costiveness prevails, and no stool is voided without the aid of purgatives, either given by the mouth, or thrown up as clysters; and in general, the most powerful medicines of this class are requisite to produce the desired effect. Motions when obtained, are commonly of a dark green colour, with an oiliness or glossy bile, rather than the slime which accompanies worms; and their smell is more of a cadaverous nature than that arising from feculent matter. The disease at length makes a remarkable transition, denoting the commencement of the second stage. The child screams frequently, and without being able to assign any cause; its sleep is much disturbed; there is a considerable dilatation of the pupils of the eyes, which do not contract on being exposed to light: the pulse becomes slow and unequal, and perhaps lethargic torpor, or double vision ensues.

In the third stage, the pulse returns again to the febrile state, becoming uncommonly quick and variable, and coma, with squinting and convulsions, succeed. When the accumulation of water is very great, and the child young, the sutures recede a considerable way from each other, and the head, towards the end, becomes much enlarged.

We are not, however, to expect, that these stages will follow each other in all cases in a regular and increased progress; for a child has sometimes appeared in health on the very night on which it was seized with convulsions by which it was destroyed a few days afterwards.

Like every disease of the brain, its duration is uncertain; in some cases running its course in a few days, while in others it is protracted for several weeks.

When recoveries have actually been effected in hydrocephalus, after effusion has taken place, we ought probably to attribute more to the efforts of nature than to the interference of art, but by an early recourse to antiphlogistic means during the inflammatory stage, we may sometimes succeed in removing the disorder. In most instances it is to be regarded as of difficult cure, but the

chance of this is nearly in proportion to the duration of the symptoms.

When the patient cannot bear to be raised up in bed without great uneasiness, it is a bad symptom. So is deafness, which there is reason to believe is now and then mistaken for stupor. When the dilatation of the pupil of either eye, or squinting, is very apparent, or the pupils of both eyes are much dilated, a fatal termination is generally denoted. Apoplectic stertor, coma with loss of sight, great enlargement of the head, difficult respiration, a weak intermitting pulse, and involuntary evacuations are also very unfavourable symptoms.

An accumulation of water in the ventricles of the brain is one of the most common appearances to be observed on dissection. In different cases this is accumulated in greater or less quantities. It sometimes amounts only to a few ounces, and occasionally to some pints. When the quantity of water is considerable, the fornix is raised at its anterior extremity in consequence of its accumulation, and an immediate opening or communication is thereby formed between the lateral ventricles. The water is of a purer colour and more limpid than what is found in the dropsy of the thorax or abdomen. It appears, however, to be generally of the same nature with the water that is accumulated in these cavities. In some instances, the water in hydrocephalus contains a very small proportion of coagulable matter, and in others it is entirely free from it.

When the water is accumulated to a very large quantity in the ventricles, the substance of the brain appears to be a sort of pulpy bag, containing a fluid. The skull, upon such occasions, is very much enlarged in size, and altered in its shape, and it appears exceedingly large in proportion to the face. On removing the scalp, the bones are found to be very thin, and there are frequently broad spots of membrane in them. These appearances are, however, only to be observed where the disease has been of long continuance.

In some cases, where the quantity of water collected is not great, the substance of the brain has appeared to be indurated, and in others softened. We frequently find, within the cranium, the veins, particularly those of the membranes on the surface of the brain, and lining of the ventricles, gorged with dark blood; sometimes considerable adhesions between thickening of the membranes, and minute and florid vessels upon the pia mater: collections also of a viscid tenacious matter have been discovered in cysts upon its external surface, and tumours have been found attached to its substance.

The treatment to be adopted in the first stage of this disease should vary according to the symptoms which are present. If it is marked by an increased or inflammatory action in the vessels of the brain, which is usually the case, we should by all means direct bleeding, but more particularly from the neighbourhood of the

part, and this at the first onset of the disease; for when our fears as to the real nature of the complaint are awakened, not a minute should be lost in prescribing the remedies from which benefit is to be expected. The necessity of blood-letting in such cases seems very obvious, and it ought to be carried to such an extent as to answer a determinate end; viz. that of lessening topical congestion, and diminishing arterial action. Opening the temporal artery or jugular vein will be the most adviseable way of drawing off blood in these cases; but where this cannot be done, we must have recourse to the application of leeches to each temple, or to cupping, with previous scarification, which may, probably, be preferable to the application of leeches, both on account of the promptness with which the blood can be drawn, and the greater certainty of obtaining the quantity desired. It may be performed on the scalp, or behind the ears, or the nape of the neck, or between the shoulders.

In abstracting blood from infants, a due consideration must be paid to their age. The repetition of both general and topical bleeding, should depend on the appearance the disease exhibits; and as long as it is marked by an inflammatory action in the vessels of the brain, or shows symptoms of local congestion, these operations ought to be repeated from time to time.

Purgatives by lessening the determination to the head, will be necessary where the symptoms point out an increased or inflammatory action in the vessels of the brain. They will likewise be proper, where there is foulness of the bowels, indicated by the stools being either of a cadaverous smell, or dark and slimy. After bleeding, they ought to be resorted to immediately. Jalap combined with the submuriate of mercury, or the supertartrate of potass, may be taken in doses proportionate to the age of the child, and be repeated occasionally in the advanced stages.

In every stage of the disease, and let the cause have been what it may, blisters appear to be highly adviseable, after sufficient depletion by the lancet, from the great discharge which they occasion from the vessels of the head; and with this view we may apply a cap blister over the whole head, keeping up a copious discharge from it as long as we can. When it heals, fresh ones may be put on the forehead, occiput, and sides of the head in succession. Of late it has been recommended to apply them in the course of the sutures, and to keep up a discharge by means of an issue; but as the ceratum lyttæ is capable of exciting a proper discharging surface, it appears preferable, its application being much less troublesome than that of an issue.

The application of caustic to the bregma is preferred, by a late writer* on hydrocephalus, to blisters, and as it is a more powerful stimulus, and more permanent in its effects, it may, probably, be more useful. The caustic usually employed by him was the lunar

* See Treatise on Hydrocephalus, by J. Carmichael Smyth, M. D.

reduced to a powder, put on the surface of any adhesive plaster, spread on strong leather, of the size and shape of an elongated half crown, and renewed every twelve hours, until it produces a sufficient eschar, destroying the skin of the part; after which a suppuration and separation of the eschar is promoted by the usual surgical dressings.

Where much thirst with universal heat prevails, we may give small doses of antimonials, as advised under the head of Simple Fever, together with refrigerants, such as the nitrate of potass, and the saline medicine.

Cold applications to the head, such as iced water or linen cloths wetted in vinegar and water, and renewed as often as they become warm and dry, have been recommended by some practitioners. That they may not interfere with blistering, we ought, in having recourse to them, to apply the blister to the nape of the neck, or between the shoulders.

Such is the plan of treatment to be adopted when the disease has not run on to the second stage, so as to produce the effusion of water, the natural consequence of inflammation of the cavities of the body.

In the second stage, when effusion has taken place in the cavities of the skull, it will be requisite to produce such an excitement of the vessels of the brain, as may be likely to occasion a re-absorption of the fluid. With this view, mercury both internally exhibited, and externally applied, is usually employed; but it is very doubtful that mercurial frictions are attended with any benefit. The internal use of mercury has been regarded by some physicians as a specific in hydrocephalus, and some cases which occurred in the practice of Dr. Percival and Dr. Dobson, are said to have been cured by it, but experience has convinced me and many others that when administered alone, or uncombined with other medicines, it more frequently fails than succeeds.

A combination of the submuriate of mercury combined with a few grains of jalap, in doses proportionable to the age of the child, and administered so as to procure daily a copious discharge of green, mucous stools, seem in my opinion to promise fairer for success than giving it alone so as to excite what is called a mercurial action in the system.

The submuriate of mercury combined with the pulvis antimonialis, is a medicine which is reported* to have been given with much advantage, in several desperate cases of this disease.

A combination of mercury with fresh squill, having been employed by Dr. Carmichael Smyth, in hydrothorax, with a happy effect, he has been induced to recommend it in hydrocephalus.†

The foxglove has been suggested as a remedy in hydrocephalus; but it has not yet received the sanction of experience. To what

* See Dublin Med. and Physical Essays, 1st Number.

† See his Treatise on Dropsy of the Brain.

particular state of the disease it may be adapted, whether it might relieve by diminishing arterial action, or by its power as a diuretic, on the same principle that it succeeds in the cure of dropsy, is uncertain, and only to be ascertained by further trials and observation. Its exhibition in any of the forms advised under the heads of Phthisis and Anasarca, with the external application of about half a drachm of the unguentum hydrargyr. fort. might probably be attended with good effects, when either remedy given separately might fail.

The best way of administering it will be, to begin with a moderate dose (eight or ten drops of the saturated tincture,) and to every succeeding dose, which may be given at an interval of six hours, an addition of two or three drops may be made, so that in a day or two the system will be affected. We should proceed with caution, ascertaining, while augmenting it, the effect of the medicine after each increased dose.

The erect posture is requisite throughout the disease as much as possible, but when the little patient is in bed, his head should be raised considerably by pillows stuffed with horse-hair or chaff, to avoid warmth.

It has been proposed as a query, whether frequent vomiting might not be likely in hydrocephalus, as well as in anasarca and ascites, to act powerfully in promoting the absorption? In all cases of encysted dropsy, I should apprehend that but little advantage was likely to be derived from the action of emetics, but more particularly in that of the head.

After the declination of the disease, every means of supporting the child's strength is to be embraced, which is to be done by gentle tonics as recommended for the cure of anasarca, soups, animal jellies, together with pure air and proper exercise.

HYDROTHORAX, OR DROPSY OF THE CHEST.

OPPRESSION of breathing, particularly on motion and when in an horizontal posture, difficulty of lying on the side where effusion does not exist, sudden startings from sleep, with anxiety, and palpitations at the heart, irregularity of the pulse, cough, occasional syncope, paleness of visage, anasarcous swelling of the lower extremities, thirst, and a diminution of urine, which is high coloured, and on cooling deposits a pink or red sediment, are the characteristic symptoms of hydrothorax; but the one which is more decisive than all the rest, is a sensation of water being perceived in the chest, by the patient, on certain motions of the body, or as if the heart were moving in a fluid.

By percussion with the hand upon the chest, when the patient is in an erect position, and also by pressure upon the abdomen, which considerably aggravates the sense of suffocation for the moment, as well as the other symptoms which attend on hydrothorax, we may be able in many cases clearly to ascertain the accu-

mulation of water in the chest. The former is strongly recommended as a test by Covissart, and the latter by Bichat, both of them being men of eminence. By combining both means we may be able to determine more decisively, than by adopting either singly.

The diseases with which hydrothorax is most likely to be confounded, are, empyema, angina pectoris, asthma, and organic affections of the heart, or aneurismal dilatations of the large vessels connected with it; but by a close attention to the symptoms which have been pointed out under these heads, we shall be able to distinguish between them with tolerable accuracy.

The causes which give rise to the disease are pretty much the same with those which are productive of the other species of dropsy. In some cases it exists without any other kind of dropsical affection being present, but it prevails very often as a part of more universal dropsy.

Hydrothorax is frequently a disease of advanced life, and, like other dropsical affections, it often succeeds debility, however induced. It chiefly attacks males who have addicted themselves to free living, especially to potations of any intoxicating liquor. Such as have long suffered from gout and asthma, are peculiarly liable to it.

It frequently takes place to a considerable degree before it becomes very perceptible; and its presence is not readily known, the symptoms, like those of hydrocephalus, not being always very distinct. In some instances the water is collected in both sacs of the pleura, but at other times it is only in one. Sometimes it is lodged in the pericardium alone; but for the most part it only appears there when at the same time a collection is present in one or both cavities of the thorax. Sometimes the water is effused in the cellular texture of the lungs, without any being deposited in the cavity of the thorax. In a few cases the water that is collected is enveloped in small cysts of a membranous nature, known by the name of hydatids, which seem to float in the cavity; but more frequently they are connected with, and attached to particular parts of the internal surface of the pleura.

Hydrothorax often comes on with a sense of uneasiness at the lower end of the sternum, accompanied by a difficulty of breathing, which is much increased by any exertion or motion, and which is always most considerable during night, when the body is in an horizontal posture. Along with these symptoms there is a cough, that is at first dry, but which, after a time, is attended with an expectoration of thin mucus. There is likewise a paleness of the complexion, and an anasarcous swelling of the feet and legs, together with a considerable degree of thirst, and a diminished flow of urine; occasionally the face swells and pits upon pressure, especially in the morning, and these signs of disease are accompanied by debility and loss of flesh. Under these appearances we have just grounds to suspect that there is a collection of water in the chest.

The symptoms which have been described, gradually increase, but their progress is slow, and a considerable time elapses before the disorder is fully formed.

The difficulty of breathing at length becomes excessive. The patient can seldom remain in a recumbent posture for any time, and the head and upper part of the trunk must be supported almost erect. The sleep is frequently interrupted on a sudden by alarming dreams, out of which the patient quickly starts up in bed, with a sense of impending suffocation. Convulsive efforts of the muscles subservient to respiration, resembling an attack of spasmodic asthma, with violent palpitations of the heart, generally accompany the paroxysms, which are also frequently excited by the most trifling voluntary motion, or by a fit of coughing.

When afflicted with these distressing symptoms, the patient is under the necessity of continuing erect, with his mouth open, and he betrays the utmost anxiety for fresh air. His face and extremities are cold; the pulse, with little exception, is feeble, irregular, and intermits in a degree seldom experienced in other disorders, and a pain, or sensation of numbness frequently extends itself from the heart, towards the insertion of the deltoid muscle of one or both arms. Excepting a livid hue of the lips and cheeks, the countenance is pale, and indicates a peculiar anxiety and ghastliness of appearance, and together with the upper parts of the body is usually covered with a profuse clammy sweat. Drowsiness, coma, or delirium, occasioned by the difficult transmission of the blood through the lungs, and want of sleep, frequently attend the latter periods of hydrothorax, and from the same cause the expectoration is sometimes bloody. Now and then a sensation of water floating about can be distinctly perceived by the patient, on any sudden change of posture.

No person has yet been able to point out the individual signs by which we can with certainty ascertain in which cavity of the chest the water is lodged, but some ingenious observations or data on this head have been offered by a late writer on hydrothorax.*

Our prognostic in hydrothorax must in general be unfavourable, as it has not been often cured, and in many cases will hardly admit even of alleviation, the difficulty of breathing continuing to increase, until the action of the lungs is at last entirely impeded by the quantity of water deposited in the chest. In some cases, the event is suddenly fatal, but in others it is preceded, for a few days previous to death, by a spitting of blood. Now and then hydrothorax ends in general dropsy, by which it is indeed sometimes accompanied from the beginning. But it more commonly impedes the action of the heart or lungs before universal dropsy has taken place, and de-

* See Dr. L. Maclean's Enquiry into the Nature, Causes and Cure of this Disease, p. 63.

stroys the patient apparently by suffocation in consequence of the increased pressure of the accumulated fluid on the lungs or by apoplexy from the pressure of dark venous blood on the brain, not unfrequently accompanied with serous effusion, either on its surface, or in its ventricles.

Dissections of this disease show that in some cases the water is either collected in one side of the thorax, or that there are hydatids formed in some particular part of it; but they more frequently discover water in both sides of the chest, accompanied by a collection in the cellular texture, and principal cavities of the body. The fluid is usually of a yellowish colour, possesses properties similar to serum, and, with respect to its quantity, varies very much, being from a few ounces to several quarts. According to the quantity, so are the lungs compressed by it; and where it is very considerable, they are usually found much reduced in size. When universal anasarca has preceded the collection in the chest, it is no uncommon occurrence to find some of the abdominal viscera in a scirrhous state.

The treatment of hydrothorax is to be conducted on the same general plan with that of anarsarca; viz. by emetics, purgatives, and diuretics. With respect to emetics they do not seem however well calculated to afford any considerable degree of relief, and as the great desideratum in the cure of this disease is to evacuate the water without increasing the weakness still farther, purgatives, particularly those of a drastic nature, such as scammony, gamboge, &c. are not adviseable. If the bowels are confined at any time, aperients of the saline class may be given from time to time as the occasion may require. Possibly a combination of potassæ supertartras and hydrargyri submurias* taken at night with something of a more active nature† in a liquid form the following morning, if necessary, would produce very beneficial effects.

The medicines most to be relied upon in hydrothorax are diuretics, and that which formerly was chiefly employed in this species of dropsy, is the squill, because, besides its diuretic effect, it possesses that of promoting an evacuation from the glands of the lungs; in administering it, we should push it to as large a quantity as the stomach will bear without exciting nausea. Any of the forms recommended under the head of Anasarca may be prescribed, and besides the powder, we may try either the oxymel, vinegar or tinc-

* ℞. Potassæ Supertartrat. gr. x.—xx.
Hydrargyri Submur. gr. ij.—iv.
Pulv. Zingib. gr. v.
Syrup. Simpl. q. s. M.
ft. Bolus hora decubitus sumendus.

† ℞. Infus. Sennæ ℥x.
Potassæ Tartrat. ℈j.—℥i.
Tinct. Jalapæ ℥ij.
Syrup. Rhamni ℥j. M.
ft. Haustus.

ture; the ingredients indeed with which the squill is combined in the two former may, perhaps, add to its virtues.

If, after a sufficient length of time, we should fail to procure any good effects from a use of the squill, we ought then to make trial of the digitalis, as advised under the same head, and that of Phthisis.

Dr. Maclean offers it as his opinion* that digitalis exerts no diuretic operation on the urinary organs, but that as a successful agent in dropsy its effects are confined to the absorbents, and probably in a certain degree extended to the exhalents. When it increases the urinary secretion with promptness in dropsy, he thinks it may be attributed wholly to its restoring the impaired or lost function of the absorbing lymphatics, and probably by lessening serous effusion at the same time.

In administering this medicine the principal circumstances to be regarded are the age, strength, peculiar habit of the patient, stage of the disease, and degree of urgency of the symptoms. If the disease be far advanced, and immediate danger is indicated, the dose should be such as to produce a speedy effect. In general, a grain of the powder, or an ounce of the infusion† taken three times a day, viz. morning, noon, and night, may be regarded as a full dose for an adult of moderate strength. If the herb be in perfect preservation and genuine, the habit will most likely feel the influence of this quantity in a few days. In female constitutions, or in males whose strength has been much reduced, this quantity should not be given oftener than twice in the day, evening and morning, and in young subjects, the dose ought to be reduced still farther in proportion to the age. Perhaps it would be best not to continue the use of the digitalis for any length of time, but to stop for certain short intervals, as we shall thereby guard against its producing any deleterious effects, and prevent its disordering the stomach, or habit at large. During a course of this medicine, the state of the pulse, the stomach, the bowels, and sensorial functions ought to be watched attentively.

If it act powerfully on the bowels, and produce either pain, griping, or a number of copious watery evacuations following one another in quick succession, attended with extreme faintness, languor, and prostration of strength, its use must be discontinued for a day or two, and from ten to fifteen drops of the tincture of opium be given in some cordial water, repeating this dose at proper

* See p. 158 and 160 of his Enquiry into the Nature, &c. of Hydrothorax.

† ℞. Fol. Digit. Purp. Incis. ʒiss.
Canel. Alb. Contus. ℈j.
Aq. Fervent. ℥viij.
Infunde per horas quatuor in vase operto, dein liquorem effunde.
ft. Infusum.

intervals, according to the frequency of the evacuations and the consequent debility. A lax state of the bowels has, however, been observed to be very favourable to the successful exhibition of digitalis, and other diuretic medicines.

When foxglove disorders the stomach, and in consequence of its unguarded or injudicious use, produces alarming symptoms, frequent doses of the confectio opii in small bulk, as in that of a pill, with warm cordials in very small quantity, (for the stomach immediately rejects every thing in large draughts) warm volatile anodyne embrocations to the epigastrium, and spirituous fomentations to the feet, will be found in general effectual means. If the stomach rejects every thing, rich broth clysters in small quantity, with from 80 to 150 drops of tinctura opii, may be thrown up, and repeated according to circumstances.

When after a fair trial of both squill and digitalis, the flow of urine is not increased although these medicines have been employed in increased doses, we must have recourse to diuretics of another class, such as the saline. Those in ordinary use are the potassæ subcarbonas, potassæ acetas, and potassæ supertartras, the latter having been much used of late years, and frequently with great success in several species of dropsy, (See Anasarca.) We may give this drug either by itself, or combine it with squill and digitalis,* or with the other diuretics noticed under the head just referred to.

At the same time that we have recourse to these means, we should apply blisters to the chest, shifting them from one side of it to the other, whenever they show a disposition to heal up.

The breathing will not only be somewhat relieved by the frequent application of a blister, but the irritation excited by it in the urinary passages, may possibly tend to facilitate the operation of the diuretic medicines.

Where hydrothorax is complicated with convulsive breathing resembling the common periodic asthma, it may be relieved by giving a grain of opium every hour for two or three hours, with about a drachm of æther in cold water, continuing the digitalis as before recommended.

* ℞. Fol. Digital. Purp. Exsiccat. Pulv. gr. vj.
Potassæ Supertart. ʒvj.
Pulv. Cinnam. Comp. ℈j. M.
ft. Pulv. in Chartulas vj. distribuend. quarum unam sumat bis terve de die in Infusi Baccarum Juniperi Cyatho.

Vel

℞. Pulv. Digitalis Purp.
—— Sçillæ āā gr. ix.
Extract. Gentian. ℈j.
Ol. Junip. ♏. vj.
Syrup. Simpl. q. s. M.
ft. Massa in pilulas xij. distribuenda quærum unam capiat ter de die cum Haustu Sequenti.

℞. Potassæ Supertart. ʒi.—ʒij.
Aq. Fervent. ℥iss.
Spirit. Junip. ʒij.
Tinct. Cinnam. C. ʒi. M.
ft. Haustus.

When the accompanying cough is so urgent as to prevent sleep and aggravate every other symptom, as sometimes happens, opiates combined with squills and other expectorants may be administered.

If the patient be far advanced in life, and his strength much exhausted, or if the disease has been of any standing, and considerable debility has ensued, it will be necessary to administer tonics, combined with diuretics, as recommended in the treatment of anasarca. For preventing farther accumulation when the water has been removed, and giving strength and energy, they will also be proper.

That aliment which contains the greatest quantity of nutriment in the smallest bulk, and which requires at the same time, the least effort of the digestive organs to convert it into animal juices, reason and experience point out as the best in hydrothorax. The food should be well masticated, and the free motion of the diaphragm never interrupted by a full meal. During a course of diuretic medicines the patient should drink freely of liquids, and particularly of such as are supposed to increase the flow of urine.

If all our endeavours to carry off the water, or promote its reabsorption, prove fruitless, and a fluctuation is evidently perceptible, we should then perform a paracentesis of the thorax. Where it is loose in the sacs of the pleura, we may with the assistance of diureties joined with tonics, possibly effect a cure by means of this operation; but where it is accumulated in hydatids, or in the cellular texture surrounding the bronchiæ, we shall derive no advantage from it.

Before the evacuation of the water, the patient's situation seldom admits of much bodily exertion. Somewhat, however, may be done by the frequent and diligent use of a flesh-brush, or by friction with flannel all over the body, but especially over the chest, and as near the seat of the complaint as possible. From the circulation of blood being very languid in the feet, and legs, these parts are in general very cold, and ought therefore to be enveloped in worsted or fleecy hosiery stockings, being well rubbed every morning and night.

The great coldness of the bodies of dropsical subjects, and the total want of perspiration, evidently point out the necessity of warm clothing, and there are no cases in which a flannel covering will prove more beneficial, or more grateful to the sensations of the patient.

As soon as the evacuation of the water, or the relief of urgent symptoms will permit, no day should elapse without the patient either walking, riding on horseback, or in an open carriage; for the frequent but gentle agitation of the body, and the moderate exertion of the muscles, together with the salutary influence of a pure healthy atmosphere, will assist greatly in giving tone, vigour, and energy to the whole frame. The lungs of some persons who labour under hydrothorax are however extremely susceptible of

a cold frosty air, it being no sooner respired, than they are seized with a cough, and wheezing, and experience a painful sense of constriction about the chest. Under such circumstances it will be better to keep within doors.

Intumescentiæ Solidæ, or Swellings of the solid Parts.

RACHITIS, or RICKETS.

The characteristic marks of this disease are, an uncommon size of the head, swelling of the joints, flattened ribs, incurvation of the spine, distortion of the cylindrical bones, protuberance of the belly, and general emaciation.

Rickets is an hereditary disease in some families, though parents that have been affected with it, have sometimes a healthy and robust offspring. There are many circumstances which conduce to this disease; such as a damp and cold residence, impure air, inattention to cleanliness, bad nursing, want of due exercise, a deficiency of food and debility. Difficult dentition, and the pain and bowel complaints arising from it, may favour, in a powerful manner, the action of the exciting causes of rickets.

The proximate cause of the disease is now supposed to be a deficiency of the phosphate of lime, or animal gluten, in the bones; hence the latter are deprived of that necessary strength and solidity in consequence of the prevailing debility in the vessels, so that the former, instead of being conveyed to the bones, is deposited in other parts of the body. Thus we find particles of lime often evacuated in the urine.

The disease seldom appears before the ninth month, and very rarely shows itself after the second year of a child's age. It is more frequently met with among the children of the poor than in those of higher rank, and seems to be almost solely confined to cold climates where much moisture prevails, which seems to indicate that a peculiar atmosphere has a great share in giving rise to it.

It usually comes on slowly, and the first appearances of it to be observed are, a flaccidity of the flesh, emaciation of the body, paleness, and loss of colour in the cheeks, if they have been rosy, and a slight degree of tumefaction of the face. The head at the same time appears large with respect to the body, and the sutures and fontanelle are preternaturally open. The head continuing to increase in size, the forehead becomes at length unusually prominent, and the neck appears very slender in proportion to the head. Dentition is at the same time very slow, and much later than usual; and the teeth that do appear soon spoil, and are apt to fall out. The ribs lose their convexity, the sternum protrudes in the form of a ridge, the spine is incurvated, and the epiphyses at the several joints of the limbs become swelled, while at the same time the

limbs between the joints appear to be more slender than before, and from their inability to support the weight of the body, become somewhat flexible, and at last much distorted.

With these symptoms, the child experiences a great diminution of its strength, is averse to making the least exertion, and is unable to walk. Its appetite is not often much impaired, but its stools are usually frequent and loose, and its abdomen appears uncommonly full and tumid. With regard to its mental faculties, the understanding is most generally very mature, but in a few cases stupidity or fatuity ensues. At the commencement of the disease there is no fever present; but in its more advanced stage a frequent pulse, with other febrile symptoms of a hectic nature, attend.

In some cases the disease proceeds no further, and the child gradually recovers its health and strength, the limbs being left, however, in a distorted state. In others it continues to increase, till at last every function of the animal economy becomes affected, and the tragic scene is closed by death.

The rickets, although attended with much distortion of the bones, and various other unpleasant symptoms, very seldom proves fatal; and we are only to regard it as attended with danger where the distortion becomes so great as to affect the office of the lungs and other organs; or where the enlarged size of the head shows that it contains a considerable quantity of water within it; or where the food is passed unchanged by digestion, which denotes a highly diseased state of the mesenteric glands. Children at the breast are more exposed to peril than those that have reached three or four years.

Various morbid affections of the internal parts are to be observed on opening the bodies of those who have died of this disease. The brain has been commonly discovered in a flaccid state, with effusions of a serous fluid in its cavities. The lungs have been found in a morbid condition, seemingly from some inflammation that had come on towards the close of the disorder; the spleen and liver are flaccid and enlarged; the intestines are pale, or rather whitish; all the lymphatic glands, especially those of the mesentery and bronchia, are enlarged, and the latter sometimes suppurated; the bones, reduced to a fibrous state, are flexible, bent in several directions, and easily cut. With respect to the muscular parts, they have been found very soft and tender, and the whole of the dead body without that degree of rigidity which is so common in almost all others.

In the cure of the rickets we should proceed on the plan of invigorating the system by bracing the solids, and promoting digestion and the formation of good chyle. For this purpose, we must have recourse to such medicines as possess a tonic power, together with frequent immersion in cold water, the effects of which may be much increased by frictions with flannels, a free, open, and dry air, a generous nutritive diet, with wine, and proper exercise by carrying

the child in an horizontal posture. An erect one might be apt to increase the deformity.

As children cannot easily be prevailed upon to take the cinchona bark, or any of the bitters, for the purpose of invigorating the system, the metallic tonics must be employed. The most proper of these is the ferri carbonas.* The quantity of this is to be increased or diminished according to its effects.

Where the child can be persuaded to take the cinchona, we may give it at the same time with the metallic tonics either in substance, decoction, or infusion, or we may try the extract dissolved in a little Port wine.

To assist the effect of these remedies, a gentle emetic should be given occasionally, but more particularly in those cases where the appetite and digestion are considerably impaired. The moderate agitation of the abdominal viscera produced by this medicine, will greatly tend to remove the obstructions of the mesenteric glands. The bowels are to be kept gently laxative with rhubarb joined with a small quantity of any neutral salt, or of calcined magnesia.

When the rickets are accompanied with mesenteric obstructions, deobstruents with small doses of rhubarb, and repeated frictions on the abdomen, will have a beneficial effect.

In cases of difficult dentition we should resort to the means advised under this head, and in those of worms to vermifuge medicines. In venereal taints we may prescribe tonics combined with mercurials.

Absorbents have been employed in rachitis by some practitioners, it is said, with considerable success, and may therefore be combined with the tonics before recommended.

In rickets, the principal advantage is to be derived, however, from general treatment: the patient, if a resident in a city, is to be removed to the country, where an elevated and dry situation should be chosen; he is to be supplied with a nourishing diet, and a moderate quantity of wine. But as the poor, among whom the disease is most frequently observed, cannot change their residence, they should be placed in the highest apartment of the house, which should be kept well ventilated.

The bed on which a rickety patient lies should consist of a hair mattrass or oaten chaff, or it might be made of dried fern-leaves, among which some aromatic herbs were mixed. Such beds are better than those made of feathers; for they do not yield to the weight of the body, and they are much drier. If the patient be

* R. Ferri Carbonat. ʒij.
Pulv: Nucis Moschat. ʒj M. ft.
Pulv. in Chartul. xxx dividend. quarum Æger unam capiat ter die, cum Syr. Zingib. E.

very young, he should be placed on his back, so that the weight of his body may have as little influence as possible on the bones; but as it is painful to remain constantly in this position, he may be allowed to sit up now and then, but not on a soft chair: he is to be placed on a seat capable of making a uniform resistance, with a high straight back, and without arms. He should not be allowed to walk for a considerable time; at first he will be incapable of doing so without assistance, and the strings and ribbands necessary for supporting him, contribute, by pressing on the parietes of the thorax, to deform that cavity.

Order III.—IMPETIGINES.

A Depraved habit, producing preternatural affections of the skin, or external parts of the body, characterizes this Order.

SCROFULA.

Scrofula consists in hard indolent tumours of the conglobate glands in various parts of the body; but particularly in the neck, behind the ears, and under the chin, which after a time suppurate and degenerate into ulcers; from which, instead of pus, a white curdled matter somewhat resembling the coagulum of milk, is discharged.

The first appearance of the disease is most usually between the third and seventh year of the child's age, but it may arise at any period between these and the age of puberty; after which it seldom makes its first attack. It most commonly affects children of a lax habit, with a smooth, soft, and fine skin, fair hair, rosy cheeks, and a delicate complexion; but it is occasionally met with in those of a dark one. It likewise is apt to attack such children as show a disposition to rachitis, and marked by a protuberant forehead, enlarged joints, and a tumid abdomen.

Scrofulous persons are often comely and handsome, and rather distinguished for acuteness of understanding and precocity of genius. They are however seldom robust, or able to endure much fatigue without having their strength greatly exhausted, and their flesh much wasted; but when they once begin to regain these, their convalescence is usually rapid.

Scrofula prevails most in those climates where the atmosphere is cold and humid, where the seasons are variable, and the weather unsteady. From latitude 45 to 60 is the principal climate of this disease. A long continuance of inclement weather may increase any predisposition to scrofula; and in persons already much predisposed to it, any uncommon, though temporary exposure to wet and cold, is sometimes an exciting cause of an immediate attack.

Besides climate and exposure to moist air and atmospherical vicissitudes, every other circumstance which weakens the constitution, and impairs the general strength of the system, predisposes to scrofula; thus, breathing impure tainted air unfit for respiration, and living upon food of an unwholesome and indigestible nature, which does not afford due nourishment to the body, favours an attack of scrofula, by reducing the strength of the system, and making the person weakly. The neglect of due personal cleanliness and of salutary exercise, indolence, inactivity, the want of warm clothing, confinement in cold damp habitations, &c. may all be regarded as so many exciting causes, and satisfactorily account for the prevalence of the disease among children employed in large manufactories.

Scrofula is by no means a contagious disease, but beyond all doubt is of an hereditary nature, and is often entailed by parents on their children. The patient it is true is not born with the disease, but only with a greater aptitude to receive certain morbid impressions, which may bring the latent disposition into action.

The matter which scrophulous sores generate, does not seem to possess much acrimony; for if the sore be of a limited extent, the system does not suffer by its continuance; nor do the neighbouring parts seem to be much affected by its vicinity. Neither is it contaminating, as has been proved by Mr. Kortum,* who attempted to transfer scrofula from one person to another by inoculation; but although he took great pains to insert the matter completely, and although he repeated the experiment frequently, yet all his attempts failed of success; as no disease was communicated, nor even any evident irritation excited at the place where the matter was inserted. All apprehension of scrofula being propagated by contagion or contact, appears therefore to be a groundless prejudice.

It is a disease of very frequent occurrence in England, particularly in the large manufacturing towns, appearing under various forms, and in different degrees of severity, from a state of mildness, which hardly betrays any perceptible external symptoms, to a state of violence, which produces the most miserable objects of human wretchedness; and whenever it mingles with any accidental or local complaint, it makes all the symptoms worse and more difficult to cure: this happens particularly in syphilis.

The attacks of scrofula seem much affected or influenced by the periods of the seasons. They begin usually some time in the winter and spring, and often disappear, or are greatly amended, in summer and autumn. The first appearance of the disorder is commonly in that of small oval or spherical tumours under the skin, unattended by any pain on discoloration. These appear in general, upon the sides of the neck, below the ear, or under the chin; but

† De Vitio Scrofuloso, p. 218.

in some cases, the joints of the elbows or ankles, or those of the fingers and toes, are the parts first affected. In these instances we do not, however, find small moveable swellings, but, on the contrary, a tumour almost uniformly surrounding the joint, and interrupting its motion.

After some length of time, the tumours become larger and more fixed, the skin which covers them acquires a purple or livid colour, and being much inflamed, they at last suppurate and break into little holes, from which at first a matter somewhat puriform oozes out; but this changes by degrees into a kind of viscid serous discharge much intermixed with small pieces of a white substance, resembling the curd of milk.

The tumours subside gradually, while the ulcers at the same time open more, and spread unequally in various directions; after a time, some of the ulcers heal; but other tumours quickly form in different parts of the body, and proceed on in the same slow manner as the former ones, to suppuration. In this way the disease goes on for some years, and appearing at last to have exhausted itself, all the ulcers heal up, without being succeeded by any fresh swellings; but leaving behind them ugly puckerings of the skin, and scars of considerable extent. This is the most mild form under which scrofula ever appears.

In more virulent cases the eyes are particularly the seat of the disease, and are affected with ophthalmia, giving rise to ulcerations in the tarsi, and inflammation of the tunica adnata, terminating not unfrequently in an opacity of the transparent cornea.

In similar cases the joints become affected; they swell, and are incommoded by excruciating deep-seated pain, which is much increased upon the slightest motion. The swelling and pain continuing to increase, the muscles of the limb become at length much wasted. Matter is soon afterwards formed, and this is discharged at small openings made by the bursting of the skin. Being, however, somewhat of an acrimonious nature, it erodes the ligaments and cartilages, and produces a caries of the neighbouring bones. Hectic fever at last arises, and in the end proves fatal.

The bones also of scrofulous persons partake of the general disease in the constitution: they seem to contain a smaller proportion of animal earth, and a larger of gelatinous matter, than what accords with the composition of a healthy bone, on which account they are exceedingly susceptible of a morbid action. The diseases to which they are most liable, are general and partial enlargement, inflammation, suppuration, and exfoliation. They are also easily fractured, which facility is much increased, especially in the long bones, by the deficiency of solid substance; for the cylindrical shell is preternaturally thin, and therefore mechanically weak, so that the bone breaks upon the application of an inconsiderable force.

A diseased state of the vertebræ, which in consequence of the softness of their bodies occasions a protrusion of their spinal pro-

cesses, and a compression of the medulla, is generally allowed to be closely connected with scrofula.

The primary attacks of scrofula often admit of an apparent cure, while their sequellæ are secretly laying the foundation of diseases which undermine the patient's constitution, and unexpectedly manifest their insidious effects at a distant period of time, when no suspicion was entertained of their existence.

When scrofula is confined to the external surface, it is by no means attended with danger, although, on leaving one part, it is apt to be renewed in others; but when the ulcers are imbued with a sharp acrimony, spread, erode, and become deep, without showing any disposition to heal; when deep-seated collections of matter form among the small bones of the hands and feet, or in the joints; or tubercles in the lungs, with hectic fever, arise, the consequences will be fatal.

On opening the bodies of persons who have died of this disease, many of the viscera are usually found in a diseased state, but more particularly the glands of the mesentery, which are not only much tumefied, but often ulcerated. The lungs are frequently discovered beset with a number of tubercles or cysts, which contain matter of various kinds. Scrofulous glands, on being examined by dissection, feel somewhat softer to the touch, than in their natural state; and when laid open, they are usually found to contain a soft curdy matter mixed with pus. Examinations after death of those who have laboured under a diseased state of the spinal column have shown that almost all the glands are found in an enlarged, diseased, and often suppurated condition, and that cysts are also discovered, connected with the diseased vertebræ that contain curdy, purulent, and other matter of unequal consistence.

Scrofula is a disease, the cure which is of acknowledged difficulty. Its treatment naturally divides itself into two periods. The first is, that in which, without any local sore or other marked symptoms of disease, there is sufficient evidence of a scrofulous predisposition prevalent in the system. The other is that, in which some local sore, or other scrofulous symptom, which requires appropriate management, that may either concur with the general treatment of the constitution, or interfere with it, has actually taken place.

As scrofula is greatly promoted by the slow operation of a number of circumstances, which produce a gradual change in the constitution, there is great reason to expect benefit from placing the patient in a different situation of circumstances. If, for instance, the continuance of improper diet has seemed to favour the appearance of the disease, an amelioration of it will naturally counteract this tendency. A similar advantage will be derived from substituting the respiration of pure salubrious air, instead of what is tainted and unwholesome; and in like manner, every management conducive to health, and that will invigorate the body, will contribute to correct the disposition to scrofula.

The languor and debility which prevail in scrofula, naturally indicate the necessity of employing a plentiful supply of wholesome nourishment, in such quantity as the stomach can bear, without being overloaded, and of this light animal food ought to form a fair proportion. The quantity must be regulated by the appetite and powers of digestion. Milk, puddings, rice, and other farinaceous substances ought to constitute the remainder of the patient's diet. Where there is occasional atony in the stomach and languor, a moderate allowance of wine will be likely to prove salutary, but it will be best to give it between meals, with a bit of bread or cake.

To ward off an attack of the disease in those who show a predisposition to it, it will be adviseable that they take every day regular and moderate exercise, continued sufficiently long to dispose them to rest, without inducing any degree of fatigue. When the patient is either too young or too weakly to take sufficient exercise, by exertions of his own, external frictions assidiously applied, and persisted in for a length of time, are usually substituted, and, in young children in particular, have been practised in many cases with a very good effect.

Another highly important external application is bathing the body. The bath may be either warm or cold, simple, or impregnated with various medical substances. Cold bathing, especially in the sea, is a remedy universally employed in scrofula, and apparently with the greatest advantage in many cases; for it appears not only to improve the person's health and strength, but likewise to promote the dispersion of enlarged glands, and the resolution of indolent swellings in the joints, even after they have attained a considerable size. But in order that cold bathing may be practised with safety and advantage, the constitution should have vigour to sustain the shock of immersion without inconvenience. If the immersion be succeeded by a general glow over the surface of the body, and the patient feels cheerful, and has a keen appetite, we may conclude that the bath agrees with him; but if he shivers on coming out of the water, continues chilled, and becomes drowsy, we may be assured that the cold bathing will not prove serviceable, and ought therefore to be discontinued. In all weakly patients the immersion should be momentary.

When any doubt is entertained with regard to the probable effects of cold bathing, it will be a prudent precaution to premise the use of a warm bath, which is often serviceable in those cases of scrofulous weakness, which forbid the employment of a cold one. One great advantage of warm bathing is to relieve a certain dryness of the skin, which often accompanies scrofulous emaciation and weakness, and occasions much oppression and distress. A small number of immersions is, in general, sufficient to accomplish the object, and to prepare the patient for the safe and beneficial use of the cold bath; though, when a great degree of scrofulous debility prevails, it may be necessary to continue the warm bath-

ing, at the rate of two or three immersions a week, for some length of time.

At the commencement of a course of warm bathing, an immersion from twelve to twenty minutes, with a temperature of water varying from 90 to 100 of Fahrenheit's thermometer may be recommended; but persons much accustomed to the practice of warm bathing, in general remain longer at a time in the bath, and use a higher temperature of heat.

To promote the efficacy of the warm bath, frictions, with some stimulant substance, are often employed, and with advantage, particularly in certain cases of scaly scrofulous eruptions, and some of the more solid kinds.

The clothing of scrofulous patients ought to be of such a nature, as completely to protect the wearers against any inclemency of the weather, and to keep them comfortable and warm: a flannel dress ought therefore to be worn next to the skin in cold weather.

Every weakly scrofulous person, who wishes to recruit his health and strength, should retire to bed betimes each night, rise early in the morning, and, if possible, select for his residence a situation where the air is pure and dry.

The submuriate of mercury is by far the most celebrated of all the purgative medicines, which have been employed in the treatment of scrofula, and it is undoubtedly a serviceable remedy in many stages of the disease. To enjoy its beneficial effects however, with safety, we must be careful to avoid giving it in so large a quantity, as to produce the specific effects of mercury to any extent; for it is well known that any deep mercurial impression on the system, aggravates every symptom of scrofula. The hydrargyri submurias, however, when given cautiously in moderate doses, so as to act merely as an alterative, or gentle purgative, agrees well with scrofulous complaints, and greatly contributes to discuss tumours and resolve indurations of such a nature. But to produce the desired effect, this alterative course must be continued for a sufficient length of time, carefully watching its effect, lest it should exceed the prescribed bounds, and produce any ptyalism, or severe purging, The dose must be regulated by the age of the patient, and other circumstances. A few weeks trial will be sufficient to determine the probability of its removing or relieving the complaint.

In recent cases of obstruction, the submuriate of mercury joined with tartarized antimony,* has been used with benefit; and during the progress of the disease, where there is much irritation, or where there are deep-seated affections of the joints, opium has been added.

* ℞. Pulv. Cretæ Præparat. ʒj.
Hydrargyri Submuriat. iij.—vj.
Antimon. Tartarizat. gr. ij. M.
ft. Pulvis in Chartulas xij. dividend. quarum sumat. j. bis in die.

Muriated barytes is said to have been given in some cases of scrofula with success. The proper dose is from three to ten or twelve drops twice a day, according to the age of the person. Beyond a certain dose, it is apt to occasion sickness, tremors, and a loss of power.

The muriate of lime, we are given to understand by Dr. Wood,* has been much employed at the Newcastle Infirmary in lieu of the muriate of barytes, and with two great additional advantages; viz. its action was more immediate, and no bad consequences attended an over-dose, while at the same time its efficacy was decisive. Of the solution prepared agreeably to the Edinburgh Pharmacopœia, about a drachm for adults, and thirty drops for children, given in water twice or thrice a day, will be a sufficient dose.

A late writer on scrofula† tells us, however, that the muriate of lime had been employed by his colleague Professor Thomson of Edinburgh, in various cases of this disorder, without having derived benefit from it in a single instance. I can say little in its praise, as in the cases I have employed it, no evident amendment or advantage was derived from it.

Medicines of the narcotic tribe, but more particularly hemlock, have also been used for the cure of scrofula, both in the stage of swelling, and that of ulceration. From my own experience of hemlock, as well as the report made of it by others, it appears when administered internally,‡ to prove often serviceable in discussing swellings of this nature; and it likewise appears, in some cases of ulceration, to have afforded relief by being employed externally either in the form of poultice, or fomentation, or both. As an internal remedy in the ulcerated stage of scrofulous tumours, it seems to be inefficacious. It has, however, been considered by a modern writer§ as an useful auxiliary in cases of great irritation, particularly if it be combined with calomel or preparations of iron, when either of these remedies is indicated.

To enjoy the full benefit of the curative powers of hemlock, it will be necessary to give it to the full extent that the constitution can bear with impunity. The limit of the dose, therefore, is to be measured by its effects in producing incipient symptoms of giddiness, or nausea, which disturb the functions of the head and stomach. The course requires to be continued many weeks, before the good effects of its operation are perceptible.

* See the Edinburgh Medical Journal, vol. i. p. 147.

† —— Treatise on Scrofula by Mr. Russel, p. 85.

‡ ℞ Extract. Cinchon. ℥ij.
—— Conii ℥j. M.
fiant Pilul. XL. quarum sumat ij.—iij. bis vel ter de die.

§ See Essay on the Diseases of the Vessels and Glands of the Absorbent System, by W. Goodlad.

Lime-water and alkalies, as the sodæ subcarbonas, carbonate of ammonia, &c., are enumerated among the remedies often used in this disease, and administered, no doubt, under the supposition of an acid acrimony prevailing in the fluids. In some instances, a junction of soda with cinchona has been attended with a very good effect.

Burnt sponge is another remedy which has been much administered in scrofula, and frequently with advantage. It may be given either in the form of a bolus or draught.* A more active medicine, however, is the sodæ subcarbonas, which in now employed in lieu of the former, of which indeed, it is the basis. The dose, in these cases, is from ten to twenty grains or a drachm, twice or thrice a day.†

To invigorate the constitution, it will be necessary in the cure of scrofula to employ such medicines as are supposed to impart strength to the body. Of the vegetable class, the cinchona is the most esteemed; but previous to its use, and to insure the full benefit from it, the bowels must be previously cleared of any morbid accumulation of fæces, either by the submuriate of mercury or neutral salts, in the manner before mentioned. The cinchona seems, however, best suited to those cases where there are extensive ulcers or large abcesses, with copious exhausting discharges of purulent matter; and in general, to communicate that degree of energy to the actions of the system, which tend to support and confirm the patient's strength. If the stomach will bear the powder, it will be the best mode of exhibiting it; but should it disagree, then either a decoction or infusion of it may be substituted, or we may try the extract properly dissolved.

If none of these preparations agree with the patient or we wish after a time to change the medicine, some of the other vegetable tonics, such as columbo, cascarilla, gentian, myrrh, &c. may be given; and to add to their efficacy, we may conjoin some agreeable aromatic, such as the tinctura cardamomi, or tinctura cinnamomi composita.

Of the mineral tonics, iron, and the sulphuric and nitric acids, are most valued for their virtue in the cure of scrofula. The latter

* ℞. Spong. Ust. ℈j.—℥ss.
Pulv. Rhei gr. iij.
Mel. Optim. q. s. M.
ft. Bolus bis in die sumendus.

Vel

℞. Spong. Ust. ℈j.
Confect. Aromat. gr. x.
Aq. Menth. ℥j.—℥jss. M.
ft. Haustus.

† ℞. Sodæ Subcarbonat. ℥iij.
Pulv. Cinchonæ ℥jss.
Mucilag. Gum Acaciæ q. s. M.
ft. Electuarium cujus sumat quantitatem nuc. moschatæ ter in die. *Vel*
℞. Sodæ Subcarbonat. ℥ij.
Aq. Puræ ℥iv.
Tinct. Lav. C. ℥ss.
Syrup. Cort. Aurant. ℥ij. M.
Capiat. Cochl. larg. ij. ter quaterve in die.

are palatable, grateful to the stomach, and agree with all forms and stages of the disease, being peculiarly adapted to that state of fever which is connected with the putrid sloughs that are often formed on the inside of large tumours when first exposed to the air, and to that state of weakness which disposes to copious perspiration upon any moderate degree of exercise. Dr. Mosman informs us,* that he found muriated barytes, and the nitric acid, to increase the appetite, and impart vigour to the system; but he never saw them exhibit any beneficial effect on the morbid glands. A few drops of either of the acids may be given, with each dose of the cinchona, or other vegetable tonics. Of the preparations of iron, the carbonate, ferrum ammoniatum, and muriated solution, have been found most efficacious. We may give doses of these proportioned to the age of the patient, twice or thrice a day. To derive the full benefit from tonic medicines in scrofula, it will be adviseable occasionally to administer the vegetable and mineral at the same time in combination. (See formulæ thereof under the head of Dyspepsia.) About ten grains of the ferrum ammoniatum, in the space of twenty-four hours, will be sufficient for an adult, and so in proportion for children.

Iron is less liable than cinchona to oppress the stomach with indigestion, or to produce accumulation in the bowels, and on these accounts is a more unexceptionable medicine in scrofula than the latter. During the use of tonics, a few grains of rhubarb, with one or two of the submuriate of mercury, may be given now and then.

Mineral waters of the sulphureous and chalybeate class may likewise prove serviceable in the treatment of the disease under investigation.

Arsenic is another mineral production which has been employed in scrofula with some advantage, and is said to contribute greatly to the cure of scrofulous ulcers. From one to five drops of a solution of this (see Intermittents) may be given to children twice or thrice a day, according to their age, and from five to ten, or more to grown persons, diminishing the quantity, if it affects the bowels.

Besides employing medicines internally to correct the cachectic state of the fluids and strengthen the system, we are often obliged likewise to make use of external applications.

Upon the first appearance of any tumour, it will always be adviseable to disperse it, if possible, as we shall thereby relieve the patient from the risk of some very troublesome consequential symptoms. The discutients commonly employed are, different saturnine applications, the liquor ammoniæ acetatis, solutions of the muriate of ammonia, camphorated and ammoniated oils, a mixture of fresh bile with saponaceous liniment, plasters of soap, ammoni-

* See his Essay on the Nature, Origin and Connection of Scrofula and Glandular Consumption.

acum, and mercury, sea-water poultices, hemlock, mercurial ointment, electricity, and likewise blisters. The quercus marinus or sea-tang, bruised, and made into a poultice, is an application much recommended. These may be tried in rotation, and where one fails, another may probably succeed. Where sea-bathing can be obtained, it will prove the most efficacious of all remedies.

It is only, however, in the incipient stages of the attack, and before effusion has attained a stationary state, that any benefit is to be expected from discutient applications: for after the parts have lost their activity, and have become indolent, these remedies will have little or no power over them.

The topical detraction of blood, by means of leeches, will prove a powerful mean in those cases of large glands which lie superficially, or adhere to the surface, and which are attacked with inflammation, that threatens to terminate in suppuration, but it is only under such circumstances that local detractions of blood are adviseable.

During the incipient or inflammatory stage of scrofulous glandular swellings, an occasional gentle purgative to keep the bowels soluble, and consisting of a few grains of rhubarb joined with calomel, may prove serviceable.

In a case of some years' standing, in which the glands of the neck had become enormously enlarged, and the tumour was attended with excruciating pains, much relief was obtained by anointing the parts morning and night with an ointment composed of one drachm of tartarised antimony rubbed with an ounce of lard, even after considerable doses of opium administered internally had failed to alleviate the pain. After using the ointment a few days several pustules of a considerable size appeared on the tumour, being the usual consequence of its application.

Galvanism and smart electrical shocks passed through scrofulous tumours of an indolent nature, particularly when occupying glands in the neck, have in some instances had a good effect in dispersing them.

Repeated frictions simply with the hand without any substance interposed, except perhaps a little flour to prevent the abrasion of the skin, and continued for a considerable length of time each day, have been much recommended in indolently enlarged glands, and in some instances apparently with a very good effect.

The application of blisters to glandular swellings of this nature, has sometimes proved effectual in occasioning them to suppurate quicker than they otherwise would have done. Where the activity of the inflammation is on the decline, and the swelling of a gland has become indolent and stationary, the stimulus of a blister imparts fresh vigour of action, which possibly may dispose the swelling to suppurate. In some instances, both blistering and electricity have, however, been attended with a direct contrary effect, and have occasioned them to disperse.

When we fail in our attempts to disperse scrofulous swellings,

and a suppuration has commenced, we are to promote and expedite this as much as we can. Poultices, and other warm applications, have little effect, however, in bringing forward these kind of tumours, and when long used, they tend to weaken and relax the parts so much, that the sores which ensue, are rendered difficult of cure. Washing the parts with strong brine has sometimes been employed with success, and has expedited the formation of matter in scrofulous swellings.

Where tumours are situated upon any of the large joints, and suppurate, or there are deep-seated collections which gradually increase, without showing any tendency to advance towards the surface, the matter should be discharged by making an opening with a lancet or trocar, or by passing a seton through them, which probably may be the preferable way; but where they are situated so as that no harm can arise from the matter remaining in them, they ought always to be suffered to break of themselves; because the scrofulous matter is liable to be rendered more acrid by communication with the air, and the ulcers usually prove more tedious and difficult to cure, when the tumours are opened, than when they are allowed to evacuate their contents spontaneously.

To correct the discharge, repress or destroy any luxuriant fungous growth, promote a proper suppuration, and dispose the ulcers to heal, it is usual to employ gentle escharotics, such as the hydrag. nitroco-oxydum, verdegris, and burnt alum, which may either be sprinkled over them, or be applied mixed up with some mild ointment, as the unguentum ceræ. Where there is a languid action in any sore, which suspends its progress towards amendment, and renders it stationary, the use of gentle stimulants will be proper. A solution of the neutral or metallic salts, as the muriate of ammonia, oxymuriate of mercury, nitrate of silver, or the sulphate of zinc, will stimulate the ulcer to shoot forth granulations. A solution of the latter, in the proportion of from half a drachm to one drachm to about eight ounces of water, is considered by Mr. Goodlad* to be the best application that can be made to scrofulous sores that have suppurated and opened.

The application of linen cloths dipped in cold water, sea-water, or lime-water, and renewed as frequently as they become dry throughout the course of the day, with that of some mild plaster or ointment, such as the ceratum plumbi superacetatis, spread upon fine lint, by night, is a mode of treatment much recommended in scrofulous ulcers.

If these fail in healing the ulcers, the linen rags may be moistened with a solution of two drachms of the plumbi superacetas in a pint of water, from which application I have seen very good effects derived. Dr. Darwin used powdered oak-bark mixed with white lead.

Scrofulous ulcers which had resisted many other remedies, have healed under a weak solution of nitric acid in water.

* See his Tract on Scrofula.

In sores which are spreading and irritable, the application of an aqueous solution of opium or of hemlock, and afterwards of a solution of zinc, may be beneficial.

Where the granulations rise above the surface, and are broad and flabby, and where pressure cannot be applied, the sorrel poultice has proved useful.

In sores of an ugly, gleeting, and ill-conditioned appearance, much benefit has been obtained by the application of a poultice made with crumbs of bread moistened with a solution of about an ounce of the crystals of soda in a quart of water.

THE VENEREAL DISEASE.

I. GONORRHŒA VIRULENTA.

By a gonorrhœa virulenta or clap, is to be understood a secretion and discharge of matter from the mucous membrane and glands of the urethra, in consequence of an application of syphilitic matter to them.

No certain rule can be laid down with regard to the time that a clap will take before it makes its appearance after infection has been conveyed. With some persons it will show itself in the course of three or four days; while with others there will not be the least appearance of it before the expiration of some weeks. It most usually is perceptible, however, in the space of from six to fourteen days, and in a male begins with an uneasiness about the parts of generation, such as an itching in the glans penis, and a soreness and tingling sensation along the whole course of the urethra; soon after which, the person perceives an appearance of whitish matter at its orifice, and also some degree of pungency on making water.

In the course of a few days the discharge of matter will increase considerably, will assume most probably a greenish or yellowish hue, and will become thinner, and lose its adhesiveness; the parts will also be occupied with some degree of redness and inflammation: in consequence of which, the glans will put on the appearance of a ripe cherry, the stream of urine will be smaller than usual, owing to the canal being made narrower by the inflamed state of its internal membrane, and a considerable degree of pain and scalding heat will be experienced on every attempt to make water.

Where the inflammation prevails in a very high degree, it prevents the extension of the urethra on the taking place of any erection, so that the penis is at that time curved downwards with great pain, which is much increased, if attempted to be raised towards the belly, and the stimulus occasions it often to be erected, particularly when the patient is warm in bed, and so deprives him of sleep, producing in some cases an involuntary emission of semen. The above symptoms denote the presence of a cordee.

In consequence of the inflammation, it sometimes happens, that at the time of making water, owing to the rupture of some small blood-vessel, a slight hemorrhage ensues, and a small quantity of blood is voided. In consequence of inflammation, the prepuce likewise becomes often so swelled at the end, that it cannot be drawn back; wh ch symptom is called a phymosis; or that, being drawn behind the glans, it cannot be returned; which is known by the name of paraphymosis. Now and then, from the same cause, little hard swellings arise on the lower surface of the penis, along the course of the urethra; and these perhaps suppurate, and form into fistulous sores.

The adjacent parts sympathizing with those already affected, the bladder becomes irritable, and incapable of retaining the urine for any length of time, which gives the patient a frequent inclination to make water, and he feels an uneasiness about the scrotum, perinæum, and fundament. Moreover the glands of the groin grow indurated and enlarged, or perhaps, one of the testicles becomes swelled and inflamed; in consequence of which, he experiences excruciating pains, extending from the seat of the complaint up into the small of the back, he gets hot and restless, and a small symptomatic fever arises.

Where the parts are not occupied by much inflammation, few or none of the last mentioned symptoms will arise, and only a discharge with a slight heat or scalding in making water, will prevail.

In consequence of the inflammation of gonorrhœa extending along the urethra, it sometimes happens that the mucous membrane of the bladder becomes thickened, indurated, and ulcerated, and pours out a considerable quantity of muco-purulent matter, which added to the urine, gives to it the appearance of whey.

If a gonorrhœa is neither irritated by an irregularity of the patient, nor prolonged by the want of timely and proper assistance, then in the course of about a fortnight or three weeks, the discharge, from having been thin and discoloured at first, will become thick, white, and of a ropy consistence, and from having gradually begun to diminish in quantity, will at last cease entirely, together with every inflammatory symptom whatever: whereas, on the contrary, if the patient has led a life of intemperance and sensuality, has partaken freely of the bottle and high seasoned meats, and has at the same time neglected to pursue the necessary means, it may then continue for many weeks or months, and on going off, may leave a weakness or gleet behind it.

Another risk arising from a long continuance of a gonorrhœa, especially if it has been attended with inflammatory symptoms, or has been of frequent recurrence, is the taking place of one or more strictures in the urethra. These are sure to occasion a considerable degree of difficulty as well as pain in making water, and instead of its being discharged in a free and uninterrupted stream, it splits into two, or perhaps is voided drop by drop. Such affections become, from neglect, of a most serious and dangerous nature, as

they not unfrequently block up the urethra, so as to induce a total suppression of urine.

We may rest assured that inflammation in the urethra, is the usual source of all strictures, and for the most part, this is excited by gonorrhœa; occasionally it has, however, arisen from some other cause producing continued irritation in the parts, as for instance, from some previous disease in the bladder, or prostate gland.

Where a gonorrhœa has been of long standing, warty excrescences are likewise apt to arise about the parts of generation, owing to the matter falling and lodging thereon; and they not unfrequently prove both numerous and troublesome.

Having noticed every symptom which usually attends on gonorrhœa in the male sex, it will only be necessary to observe, that the same heat and soreness in making water, and the same discharge of discoloured mucous matter, together with a slight pain in walking, and an uneasiness in sitting, take place in females as in the former: but as the parts in women which are most apt to be affected by the venereal poison, are less complex in their nature, and fewer in number, than in men, so of course the former are not liable to many of the symptoms which the latter are; and from the urinary canal being much shorter, and of a more simple form in them than in men, they are seldom, if ever, incommoded by strictures. With women it indeed often happens, that all the symptoms of a gonorrhœa are so very slight, that they experience no other inconvenience than the discharge, except perhaps immediately after menstruation, at which period it is no uncommon occurrence for them to perceive some degree of aggravation in the symptoms.

Women of a relaxed habit, and such as have had frequent miscarriages, are apt to be afflicted with a disease known by the name of fluor albus, which it is often difficult to distinguish from gonorrhœa virulenta, as the matter discharged in both is in many cases of the same colour and consistence. The surest way of forming a just conclusion, in instances of this nature, will be to draw it from an accurate investigation, both of the symptoms which are present, and those which have preceded the discharge; as likewise from the concurring circumstances, such as the character and mode of life of the person, and the probability there may be of her having had venereal infection conveyed to her by any connection in which she may be engaged.

Not long ago it was generally supposed that gonorrhœa depended always upon ulcers in the urethra, producing a discharge of purulent matter; and such ulcers do indeed occur, in consequence of a high degree of inflammation and suppuration; but many dissections of persons who have died while labouring under a gonorrhœa, have clearly shown that the disease may, and often does exist, without any ulceration in the urethra, so that the discharge which appears, is usually that of a vitiated mucus, thrown out

from the mucous follicles of the urethra. On opening this canal, in recent cases, it usually appears red and inflamed, its mucous glands are somewhat enlarged, and its cavity is filled with matter to within a small distance from its extremity. Where the disease has been of long continuance, its surface all along, even to the bladder, is generally found pale and relaxed, without any erosion.

In the cure of a gonorrhœa we are to be directed by the symptoms which are present, and by the state of the disease at the time that advice is applied for. If at the commencement of the complaint the patient should experience much pain, heat, and difficulty in making water, together with other inflammatory symptoms, and he is at the same time of a full plethoric habit, it may be adviseable to have recourse to antiphlogistic means, as bleeding, keeping the body open with gentle laxatives, allaying irritation by means of sedative injections,* drinking copiously of mucilaginous diluting liquors, such as barley-water, linseed-tea, or solutions of gum acaciæ in water; making use of a very spare regimen, abstaining from all kinds of fermented and spirituous liquors, and avoiding exercise; but if an inflammatory diathesis does not exist, nor any great degree of ardor urinæ prevail, it then will be unnecessary to have recourse either to general bleeding from the system, or to purging.

In avoiding purging when not necessary, we are, however, to take care not to run into the opposite extreme, by suffering costiveness to prevail, as the lodgment of indurated fæces, as well as the voiding of them, might prove a stimulus to the urethra. In every stage of gonorrhœa it therefore will be adviseable to keep the body perfectly open, by a regular use of some mild laxative.†

Nitre is a medicine which is often employed where there is any heat of urine; but this is very erroneous, for it cannot fail to increase the pain in making water, by its stimulus on the inflamed urethra.

Among the symptoms attendant on gonorrhœa, it has been mentioned that phymosis and paraphymosis are sometimes present.

* ℞. Ol. Amygdal. ℥iv.
Liquor. Plumbi Acet. ♏. xx. M.
ft. Injectio.

Or, an injection of thin lintseed tea, of the mucilage made from the pith of sasafras, or even of warm milk and water. E.

† ℞. Confect. Sennæ ℥jss.
Potassæ Supertart. ʒij.
Pulv. Jalapæ ʒss.
Syrup. Simp. q. s. M.
ft. Electuarium cujus sumat Cochl. minim. j. mane et vespero.

Vel

℞. Magnes. Sulphat. ℥ij.
Aq. Fervent. ℥vij.
Capiat. Cochl. magna iv. pro dos.

In such cases it will be necessary to have recourse to emollient fomentations, together with the application of poultices, composed of linseed meal, or crumb of bread, mixed up with a solution of the plumbi superacetas or a sufficient quantity of the liquor plumbi acetatis diluted with common water, which are to be laid on cold; and the patient is at the same time to keep as much as possible in a recumbent position; or, if obliged to walk about, he should support the penis up to the belly, by means of a proper bandage.

In those cases both of phymosis and paraphymosis accompanied by considerable inflammation, it will be adviseable previous to adopting the foregoing steps to draw blood freely from the arm, to administer cooling purgatives every other day, and to observe a strict antiphlogistic regimen with rest. Where a considerable degree of stricture is present, the division of the prepuce may be necessary and proper, provided the patient is not of an irritable habit or unhealthy.

In phymosis, besides pursuing the plan just recommended, it will be adviseable every now and then to inject a little warm milk and water between the prepuce and glans penis, for the purpose of washing off any matter that may have lodged there, and which, if suffered to remain for any length of time, might produce ulceration. Where phymosis is accompanied with chancres, it will be proper to inject mercurials (such as the oxy-muriate, in the proportion of one grain to an ounce of water) inside the prepuce. No preparation of mercury should, however, be employed either externally or internally, where erysipelatous inflammation of the penis supervenes on phymosis, paraphymosis, or chancre.

Where a chordee attends on gonorrhœa, rubbing the parts with a strong solution of opium, or the tinctura opii, and keeping linen pledgets, dipped in the same, constantly applied (taking care to renew them, however, as often as they become warm,) will greatly tend to remove both the pain and the spasmodic contraction.

In consequence of the inflammation running high, and extending a considerable way up the urethra, a tumour sometimes forms in the perinæum. In this case we should endeavour to disperse it by means both of general and topical bleedings, but more particularly the latter; by the application of saturnine poultices, such as before mentioned; by frequently administering laxative medicines, and by making use of a very spare regimen. Rubbing mercurial ointment on the part has been advised in cases of nature; but it is seldom attended with a good effect.

Where the inflamation shows no disposition to remit from adopting these means, but on the contrary seems to proceed with haste to a suppuration, the evacuation of the matter externally should be promoted, to prevent its making an opening into the urethra.

Sometimes the bladder becomes affected in consequence of the

inflammation extending to it; in which case the patient is troubled with a frequent inclination to make water, without the ability of voiding it, together with pain in the organ itself, and a considerable degree of tension over the os pubis. To remove this affection, it will be necessary to have recourse to general bleedings, copious dilution, and emollient fomentations and clysters, &c. as advised under the head of Ischuria. In some cases of an obstinate suppression of urine, and where the endeavour to draw it off has failed, by placing the patient in a warm bath, and bleeding him ad deliquium animi, the surgeon has been enabled to pass the catheter with great ease.

The tinctura tabaci administered in a little linseed-tea in doses of thirty drops, repeated twice or thrice a day, has proved an excellent remedy in dysuria arising in gonorrhœa, either from too early an use of astringent injections, or any other cause.

It has already been mentioned, that in consequence of the inflammation of gonorrhœa extending along the urethra, the mucous membrane of the bladder sometimes becomes thickened, indurated and ulcerated, so as to occasion it to pour out a considerable quantity of muco-purulent matter, which, added to the urine, gives it the appearance of whey; and moreover, that there is often a discharge of blood also. An obstinate case of this nature came lately under my care, and arose from an imprudent use of strong astringent injections, and an internal one of the tinctura lyttæ.

The cure of this chronic species of inflammation is to be effected by injecting the bladder with emollient decoctions and oil;* by the use of uva ursi taken in the dose of a drachm three times a day; and by a free use of soda-water.

The prostate gland as well as the bladder, is sometimes affected also in consequence of gonorrhœa, and an inflammation arises in it, which is known by a pain and heat in the perinæum extending into the rectum, and a frequent desire to make water, without the ability of voiding more than a few drops at a time. To obviate this, we should make use of topical bleedings, by the application of leeches to the perinæum, together with a warm hip bath and emollient fomentations and poultices, and we should keep the patient's body open with laxative medicines and clysters. Where there is great pain and irritation, without any febrile symptoms, we may employ anodynes, both by the mouth, and by adding them to the clysters.

In those deplorable cases where a total suppression of urine arises, and we are obliged to resort to an operation from an inability of drawing it off either by a catheter or hollow bougie of

* ℞. Amyli ʒij.
Aq. Fervent. ℥v.
Tinct. Opii Vinos. ʒj. M.
ft. Injectio.

Vel

℞. Liquor Calcis ℥iv.
Ol. Lini Recent. ʒss.
Liquor. Plumbi Acetat. ʒss.
M.

elastic gum, I think we should puncture the bladder above the pubes in preference to any other mode.

It seldom happens that a hemorrhage of any consequence takes place in gonorrhœa; but when there does, it is to be suppressed by injecting sedatives and astringents into the urethra, such as a solution of plumbi superacetas or zinci sulphas, in rose-water; by the application of pledgets, dipped in the same, externally, and by keeping the body at rest. Where these means prove insufficient to stop the hemorrhage, we must apply a sufficient pressure.

Practitioners who aim at popularity, by endeavouring to make hasty cures of gonorrhœa, are much in the habit of employing astringent injections on its first appearance. A frequent consequence, however, of this mode of practice is, that although the discharge is, perhaps, speedily suppressed, the person is soon afterwards attacked with an inflammation and swelling in one or both of the testicles.

Previous therefore to an use of astringent injections, we should take care to remove every inflammatory symptom whatever, by a strict pursuance of the antiphlogistic plan; and that, in employing them after we have effected this, we ought to commence with those only of a moderate degree of astringency.

During the inflammatory stage it will be most proper to employ those of a sedative nature, as before advised; but on its going off, the astringent ones* here recommended may be substituted.

An injection of the sulphate of zinc in the proportion of about a grain or two, to each ounce of water, though perhaps one of the most active and successful of any we usually recommend, is apt in persons of an irritable habit to produce occasionally, great pain, an increase of the discharge, and a peculiar liability to swelling of the testicles. Under such circumstances, we are informed by Mr. Henry,† that he was induced to make trial of an injection, composed of eight or ten grains of the acetate of zinc, dissolved in four or six ounces of water, or of a thin mucilage of quince-seeds, or a decoction of linseed or of barley, the success of which exceeded his expectations, and far surpassed that of any, the use of which, he had ever witnessed.

When the inflammation has somewhat abated, and the discharge still continues in a virulent form, as likewise in those cases where there is reason to suspect that there are ulcerations in the

* ℞. Zinc. Sulphat. ℈j.
Aq. Rosæ ℥viij. M.
ft. Injectio.
Vel
℞. Plumbi. Superacet. gr. xv.
Zinc. Sulphat. gr. x.
Aq. Distillat. ℥vj. M.

† See Medical and Physical Journal, vol. ix. p. 53.

urethra, mercurial injections* will be likely to be attended with a very good effect, by easing the ardor urinæ, lessening the discharge, and shortly removing the complaint altogether.

In consequence of a sympathy of the parts affected, or the having imprudently used any severe exercise, or had too early recourse to strong astringent injections, it sometimes happens, that inflammation and swelling attack one of the testicles, showing themselves at first, by a similar affection of the spermatic vessels and epididymis.

In these cases we must rigidly pursue an antiphlogistic mode of treatment, by bleeding from the system, where an inflammatory diathesis prevails, and by topical bleeding by means of leeches where it does not; besides which, we should give the patient a brisk purge† every third or fourth day, and confine him to a very spare regimen, and to a recumbent posture.

To abate the swelling and inflammation, the parts may be bathed several times a day with some discutient embrocation,‡ and afterwards be covered with small pledgets dipped in the same, which are to be renewed as often as they become dry or warm. By night a poultice of linseed or rye-meal, moistened with a solution of the plumbi superacetas, may be kept to the part; but it is also to be applied cold; and in order that the testicles may not at any time hang by their own weight, the scrotum should be supported by a suspensory bandage.

Almost every case of inflamed testicle will terminate favourably, by paying proper attention to this plan; but when, either from improper treatment, neglect, or any untoward circumstance, a suppuration has ensued, the matter must be discharged by making an opening into the most dependent part of the abscess, and the remainder of the treatment must be the same as in collections of pus in other parts of the body.

Emetics have been much administered in inflammation of the testicle, but they seem to afford most relief in those cases where the swelling is unaccompanied by any hardness. The cupri sulphas may be employed as advised under the head of Phthisis, when we judge vomiting to be proper.

Where a hardness remains after the inflammation and swelling have subsided, poultices of hemlock, and its use internally joined with the cinchona bark, together with the application of mercurial unction every night, will be the most likely remedies to remove it.

* ℞. Hydrarg. Oxymuriat. gr. ij.
Solv. in Tinct. Opii ʒij.
et adde
Aq. Distillat. ℥viij.
Ammon. Muriat. gr. vj. M.

† ℞. Pulv. Jalapæ ʒss.
Hydrargyr. Submur. gr. v. M.
ft. Pulvis.

‡ ℞. Liquor. Ammon. Acetat.

Vel

℞. Plumbi Superacet. ʒss.
Aq. Rosæ ℥iv. M.
or Simple vinegar and water applied cold. E.

The matter discharged in gonorrhœa, being in some instances of an acrid and virulent nature, is apt, by lodging between the prepuce and glans penis in men, and on the labia pudendi in women, to occasion an excoriation and ulceration in these parts. To prevent such consequences, it will be right to pay strict attention to cleanliness, by washing them at least twice a day. When they take place, we must employ lotions of plumbi superacetas, or the liquor plumbi acetatis, sufficiently diluted with water, suspending the penis at the same time to the abdomen, by means of a proper bandage.

Warty excrescences now and then appear about the external organs of generation in both sexes, as a consequence of gonorrhœa and chancres. They are of various sizes, appearance, and consistence, adhering sometimes by a narrow base, and sometimes by a broad one. Wherever a ligature cannot be applied round them, from the broadness of their base, or their being very numerous, they may either be touched with caustic, or be destroyed by the frequent application of other stimulants, such as acetic acid, a solution of the oxymuriat of mercury, ammonia muriata, or savine powder. This last has been found to succeed when all the other usual remedies have failed. It acts by producing a considerable discharge from the surface, by which the excrescence is gradually wasted without causing an eschar, like a caustic application. Moreover, it gives little or no pain, and is never productive of inflammation, which not unfrequently follows the use of either a solution of the oxymuriat of mercury, or pure potash, or any of the potent caustics.

In consequence of inflammation, certain parts of the urethra are apt to become contracted, and to occasion strictures, which cause the urine, instead of flowing in a free and direct stream, to split into two, or to be voided drop by drop. The most usual way to remove these is, by a regular and long-continued use of a bougie; and probably, if made of the elastic gum, might be preferable to those in common use. Were all such as are afflicted with these complaints, not to neglect this remedy, we should seldom, if ever, meet with those dreadful cases of suppressed urine which occur in practice.

In making use of bougies, it will, however, be necessary to attend to the following rules:

1st, To begin with one of a moderate size, and so to increase it very gradually; but previous to its introduction, I would recommend it to be held near a fire for a short time, so as to soften it, and then to bend it in the shape of a catheter, so as to adapt it to the curvature of the urethra, by which means its passage will be greatly facilitated.

2dly, To employ no force in introducing it; but where we meet with great resistance, to be content with merely suffering its point to press against the stricture, for a short time each day, with the

hope that by a perseverance in this plan a dilatation of the contracted part may at last be effected.

3dly, To wear it at first, only for about half an hour, gradually increasing the time, as the parts can bear it without irritation.

4thly, Never to pass it into the bladder, except at first to ascertain the extent of the disease, but merely to carry its point some small distance beyond the stricture or strictures.

5thly, To guard against its slipping into the bladder, by bending its end, and tying it with a cotton thread fastened to the penis.

6thly, To avoid all exercise during its introduction; and,

7thly, To continue its use for a considerable length of time after the disappearance of the stricture, and again to have recourse to it, on the least return of obstruction.

In those cases where a bougie, even of the smallest size, cannot be passed, as likewise in those which are of such long standing as to preclude the hope of a perfect recovery from its use, it has been proposed to make use of caustic. This was first advised by the late Mr. John Hunter, and since his time, has been much urged by Sir Everard Home. It appears from the report of this gentleman, that Mr. Hunter, fully sensible of the many inconveniences which attended the application of caustic to strictures in the urethra, by means of a canula, as at first practised, had for some years previous to his death, adopted a more improved mode of applying it; and that he himself has continued to make use of it ever since, without having ever found it to be attended with disadvantage.

This improved mode of applying the caustic is thus managed: take a bougie of a size that can readily be passed down to the stricture, and insert a small piece of lunar caustic into the end of it, letting the caustic be even with the surface, but surrounded every where laterally by the substance of the bougie. This should be done some little time before it is required to be used; for the materials of which the bougie is composed, become warm and soft by being handled, in inserting the caustic; and therefore the hold the bougie has of the caustic, is rendered more secure after it has been allowed to cool and harden.

This bougie, so prepared, is to be oiled and made ready for use; but previous to passing it, a common bougie of the same size is to be introduced down to the stricture, to clear the canal, and to measure exactly the distance of the stricture from the external orifice; this distance being marked upon the armed bougie, it is to be passed down the stricture, immediately upon withdrawing the other. When it is found in contact with the obstruction, it is to be steadily retained there, with a moderate degree of pressure at first, and less as it is longer continued, since the bougie becomes soft by remaining in the urethra, and readily bends if the pressure is too great.

The time it is to remain, must depend a good deal upon the sensations of the patient, and the length of time the parts have

been diseased; but on the first trial, it should not be for more than a minute, as it then gives greater pain than on any future application. The pain produced by the caustic is not felt so immediately as it would be natural to expect: the first sensation arises from the pressure of the bougie on the stricture, a little after there is the feeling of heat, and then the parts become painful.

As soon as the caustic begins to act, the surgeon who applies it is made sensible of it by the smaller arteries of the parts beating with unusual violence, which is very distinctly felt by the finger and thumb that grasp the penis.

After the caustic has been withdrawn, it is desirable that the patient should make water, as, in that way, any of the remains of the dissolved caustic are washed off; but it sometimes happens that no water will flow at the first effort. When that is the case, it should not be urged, as it is not of any great consequence.

It happens not unfrequently, that at the first time of making water, some blood passes along with it; this is also of no bad consequence, but is rather favourable; as when it has occurred, the stricture usually proves to be so far destroyed, that at the next trial the bougie passes on to the bladder. Every other day appears, in general, to be as often as it is prudent to apply the caustic.

By this mode of arming the bougie, strictures in the membranous part of the urethra may have caustic applied to them, which cannot be done by a silver catheter, unless made flexible, and even in that state it is liable to many objections.

It appears that Mr. Hunter made use of caustic only in cases of impervious stricture; but Sir Everard Home, from a number of facts, thinks it established as a general principle, that the irritable state of a stricture is kept up, and even increased by an use of the bougie, but lessened and entirely destroyed by the application of lunar caustic: hence he recommends the use of the caustic in many cases likewise of spasmodic stricture, in preference to the bougie. In speaking of the comparative effects of the bougie and caustic, he observes, that, from what he has seen, he thinks he may safely infer, that the caustic is a mode of cure more extensively useful, milder, quicker, more effectual, and more permanent than the bougie.

So general and indiscriminate an use of caustic, as is here recommended by Sir Everard Home, appears to me to be injudicious, and likely, in many instances, to be productive of injurious effects.

In very irritable habits, it might probably be a good plan to give a full dose of opium an hour or so previous to the application of caustic to the strictured parts.

The practice of applying caustic should, I think, be confined to such strictures of the urethra as are either utterly impervious, or so contracted as to be incapable of dilatation by the common bougie; for the urethra, even in its healthy state, being tender and irritable, and connected with parts of great importance in the system, all

violent remedies ought to be applied to it with the greatest caution. The invariable rule to be followed, should be to endeavour to dilate all strictures by means of a common bougie before any attempt is made to effect their removal with caustic.

The bougie armed with caustic should be kept as a remedy of reserve to be employed in those more difficult and complicated cases, in which the former has failed, or to which it is inapplicable. It must, however, be admitted, that the dilatation effected by the common bougie is seldom more than a temporary cure, particularly in strictures of long standing: for although the passage may be dilated sufficiently for the urine to pass, yet there remains the original tendency for contraction, which generally returns sooner or later on any exposure to cold, or act of intemperance.

Caruncles and excrescences in the urethra sometimes arise as a consequence of gonorrhœa, but they are usually situated towards its extremity, and never any length within it. They are to be removed by the bougie and caustic, as well as strictures.

Where a spasmodic constriction of the urinary passage ensues in gonorrhœa (which is known by its suddenly taking place without any previous appearance of interruption, and its being as suddenly removed,) we must have recourse to emollient applications, such as fomenting with flannel cloths wrung out in a warm infusion of chamomile-flowers and bruised poppy-heads, and rubbing the penis with tinctura opii and æther combined. Where these fail, a warm bath, together with the internal use of opium, in considerable doses, must be employed. A combination of the submuriate of mercury with opium, has been attended with a very happy effect in many cases of a retention of urine in gonorrhœa from spasmodic strictures in the urethra. Two grains of the former, with one of the latter, may be given every second hour for six hours, unless the desired effect is produced sooner. To prevent any return of the complaint a pill of the same nature may be continued night and morning for a few days.

In suppressions of urine arising from spasm, it is observed under the head of Ischuria, that the profession is indebted to Mr. Cline for the discovery of a very efficacious remedy. This is the tinctura ferri muriatis, which we are instructed to give in doses of ten drops, repeated every ten minutes, until some sensible effect is produced. After six doses the urine usually flows freely, the patient previously becoming a little sick and faint.

If we are foiled in overcoming the spasmodic contraction by these means, we may endeavour to introduce an elastic gum catheter, but no violence should be used in passing it.

The enema nicotianæ* has proved eminently useful in many cases of suppressed urine arising from spasm, where all other means have

* ℞. Fol. Nicotian. ʒss.—ʒj.
Aq. Bullient. ℥xj. Col.
ft. Enema.

failed: the effect is often powerful and decided; the patient becomes faint and sick, the pulse sinks, his whole body is bathed in perspiration, and in a few minutes the urine will often flow in a moderate stream.

In consequence of the repeated attacks of a gonorrhœa, and the debility of the parts occasioned thereby, it not unfrequently happens that a gleet or small discharge remains behind. In recent cases, the disease may in general, easily be removed; but in those of long standing, where the mucous glands have suffered much relaxation, or where there is either a stricture or callosity, it may continue for life in spite of our best endeavours to cure it, having however certain intervals.

This is, nevertheless, to be attempted by a frequent use of astringent injections, and even by those of a stimulant nature, as acrid solutions of ammonia muriata, mercury, verdigris, balsam of copaiba, &c. employing the last class more seldom, however, than the former; as likewise by forming an issue, or putting a seton in or near the perinæum, thereby diverting the discharge elsewhere. Besides using injections, we may employ remedies internally.* To give vigour to the whole system, and restore the tone of the parts at the same time, the patient should enter on a course of chalybeates, as advised under the head of Dyspepsia, assisted by cold bathing, country air, and a restorative diet.

The tinctura ferri muriatis, when steadily employed, frequently produces very permanent benefit in gleets. From ten to fifteen drops may be given for a dose thrice a day in an ounce of the decoctum cinchonæ. No remedy proves more efficacious, however, than the prudent administration of cantharides.†

In every case where the disease is obstinate and stricture suspected, the introduction of a bougie will be proper to ascertain it, and when satisfied as to its real existence, we ought to advise a perseverance in the use of bougies. The caustic in the manner practised by Sir Everard Home may be resorted to should these not prove effectual.

* ℞. Bals. Copaib. ℥j.
Capiat Cochl. min. bis terve in die puax. sacch. albi.
Vel
℞. Terebinth. Vulg. ʒij.
Pulv. Rad. Rhei ʒj. M.
Fiant. Pilul. xxxvj. quarum sumat ij. vel iij. bis terve in die.

† ℞. Tinct. Lyttæ ℥i.
Capiat. ♏. triginta ter die in quovis vehiculo.

II. SYPHILIS, OR LUES VENEREA.

THIS form of the venereal disease generally makes its first appearance on the external parts of the genital organs in the form of

CHANCRES.

A CHANCRE is an ulcer, distinguished by an indisposition to heal, a thickened base and circumscribed inflammation.

The parts most apt to be affected with these ulcerations in men, are the prepuce, the frænum, and in the angle between the glans and body of the penis; and in women, about the nymphæ and clitoris; but in some instances they have extended into the vagina, and even so far up as the os uteri. Syphilitic matter, by being applied to other parts of the body covered with a mucous membrane, such as the lips, nostrils, &c. may give rise to chancres there also; but being most usually applied to the organs of generation, in consequence of an intercourse between the sexes, these are generally the seat of such ulcers.

A chancre makes its appearance either with a slight inflammation which afterwards ulcerates; or there arises a small pimple or pustule filled with a transparent fluid, which soon breaks and becomes a spreading ulcer. The period at which it makes its appearance after infection, is very various, being most commonly in five or six days, but in some cases not till after the expiration of as many weeks.

As there is always a risk that an absorption of matter may take place from a chancre, and possibly very speedily, it will not only be necessary to attend to the ulcer, but likewise to secure the constitution by an use of such remedies as are well known to possess the power of counteracting the syphilitic poison.

In cases of a very recent nature, chancres may often be removed by the application of caustic, or by washing them with a weak solution of hydrargyri oxymurias in rectified spirit; but where they are extensive, and have been of some standing, it will be necessary to dress them daily with ointments composed of hydrargyri nitrico oxydum, or the submuriate of mercury spread upon fine lint. When much pain and irritation prevail, opiates will have a good effect.

In some cases of obstinate chancres of an inveterate and corroding nature, which have not benefited by the dressings just advised, much advantage has been derived from the application of a poultice composed of the inner soft part of a loaf of wheaten bread, moistened with a solution of the sulphat of soda in boiling water, in the proportion of one ounce of the former, to four pounds of the latter.

To give chancres a disposition to heal kindly, it will be highly necessary to attend strictly to cleanliness.

Where chancres exist along with phymosis, the cure will be both tedious and uncertain, and cannot often be effected by simply throwing up injections of a cleansing nature from time to time, between the prepuce and glans. The more certain method will be, to make an incision through the former, or to perform the operation of circumcision.

Chancres sometimes appear on the nipples of women who suckle infected children, and excite much pain. To lessen the irritability of the parts that are diseased, it will be proper to bathe the ulcers twice or thrice a day with a strong solution of opium in water, and afterwards to dress them with the unguentum cetacei, to which a proper quantity of hydrargyri submurias has been added.

Besides topical applications, it will be necessary to secure the constitution from becoming affected at some after period, in consequence of an absorption of the matter from the ulcers, by having recourse to mercury, which must be used either externally or internally, as shall be found most suitable to the constitution and convenience of the patient. In employing it, we are however to avoid exciting any degree of salivation, and therefore we are to introduce it gradually into the system, carefully watching its effects. The length of time it ought to be used, will depend on the virulence of the disease and other accidental circumstances; but at any rate, we should never totally desist from its use, until the expiration of several days after the disappearance of the ulcers.

Where erysipelatous inflammation of the penis supervenes to chancre, mercury should neither be exhibited internally, or be used externally in any form whatever.

In consequence of the irritation of venereal virus in a debilitated constitution, aggravated perhaps by an excessive or injudicious exhibition of mercury, more particularly in a crowded hospital, it not unfrequently happens that chancres become phagedenic. They commence with a livid redness of the part, succeeded speedily by vesication and ulceration, which extends laterally and sometimes penetrates deeply. The ulcer has a corroding appearance, is highly painful, discharges a great quantity of matter, and is often attended with fever. In all such cases stimuli would be injurious, and when used have been known to re-excite the morbid actions of the sore in such a degree, as to occasion the death of the patient. The ulcerated parts should be well fomented morning and evening with flannel cloths wrung out in a decoction of bruised poppy-heads, and the powdered bark of cinchona, and afterwards be covered with an emollient poultice mixed with carbon. (See Gangrene.) Internally we may give opium freely, and at stated intervals, as likewise some light preparation of cinchona bark joined with sarsaparilla and a mineral acid. Wine in moderate quantities will also be proper.

A peculiar eruptive disease arising from the exhibition of mercury, has lately attracted the attention of some practitioners in

Ireland;* and although of frequent occurrence, no doubt, in the London hospitals, it does not appear to have been particularly noticed by any surgeon belonging thereto, except by Mr. Pearson.† Mr. Benjamin Bell, indeed, in his Treatise on the Venereal Disease, very accurately describes it,‡ although, from the manner in which he speaks of it, the cases he had seen could not have been of a severe nature.

The disease is generally supposed to be produced by exposure to cold, while the system is under the influence of mercury; yet as its occurrence is infinitely too rare to be the necessary consequence of so common a cause, probably a peculiar idiosyncracy, or unknown state of the constitution of the person affected, may be necessary for its production. It seems nearly allied to the genus Erysipelas, and has by some been named the Erythema Mercuriale.

This complaint sometimes shows itself by a heat and itching about the scrotum, and the upper and inner parts of the thighs, which, on examination, appear faintly red and are somewhat rough. On other occasions, the heat, redness, and roughness, are first to be observed in the groins, and at the bend of the arms. In most cases the anterior parts of the body are affected before the posterior, and the lower extremities suffer prior to its appearance on the trunk of the body; yet there is not so much of constancy and regularity in the order in which it proceeds, that the upper extremities are not occasionally attacked, as early as the thighs. The redness beginning on the extremities makes a slow and gradual progress over the whole body, no part being exempted from it. Its increase is attended with great tenderness of the skin, a troublesome itching, and an evident tumefaction of the parts affected. The swelling is not unlike that which attends erysipelas, and it has been as considerable as that which accompanies the small-pox. The temperature of the skin is increased, the tongue is white, and the pulse frequent; but neither the functions of the stomach nor of the sensorium commune are evidently disturbed by this complaint.

The lepra mercurialis is always a vesicular disease, although the vesicles which contain a pellucid fluid are at their first appearance so small that they cannot easily be distinguished from papulæ without the aid of a convex glass: they are then seen to be distinct, each vesicle surrounded by a circle of redness, and if they are not ruptured at an early period, they acquire the size of a large pin head, at which time the contents are opaque. The rupture of the

* See a Description of the mercurial Lepra, by Dr. Moriarty; and an Essay on a peculiar eruptive Disease arising from the use of mercury, by George Alley.

† See Observations on the Cure of Lues Venerea.

‡ — his Treatise on Gonorrhœa Virulenta and Lues Venerea, vol. ii. p. 288.

vesicle is succeeded by the discharge of a thin acrid fluid that irritates the surface which it touches, and greatly increases the patient's sufferings, and as the disease proceeds, he is excoriated almost from head to foot. The quantity of the discharge is in proportion to the extent of the excoriated surface; it is always considerable, and renders the linen which absorbs it, stiff and unyielding. As the fluid discharged becomes thicker and more adhesive, it emits an offensive scent similar to that which arises from the secretions of the sebaceous glands, when under the influence of disease.

The lepra mercurialis does not invade the whole surface of the body at once, but occupies the different parts of it successively, so the several portions of the skin affected by it, exhibit a more or less advanced state of the disease at the same time: hence while the part first attacked is discharging the adhesive matter, the thin acrid fluid may be flowing from another portion. From this representation it must be obvious that the exact period observed by this disease cannot be easily ascertained; nor indeed does it appear to be limited by any regular term of duration. When it has affected but a small part of the body, it often terminates in ten or twelve days: but when it has been universal, the patient seldom recovers completely in less than six, eight, or ten weeks.

When the discharge ceases, the loosened cuticle acquires first a pale brown colour, and then becomes nearly black, separating in large flakes, and leaving a faint redness on the exposed surface. The first desquamation is often succeeded by a second, or even a third; but in these latter desquamations, the cuticle is more of a white colour, and separates in farinaceous-like scales, so that the surface of the skin appears as if it were covered with a white powder. The effects of the lepra mercurialis are not however confined to the destruction of the epidermis. All the hair of the body, the beard, the hair under the axillæ, and on the regio pubis, and the greater part of the eye-brows and hair of the head, have been known to separate, and leave the parts as smooth as in a state of infancy. The disease ceases after a time, but it is doubtful whether any remedies have the power of interrupting its regular course or of abridging its duration.

The mode of treatment however which has been recommended, consists in desisting from the further use of mercury, and in employing such remedies as will serve to support the patient without increasing fever, and such topical applications as may lessen the irritation arising from the perpetual loss of skin. Keeping the bowels open with saline purges; exciting a gentle determination to the surface of the body by diaphoretics; allaying irritation by means of an opiate at night; and frequent warm bathing, will be proper in most cases. Where the disease assumes a putrid type, the bark of cinchona, with wine and some of the mineral acids, may be necessary. Starch powder, meal, or flour, will be the best topical ap-

plications. The use of saturnine applications to so large an exposed surface, might be injurious.

We have hitherto been accustomed to look upon mercury as the only certain antidote against the venereal poison; but the nitric acid has lately been recommended as possessing a similar power. Mr. W. Scott, surgeon at Bombay, seems to be the first who employed it in syphilis. He tells us, he has had such extensive experience of its good effects, that he looks upon it to be by no means less effectual than mercury in removing that disease in all its forms, and in every stage of its continuance; and from its not producing many of the inconveniences that arise from an use of that metal, he thinks it may in some respects be preferable. He observes, that mercury introduced into the circulation, is attended by many disagreeable effects, that render it often necessary to give over its use before it has answered the desired intention; but that the nitric acid may be taken a long time, without any material injury to the health, and without producing inflammation and a flow of saliva, as from an use of mercury, but merely a temporary soreness in the gums and teeth.

On the recommendation of this gentleman, many practitioners have been induced to employ the nitric acid in the primary affections of syphilis, such as chancre, gonorrhœa, &c. and with some success. A few, however, have not made a favourable report of its effects; but more particularly Mr. Blair, surgeon to the Lock Hospital.

The nitric acid, at any rate, may assist the use of mercurials as well as opium in the cure of venereal ulcers, although it should not be solely depended upon.

A matter of much importance and worthy of notice, is, that the nitric acid has not been perceived to excite the action of other diseases, more especially scrofula, one of the greatest inconveniences attending a mercurial course, and by which many have had their constitution ruined, and others have lost their life.

The sensible effects generally produced by an use of this acid, are an increase of the appetite, costiveness, the mouth and tongue becoming moist and white, with a slight soreness in the gums, the urine being of a light straw colour, clear and increased in quantity; and the blood, when drawn, exhibiting the same appearances as under active inflammation, the coagulum being covered with a tough coat of coagulable lymph. In a few instances, a burning sensation in the stomach has been observed; but this has only happened where the dose has been too great.

The mode of administering the nitric acid is to give one drachm of it diluted in a quart of an infusion of lemon-peel in warm water every day; and where this quantity does not seem to produce the desired effect, to increase it gradually to two or more drachms.

A course of this medicine requires no particular regimen nor confinement.

Mr. Scott, it appears, has since used the nitric acid much diluted with water externally, as a warm bath, either partially or generally, with great success, at Bombay, in venereal cases.

Nitric acid is known to contain about four parts of vital air, united to one of azote, with a certain proportion of water, and is supposed to remove the symptoms of syphilis by oxygenating the body to a considerable degree, producing thereby a general increased action of the whole system.

A BUBO.

It frequently happens, that between a local and a constitutional affection there arises a kind of intermediate state, and that in consequence of an absorption of venereal matter from some surface to which it has been applied, the glands situated nearest to the parts thus affected, are apt to become indurated, swelled, and inflamed, and so to give rise to a bubo; and the parts of generation usually coming first in contact with the matter, so the glands in the groins are the most general seat of this particular symptom. In most cases, the syphilitic virus is absorbed from a chancre, or ulcer, but instances have occurred where a bubo has arisen without any kind of ulceration, and where the matter appears to have been absorbed, without any evident erosion of the skin or of the mucous membrane.

A bubo comes on with a pain in the groin, accompanied with some degree of hardness and swelling, and is at first about the size of a kidney-bean, but continuing to increase, it at length becomes as large as an egg, occasions the person to experience some difficulty in walking, and is attended with a pulsation and throbbing in the tumour, and a great redness of the skin. In some cases, the suppuration is quickly completed; in others it goes on very slow; and in others again, the inflammatory appearances go off without any formation of pus. In a few instances, the glands have been known to become scirrhous.

As many other swellings in the groin, such as a rupture, aneurism, lumbar abscess, and scirrhous affection of the glands, may be mistaken for a bubo, it will always be adviseable, in doubtful cases, to inquire whether or not the patient has lately been afflicted either with a gonorrhœa or chancre; and whether or not he has lately laboured under any other complaint that might have given rise to the swelling. It may likewise be adviseable to attend to the progress which the tumour has made. By a due consideration and investigation of these circumstances we cannot fail to form a just conclusion as to the real nature of the disease.

The following are the characteristics of a venereal bubo: the swelling is usually confined to one gland; the colour of the skin where inflammation prevails, is of a florid red; the pain is very acute; the progress from inflammation to suppuration and ulcera-

tion is generally very rapid; the suppuration is large in proportion to the size of the gland; and there is only one abscess.

A bubo is never attended with danger where the inflamed gland proceeds on regularly to suppuration; but in particular cases it acquires an indolence after coming to a certain length, arising from a scrofulous taint; or, by being combined with erysipelas, it terminates in phagedenic ulceration, and occasions a great loss of substance. This termination is however more frequently met with in hospitals than in private practice, and may partly be attributed to the contaminated state of the air of the wards wherein syphilitic patients are lodged.

The many inconveniences that ensue from allowing a venereal bubo to suppurate, should induce the practitioner to exert his utmost endeavours to prevent it from proceeding to such a state, and to occasion its speedy resolution or dispersion, if possible. To effect this, it will be proper, where the skin is occupied by much redness and inflammation, and the tumour by a throbbing, to draw off a sufficient quantity of blood immediately from the neighbourhood of the inflamed part, during the first days of the disease, by means of leeches; the patient at the same time keeping his body open with some gentle laxative, using a very spare diet, and avoiding exercise. After the leeches have ceased to bleed, the parts may be wetted frequently throughout the course of the day with linen pledgets dipped in any of the sedative embrocations advised for a swelling of the testicle, and by night be covered with a poultice of linseed or rye-meal, moistened either with a diluted solution of plumbi superacetas, or the liquor plumbi acetatis.

If the tumour is unattended by any inflammatory symptoms, then topical bleeding may not be necessary, as probably the timely application of mercurial ointment will be sufficient to disperse it. To give this its due and proper effect, it should not, however, be applied immediately upon the tumour, but be rubbed in on the inside of the thigh which is affected.

With regard to the quantity to be used, no express rule can be laid down, as some constitutions are readily affected by mercury, and others again are neither very quickly nor sensibly operated upon by it. In all cases it will be most adviseable to begin with a small quantity of about the size of a hazel-nut, and so to increase it daily, until it comes to that of a moderate-sized walnut; which course is to be pursued every night, until the tumour and induration have entirely subsided. Indeed, if it is continued for some little time after the disappearance of both, it will be attended with a more certain effect.

Should the salivary glands become affected from an use of the unction, and any degree of salivation ensue, the patient ought immediately to discontinue it for some days, keeping his body open with gentle laxatives, and washing his mouth and throat frequent-

ly with a gargle composed of borax and honey,* dissolved in water. The borax will not only act as an astringent, but will diminish the irritable state of the glands, by its sedative power. To assist in lessening the irritation, it will be adviseable, during a course of the unction, to give an opiate every night at bed-time.

If a bubo is too far advanced to be dispersed at the time that assistance is applied for, or obstinately continues its course to suppuration, in spite of our best endeavours to prevent it, we are then to assist the formation of proper pus by a full diet, and the application of emollient poultices. When this is formed, the tumour may be opened by a lancet or caustic, and the ulcer be brought to a proper digestion, by suitable dressings and the internal use of mercury, taking care, however, not to carry it to the extent of producing salivation.

In those cases where there prevails a scrofulous disposition, it frequently happens that the sore does not heal kindly, but, on the contrary, spreads from the glands to the cellular substance, inflames the skin and contiguous parts, assumes a foul spongy appearance, and is accompanied by much pain and a discharge of an highly acrid matter; or should the ulceration heal in one part, it shortly afterwards breaks out in another, and becomes extensive.

Cases of this nature have been most successfully treated by fomenting the ulcerated parts twice a day with a strong decoction of the leaves of hemlock or of bruised poppy-heads, and then covering them with some emollient cataplasm, or that advised for chancres of a corroding and phagedenic nature. Where the ulcers have a fungous appearance, and discharge a thin acrid sanies, a little of the hydrargyri nitrico oxydum may now and then be sprinkled over them, which will seldom fail to promote proper pus, and will by no means excite pain. As internal medicines, we may administer the bark of cinchona joined with the nitric acid, together with a decoction of mezereon, which may be taken in the quantity of a quart daily.

Opium has been much employed in these untoward cases, partly on the supposition of its being possessed of some specific power in the cure of syphilis; but its utility seems to depend entirely on its narcotic quality, and its allaying the pain and irritation with which such sores are uniformly accompanied, when the discharge is thin and acrid.

Hemlock has likewise been resorted to in these cases, and sometimes with advantage; it may therefore be taken internally. We may begin with about two grains of its extract in the form of a pill,

* ℞. Borac. Sodæ ʒij.—ʒss.
Mel. Optim. ʒj.
Aq. Fervent. ʒviij. M.
ft. Gargarisma.

Vel

℞. Aluminis ʒij.
Decoct. Hord. Oij.
Mellis Rosæ ʒij. M.

and so increase the quantity daily, until it shows its effects on the system by producing a slight degree of giddiness.

Buboes in scrofulous habits, or when accompanied with erysipelatous inflammation, are very apt, particularly in hospitals where the air of the ward is much contaminated by many mercurial breaths, to degenerate into phagedenic ulcerations, which extend in a short time over a considerable space, and not unfrequently lay bare a large portion of the thigh and lower part of the abdomen, and even the testicles themselves. In cases of this nature the ulcerated parts should be well fomented two or three times a day with flannel cloths wrung out in a warm decoction of bruised poppy-heads and the cinchona bark, and afterwards be covered with an emollient poultice, and occasionally with the cataplasma carbonis mentioned under the head of Gangrene. The use of mercury should immediately be desisted from, employing in its stead large and frequently repeated doses of the bark of cinchona, joined with sarsaparilla, together with opium, so as to keep up a constant effect.

The patient is at the same time to be supported with a generous diet and wine, and, if possible, to be removed into a purer air, without which our endeavours may not be crowned with success.

In all cases of bubo, as well as of chancre and gonorrhœa, where mercury is used either internally or externally, it will be necessary for the patient to abstain from food of a high-seasoned and salted nature, and from all kinds of spirituous and fermented liquors; and as any exposure to cold, while under a course of this medicine, is very apt to bring on a salivation, when it would not otherwise have arisen, he ought most carefully to avoid getting wet, or exposing himself to moist cold air, taking the precaution at the same time to adapt his clothing to the season of the year.

The Constitutional Disease.

A constitutional taint is the third form under which the syphilitic poison is apt to show itself, and which always arises in consequence of the matter being absorbed, and carried into the circulating mass of fluids. The absorption of it may, however, take place in three ways:

1st, It may be carried into the circulation without producing any evident local effect on the part to which it was at first applied.

2dly, It may take place in consequence of some local affection, such as chancre, or bubo: and,

3dly, It may ensue from an application of the matter to a common sore or wound, similar to what happens in inoculating for the small-pox.

The most general way, however, in which a constitutional taint is produced, is by an absorption of the matter, either from a chancre or bubo.

When syphilitic matter gets into the system, some symptoms of it may often be observed in the course of six or eight weeks, or probably sooner; but in some cases it will continue in the circulating mass of fluids for a few months, before any visible effects are produced. The system being completely contaminated, it then occasions many local effects in different parts of the body, and shows itself under a variety of shapes, many of which put on the appearance of a distinct disease. We may presume that this variety depends wholly on the difference of constitution, the different kinds of parts affected, and the different state these parts were in, at the time the matter or poison was applied.

The first symptoms usually show themselves on the skin, and in the mouth and throat. When the matter is secreted principally in the skin, reddish and brownish spots appear here and there on its surface, and eruptions of a copper colour are dispersed over different parts of the body, on the top of which there soon forms a thick scurf or scale. This scurf falls off after a short time, and is succeeded by another; and the same happening several times, and at length casting off deep, an ulcer is formed, which discharges an acrid fetid matter.

When the poison is secreted in the glands of the throat and mouth, the tongue will often be affected, so as to occasion a thickness of speech; and the tonsils, palate, and uvula, will become ulcerated, so as to produce a soreness and difficulty in swallowing, and likewise a hoarseness in the voice. In a venereal ulcer of the tonsils, a portion of its substance seems as if it was dug out; it is moreover very foul, and has a thick white matter adhering to it (like a slough) which cannot be washed off. By these characteristic marks it may in general readily be distinguished from any other species of ulceration in these parts.

If the disease affects the eyes, obstinate inflammation, and sometimes ulceration, will also attack these organs.

The matter sometimes falls on deep-seated parts, such as the tendons, ligaments, and periosteum, and occasions hard, painful swellings to arise, known by the name of nodes.

When the disease is suffered to proceed, and is not counteracted by proper remedies, the patient will, in the course of time, be afflicted with severe pains, but more particularly in the night-time; his countenance will become sallow; his hair will fall off; he will lose his appetite, strength and flesh; his rest will be much disturbed by night, and a small fever of the hectic kind will arise. The ulcers in the mouth and throat being likewise suffered to spread, and to occasion a caries of the bones of the palate, an opening will be made from the mouth to the nose; and the cartilages and bones of the nose being at length corroded away, this will sink on a level with the face.

Some constitutions will bear up for a considerable time against the disease, while others again will soon sink under the general weakness and irritation produced by it. If the disorder is recent,

and the constitution not impaired by other diseases, a perfect cure may easily be effected; but where it is of long standing, and accompanied with the symptoms of irritation which have been mentioned, the cure will prove tedious, and in many cases uncertain, as the constitution and strength of the patient may not admit of his going through a course of medicine sufficient to destroy the poison; or his health may be in such a state, as that only a very small quantity of mercury can be administered, even at considerable intervals.

The general appearances to be observed on dissections of those who die of lues, are caries of the bones, but more particularly those of the cranium, often communicating ulceration to the brain itself; together with enlargements and indurations of the lymphatic glands, scirrhus of several of the organs, particularly the liver and lungs, and exostosis of many of the hardest bones.

We have always been accustomed to consider mercury as the most certain antidote which we are acquainted with, to the syphilitic poison; from whence it is evident, that it will absolutely be necessary to have recourse to it, in all cases where the system becomes tainted.

The manner in which mercury removes the disease, is not yet satisfactorily ascertained; but in the opinion of some physicians, its action has been supposed to be chemical, the remedy combining with and destroying the virus; for it has been found, that venereal matter applied by inoculation, readily propagated chancre, but if mixed with a variety of mercurial preparations, no infection followed.*

A few who rank as regular practitioners, besides those who act as quacks, fully sensible of the credulity of mankind, have endeavoured to make the vulgar believe, that, by repeated examinations of the various productions of nature, they have each of them been able to discover a specific of a milder and more innocent nature than mercury for the venereal disease; and puffing handbills and advertisements daily announce that they can perform a radical cure without giving one grain of this mineral. A fair analysis of such of these nostrums as have been found at all serviceable in cases of this nature, has, however, clearly detected the falsity of these men's assertions, and proved, beyond a possibility of doubt, that their new-discovered specifics are but some active preparation of mercury, under a disguised shape.

Mercury may be introduced into the system in two ways, viz. either by any external application of it in the form of unction, or by giving some preparation of it internally; and it may be used to such an extent as to excite a salivation, or with such moderation, as only to give a tendency that way, without suffering it

* This might have arisen from the excitement produced by the mercury being greater, and consequently overpowering that of the syphilitic virus. E.

to proceed so far, which, in the generality of cases, will be the safest and most adviseable plan. A third method, or alterative course, has been adopted by some practitioners; but although this may answer in primary affections, still it is by no means calculated to cure a confirmed lues.

There are some persons who are but little affected by mercury when applied externally to the body in the form of unction, as the absorbent vessels will not readily receive it; and there are others again whose internal absorbents will not take up a sufficient quantity, to produce much effect either on the disease, or the constitution; in which case the medicine passes off by the bowels, occasioning sickness at the stomach, and griping pains.

To administer mercury judiciously, it ought therefore to be used in the way that is most suitable to the constitution of the patient. If, on a trial, the external application of it should produce no effect, either on the disease or constitution, then it should be administered inwardly: on the other hand, if its internal use fails, or produces any disagreeable effect on the stomach and intestines, then the external application ought to be substituted.

Although the quantity of mercury to be introduced into the system for the cure of a lues, must always be in proportion to the virulence of the disease, still in throwing it in, we should neither proceed with haste or violence, nor administer it in large or too frequent doses. In all cases it will be most prudent to begin with a small quantity, whether given internally or applied externally, and to increase it gradually, so as that the system shall be inured imperceptibly to the remedy; and as soon as the patient perceives a copperish taste in the mouth, with a great fœtor of breath, and a more than ordinary secretion of saliva, he ought then to proceed cautiously, and, where necessary, wholly to desist from its use for a day or two, returning to it, however, as soon as these sensations have somewhat abated.

To use the medicine so as to give a tendency to salivation, without proceeding any length, and to keep it constantly at that point, during the whole course, is what he is to aim at.

Mercury, when introduced hastily, and in large doses, into the constitution, is apt to produce sensible and disagreeable effects upon particular parts of the body. It often occasions a swelling and inflammation in the mouth, tongue, and salivary glands, and thereby produces a profuse salivation. It likewise affects the stomach and intestines, and excites nausea, griping pains, and diarrhœa: and in some instances it produces profuse sweats and great debility.

Introducing mercury into the system, so as to give rise to any of these effects, will therefore be highly improper. Unless the disease is proceeding so fast in its course as that it might be attended with some risk to the patient, to wait until it was checked by introducing it gradually; or unless he is so irritable to the effects of mercury, as that even the smallest quantity used internally, or ap-

plied externally, affects his mouth, it will be wrong to occasion a salivation, as the cure will in general be rendered thereby more tedious, as well as uncertain, instead of being hastened.

To prevent a salivation, it will be necessary, besides beginning with small doses of mercury, and proceeding gradually, that the patient should take care not to stimulate the salivary glands, either by rubbing the skin over them, and keeping it too warm with flannel; or by applying any thing of a stimulating nature to the mouth; and he should likewise avoid as much as possible any exposure to cold; for this being applied while the body is in an irritable state from the use of mercury, is likewise apt to occasion inflammation and tumefaction of these glands, and so to give rise to a salivation.

The person who is under a course of mercury, should abstain from all salted and high-seasoned meats, confining his diet to plain animal food that is of light digestion, to thin broths, preparations of sago, barley, and rice, custards, light puddings, milk, vegetables, ripe fruits, &c. He should avoid all spirituous liquors and acids; and if he drinks wine, the quantity ought to be very small, and always diluted with a proper proportion of water.

When we make use of unction for the cure of syphilis, without intending to excite a salivation, we may direct the patient to rub thoroughly into the hams and thighs, about half a drachm of the unguentum hydrargyri fortius* every night; and this course he is to continue until a coppery taste is perceived in the mouth, with somewhat of an increase of saliva. As soon as these are perceptible, he must go on gradually, and should they seem to proceed to a greater height than what is intended, instead of using the ointment every night, he ought then to have recourse to it only every other night. On the contrary, should the quantity of ointment here directed, be insufficient to produce any apparent effect on the mouth, he must then increase it gradually every night, until he can attain the desired point.

If we employ mercury internally, with the same view of not bringing on a salivation, we may then give one or two of the pilula hydrargyri every night at bed-time; or instead of these, we may recommend some of the other active preparations of mercury, such

* By putting six ounces of quicksilver into a proper sized mortar, with about two ounces of strong mercurial ointment, (if rancid the better) and rubbing them briskly together, the globules of quicksilver disappear in a few minutes; and by continuing to rub it well for five or six minutes longer, an union will be so far accomplished that the lard may be gradually added. By this simple process a pound of strong mercurial ointment may be well made in ten or twelve minutes, which, according to the usual method, requires as many hours. A knowledge of this fact may prove of high utility to apothecaries and druggists. See No. 7. of the Medical, Surgical, and Pharmaceutical Repository, p. 53.

as the hydrargyri submurias,* or hydrargyri oxymurias,† which may be taken in small doses at first, and so be augmented gradually, as may be found necessary. Along with these remedies we may recommend the patient to drink about a quart a day of the decoctum sarsaparillæ compositum, which will tend to carry off the mercury by the skin and kidneys. Where any of its preparations affect the bowels, and excite either a purging or griping, a sufficient quantity of opium should be given at the same time to prevent these consequences.

When from the urgent nature of the case, we are obliged to employ mercury so as to excite a salivation, we must introduce it into the system in a gradual manner, by beginning with a small quantity, and augmenting it daily, taking care to observe its effects with great attention. If we use unction (to which a preference ought always to be given where we mean to excite a salivation,) we may direct the patient to rub in, as has before been advised, about a drachm of it every night previous to his going to bed. If the salivary glands do not become affected after a few days application of the ointment, he can then increase the quantity each night, until a sufficient flow of saliva is procured.

During the continuance of the spitting, the pulse should never exceed 95 or 100 in a minute; neither should the quantity of the saliva which is discharged, be greater than two or three pints in twenty-four hours. Under such a course, the body is to be enveloped in flannel, and the patient to drink plentifully of diluent liquors. To alleviate the soreness of his mouth and gums, he may use some soothing gargle‡ three or four times a day.

If we give mercury internally, with the intention of exciting a salivation, we must proceed in the same cautious manner, increasing or diminishing the dose, according to the effect produced.

When a salivation comes on quicker, or proceeds with greater violence than we could wish, notwithstanding all our precautions, we must not only lessen the quantity of mercury, but we must also give one or two gentle purges, and keep the chamber somewhat cooler than before. Sulphur has generally been supposed to possess a power of checking the rapid effects of mercury; and therefore, where a salivation comes on with great rapidity and vio-

* R. Hydrarg. Submur. ℈ij.
Opii gr. x.
Aq. Com. q. s. M.
Fiant Pilul. xx. quarum sumat j. vel ij. mane et nocte quotidie.

† R. Hydrargyri Oxymuriat. gr. viij.
Spiritus Rectif. Ten. Oj. Solv.
ft. Solut. cujus capiat semi unciam mane et vespere.*

‡ R. Decoct. Hord. ℥vj.
Mel. Rosæ ℥j.
Tinct. Opii ℥j. M.
ft. Gargarisma.

* To every dose should be added, if it disagree with the patient's stomach or bowels, ten drops of laudanum. E.

lence, we may have recourse to it in doses of from half a drachm to one drachm twice a day, besides taking the steps just mentioned.

In mild cases of syphilis it probably will require from four to six weeks perseverance in the use of mercury to effect a cure; but in cases of long standing, and a more confirmed nature, it may be necessary to continue it for eight or ten weeks, or even longer. Whether we attempt the cure by salivation, or in the milder way, by giving a tendency to it, without proceeding that length, we should always recommend the patient to persevere in the plan, even for some short time after the departure of the symptoms, in order that he may be ensured of a perfect cure; for the venereal action may to appearance be stopped, and the symptoms vanish, and yet all return again; the virus not having been completely subdued.

As soon as the use of mercury is left off, the diet may be amended, a purge or two be exhibited, and a return to the free air be gradually made; after which, tonics, with country air and exercise, will greatly tend to recruit the strength.

In the progress of the disease, it is often found necessary, besides employing mercury in order to counteract or destroy the virus in the system, to attend to particular symptoms; for the removal of which, a topical treatment may likewise be requisite. The tonsils, uvula, and other parts of the fauces, as likewise the nose, are frequently discovered in a state of ulceration, where the disease has been of long standing. In such cases, the parts should be well cleansed by washing them twice or thrice a day with some proper gargle;* after which, the fumes arising from myrrh and the hydrargyri sulphuretum rubrum thrown upon a hot iron, may be brought into contact with them by means of an inverted funnel.

When eruptions ulcerate, washing them with submuriate of mercury and water, or the hydrargyri oxymurias and liquor calcis, and dressing them with mild mercurial ointment, will be most proper; making use, at the same time, of a decoction of mezereon-root, as advised in those cases where nodes arise.

Venereal pains, blotches, and scaly eruptions will be removed most readily, by employing sudorifics at the same time with mercury. About a quart of the decoctum sarsaparillæ compositum, or of the Lisbon diet-drink, the qualities of which have been the subject of so much encomium, may therefore be drank daily with this view. It is probable that the operation of these medicines,

* ℞. Hydrarg. Oxymuriat. gr. iij.
Solve in mortario vitreo cum
Spirit. Rectif. ℥ss. et adde
Decoct. Cinchon. ℥vj.
Tinct. Myrrh.
Mel. Rosæ āā ℥ss. M.
ft. Gargarisma.

where the patient is not under a salivation, may be assisted by going into a warm bath now and then; but in having recourse to this remedy, the patient must observe the greatest precaution not to take cold, by wrapping himself up in very warm clothing on his coming out of the bath.

If the pains are so severe as to interrupt his rest by night, he should take an opiate on going to bed.

Nodes on the bones are to be relieved by rubbing them every night with a small quantity of mercurial ointment, or by wearing a plaster of the same nature over them, assisted by a decoction of the woods, or mezereon, together with opiates, where the pain is great.

Acetic acid will remove corns in one or two applications with the greatest certainty, and, if not carefully managed, the surrounding cuticle also, which it happens to touch. To large verrucæ or warts with broad bases, the same application will be effectual. Those that are pendulous with narrow necks may be removed with scissors; and after the oozing of blood has ceased, they may be touched with the sulphat of copper, or a solution of lunar caustic.

Ophthalmia sometimes prevails as a consequence of syphilis, and requires a topical treatment. Where the eyes are much inflamed, it will be adviseable to apply leeches to each temple, and likewise to give one or two cooling purgatives. Should the inflammation and pain not abate, we may then apply a large blister to the back of the neck, or a small one behind each ear. Besides these means, the eyes may be bathed two or three times a day with some cooling collyrium, as advised under the head of Ophthalmia, and the irritation of light be avoided, either by confining the patient to a dark room, or obliging him to wear a large green shade over his eyes.

Where syphilis falls on the bones of the nose, besides making use of mercury, with the decoctum sarsaparillæ compos. or the Lisbon diet-drink, we should employ detergent lotions,* which may be applied to the parts by means of a syringe. When combined with ulcerations of the tonsils, palate, or uvula, we must likewise make use of fumigations and gargles as before recommended.

In those cases where ulcers of a phagedenic nature present themselves, we must omit the use of mercury for a time, and have recourse to the cinchona bark, with wine, and a nutritive diet, removing the patient at the same time into a pure air, if his situation

* ℞. Hydrarg. Oxymuriat. gr. iij. Solve in Mortario Vitreo
cum Spir. Rectif. ℥ss. et adde
Decoct. Cinchon. ℥vj.
Tinct. Myrrh. ʒij.
Mel. Rosæ ℥ss. M.
ft. Lotio.

is any way close or confined. Occurrences of this nature happen more frequently in hospitals than in private practice, and are owing, in a great measure, to the vitiated air which prevails in the wards set apart for venereal patients, as has already been mentioned.

In broken constitutions, where œdematous swellings of the legs have begun to manifest themselves, a perseverance in a mercurial course ought not to be pursued. In such distressing cases, a generous diet, country air, and regulated exercise, are the best remedies, entirely omitting the use of mercury till the constitution is renovated. Where dropsy has actually taken place, nitrous acid, given in as large doses as the stomach and bowels can bear, conjoined with digitalis or squill, may be of great service.

Other remedies have been recommended, as possessing specific effects in syphilis, besides mercury. These are the oxygenated muriate of potash and the different acids, but more particularly the nitric, which has been noticed in pointing out the proper treatment of chancres. It remains further to observe, that from the trials I have made of it, it appears to be well calculated to remove many of the primary symptoms of this disease, and may therefore be used in all such cases with safety, and most likely with the assurance of much advantage; but in a confirmed syphilis it ought never to be solely relied on. Its inefficacy in all such cases has been fully substantiated, not only by Mr. Blair,* but by various other practitioners of eminence. Many allow it, however, to possess a palliative power, and almost all admit its salutary effects in remedying the disordered state of the system, arising from the excessive use of mercury.

SCORBUTUS, OR SCURVY.

THE characteristics of this disease as affixed by Dr. Cullen, are debility; bleeding of the gums; spots of different colours on the skin, for the most part livid, particularly at the roots of the hairs, occurring in cold countries, after living on salted animal food, with a deficiency of recent vegetable matter.

The scurvy is a disease much more prevalent in cold climates than in warm ones, and which chiefly affects sailors, and such as are shut up in besieged places, owing, as is supposed, to their being deprived of fresh provisions, and a due quantity of acescent food, assisted by the prevalence of cold and moisture, and by such other causes as depress the nervous energy, as indolence, confinement, want of exercise, neglect of cleanliness, much labour and fatigue, sadness, despondency, &c. These several debilitating causes, with the concurrence of a diet consisting principally of salted or putrescent food, with foul water, will be sure to produce this dis-

* See his Essay on the Venereal Disease, Part III.

ease. It seems, however, to depend more on a defect of nourishment, than on a vitiated state; and the reason that salted provisions are so productive of the scurvy, is, most probably, because they are drained of the nutritious juices, which are extracted and run off in the brine. As the disease is apt to become pretty general among the crew of a ship, when it has once made its appearance, it has been supposed by many to be of a contagious nature; but the conjecture seems by no means well founded. The circumstance arises most probably from the men being alike exposed to the same causes.

Various theories have been advanced with respect to scurvy. By Sir John Pringle it has been supposed to be owing to a putrescency of the blood. By Dr. Lind, Dr. Blane, and Dr. Millman, it has been looked upon as a disease of debility, having its origin in the weakness of the organs of digestion, or in the gradual diminution of the vital power by the remote causes: or that it is owing rather to a defect of nourishment than to a vitiated state of it. Dr. Trotter, reasoning from the experiments of Dr. Goodwin concerning the action of dephlogisticated air on the blood, infers that the black colour of this in scurvy is owing to the abstraction of this principle (dephlogisticated air,) and that fresh vegetables cure the disease by restoring to the blood this lost principle. Dr. Beddoes supposes scurvy to be owing to a gradual abstraction of oxygen from the whole system, just as death is produced in drowning, by withholding all at once the same substance from that blood which is to pass the posterior cavities of the heart. Of the two causes of scurvy, want of fresh vegetables, or want of air sufficiently furnished with oxygen, Dr. Beddoes thinks the latter is by far the most powerful. Captain Cook's unexampled success in preserving his crews from the scurvy during his two last voyages, seems to have been owing in a great measure to his extreme care in keeping every part of the ship well ventilated. The crew on many occasions were reduced to salt provisions, and much longer out of sight of the land than many other ships which have been dreadfully afflicted with the scurvy. In his last voyage there did not appear among the men any symptom of this disorder; and in his second, only one man had it in any considerable degree.

The scurvy comes on gradually, with heaviness, weariness, and unwillingness to move about, together with dejection of spirits, anxiety, and oppression at the præcordia, considerable loss of strength, and debility. As the disease advances in its progress, the countenance becomes sallow and bloated, respiration is hurried by the least motion, the teeth become loose, the gums are spongy, swelled, and bleed upon the slightest touch, the breath is very offensive, livid spots appear on different parts of the body, old wounds which have been long healed up, break out afresh; severe wandering pains are felt, particularly by night; the skin is dry; the urine small in quantity, turning blue vegetable infusions

of a green colour; and the pulse is small, frequent, and towards the last, intermitting; but the intellects are for the most part clear and distinct. In some cases of scurvy, and even in its incipient state, nyctalopia has been observed as one of the attendant symptoms.*

By an aggravation of the symptoms, the disease, in its last stage, exhibits a most wretched appearance. The joints become swelled and stiff, the tendons of the legs are rigid and contracted, general emaciation ensues, hemorrhages break forth from the nose, ears, anus and other parts of the body, fetid evacuations are discharged by stool, and a diarrhœa or dysentery arises, which soon terminates the tragic scene.

Scurvy, as usually met with on shore, or where the person has not been exposed to the influence of the remote causes before enumerated, is unattended by any violent symptoms; as slight blotches with scaly eruptions on different parts of the body, and a sponginess of the gums, are the chief appearances to be observed.

In forming our judgment as to the event of the disease, we are to be directed by the violence of the symptoms, by the situation of the patient with respect to a vegetable diet, or other proper substitutes, by his former state of health, and by his constitution not having been impaired by previous disorders.

The person being capable of muscular motion, with little reduction of strength, the health not injured by previous disease, the skin moist, the pulse slow, a gentle bilious diarrhœa, the absence of ulceration, and the petechiæ, if any appear, being of a bright red colour, are to be looked upon as favourable circumstances; whereas great prostration of strength, flushed countenance, quick weak pulse, extreme oppression at the præcordia, fetid and involuntary evacuations, petechiæ and maculæ of a dark livid colour, and profuse hemorrhages of dissolved blood, denote the highest degree of danger.

Dissections of scurvy have always discovered the blood to be in a very dissolved state. The thorax usually contains more or less of a watery fluid, which in many cases possesses so high a degree of acrimony, as to excoriate the hands by coming in contact with it. The cavity of the abdomen contains the same kind of fluid. The lungs are black and putrid; and the heart itself has been found in a similar state, with its cavity filled with a corrupted fluid. In many instances, the epiphyses have been found divided from the bones, the cartilages separated from the ribs, and several of the bones themselves dissolved by caries. The brain seldom shows any marks of disease.

From experiments made on the blood and urine of scorbutic patients, it appears that three ounces of blood, on cooling, consisted of two ounces of coagulum and one of serum. The coagulum was composed of two parts; that on the top, about the six-

* See Dr. Blane's Work on the Diseases of Seamen.

teenth of an inch, was of a florid red, and tough; that in the bottom, of a deep red, approaching to black, and easily divided. The serum, with respect to colour, was not uncommon.

To counteract the principal remote causes of the disease, viz. the effect of salt provisions, and the want of fresh meat and vegetables, every ship bound on a long voyage should be supplied with an ample store of flour, pearl-barley, groats, peas, oat-meal, rice, sago, vermicelli, portable soup, potatoes, sour krout, raisins, currants, prunes, and other dried fruits, various spices, many kinds of medicinal herbs, as balm, mint, penny-royal, sage, &c. together with sugar, treacle, honey, essence of spruce, and fresh malt. High encomiums have indeed been passed on the efficacy of this last by all the navigators who have made trial of it, and they seem by no means to have been unworthily bestowed; but as its salubrious qualities are greatly impaired by becoming damp and mouldy, every possible care should be taken to prevent this from happening.

Besides the articles which have been enumerated, the ship should likewise be supplied with a sufficient store of fermented liquors, together with vinegar, and other acids, but more particularly the concrete juice of lemons, limes, and oranges, together with these fruits in their natural state.

If it can be avoided, salted provisions should by no means be constantly served out to the crew; but fresh animal food, with a due proportion of such farinaceous substances as the ship is supplied with, or of such fresh vegetables and fruits as have been procured at whatever ports it may have touched, ought to be delivered out to the men.

The health of seamen may be supposed to depend considerably on the goodness and purity of the water which they drink, as well as on the nutritive quality of their food; but it too frequently happens, by an inattention in laying in the store of this necessary article, that it very soon becomes both putrid and offensive, and in this state they are obliged to make use of it. Nothing has been found so effectual for preserving water sweet at sea, during long voyages, as well charring the insides of the casks before they are filled. Care ought at the same time to be taken that the casks should never be filled with sea-water, as sometimes happens, in order to save the trouble of shifting the ballast, because this tends to hasten the corruption of the fresh water afterwards put into them. When the water becomes impure and offensive at sea, from being ignorant of the preservative effect produced on it by charring the casks previous to their being filled, it probably may be sweetened by putting a little fresh charcoal into each cask before it is tapped.

To preserve seamen in health, and prevent the prevalence of scurvy, it will further be necessary to keep the ship perfectly clean, and to have the different parts of it daily purified by a free admission of air, when the weather will admit of it. This precaution

will more particularly be necessary for the purification of such places as are remarkably close and confined. The coldness and moisture of the atmosphere are to be corrected by sufficient fires.

Cleanliness on board of a ship is highly necessary for the preservation of the health of seamen.

The men should be made to air their hammocks and bedding every fine day; they should wash their bodies often, and they should change their linen and other clothes frequently. In rainy weather, on being relieved from their duty on the deck by the succeeding watch, they should take off their wet clothes, instead of keeping them on, and lying down in them, as they are too apt to do. In fine pleasant weather, and after their usual duty is over, they should be indulged in any innocent amusement that will keep their minds, as well as bodies, in a state of pleasant activity.

Nothing is more productive of disease in warm climates among seamen, than an immoderate use of spirituous and fermented liquors, as they are too apt, while under a state of intoxication, to throw themselves on the bare ground, where perhaps they lie exposed for many hours to the influence of the meridian sun, the heavy dews of the evening, or the damp chilling air of the night. The commander of a ship, who pays attention to the health of his crew, should therefore take every possible precaution to prevent his men from being guilty of an excess of this nature; and likewise that they do not lie out in the open air, when overcome by fatigue and hard labour.

The different voyages of that celebrated navigator Captain Cook, as well as that of the unfortunate La Pérouse, incontestably prove that by due care and a proper regimen, seamen may be preserved from the scurvy and other diseases which have formerly been inseparable from long sea-voyages, and that they can support the fatigues of the longest navigations in all climates, in all latitudes, in the midst of fogs, and under a burning sun.

In all long voyages, it ought to be our object not only to find out and employ the most effectual means to cure the disease when it shows itself, but likewise to prevent its arising at all, as the taint never fails to give a fatal or malignant tendency to the other disorders incident to seamen, such as ulcers, dysentery, &c.; and with this view, our preventive plan ought to commence from the first day on which the sailing stock of fresh vegetables and ship's beer is expended; since from many experiments it appears, that much greater success is likely to attend our endeavours in this way than by reserving them for the period in which the marks of a scorbutic diathesis begin to manifest themselves.

When, from a want of the proper precautions before pointed out, the scurvy makes its appearance among a number of men, be it on board of a ship or in a close garrison, we are then to counteract its effects, first by obviating the morbid state of the system, and secondly, by restoring it to its former vigour.

The first of these is to be accomplished by a diet of fresh animal and vegetable food, but more particularly the latter, consisting of garden and water-cress, mustard, horse-radish, common radish, scurvy-grass, celery, endive, and lettuces, all of which may be eaten in their crude state, together with spinach, beet, carrots, turnips, cabbages, cauliflowers, brocoli, asparagus, the young shoots of hops, &c. which may be prepared by any common process of cookery. To these may be added, a free use of ripe fruits, especially those of a subacid kind, such as oranges, shadocks, and others of this class. For ordinary drink, the patient may use milk, or its productions, as whey, butter-milk, &c. or else an infusion of malt, or spruce.

Such things are however only to be procured on shore, and therefore cannot be obtained for a ship's crew, unless they remain in port. When at sea, other substitutes must be resorted to.

One of the most effectual of this kind has been found to be lemon-juice. Where fresh vegetables are not to be obtained, we ought to have recourse to this. To render its effects more certain, and prevent it from irritating the bowels, we should mix a sufficient quantity of water and sugar, which will make a pleasant drink usually known under the name of sherbet. If a due proportion of wine is added, it will render it still more antiseptic. The quantity of juice used during the first three or four days, ought not to exceed two ounces daily, but it may afterwards be increased to three or four per diem.

In Dr. Trotter's Medicina Nautica is inserted a letter from Mr. A. Baird, surgeon of the Hector ship of war, communicating to him the wonderful benefit derived from the use of lemon-juice in a voyage to and from the East Indies, during which, although the scurvy became very prevalent, he did not lose a single man.

Where the fresh juice cannot be procured, we may substitute with the greatest advantage the citric acid in a concrete form, as first prepared by Mr. Coxwell. We are informed by Dr. Trotter,* that he has experienced its powers against scurvy to be equal to any effect he has ever observed from the recent fruit, in its most perfect state. Other practitioners have reported alike favourably of it. It takes from sixteen to eighteen parts of water to bring the concrete acid to the standard of lemon-juice.†

In a Treatise on Scurvy by Mr. D. Patterson, surgeon in the navy, we are informed, that, from certain reasons, he was induced to try a solution of the nitrate of potash in common vinegar, in several cases of this disease, which with inexpressible pleasure he saw to succeed in every one of them; and from frequent trials of it, he is convinced that the scurvy may be cured at sea, without the assistance of recent vegetable matter.

* See Medical and Physical Journal, vol. iv. p. 154.

† For the method of preparing the concrete acid, the reader is referred to Dr. Coxe's American Dispensatory. E.

The following is his method of preparing this new remedy, and making use of it.

At first he dissolved two ounces of nitre in one quart of the ship's vinegar, and gave half an ounce of the solution, to some twice, to others thrice in the day, and as frequently bathed their blotched and ulcerated limbs with the same. From the good effect it had, and from its not producing the smallest degree of nausea, colic, or diarrhœa, he was induced to augment the dose to an ounce, and to repeat it as often as before.

Finding the patients under his charge, bore the increased dose of the medicine, without expressing the least uneasiness, he now, instead of two, dissolved four ounces of nitre in one quart of vinegar, and gave from half an ounce to two ounces of this strong solution twice, thrice, or four times in the day, if they were either blotched, stiff, or ulcerated. In this manner, we are informed, he continues to use it.

He adds, "Some patients cannot bear the nitric vinegar without the addition of water; while others, without the least inconveniency, bear it undiluted. The discharge by stool, or the presence of gripes and nausea, guide me with respect to increasing or diminishing the dose of the nitric vinegar; but at the same time, it is not a slight degree either of nausea, colica, or diarrhœa, that renders an alteration in the quantity of the medicine necessary. To a great number of scorbutic patients, eight ounces of this strong solution, containing one ounce of nitre, have, in the course of the day, as long as such a quantity was necessary, been administered to each with the greatest success. Also, a circumstance no less curious than pleasing, large and frequently repeated doses of this medicine have been given in cases of dysenteria scorbutica, and instead of increasing, I have always found it remove the disease. Sometimes, notwithstanding the free use of the nitric vinegar, I have known constipation to take place to a considerable degree; in which case I have found intermediate doses of the potassæ supertartras necessary and highly advantageous. This very constipated state generally occurred where the disease was far advanced; but in a few particular cases, in delicate habits, and where the disease was not far advanced, I perceived even small doses of the nitric vinegar ruffle the stomach and intestines; to prevent or remove which, I have found two, three, or four grains of camphor, with each dose of the medicine, very effectual."

Mr. Patterson, in comparing the effect of vegetable acid with that of the nitric vinegar, writes as follows: "In the month of July 1794, at sea, a small quantity of limes were purchased, by order of Admiral Murray, for the use of the scorbutics at that time on board; but instead of depending altogether on their power, I gave them only to a certain number, on purpose to compare their effect with that of the nitric vinegar, which was more generally administered; and from what I have seen of both, and after having

weighed all circumstances, I am at present inclined to decide in favour of the latter."

Might not a solution of the nitrate of potash in lemon or lime juice (which of themselves are powerful remedies in scurvy) be preferable to a solution of it in vinegar, or even to these acids, given by themselves?

By the means which have been pointed out, together with some other auxiliaries, such as spruce-beer, fresh infusions of malt or wort, sugar, and the succus cochleariæ compositus, we are induced to suppose that we shall in most cases, even in those of a desperate nature, be able to obviate the scorbutic tendency of the system, and effect a cure. Introducing oxygen into the system, by any kind of means, may likewise prove a good auxiliary.

In the course of the disease, particular symptoms may arise which will require a separate treatment. Pains of the belly are to be allayed by emollients and opiates; oppression at the chest and impeded respiration by blisters, for bleeding is never to be used; contractions of the hams and calves of the legs are to be relieved by fomenting the parts with warm vinegar and water, and by the application of emollient poultices and frictions; sponginess of the gums and looseness of the teeth are to be obviated by washing the mouth frequently with gargles of an astringent and antiseptic nature;* and foul ulcers are to be cleansed and healed by washing them with lemon-juice, or a tincture consisting of equal parts of that of myrrh and cinchona bark, and then dressing them with some kind of digestive ointment, or a poultice of sorrel. Some navy surgeons report that they have known the most obstinate ulcers of a scorbutic nature cured by applying a paste of oatmeal and water to them, the surface being sprinkled with the liquor plumbi acetatis. In very bad cases of ulceration, it is probable that the application either of the cataplasma effervescens, or cataplasma carbonis, as mentioned under the head of Gangrene, might be attended with a very good effect.

Dr. Harness, physician to the British fleet in the Mediterranean some years ago, informs us,† that after the failure of other remedies in the cure of scorbutic ulcers, and those where there was a tendency to mortification, he found the application of the gastric fluid of graminivorous animals to have been productive of the happiest consequences.

If, in the course of the disease, the bowels should not be loosened by the use of fresh vegetables, and costiveness prevail, we may

* R. Infus. Rosæ ℥vj.
Aluminis ʒjss
Mel. Optim. ʒj. M.
ft. Gargarisma.

Vel

R. Decoct. Cinchonæ ℥vj.
Tinct. Myrrh. ʒjss.
Acid. Muriatic. ♏. xv.—xx.
M.

† See Dr. Duncan's Annals of Medicine for 1797.

then advise the taking a decoction of tamarinds with a little of the potassæ supertartras to obviate it. Where the skin is dry and parched, a gentle diaphoresis may be excited by a decoction of the woods joined with antimony, or by camphor, combined with the pulvis ipecacuanhæ compositus.

To answer the second indication of restoring the former vigour of the system, the patient should be put under a course of cinchona bark, with the mineral acids, chalybeates, and other tonics, as directed under the head of Dyspepsia. He should at the same time breathe a pure, temperate, and dry air; take such daily exercise as his strength will admit of, use a generous nutritive diet of fresh animal and vegetable food, and lead a life of great regularity and temperance.

It has been generally supposed, that scorbutic patients require land air, and land recreations, for their more speedy and effectual recovery. Dr. Trotter, in his Medicina Nautica, endeavours to controvert this opinion. His words are, "There is not at present an officer in the fleet, that, in doing justice to either his people or his country, would prefer the cure out of a ship. Nay, there is often the most urgent necessity for keeping them on board, till they acquire a certain degree of strength. In the very weak stage, a scorbutic patient cannot bear the external air, which has been long observed, and recently confirmed by five men dying in the boat belonging to the Prince of Wales ship of war, between the Downs and Deal hospital."

In those painful affections of the skin, of the kind usually termed scorbutic eruptions, that rise often without any very obvious cause, that chiefly depend on the habit of body, and make their appearance at stated intervals, in painful ulcerations of the skin producing a discharge of lymph, and an abundant desquamation. Where the disease is inveterate, it may be necessary to have recourse to alterative medicines, such as a combination of mercury with antimony (see Herpes,) together with the decoctum ulmi, nitric acid, spruce-beer, &c., and a diet consisting chiefly of vegetables and milk. Sea-bathing will also be proper.

ICTERUS, OR JAUNDICE.

JAUNDICE is characterized by a yellowness of the skin, more especially observable in the tunica conjunctiva of the eyes, a bitter taste in the mouth, a sense of pain or uneasiness in the right hypochondrium, whitish or clay-coloured fæces, and the urine obscurely red, tinging things dipped into it of a yellowish colour.

It takes place most usually in consequence of an interrupted excretion of the bile, from an obstruction in the ductus communis choledochus, which occasions its passing again into the blood-vessels. In some cases it may, however, be owing to a redundant secretion of the bile.

The causes producing the first of these are, the presence of bi-

liary calculi in the gall-bladder, and its ducts; inspissated bile, spasmodic constriction of the ducts themselves; and lastly, the pressure made by tumours situated in adjacent parts: hence jaundice is often an attendant symptom on an inflammation or scirrhosity of the liver, pancreas, &c., and frequently likewise on pregnancy. The proximate cause of icterus is absorption, or regurgitation of the bile into the vascular system.

Chronic bilious affections are frequently brought on by drinking freely, but more particularly of spirituous liquors; hence they are often to be observed in the debauchee and the drinker of drams. They are likewise frequently met with in those who lead a sedentary life, and who indulge much in anxious thoughts.

A slight degree of jaundice often proceeds from a redundant secretion of the bile, and a bilious habit is therefore constitutional to some people, but more particularly to those who reside long in a warm climate.

We may be assured by the long continuance of the complaint, and by feeling the liver and other parts externally, whether or not it arises from any enlargement or tumour in this viscus, the pancreas, mesentery, or omentum.

Where passions of the mind induce the disease, without any hardness or enlargement of the liver, or adjacent parts, and without any appearance of calculi in the fæces, or on dissection after death, we are naturally induced to conclude that the disorder was owing to a spasmodic affection of the biliary ducts.

Where gall-stones are lodged in the ducts, acute lancinating pains will be felt in the region of the parts, which will cease for a time, and then return again; great irritation of the stomach and frequent vomiting will attend, and the patient will experience an aggravation of the pain after eating.

When calculi are passing through the common duct into the duodenum, the symptoms are not so obscure and uncertain as when lodged in the gall-bladder. Sometimes the attack is preceded by, or accompanied with, a sense of coldness in the back and lower extremities. The person is seized with a sudden violent pain, exactly where the common duct enters the intestine. The pain is often so circumscribed, that the patient is apt to say, he can cover the extent of it with a finger, and sometimes it shoots through the back, and extends up between the shoulders. Persons thus seized cannot endure a recumbent posture, but are obliged to sit up with the body bent forward, which seems to afford a slight mitigation of the pain. In most cases, the stomach is so irritable, that every thing is immediately rejected. The intestines are invariably constipated; indeed, the whole canal appears to share in the spasmodic state induced on the duodenum by the irritating cause.

If the bile be completely obstructed in its passage into the intestine, the fæces will be of a light clay-colour, and the skin and eyes become yellow. Although the pain is more exquisite than in hepatitis, and is sometimes accompanied with great disturbance in

the general system, such as heat of the skin, quickness of the pulse, thirst, white tongue, high-coloured urine with a dark coloured lateritious sediment, still inflammation seldom occurs. Sometimes the disorder continues several hours, and then a remission of pain ensues, either in consequence of the calculus entering the duodenum, or otherwise falling back into either of the ducts, or gall-bladder. After an interval of some days, or perhaps weeks, the paroxysm possibly returns again, indicating that the obstructing cause has not been removed.

Biliary calculi are of various sizes, from a pea to that of a walnut, and in some cases are voided in a considerable number, being, like the gall, of a yellow brownish, or green colour. They vary also with regard to their figure and hardness. Some are very rough and angular; at other times they are oval or round, and their surface smooth. Although these concretions have been generally found in the gall bladder and ducts, yet they are sometimes met with in the pori biliarii and parenchyma or spongy and cellular substance of the liver.

The experiments made by Dr. Saunders on biliary calculi prove them to consist chiefly of a resinous matter with a little earth (apparently calcareous) combined with the mineral and volatile alkali.

The jaundice comes on with languor, inactivity, loathing of food, flatulency, acidities in the stomach and bowels, and costiveness. As it advances in its progress, the skin and tunica conjunctiva of the eyes become tinged of a deep yellow; there is a bitter taste in the mouth, with frequent nausea and vomiting; the urine is very high-coloured, and tinges linen yellow; the stools are of a grey or clayey appearance, and a dull obtuse pain is felt in the right hypochondrium, which is much aggravated by pressure with the fingers. Where the pain is very acute, the pulse is apt to become hard and full, and other febrile symptoms to attend.

The disease, when of a long continuance, and proceeding from a chronic affection of the liver or other neighbouring viscera, is often attended with anasarcous swellings, and sometimes with ascites. Petechiæ and maculæ sometimes appear in different parts of the body; the skin, before yellow, turns brown, or livid; even passive hemorrhages and ulcerations have broken out, and the disease has in some instances assumed the form of scurvy.

Where jaundice is recent, and occasioned by concretions obstructing the biliary ducts, it is probable that, by using proper means, we may be able to effect a cure; but where it is brought on by tumours of the neighbouring parts, or has arisen in consequence of other diseases, attended with symptoms of obstructed viscera, our endeavours, most likely, will not be crowned with success. Arising during a state of pregnancy, it is of little consequence, as it will cease on parturition. A gradual diminution of the sense of weight and oppression about the præcordia; a return of appetite and of the digestive powers; the stools becoming copi-

ous and easily procured; the urine being secreted in a larger quantity, and ceasing to tinge linen of a yellowish colour, are to be regarded as favourable circumstances. A violent pain in the hypochondrium, or epigastrium, attended with a quick pulse, loss of strength and flesh, with anasarcous swellings of the extremities, chillinesss, watchfulness, melancholy, or hiccup, denote great danger.

On opening the bodies of those who die of jaundice, the yellow tinge appears to pervade even the most interior part of the body; it is diffused throughout the whole of the cellular membrane, in the cartilages and bones; and even the substance of the brain is occasionally coloured by it. A diseased state of the liver, gall-bladder, or adjacent viscera is usually to be met with. Calculi are sometimes found in the biliary ducts.

As jaundice occurs in almost every morbid condition of the liver, and as its occurrence evidently does not depend upon a specific morbid action of that organ, some physicians have been induced to consider it only as a symptomatic affection. Under the general appearance of jaundice, we ought therefore, by a careful investigation, to ascertain, as far as we are able, the real condition of the liver; for certainly such a discrimination must appear indispensably necessary, when it is considered, that the mode of treatment must be varied, according to the cause by which such an appearance is induced.

The cure of the disease is to be attempted, first by restoring the interrupted passage of the bile through the duct; secondly, by carrying it off by the intestines; and thirdly, by relieving the particular symptoms. Whether the passage of the bile is obstructed by biliary concretions, or by spasmodic constriction of the ductus communis choledochus, the same plan nearly must be adopted.

Concretions, when of a large size, frequently excite, by their great distention of the biliary duct in their passage through it, not only acute pain, but very often a considerable degree of inflammation likewise. When this is the case, much fever is apt to attend. To guard against such consequences, it will therefore be adviseable in full plethoric habits, where the symptoms run high, to take away a quantity of blood proportionable to the state of the pulse, the severity of the pain, and the age of the patient.

Having adopted this step, we should next direct him to be put into a warm bath, in which he may be allowed to continue until some degree of fainting is excited; he is then to be removed to bed, and to take an opiate, which may be repeated every four or six hours, until ease is procured; and as the stomach is generally so irritable during the attack, that every thing taken into it is immediately rejected, especially fluids, it will perhaps be the best way to administer it in a solid form, as that of a pill. Besides these means, we may advise the constant application of a bladder filled with warm water, immediately over the region of the part

which is most painful. Throwing up emollient clysters may serve as internal fomentations.

With the intention of pushing forward biliary concretions, vomiting has been much employed in jaundice. In recent cases, where we have no reason to suspect the concretion to be of any great magnitude, and where the pain is not acute, this remedy may be attended with a good effect, by compressing, durings its operation, the distended gall-bladder and biliary vessels; but in cases attended with acute pain, and a considerable degree of fever, by which we are made acquainted with the presence of inflammation, vomiting would certainly be very likely to prove injurious.

An interesting case of inflammation of the gall-bladder, proceeding from biliary calculi, and terminating in suppuration, which at length pointed externally, came under my observation some years back. The patient was a woman of about forty years of age, who for a considerable time had been severely afflicted with pain in the stomach, febrile heat, faintings, and a purging. After a month or so, there arose a swelling near the navel, which, upon being opened, discharged a quantity of yellow matter for many days. The pain becoming very acute in the tumour, the surgeon was induced to introduce his probe into the orifice of the wound, when to his astonishment he found a hard gritty substance at the bottom of it, which upon being discharged a few days afterwards proved to be a gall-stone of the size of a common nut. This was shortly succeeded by another, and in due time the woman's health was perfectly restored.

In many instances, it seems probable, that there is not much pain produced whilst a calculus of a moderate size is lodged in the gall-bladder, or even in the biliary ducts, until it arrives at that part where the common duct perforates the intestine; which opinion seems confirmed from cases reported by writers of the first respectability, where biliary calculi have been met with on dissection in the gall-bladder of persons who never were incommoded during their life-time with any symptoms that indicated the presence of such a complaint.

Purgatives have been much used in the jaundice, not only with the view of obviating costiveness, but also with that of exciting the action of the biliary ducts, by increasing that of the intestines. Some physicians have, however, judged them useful only where there is a slow and bound belly; while others again assure us, that drastic purges, whose action is both brisk and of long continuance, have proved highly serviceable.

Regular stools, with a soluble state of the bowels, are certainly necessary to a person afflicted with the jaundice; and in more than one or two instances I have known it to be completely removed by a diarrhœa supervening of its own accord.

Where the disease proceeds either from calculi, or from spasmodic stricture, it seems rational therefore to presume, that, after

having pursued the steps before recommended, we may make use of purgatives,* with much advantage; and in these cases I have certainly experienced their beneficial effects very frequently; but where jaundice arises in consequence of some chronic affection of the liver, or other adjacent viscera, active purgatives would be likely to do harm by inducing much debility. In instances of this nature we may substitute aperients, such as any of the neutral salts.

With the intention of dislodging biliary concretions, gentle exercise, but more particularly that of riding on horseback, together with frictions, have been much advised, and certainly will be very proper, except during the paroxysms. Electrical shocks passed through the liver in the course of the common duct, may likewise proved a good auxiliary in promoting the passage of the calculus.

The warm bath and anodynes, by their relaxing and antispasmodic powers, have proved highly useful in the jaundice, when proceeding either from calculi or spasmodic strictures; and therefore when either of these causes is suspected to have given rise to it, they should by no means be neglected.

Should we discover that jaundice has arisen in consequence of an inflammatory affection of the liver, we must, at an early period, have recourse to venesection, topical bleedings, the exhibition of cooling saline purgatives from time to time, and the application of a blister over the part, which ought to be renewed in a quick succession, if the disease does not soon abate, (see Acute Hepatitis;) but where these have either failed or been neglected, and it has proceeded on to a chronic state of enlargement and scirrhosity, pressing thereby on the biliary ducts, we must then resort to an use of mercury both externally and internally, as advised under the head of chronic inflammation of that viscus.

In cases of this nature, as well as in those of jaundice, arising from biliary concretions, it has been much the practice to employ neutral salts, together with alkalies, soap, and other deobstruents. Soap has, indeed, been looked upon as a kind of specific in jaundice, and has therefore been employed in considerable quantities.

The symptoms which usually prove most distressing in this disease, are the pain in the epigastrium, sickness at the stomach, and costiveness.

The two former of these will generally be removed by bleeding, the warm bath, fomentations applied to the part, the exhibition of emollient clysters, and opiates, as before advised. Where they fail, the application of a large blister may possibly be attended with a

* R. Pulv. Aloes gr. xx.
Sapon. Alb. ʒss.
Hydrargyr. Submur. gr. xij.
Syrup Simp. q. s. M.
Fiant Pilul. xxiv. Capiat. iv. bis die.

Vel

R. Hydrargyr. Submur. gr. v.
Pulv. Jalapæ ʒss.
Mel. Optim. q. s. M.
ft. Bolus.

better effect. Should the nausea and vomiting continue in spite of these means, we may then give the saline medicine in the act of effervescence, or something of a cordial antispasmodic* nature, that may be likely to abate the irritation in the stomach.

Costiveness is to be removed by gentle laxatives, such as are here advised.†

In the progress of the disorder, it sometimes happens that a spontaneous diarrhœa arises, and prevents the future absorption of the bile into the mass of fluids. As long as it continues moderate, and induces no debility, it may be allowed to go on; but where it attacks with violence, or takes place in a constitution much injured and enfeebled, it should be checked by having recourse to the means advised under that particular head.

In jaundice arising from a scirrhosity of the liver, we must adopt the steps recommended in chronic hepatitis.

A variety of other different remedies have been mentioned as possessing a good effect in jaundice, but many of them have been found on trial to be perfectly inert.

In cases where we have reason to suspect the obstruction of the bile to be owing to a torpid action of the bile-duct, and where other means have failed in promoting the desired intention, we should make trial of electricity directed to the region of the liver. This in one case succeeded in the hands of Dr. Darwin, after the other remedies had failed.

A diet consisting chiefly of vegetables appear to be best calculated for persons labouring under jaundice, or in whom bilious concretions are apt to form.

Great advantage will also be derived from regular and sufficient exercise daily, particularly on horseback, as nothing will tend more to prevent the bile from stagnating and becoming inspissated, which it is apt to do in those persons who lead a studious or sedentary life.‡

* Such as sulphuric ether, or Hoffman's anodyne liquor. If these should fail when administered alone, a due proportion of laudanum should be added to each dose. E.

† ℞. Pulv. Jalapæ ℈i.
Potassæ Supertart. ℈ij.
ft. Pulvis pro dos.
Vel
℞. Aloes Spicat. ʒjss.
Sapon. Venet. ʒj.
Potassæ Subcarbonat. ʒss.
Syrup. Rhamni q. s. M.
Fiant pilul. xxxvj Capiat iij. vel iv. hora decubitus.

‡ Sibbens, Frambœsia or yaws, Elephantiasis, Leprosy, and Plica polonica, are also diseases belonging to this order, but as they either never or very seldom occur in this country, the editors have omitted entirely the author's account of their history and treatment. E.

CLASS IV.

LOCALES OR LOCAL DISEASES.

AFFECTION of a part, not of the whole body, characterizes this Class.

ORDER I.—THE DYSÆSTHESIÆ.

DEPRIVATION or loss of some sense, from the fault of the external organ.

GUTTA SERENA, AMAUROSIS OR DIMNESS OF SIGHT.

GUTTA Serena (a species of blindness, wherein the eyes remain fair and seemingly unaffected) consists in a dimness of sight, whether the object be near or at a distance, together with the representation of flies, dust, &c. floating before the eyes; and the pupil is generally deprived of its power of contraction.

It is supposed to depend on some affection of the optic nerves; but its causes are nevertheless said to be various: some of which are, from their nature, incapable of being removed.

In some cases, the defect of vision has been attempted to be accounted for by supposing a defect in the optic nerves, disqualifying them for conveying the impression of objects through the eyes to the brain, as, upon the minutest inspection by dissection, nothing has been discovered either in the structure of the eyes, or in the state of any of the component parts contributing to the faculty of vision, which could at all obstruct the performance of their proper office.

Mr. Ware, in his treatise on this disease, mentions that a dilatation of the arterial circle, surrounding the cella turcica (which is formed by the carotid arteries on each side, by branches passing from them to meet each other before, and by other branches passing backward to meet branches from the basilary artery behind,) may likewise be a cause of gutta serena. The anterior portion of this circle passes over the optic nerves, which undoubtedly may therefore become compressed, when any enlargement of these vessels takes place.

A dilatation of the artery which passes directly through the centre of the optic nerve to the retina, may, it is presumed, likewise become a cause of defective vision.

The proximate cause of amaurosis is generally allowed to be the insensibility of the retina.

Gutta serena, although considerably relieved in some instances, proves generally an incurable disease.

Its treatment is usually regulated on the plan of stimulating either the parts themselves, or the system in general.* The first is to be done by applying blisters and issues behind the ears or at the back of the neck, and continuing them for a considerable length of time; by promoting a discharge from the nose by means of errhines,† and by stimulant collyriums.

Electricity has been employed in some cases with the happiest effect, when other remedies have failed, by passing very slight shocks through the forehead twice a day, and afterwards drawing sparks from the parts surrounding the eye or eyes; which plan ought to be persevered in for a proper length of time. Galvanism has likewise been resorted to with advantage. Dr. Darwin records‡ the case of a lady who laboured under gutta serena, and whose sight was restored by these means. He adopted the experiment of Volta, by employing two rods, one of them of zinc, about the size of a writing pencil, and the other a silver pencil-case, about the same size; and by putting the end of the zinc rod in contact with the external corner of one eye, and the end of the silver pencil case in contact with the external corner of the other eye, and then repeatedly making the other ends touch each other; sparks were visible in the eyes both at the time of contact and at the time of separating the two rods. He mentions that she took valerian and columbo at the same time, and perfectly regained her sight in about three weeks.

Mr. Ware informs us, that in several instances of common gutta serena, he observed considerable relief to be obtained by the use of a snuff composed of ten grains of turbith mineral, with about a drachm of the pulvis sternutatorius; or in the place of that, the glycirrhiza, or saccharum commune.

Stimulants have been applied immediately to the eyes, in some

* When amaurosis comes on somewhat suddenly, in a person of a plethoric habit, and is accompanied with symptoms which would indicate a fulness of the blood vessels of the head, bleeding, purging and the other depleting remedies, together with a low diet, will be proper. E.

† ℞. Pulv. Asari Composit. Pharmacop. Londinensis.

Vel

℞. Hydrargyr. Vitriolat. gr. j.
Pulv. Glycirrhiz. gr. vj.
—— Rad. Veratri gr. ij. M.

‡ See Zoonomia. Vol. iii. Class 1, 2, 3, 5.

cases of gutta serena, with a good effect, but more particularly in those which seem to depend upon an inirritability of the optic nerve. In such cases, an infusion of dried capsicums in water, in the proportion of one grain to the ounce, may be made use of, dropping a few drops into the eyes morning and evening. The severity of the pain may be great at first from this application, but, by perseverance, it will be found to abate. The vapour arising from warm rectified spirit passed through a tube and received into the eyes, has sometimes produced a good effect.

To stimulate the system, it is customary to have recourse to mercury, which is to be used and to be continued until it produces some sensible effect. In that form of the disease which is accompanied with a contracted state of the pupil, and which has been produced, probably, by an internal ophthalmy, Mr. Ware is of opinion, that it may best be relieved by the internal use of the hydrargyrus oxymuriatus, a quarter of a grain for a dose.

We are informed by Dr. Richter, professor of medicine in the university of Gottingen, in a publication which bears the title of Medical and Surgical Observations, that he has lately restored to sight several patients who laboured under gutta serena. In all those cases, he thinks the cause of the disease seemed to be seated in the abdominal viscera; for he cured them all, he says, by means of medicines which remove obstructions in the viscera and evacuate. He affirms, that in this way he has not unfrequently performed a complete cure, in cases where he hardly expected it, and in some where the disease had actually continued for several years.

Costiveness should carefully be obviated in all cases of amaurosis.

PARACUSIS, OR DEAFNESS.

DEAFNESS is occasioned by any thing that proves injurious to the ear, as loud noises from the firing of cannon, violent colds particularly affecting the head, inflammation or ulceration of the membrane, hard wax, or other substances interrupting sounds; too great a dryness or too much moisture in the parts; or by atony, debility, or paralysis of the auditory nerves. In some instances, it ensues in consequence of preceding diseases, such as fever, syphilis, &c.; and in others, it depends upon an original defect in the structure or formation of the ear. In the last instances, the person is usually not only deaf, but likewise dumb.

It is often difficult to remove deafness, but more especially where it prevails as a consequence of a wound, ulcer, or inflammation of the tympanum. Where it proceeds from malconformation, it admits of no cure.

When deafness is occasioned by wax sticking in the ear, or by any defective or diseased actions of the glandulæ ceruminæ, a

little of either of the remedies here* advised may be dropped into it; or be applied at the end of a small dossil of cotton every morning and night, previously syringing it with a little warm milk and water, or soap and water. If a thin acrid or fetid discharge accompanies the difficulty of hearing, it will be adviseable to apply a small blister behind the ear, and to render it perpetual by dressing it with the unguentum lyttæ.

When the disease proceeds from cold particularly affecting the head, the patient should be careful to keep this warm by night; the effects of which may be increased by putting the feet into warm water previous to his getting into bed, and taking some proper diaphoretic. Indeed, from whatever cause the disorder may originate, it will always be proper to keep the head warm.

If deafness seems to be owing to a debility of some part of the organ, or arises in consequence of a nervous affection, it is then to be removed by stimulants† dropped into the ear; by drawing sparks with an electrical machine; by galvanism, and by cold bathing. Æther dropped into the ears of some people who are deaf, seems to possess a twofold effect; one, of dissolving the indurated wax; and the other, of stimulating the torpid organ: but it is liable to excite some degree of pain unless it be freed from the sulphuric acid, some of which arises along with it in distillation. To purify it from this, it should be rectified from manganese.

In that particular species of deafness which depends on a defective energy of the auditory nerve, we are told by Mr. Wilkinson‡ that galvanism is capable of effecting a cure. He observes that this species of deafness is ascertainable by the common practice of placing a sonorous body in contact with the teeth. If the communication of sound should not be thus rendered more distinct, we may conclude that the defect originates in the nerve; seeing that, provided the deafness has been owing to any derangement of the other parts of the ear, the sound, transmitted by the medium of the teeth through the connecting bony substance to the seat of hearing, would have been distinctly perceived.

In several cases, where the deafness seemed to have arisen from a relaxation of the membrana tympani, attended by a diminished secretion of cerumen, Mr. Wilkinson experienced good effects

* ℞. Fellis Bovis ʒiij.
Balsam. Peruv. ʒj. M.
Vel
℞. Sodæ Muriati ʒj.
Aquæ Distillat. q. s. ad solutionem.

† ℞. Ol. Amygdal. Dulc. ℥ss.
—— Terebinth. ♏. xl. M.
Vel
℞. Ol. Olivæ ℥ss.
Liquor. Ammon. ♏. xxx. M.
Vel
℞. Ol. Amygdal. ℥i.
Camphoræ ʒi. Solve.
Vel
℞. Æther. Rectificat.

‡ See his elements of Galvanism.

from the employment of galvanism, which not only induced a grateful warmth in the meatus, but also considerably augmented the secretion of wax.

Where the disease is the effect of fever, it usually goes off as the patient regains his strength.

To assist the hearing of persons who are deaf in a high degree, we may recommend the use of an ear-trumpet, vulgarly so called.

Tobacco smoke is a remedy which has been employed in some cases of severe and long continued deafness, but more particularly by Mr. Grosvenor, of Oxford, Surgeon, with great success and efficacy. The mode of using it is, to fill the mouth with the smoke of the strongest tobacco, instantly to close the mouth and nose, and then for the person to make all possible effort as if he meant to force the smoke through the nose, which must be prevented by holding the nostrils very tight: this forces the smoke through the Eustachian tube into the ear. The efforts are to be repeated till one or both ears give a seeming crack, immediately on which the hearing returns.

Mons. de Saissy, surgeon at Lyons, has been successful in some cases of deafness by making injections into the hollow of the tympanum, through the Eustachian tube.

In that species of deafness which arises from an obstruction of the Eustachian tube, Mr. Astley Cooper recommends the puncturing of the membrana tympanum.* He was led to this operation by reflecting that, as an aperture in this membrane did not appear to injure the power of the ear, and a small opening would be sufficient to admit a free passage of air to and from the tympanum, perhaps a substitute might be thus easily found for the Eustachian tube, and the membrane by such an aperture be restored to its natural functions. He observes that there are several causes by which a closure of the Eustachian tube may be produced.

It may arise, first, from a common cold affecting the parts contiguous to the orifices of the tube, and thereby preventing the free passage of air into the tympanum. The deafness thus produced, however, is often only temporary; but the frequent recurrence of such attacks may produce a permanent enlargement of the tonsils, which by their pressure on the Eustachian tubes, will occasion a constant deafness.

Secondly, The scarlet fever causes ulcers in the throat, which, in healing, frequently close the Eustachian tube, thereby producing lasting deafness.

Thirdly, A venereal ulcer in the fauces, by the cicatrix it produces, often occasions a closure of the Eustachian tube, causing

* See Philosophical Transactions of the London Royal Society for 1801.

a deafness, which nothing but the operation here spoken of can relieve.

Fourthly, He has known the closure of the tube produced by an extravasation of the blood in the cavity of the tympanum.

Lastly, He met with one instance of a stricture in the tube, which although it did not entirely obstruct the passage of the air, yet rendered it extremely difficult. In this the gentleman who was the subject of the disease, in order to enable himself to hear, was under the necessity of forcing air from the mouth into the cavity of the tympanum, which pressed the membrana tympani towards the meatus; then by pressing gently on the ear, he forced out a part of the air which the tympanum contained; thus giving the membrane liberty to vibrate, and producing an immediate increase in the power of hearing.

As the operation will not afford relief in any cases of deafness, except such as arise from a closed Eustachian tube, Mr. Astley Cooper is anxious that it should be performed in those only which are clearly of that description. The criteria by which he judges whether the tube is closed or open, are the following:

"First, If the person in whom it is suspected to be closed should feel, in blowing the nose violently, a swelling in the ear, from the membrane being at that time forced outward, the tube is open; for, when closed, no such sensation is produced.

"Secondly, The Eustachian tube may be closed, yet the beating of a watch may be heard, if it be placed between the teeth, or pressed against the side of the head: and if it cannot be heard when it rests upon the teeth, this operation cannot relieve, as the power of the auditory nerves must have been destroyed.

"Thirdly, It is right to enquire if the deafness was immediately preceded by any complaint in the throat.

"Lastly, In a closed Eustachian tube there is no noise in the head like that which is known to accompany nervous deafness. This species of deafness generally approaches in a gradual manner; the person hears better at one time than at another; a cloudy day, a warm room, agitated spirits, or the operation of fear, produce a considerable diminution in the powers of the organ. In the open air, the hearing is better than in a confined situation; in a noisy than in a quiet society; in a coach when it is in motion, than when it is still. A pulsation is often felt in the ear: a noise resembling sometimes the roaring of the sea, and at others the ringing of distant bells, is heard. This deafness begins generally in a diminished secretion of the wax of the ear, which the patient attributes to some unusual exposure of the head to cold; and this continues as long as the disorder remains."

Order II.—DYSCINESIÆ.

Obstructed or depraved motions, from fault in the organs.

STRABISMUS, or SQUINTING.

Squinting is generally owing to one eye being less perfect than the other; on which account the person endeavours to hide the worst eye in the shadow of the nose, that his vision by the other may not be confused. Sometimes the habit is acquired, and cannot afterwards be easily corrected.

Where squinting has not been confirmed by long habit, and one eye is not much worse than the other, we are told* the defect may often be obviated by making the child wear, for some hours every day, a piece of gauze stretched on a circle of whalebone over the best eye, in such a manner as to reduce the distinctness of the vision of this eye to a similar degree of imperfection with the other; or the better eye may be totally darkened by a tin cup covered with black silk for some hours daily, by which means it will be gradually weakened by the want of use, and the defective eye will be gradually strengthened by using it.

In most cases of strabismus we shall be enabled to afford essential relief by the simple process of binding up the sound eye every day for two or three hours, so as to oblige the patient to make use of the debilitated organ, and according as it is more or less indisposed, to keep the other more or less veiled, continuing the process until the diseased eye can fully and properly perform its functions.

Order III.—APOCENOSES.

Unusual flux of blood or other humours, without pyrexia, or increased impetus of the fluids.

ENEURESIS, or INCONTINENCY of URINE.

This disease usually proceeds either from relaxation or a paralytic affection of the sphincter of the bladder, induced by various debilitating causes, such as too free an use of spirituous liquors, masturbation, and excess in venery; or it arises from compression on the bladder, from a diseased state of the organ, or from some irritating substance contained in its cavity.

When it prevails in consequence of relaxation in the parts, the cure is to be attempted by general and topical cold-bathing, but

* See Darwin's Zoonomia, Vol. iii. Class 1. 2. 5. 4.

more particularly the latter; by blisters applied to the perinæum, and by an internal use of chalybeates and other tonics, as advised under the head of Dyspepsia. The uva ursi taken in the quantity of from a scruple to half a drachm twice or thrice a day, drinking about half a pint of lime-water after each dose, may likewise be of some service.

Should the disease be owing to a paralysis of the bladder, besides applying a blister to the perinæum, and making use of electricity to the parts, we should give the patient medicines of a stimulating nature, such as the tinctura lyttæ.

When it is occasioned by an extraneous substance lodged in the bladder, such as a stone, we cannot effect a cure but by removing this.

As arising from pregnancy, it is only to be relieved by delivery; but possibly it may be palliated by confining the woman as much as possible to an horizontal posture.

To prevent in men the urine from galling and excoriating the parts it will be necessary for the patient to wear some vessel adapted to the penis that will receive it as it drops; or he may employ a jugum penis, which will obviate its being evacuated involuntarily. Women may use a sponge so fastened as to absorb the moisture.

LEUCORRHŒA, FLUOR ALBUS, OR WHITES.

This disease is marked by the discharge of a thin white or yellow matter from the uterus and vagina, attended likewise with some degree of fœtor, smarting in making water, pains in the back and loins, anorexia, and atrophy. In some cases the discharge is of so acrid a nature, as to produce effects on those who are connected with the woman, somewhat similar to venereal matter, giving rise to excoriations about the glans penis and preputium, and occasioning a weeping from the urethra.

To distinguish leucorrhœa from gonorrhœa, it will be very necessary to attend to the symptoms. In the latter the running is constant, but in a small quantity; there is much ardor urinæ, itching of the pudenda, swelling of the labia, increased inclination to venery, and very frequently an enlargement of the glands in the groin; whereas in the former, the discharge is irregular, comes away often in large lumps, and in considerable quantities, and is neither preceded by, nor accompanied with any inflammatory affection of the pudenda.

Immoderate coition, injury done to the parts by difficult and tedious labours, frequent miscarriages, immoderate flowings of the menses, profuse evacuations, poor diet, an abuse of tea and other warm slops, an inactive and sedentary life, and other causes giving rise to general debility, or to a laxity of the parts more immediately concerned, are those which usually produce the

whites, vulgarly so called, from the discharge being commonly of that colour.

Fluor albus, in some cases, indicates that there is a disposition to disease in the uterus, or parts connected with it, especially where the quantity of discharge is very copious, and its quality highly acrimonious. By some, the disorder has been considered as never arising from debility of the system, but as being always a primary affection of the uterus. Delicate women with lax fibres, who remove from a cold climate to a warm one, are, however, to my knowledge, very apt to be attacked with it, without the parts having previously sustained any kind of injury.

The disease shows itself by an irregular discharge from the uterus and vagina, of a fluid, which in different women varies much in colour, being of a white, green, yellow, or brown hue. In the beginning it is, however, most usually white and pellucid, and in the progress of the complaint, acquires the various discolorations, and different degrees of acrimony; from whence proceeds a slight smarting in making water. Besides the discharge, the patient is frequently afflicted with severe and constant pains in the back and loins, loss of strength, failure of appetite, pain in the stomach, dejection of spirits, paleness of the countenance, chilliness, and languor.

The sleep is disturbed by fearful dreams, and affords but little refreshment. The woman becomes pale and emaciated, her eyes are dull, and a flushing of the face is alternated by a ghastly paleness. In process of time, the feet and ankles swell, palpitations, and a difficulty of respiration are experienced, the mind is dejected, apprehensive, and occasionally affected with melancholy. Very frequently the functions of generation are greatly injured, and sterility is often the consequence thereof. Hysteria also in a greater or less degree, is generally a concomitant of leucorrhœa, the urine is turbid, and the menstrual discharge is sometimes scanty, and even suppressed: at others, it is too copious, irregular, or attended with much pain.

The disease is seldom removed but by artificial means, and where these are long deferred, it proceeds to waste the constitution with accumulating mischief. Every symptom becomes highly aggravated, the eye-lids and face swell, are bloated and disfigured, the body is wasted and debilitated, and hectic fever, with its doleful train, and dropsy in every form supervene, and terminate a miserable existence. In some cases, prolapsus uteri, and ulcerations, are to be met with.

Where leucorrhœa terminates in death, the internal surface of the uterus appears, on dissection, to be pale, flabby, and relaxed; and where organic affections have arisen, much the same appearances are to be met with as have been noticed under the head of Menorrhagia.

The proper indications of cure to be observed in fluor albus, seem to be, to increase the action of the absorbents of the uterus

and vagina, by restoring the tone of the parts; to correct the acrimony of the discharge, diminish its quantity, and alleviate other urgent and distressing symptoms; and thirdly, to strengthen the system when the disease is complicated with general debility and relaxation.

The first of these intentions is to be effected by astringents, administered by the mouth, and likewise thrown up into the vagina and uterus, in the form of injections.* Alum, sulphate of zinc, gum kino, and catechu, are the astringents, which are most employed as internal remedies; and these may be given either separately, or combined with some tonic, such as the cinchona, bitters, chalybeates, and the sulphuric acid, as advised below,† or recommended under the head of Menorrhagia, together with partial cold bathing, by sprinkling or sponging the loins and thighs with cold water.

Besides astringents, it has been usual to employ, in this disease, such stimulating medicines as are most commonly determined to the urinary passages, which, from their vicinity to the uterus, have often been found to afford considerable relief. Turpentine, and other balsams, such as bals. copaibæ, terebinthina Canadensis, with many more of a like nature, have been used on the occasion. The tinctura lyttæ has likewise been much administered with the same view; and, indeed, in several obstinate cases, I have given it with much advantage. It may be joined with some tonic, as below.‡

The application of a blister to the sacrum, has in some cases been attended with advantage.

Stimulating the intestines and rectum, by giving small doses of rhubarb, or the pilulæ aloes cum myrrha, every night on going on to bed, for a considerable length of time, has likewise been found serviceable.

Gentle emetics have also been supposed to be of singular utility

* ℞. Zinc. Sulphat. ʒj.
Plumbi Superacet. gr. x.
Aq. Distillat. Oj. M.
ft. Inject.

Vel

℞. Decoct. Cort. Quercus Oj.
Aluminis ʒj. M.

Vel

℞. Gall Contus. ℥ss.
Aq. Fervent. Oij. M.

† ℞. Aluminis Pulv. ʒij.
Ras. Nuc. Mosch. ʒss.
Terr. Catechu ʒj.
Pulv. Cinchon. ℥ss.
Syr. Zingib. q. s. M.
ft. Electuarium cujus sumat quantitatem juglandis ter in die.

Vel

℞. Extract. Cinchonæ
Gum Kino ää ʒj.
Aluminis ʒ ss.
Ras. Nuc. Mosch. ℈j.
Syrup. Simpl. q s. M.
ft. Massa in Pilul. xxxvj. divid. quarum sumat iij. bis terve in die ex Cyatho Seri Aluminosi.

‡ ℞. Infus. Gentian. C. ℥j.
Tinct. Cinchon. ʒij.
——— Lyttæ gut. x.—xx. M.
ft. Haust. bis terve in die sumendus.

in fluor albus, not only by cleansing the stomach and bowels, and making a revulsion of the humours from the inferior part of the body, but likewise by their exciting all the powers of the constitution to a more vigorous action.

To answer the second intention, of correcting the acrimony of the discharge and lessening its quantity, a diligent attention must be paid to cleanliness, by washing the parts frequently with cold water, or a little milk and water, and then throwing astringent injections up the vagina. These may consist of a strong infusion of green tea or a solution of alum, or sulphate of zinc in the proportion of a drachm of the latter to a pint of water, or the decocum quercus, or infusum corticis granati. When there are excoriations either externally or internally, the liquor plumbi acetatis, diluted sufficiently with water, may be employed as a wash.

The pains in the back and loins are to be relieved by enveloping them with the emplastrum picis compos. spread upon coarse linen or leather, and by avoiding a standing posture of long continuance, much walking, dancing, or any other violent exertion.

Languor, debility, and faintings, are to be obviated by a generous nutritive diet, consisting of milk, with isinglass boiled up in it, blanche-mange, jellies, eggs, sago, gelatinous broths, and light meats, together with cordial medicines, but more particularly Port wine.

To strengthen the general system, where the disease is complicated with universal debility, besides the restorative means just mentioned, we must have recourse to bitters of an astringent and stomachic nature, the cinchona bark, preparations of steel, the use of mineral waters, cold bathing both topical and general, and other tonics, as advised under the head of Dyspepsia.

Women that are afflicted with fluor albus, should avoid all the remote causes of the disease, and by no means indulge in the use of tea, or other warm slops of a relaxing nature; they should lie on a mattress in preference to a feather-bed: they should avoid too free an indulgence in sensual gratification, and they should rise early, and take such daily exercise as their strength will admit, particularly on horseback. Where there is much languor, with a considerable degree of chilliness, it is probable that frictions with flannels might afford some relief. In winter, they ought to wear a flannel shift, or sliders.

Order IV.—EPISCHESES.

Suppression of excretions.

OBSTIPATIO, or COSTIVENESS.

Costiveness is to be considered either as constitutional or symptomatic; but in general, it prevails as the latter.

The word implies a retention of the excrement, accompanied with an unusual hardness and dryness, so as to render the evacuations difficult, and sometimes painful.

Sedentary persons are peculiarly liable to this complaint, especially those of a sanguineous and choleric temperament; or who are subject to hypochondriac affections, the gout, acute fevers, and a diseased state of the liver and spleen.

Costiveness is frequently occasioned by neglecting the usual time of going to stool, by an extraordinary heat of the body, and copious sweats; by receiving into the stomach a larger proportion of solid food, than is proper for the quantity of fluids swallowed; by a free use of opium, and by taking food that is dry, heating, and difficult of digestion.

With the defect of stools, there sometimes exist nausea, want of appetite, flatulency, pains in the head, and a degree of febrile heat.

The disease is to be obviated by an attention to diet; by observing certain regular periods; and, where these fail, by having recourse to laxatives.

The diet of such as are of a costive habit, ought to consist a good deal of vegetables and ripe fruits, and their ordinary drink of malt liquors.

A habit of regularity should be endeavoured to be established by the person's going at a certain hour or hours each day, and making proper efforts at each period for promoting an evacuation. If a natural inclination arises at any time, this ought likewise to be encouraged.

The laxatives most proper for obviating costiveness are those which afford the least irritation,* but which will at the same time procure one or two motions daily.

* ℞. Potassæ Tartratis ℥ss.
Mann. Optim. ʒij.
Aq. Fervent. ℥iij.
Tinct. Jalapæ ʒij. M.
Capiat dimidium pro dos.

Vel

℞. Elect. Sennæ ℥ij.
Potassæ Supertart. ʒij.
Pulv. Jalapæ ʒj.
Syrup. Simp. q. s. M.
ft. Electuarium cujus sumat quantitatem juglandis hora somni. et repetatur mane postridiè, si sit necessitas.

Persons of a costive habit of body, and particularly pregnant women, are very apt to make use of Anderson's Pills, which are composed wholly of aloes, with a little oil of anniseed to prevent the griping effect of the former. In phlegmatic constitutions, they may possibly be used occasionally with some advantage; but in pregnant women, or those of a bilious habit, where the bowels are naturally irritable, they cannot fail to do harm. Their operation is confined, in a great measure, to the lower part of the rectum, and they are thereby apt to induce piles. The frequent use of every purgative medicine moreover creates a necessity for its repetition, and by this repetition the bowels lose their energy, their delicate nerves become torpid to the stimulus of the food and drink, and the secretions formed from them. A natural discharge of the contents of the bowels ought therefore to be solicited by those of a costive habit, in preference to the use of any kind of purgative whatever.

In those cases where inveterate costiveness has once taken place, and the usual simple remedies have proved abortive, carbon or charcoal divested of heat has been administered with uncommon success. It is reported to have procured the desired relief in every instance. Three drachms of it finely levigated may be mixed with three ounces of the electuarium sennæ, adding about two drachms of the carbonate of soda. Of this mixture from half an ounce to one ounce may be taken as circumstances require.

ISCHURIA ET DYSURIA, OR A SUPPRESSION AND DIFFICULTY OF URINE.

When there is a frequent desire of making water attended with much difficulty in voiding it, the complaint is called dysuria or strangury; and when there is a total suppression of urine, it is known by the name of ischuria. Both ischuria and dysuria are distinguished into acute, when arising in consequence of inflammation, and chronic, when proceeding from any other cause, such as calculus, &c.

The causes which give rise to these diseases are, an inflammation of the urethra, occasioned either by venereal sores, or by a use of acrid injections, inflammation of the veru-montanum, bladder or kidneys, considerable enlargement of the hemorrhoidal veins, a lodgment of indurated fæces in the rectum, spasm at the neck of the bladder, the action of cantharides applied externally or taken internally, excess in drinking either spirituous or vinous liquors, or particles of gravel sticking in the neck of the bladder, or lodging in the urethra, and thereby producing irritation. The gouty action by being translated to the neck of the bladder, will sometimes occasion these complaints. In many instances the obstruction to the flow of urine is in a great measure owing to a diseased action of the muscles; in some of them it is entirely to be attributed to this cause.

A very frequent cause however of both dysuria and ischuria is an enlargement, or other diseased state of the prostate gland, a complaint with which men in advanced life are very apt to be afflicted. From various dissections made by Sir Everard Home,* it appears that when the prostate gland becomes diseased, it is not its body or lateral portions which in general are principally enlarged, but its middle lobe, which gradually becoming of an increased size, presses inwards towards the cavity of the bladder in the form of a nipple, pushes the internal membrane of the bladder before it, obstructs the flow of urine, and gives rise to dysuria and tenesmus, with many constitutional symptoms.

In dysuria there is a frequent inclination to make water, attended with a smarting pain, heat, and difficulty in voiding it, together with a sense of fullness in the region of the bladder. The symptoms often vary, however, according to the cause which has given rise to it. If it proceeds from a calculus in the kidney or ureter, besides the affections mentioned, it will be accompanied with nausea, vomiting, and acute pains in the loins and region of the ureter and kidney of the side affected. When a stone in the bladder, or gravel in the urethra is the cause, an acute pain will be felt at the end of the penis, particularly on voiding the last drops of urine, and the stream of water will either be divided into two, or be discharged in a twisted manner, not unlike a cork-screw. If an enlargement or scirrhus of the prostate gland has occasioned the suppression or difficulty of urine, a hard indolent tumour unattended with any acute pain may readily be felt in the perinæum, or by introducing the finger in ano.

Dysuria is seldom attended with much danger, unless by neglect it should terminate in a total obstruction. Ischuria may always be regarded as a dangerous complaint, when it continues for any length of time, from the great distention of the bladder, and often consequent inflammation which ensues. In those cases where neither a bougie nor a catheter can be introduced, the event in all probability will be fatal, unless the patient will submit to the only means of drawing off the urine before a considerable degree of inflammation and tendency to gangrene have taken place.

In ischuria it will always be adviseable to guard against the taking place of any degree of inflammation, by drawing off from the arm a quantity of blood proportionable to the age and habit of the patient, at an early period of the complaint, besides having recourse to emollient fomentations and laxative clysters.

Where inflammation already exists at the neck of the bladder or prostate gland, it will likewise be proper to make use of topical bleeding by applying leeches to the perinæum.

If the suppression does not give way to these means, the patient should be put into a warm bath, and having kept him in it for about

* See Philosophical Transactions for 1806. Part I. Art. 8th.
— Practical Observations on the Diseases of the Prostate Gland.

ten minutes or a quarter of an hour, he is then to be taken out, and the introduction of the catheter is to be attempted, or the introduction may be attempted while in the bath, and possibly with a more decisive effect. In some obstinate cases of ischuria, and where every endeavour to draw off the urine has failed, by placing the patient in a warm bath, and bleeding him ad deliquium animi, the surgeon has been enabled to pass a catheter with the greatest ease imaginable.

In all cases it will be necessary to introduce the catheter with gentleness: even a moderate force, improperly directed, is capable of injuring the urethra in such a manner as to render the operation almost impracticable; and it must be obvious to every surgeon, that long continued and violent attempts have a tendency to increase the inflamed state of the urethra; but besides this, a laceration of its membranous parts is apt to arise so as to endanger the making of an artificial passage by the catheter.

In a retention of urine, proceeding from an enlarged or diseased state of the prostate gland, and where there is a fullness in the region of the bladder, with a turgidness of the parts, having premised copious bleeding both general and topical, no time should be lost in introducing the catheter and drawing off the water. In doing this, three things are, however, to be attended to. 1st, To avoid bringing on spasms of the urethra; 2dly, To conduct the point of the instrument over the prominence at the neck of the bladder; and, 3dly, To employ an instrument that is fitted to be retained in the bladder should much difficulty have occurred in the introduction, as less disturbance is likely to arise from an instrument remaining therein, than will be produced by repeating the operation of introducing it, where any degree of violence is committed upon the parts.

The instrument should be soft and smooth, rounded at the point, and as large as the canal will easily admit, that it may more readily disengage itself at the turn into the bladder: the apertures in its side should be wide to render them less liable to be clogged with mucus or blood, and it should be pliant, that it may adapt itself to the form of the parts, and give little disturbance while retained: another desireable property for it to possess, we are told by Sir Everard Home,* is a permanent curvature at the point, even to a greater degree than is usually given to the common silver catheter. The only instrument which possesses these requisites is the elastic gum catheter. To acquire the proper curvature, it should be kept upon an iron stilet of a proper shape.

In some cases of an enlargement of the lobes of the prostate gland, even a flexible gum catheter with a stilet cannot pass along the urethra on account of spasm, but by having given it a considerable curvature by its being kept a sufficient time upon a stilet, and

* See his Observations on the Diseases of this Gland.

then introducing it in a flexible state without the stilet, we shall succeed, and be able to draw off the water.

Sir Everard Home gives the following directions for passing the catheter in cases of diseased prostate. It should be introduced either towards the left or right side with the handle nearly in an horizontal line, and when it reaches the membranous part of the urethra, the handle should be gently and gradually brought towards the perpendicular line, the point all the time being kept in motion; and when it is nearly upright, the handle should be depressed. When the flexible catheter has no stilet, a good deal of dexterity is often required. If the catheter without the stilet cannot be made to pass, it ought to be tried with one, and if it is still prevented from going on, by introducing a finger into the rectum, and pressing upon the curved point of the catheter, we may give it a right direction, so as to guide it into the bladder. When necessary to introduce the finger in ano, a recumbent posture must be employed, but, in other instances, Sir Everard Home prefers the standing position.

In every instance of the complaint, whether arising from stricture, gravel, or spasm, opiates will prove highly serviceable, and ought therefore to be administered not only by the mouth along with diuretics of a mild or bland nature every three or four hours, but likewise in emollient or mucilaginous clysters repeated very frequently.

Injecting sweet oil, or even warm milk and water frequently up the urethra, will often afford relief, especially if the suppression has been occasioned by a small piece of gravel, which has stuck in the canal.

In both ischuria and dysuria arising from gravel or a stone in the bladder, besides adopting this step, we should have recourse to the means advised expressly under these heads.

Making the patient stand on a cold stone floor, and applying snow or ice to the region of the pubes, have been known to remove a suppression of urine when other remedies have failed. Throwing a little cold water on the thighs has sometimes enabled the person to pass urine in a tolerable stream although before suppressed.

When all these means prove unsuccessful, an enema of an infusion of tobacco* will often be attended with a powerful and decisive effect, as I have experienced in two or three instances. From the great depression of the powers of life which tobacco clysters are apt to occasion (even to an alarming degree sometimes) due caution must be observed in repeating them. The tinctura

* ℞. Tabaci ʒss.—ʒi.
Aq. Fervent. ℥x. Col.
ft. Enema.

[In delicate or debilitated patients the injection should be of only one half the strength here recommended. E.]

tabaci administered in doses of thirty drops twice or thrice a day in a teacupful of linseed-tea has proved an excellent remedy in many cases of dysuria.

The tinctura ferri muriatis is a remedy which often proves efficacious in suppressions of urine arising from spasm, and may be given in doses of ten drops, repeated every ten minutes, until some sensible effect is produced. After six doses the urine usually flows freely. To the good effect of this medicine I can myself bear testimony.

In Ischuria, particularly where it is of a chronic nature, camphor has been found a very valuable medicine, and may be given as advised below,† administering a dose of the oleum ricini now and then.

In morbid conditions of the bladder in which a suppression of urine is apt to rise, and to recur frequently, the extract of hyoscyamus may prove a good medicine, beginning with doses of four or five grains, and so gradually increasing the quantity according to the state of the distress and the effect produced.

In desperate cases, where all the means which have been advised prove ineffectual, where no catheter can be passed, recourse should be had, before it is too late, to the operation of puncturing it with a trocar.

Those who are subject to the affections here treated of, ought carefully to guard against all exposure to cold, and particularly getting wet in the feet: they should lead a temperate life, avoid all severe exercise, especially on horseback; and they should use every precaution against receiving any venereal taint. Those who are liable to a suppression or difficulty of urine, either from strictures or caruncles in the urethra, will act prudently in wearing a bougie for an hour or two every day.

In the first stage of an enlargement of the prostate gland, the best means to resort to are frequent bleedings from the perinæum by means of leeches, or from the loins by cupping, assisted by cooling purgatives from time to time, opiate clysters, and the use of a tepid hip bath of 94 or 95 degrees of temperature once in the twenty-four hours. Quietness, abstinence, and all the other common means for allaying irritation, are to be employed at the same time. On no account should bougies or catheters, particularly of the metallic kind, be introduced; since when done in the most adroit manner, they cannot fail to produce some disturbance which the parts are not in a state to bear, and if an instrument is unskilfully passed, it will increase the swelling, and probably bring on a complete retention of urine.

In a more advanced stage of the disease, the treatment should consist in keeping the urine in a state of dilution by means of wa-

† ℞. Camphoræ gr. vj—x. Solve in
Lactis Vaccinæ ℥iss. ft. Haustus.
Capiat secunda quaque hora.

tery mucilaginous drinks, the bowels open by gentle aperients, the diseased parts soothed by suppositories and clysters of warm water, and medicines of the narcotic kind administered internally. Of these, opium, the compound powder of ipecacuanha, hemlock, and hyoscyamus, are most to be depended upon. A temporary relief may be experienced by a hip bath of common or salt water at a low temperature. The insertion of a seton or issue in perinæo might perhaps retard the progress of the complaint. The patient should abstain from every kind of food and liquor of a stimulant nature; he should carefully avoid horse exercise, or violent exertion of any kind, and he should sit on a chair with a cushion which is hollowed out in the centre; moreover, he never should retain his urine, for any length of time, so as to distend the bladder by an accumulation of it.

Where ulceration takes place in the prostate gland, the case is marked by an increased secretion of very viscid mucus mixed with pus, and sometimes with blood; a frequent desire to make water, and more or less with a stinging pain at the neck of the bladder and glans penis. Ulceration of this gland is usually the consequence either of small irregular pieces of gravel escaping from the bladder, but entangling themselves just behind the veru montanum, so that the sharp points wound the membrane, and by degrees sink deeper into the substance of the gland, and become fixed in that situation; or of the incautious use of instruments, more especially of the metallic kind, in attempts to pass them into the bladder, or it ensues in consequence of the formation of an abscess in the substance of the gland.

Cases of ulceration in the prostate gland are truly deplorable, and all that can be done is to mitigate the sufferings of the patient by narcotics, &c. recommending him at the same time strictly to follow the plan already detailed.

AMENORRHŒA, OR INTERRUPTION OF THE MENSTRUAL FLUX.

AMENORRHŒA is to be considered as of two kinds: the one where the menses do not begin to flow about the period of life at which they generally appear, and the other where, after having made their appearance, they cease to return at their usual periods, from other causes than conception. The term of retention has been applied to the former, and that of suppression to the latter.

CHLOROSIS, OR RETENTION OF THE MENSES.

THE cause of this disease seems to be a want of power in the system arising from weakness, to propel the blood into the uterine vessels, with a force sufficient to open their extremities, so as to allow of a discharge of blood from them; but the origin of the weakness which appears at this particular period of life we are

wholly unacquainted with. Some have referred it to a certain state or affection of the ovaria, between which and the uterine vessels there is a seeming connection.

The mere want of the discharge may not produce the disease, for frequently it does not appear until 17 or 19 years of age without producing any morbid affection. This is not to be considered as morbid, unless the system is evidently deranged thereby. In many cases, however, morbid symptoms do appear, which are evidently connected with the defect of the menses, and go off upon its discharge.

The supposed connection of chlorosis with defective menstruation as its cause, and with the restraints imposed by the laws of society on certain natural appetites and passions, has been combated by a late writer,* and he thinks that the leading symptoms may be readily explained by a reference to the state of the primæ viæ. Costiveness always precedes and accompanies the other symptoms. This induces, he says, the feculent odour of the breath, disordered stomach, depraved appetite, and impaired digestion, which preclude a sufficient supply of nourishment at a period of growth when it is most wanted.

In reporting this gentleman's ideas on the subject of chlorosis, I cannot avoid observing at the same time, that since the publication of his work on the utility of purgative medicines, it has become too prevalent to attribute a long catalogue of diseases as consequential affections upon a disordered state of the digestive organs, or chylopoietic viscera, many of which, in my humble opinion, arise from other causes.

Heaviness, listlessness to motion, fatigue on the least exercise, palpitations at the heart, pains in the back, loins, and hips, flatulency and acidities in the stomach and bowels, costiveness, a preternatural appetite for chalk, lime, and various other absorbents, together with many dyspeptic symptoms, usually attend on chlorosis.

As it advances in its progress, the face becomes pale, and afterwards assumes a yellowish hue, even verging upon green, from whence it has been called green sickness; the lips lose their colour; the eyes are encircled with a livid areola; the whole body has a leucophlegmatic appearance, with every indication of a want of power and energy in the constitution; the feet are affected with œdematous swellings; the breathing is much hurried by any vigorous exertion of the body; the pulse is quick, but small: and the person is apt to be affected with a cough and many of the symptoms of hysteria. Sometimes a great quantity of pale urine is discharged in the morning, and not unfrequently, hectic fever attends.

To procure a flow of the menses, proves, in some cases, a very

* See Observations on the Utility of Purgative Medicines in several Diseases, by Dr. James Hamilton, of Edinburgh.

difficult matter; and where the disease has been of long standing, various morbid affections of the viscera are often brought on, which at length terminate fatally. By marriage, and a change in the mode of life, the disorder has in several instances been removed.

Dissections of those who have died of chlorosis, have usually shown the ovaria to be in a scirrhous or dropsical state. In some cases, the liver, spleen, and mesenteric glands, have likewise been found in a diseased condition.

The cure of the disorder is to be regulated on the plan of increasing the tone of the general system, and of exciting the action of the uterine vessels by stimulants.

The first of these is to be effected by a generous nutritive diet, with a moderate use of wine; by a gentle and daily exercise, but more particularly on horseback; by associating with agreeable company, so as to keep the attention engaged, and the mind tranquil and amused; by inhaling dephlogisticated air or oxygen gas, or residing in situations where the air is pure and dry, and by a regular use of tonic medicines, as the cinchona, infusum gentianæ compositum, infusum quassiæ, &c. together with chalybeates.*

Previous to a use of these medicines, it may, however, be adviseable to give a gentle emetic, and cathartic, for the purpose of cleansing the stomach, and intestines, and freeing them from acidities and inactive fluids.

Chlorosis (a disease which is at all times much relieved by steel, and will bear it, even where there is a considerable degree of feverish irritation) is often entirely removed by a course of chalybeate† water. Women of an irritable habit should not, however, drink more than a pint a day.

* ℞. Myrrh. Pulv. ℥ss.
Ferri Sulphat ℈j.
Potassæ Subcarbon. gr. xv.
Extract. Gentian. ℈j.
Syrup. Zingib. q. s. M.
ft. Massa in pilulas xxiv. dividenda quarum duas sumat bis terve de die cum Cochl. magnis duobus Misturæ sequentis.
℞. Infus Gentian. Comp. ℥vj.
Tinct. Cinchon. C.
——— Cort. Aurant. āā ℥ss. M.
ft. Mistura.

Vel

℞. Tinct. Ferri Muriatis ℥j.
Cujus sumantur ♏. decem. ter de die ex cyatho Aquæ frigidæ.

Vel

℞. Pulv. Myrrh. ℈i. Solve in Spirit. Cinnam ℥ij. et adde Aq. Pimentæ ℥x.
Ferri Sulphat. gr. v.
Potassæ Subcarbonat. gr. viij.
Syrup. Zingib. ℥i. M.
ft. Haustus ter in die adhibendus.

† The preparation which has succeeded most certainly in such cases, is the carbonas ferri, in conjunction with regular exercise, and a nutritive diet, it should be administered in the dose of ten grains three times a day; it is usual to add to each dose an equal proportion of powdered columba or quassia, and the whole may be mixed up with a sufficient quantity of the syrup of ginger. E.

The second intention of cure, (viz. of exciting the action of the uterine vessels,) is to be promoted by the exercises of walking, dancing, and jumping, by frequent friction, by putting the feet often into warm water, by heat applied to the organs of generation and lower region of the belly, in the form either of steam or stupes, by compression of the iliac arteries in obstinate cases, and by electric shocks passed through the region of the pelvis: the last of which, by being used at the same time, is more likely to be attended with a good effect.

Mercury is sometimes employed as a deobstruent in this disease, and the preparation of it most used is the hydrargyri submurias; but it is by no means universally approved of as a safe medicine.*

Some practitioners are in the habit of giving stimulating purgatives twice a week; but the preferable way seems to be that of employing them in a small but sufficient dose every night, when the patient retires to rest, so as to keep up a regular and sufficient alvine evacuation.

The author of the observations before quoted, tells us, that he has found the purgative plan very successful in chlorosis, but that it requires great assiduity and perseverance frequently to accomplish the end desired. The formation of this and many other diseases, he thinks, may be prevented wholly by promoting at all times, where nature is defective, a regular and sufficient alvine evacuation.

Besides purgatives, other stimulants, under the name of emmenagogues, such as savin, &c. have been employed in the cure of chlorosis; but they seem better calculated for a suppression of the menses, than for a retention of them, as in this disease tonics and and chalybeates are the most adviseable.

Should the patient, in the course of the disease, be troubled with acidities in the stomach, she ought then to have recourse to absorbents, as directed in dyspepsia.

The liquor potassæ subcarbonatis, in small doses, frequently repeated, is a good medicine for palliating cardialgic paroxysms in chlorotic constitutions.

Where chlorosis is attended with symptoms similar to pulmonary consumption, it is to be treated agreeably to the direction formerly given when treating of the latter disease.

* The editors would prefer in this disease employing the mercury in small doses, as an alterative, in the form of the pilula hydrargyri, which is an equally efficacious, and much milder preparation than the submuriate. E.

A SUPPRESSION OF THE MENSES.

ANY interruption occurring after the menstrual flux has once been established in its regular course, except when occasioned by conception, is always to be considered as a case of suppression.

A constriction of the extremities of the vessels of the uterus, arising from accidental circumstances, such as cold, anxiety of mind, fear, inactivity of body, the frequent use of acids and other sedatives, &c. is the cause which evidently produces a suppression of the menses. In some few cases it appears as a symptom of other diseases, and particularly of general debility in the system.

When the menstrual flux has been suppressed for any considerable length of time, it not unfrequently happens that the blood which should have passed off by the uterus, being determined more copiously and forcibly to other parts, gives rise to hemorrhages; hence it is frequently poured out from the nose, stomach, lungs, and other parts, in such cases. At first, however, febrile or inflammatory symptoms appear, the pulse is hard and frequent, the skin hot, and there is a severe pain in the head, back, and loins. Besides being subject to these occurrences, the patient is likewise much troubled with costiveness, colic pains, and with dyspeptic and hysteric symptoms.

Our prognostic in this disease is to be directed by the cause which has given rise to it, the length of time it has continued, and the state of the person's health in other respects. When suddenly suppressed in consequence of cold, it may easily be restored by pursuing proper means; but where the suppression has been of long standing, and leucorrhœa attends, we ought always to consider such circumstances as unfavourable.

In those cases which have terminated fatally, in consequence of the long continuance of the disease, the same morbid changes in the ovaria and uterus are to be observed on dissection, as in those of a retention of the menses.

What we are principally to have in view in the treatment of this complaint, is to remove (if possible) the constriction which affects the extremities of the vessels of the uterus; and this is to be attempted by a use of relaxants, antispasmodics, and general stimulants, as advised under the head of Retention, with an exception to tonics and cold bathing, which appear to many of an ambiguous effect. In those cases, however, where the suppression is symptomatic of general debility, they may be used.

As relaxants, bladders filled with warm water may be applied to the region of the pubes and adjacent parts, or warm vapours may be received on them, by making the patient sit on a chamber pan filled with hot water; and in order that these applications may have the due effect, they should be employed particularly at the time when nature seems to be making some effort to produce the discharge, which may be known by a sense of fulness in the organs

of generation, a weight in the back and loins, and slight spasmodic pains in the uterus. Pediluvium and semicupium, will also be proper.

To increase the relaxing powers of these topical applications, we may at the same time give an opiate, particularly in the form of clyster, where there is much pain.

Such are the means we should pursue when the efforts of the system are concurring; but at other times, or during the intervals, we ought to have recourse to medicines, which, acting either by peculiarly removing spasm, or by increasing the general action of the system, have been denominated emmenagogues. Those most in use are the different preparations of castor, myrrh, black hellebore, savine, wood-soot, madder, and the submuriate of mercury.

In employing emmenagogues, the practitioner must be careful to discriminate those cases of suppression which are the consequence of a lax habit, and which, although not very frequent, now and then occur, from those which proceed from a constriction of the extremities of the vessels of the uterus; as, in the former, a liberal use of forcing medicines would be likely to prove injurious, and which can only be relieved by chalybeates, and other tonics.

Women subject to, or labouring under a suppression of the menses, should carefully avoid all exposures to wet and cold, particularly in the feet, which parts ought to be kept not only dry, but warm.

Practitioners should always be careful to discriminate between suppression from pregnancy, and that from other causes.

DYSMENORRHŒA, OR DIFFICULT MENSTRUATION.

BESIDES the two deviations from the usual course of nature already mentioned, there sometimes occurs a third, viz. where menstruation, although not wholly suppressed, is nevertheless somewhat difficult, and accompanied with severe pains in the back, loins, and bottom of the belly.

This disease is supposed to be owing to a weak action of the vessels of the uterus, or spasm of its extreme vessels, and is to be obviated by warm bathing, both topical and general, together with the use of opiates, which should be employed as soon as the symptoms that denote its approach are apparent.

OF A CESSATION OF THE MENSES.

THE period of life at which menstruation ceases is always a very critical one to women, as the constitution then undergoes a very considerable change, and it not unfrequently happens, that chronic complaints then arise, which create much disturbance, and, after a time terminate fatally, if not counteracted.

The menses seldom cease all at once, but for some time before their stoppage become somewhat irregular, both as to the periods and the quantity.

When they happen to disappear suddenly in women of full plethoric habits, such persons should be careful to confine themselves to a more spare diet than usual; they should likewise take regular exercise, and keep their body open by a use of some mild laxative, such as the electuarium sennæ, the purgative quality of which may be increased, if not found sufficiently powerful, by adding a small quantity of powdered jalap.

Where the patient is sensible of a seeming fulness of the vessels, with giddiness and occasional pains in the head, small bleedings, by applying leeches to the temples, may likewise be adviseable.

If ulcers break out in the legs, or any other part of the body on a total cessation of the menses, they ought to be regarded as critical discharges, and should by no means be healed up without substituting some other drain by an issue.

Should any scirrhous or cancerous affection of the uterus take place on a stoppage of the menstrual flux, as sometimes happens, all that can be done in such a case is to have recourse to palliatives, such as opium, hyoscyamus, and conium, in the manner pointed out in the succeeding diseases.

Order V.—TUMORES.

Increased bulk of a part with little or no inflammation.

SCIRRHUS and CANCER.

A scirrhus is to be considered as the occult or primary stage of cancer, and is not an unfrequent consequence of inflammation when it has attacked, or occupied glands. The part becomes of increased size, is knotty, hard, and irregular to the touch, being however unattended with any discoloration of the skin; and acute lancinating pains are every now and then felt darting through the tumour. At length a tendency to cancerous ulceration becomes obvious.

A cancer is an ulcer of the very worst kind, with an uneven surface, and ragged and painful edges, which spreads in a very rapid manner, discharges a thin acrimonious matter that excoriates the neighbouring integuments, and has a very fetid smell, and which is usually preceded by a hard or scirrhous swelling of the part, if glandular.

The disease is most commonly confined to glands, and particularly the testes and mammæ; but is nevertheless now and then to

be met with in the uterus, as likewise in the face, and other parts, that are thinly covered with flesh, and which are at the same time a good deal exposed to external irritation, such as the lower lip, the angles of the eyes, the organs of vision, the alæ nasi, tongue, and penis. From a lodgment of soot in the rugæ of the scrotum, chimney-sweepers who have arrived at the age of puberty are very subject to a peculiar cancerous affection in this part, and first noticed by the late Mr. Pott.*

Cancer is most generally met with in persons advanced in life, and particularly in women about the period when the menses cease.

The experiments of Mr. Nooth† and others prove the non-existence of specific cancerous matter. Mons. Alibert‡ inoculated himself and some of his pupils with cancerous matter, and although in some instances inflammation of the part, and of the lymphatics proceeding from it occurred, yet nothing like scirrhus, or cancer succeeded.

A cancer arises most frequently from some external injury, such as a blow; but it is now and then to be met with as the consequence of previous inflammation excited by other causes,

Irritation during the scirrhous state of a gland, without any wound, or breach of the skin, may be propagated to other glands, and these may take on a similar action with the gland first diseased, but absorption does not take place until the gland becomes ulcerated. When this is the case, the irritation from one gland to another goes on not only more rapidly, but absorption takes place from every part of the diseased surface.

Cancer usually begins with a small swelling in the gland, unaccompanied by pain or any discoloration. It gradually increases both in size and hardness, in process of time is attended with lancinating pains, as if a sharp pointed instrument was entering the tumour, and with varicose swellings of the subcutaneous veins, together with an uneasy and painful sensation in the neighbouring parts. Sometimes it remains in this indolent and occult, or scirrhous state for a length of time, but in other instances, it proceeds on to suppuration with great rapidity, and forms an ulcer. Its progress will, however, depend much on the state of the person's constitution, and other like causes. It has been supposed that in proportion to the rapidity of the progress of any individual case, so is its degree of malignancy.

During the occult state of cancer, the pains recur at very irregular intervals, and are dependent upon causes, concerning which nothing satisfactory is known. If the disease is seated in the breast, and the female of such an age, that the catamenia have not alto-

* See his Chirurgical Works, p. 734.

† — Observations on the Treatment of Scirrhous Tumours on the Breast.

‡ — Description des Maladies de la Peau.

gether disappeared, she will usually suffer a considerable exacerbation of pain in the part about the times of their recurrence. The tumour will likewise undergo most likely a proportionally greater augmentation of bulk than during the same space of time at any other period.

When the tumour begins to form adhesions to the surrounding parts, and the disease is in the breast, it is not uncommon to find one or more of the axillary glands on the same side of the body, somewhat enlarged.

As the disease approaches near the surface, the integuments which had hitherto retained their natural appearance, begin to look puckered, or as if they were drawn together in folds. From this cause, the nipple will be sometimes so retracted and sunk, as it were, in the surrounding parts, that its existence might be overlooked by a superficial observer.

When the disease has advanced further, the skin becomes inseperably united to the tumour beneath it, and in a little time more, it may be observed to have acquired a slight tinge of redness. The other characters of inflammation are also present, though some of them may be in an inconsiderable degree. After a time, the whole surface of the swelling puts on a purple shining appearance, and in this state it continues with but little change till ulceration is about to take place. From the great exacerbation which usually happens at this period, a degree of febrile irritation will often be excited in the system at large.

The superincumbent parts at length give way to ulceration, and the patient probably experiences a temporary relief from the discharge of a small quantity of sanious, or ichorous matter. In general it is not until after some time, that the ulceration becomes deep and excavated; for under mild treatment it has been known to continue superficial for some months. Sooner or later, however, the ulcer assumes the true carcinomatous characters. It penetrates deep towards the more central parts, while at its circumference, the edges appear hard, and elevated. The surrounding skin puts on a livid aspect, and from the surface of the sore, there is a considerable discharge of an irritating corrosive quality. Matter of a true purulent appearance is hardly ever furnished by carcinomatous ulcers. The odour of the discharge impresses the organ of smell with a peculiar, but indescribable sensation.

If the ulceration be extensive it will be observed, that while one part of the sore is undergoing a sloughing process, another will be active in throwing forth luxuriant granulations of a loose and spongy texture. These changes appear sometimes to alternate with each other, upon the ulcerated surface, and in their further progression, give rise to considerable hemorrhages from the erosion of the vessels.

From the derangement which is occasioned in the functions of the lungs by the morbid condition of the parts, there gradually comes on dyspnœa attended by cough and some degree of emacia-

tion, which symptoms are usually followed at no great distance by a fatal termination, and this frequently without any remarkable alteration in the external appearance of the diseased part.

Cancer of the breast is chiefly a disease of middle and advanced life: from forty to fifty years, is perhaps, the most frequent period at which it makes its appearance.

The female organ which is most likely to suffer from cancer, next to that of the breast, is the uterus, and like the former, it is a disease of comparatively rare occurrence before the period of life at which the catamenia usually disappear. The early symptoms of this complaint somewhat resemble those of polypus and prolapsus uteri: among them may be enumerated a sense of weakness, with pain or uneasiness in the loins, leucorrhœal discharge, and a sense of bearing down. To these may be added weight and fulness in the region of the pelvis, with acute shooting pains across the cavity, and more or less of derangement in the functions of the chylopoietic viscera. There is also a pain in coitu, and on an examination with the finger, the os uteri is discovered to be partially thickened and indurated, with an increase of size in its aperture. It sometimes happens, however, that the enlargement begins higher up in the cervix uteri, the os uteri remaining closed. In both cases the uterus appears to be situated lower in the vagina, than is usual in the healthy unimpregnated state, and when supported upon the finger, a sensible addition to its weight is to be perceived.

After ulceration has taken place, there will be a constant discharge of an offensive sanious matter from the vagina. If an examination be again instituted, the os uteri will be found more open, and with ragged irregular edges. Pressure upon these parts will now occasion some degree of pain, and a little blood will commonly be observed to come away upon the finger. About this time the vagina undergoes a considerable deviation from its natural structure; it becomes somewhat hard to the feel, and its rugæ cease to be distinguishable. At the superior part, it will frequently be affected with carcinomatous ulceration, communicated from the os uteri by the continuity of surface.

As the different functions of the body become more and more disordered, emaciation increases with rapidity. Frequent retching and vomiting, with torpidity or irregularity of the bowels arise, mental dejection and despondency ensue, and a sort of hectic fever is constantly present. Towards the latter period of the disease, if the ulceration of the vagina becomes extensive, there will frequently be an enlargement of the absorbent glands in the groin, and this sometimes arrives to such a degree as to occasion œdema of the whole lower extremity. It seldom happens that the hemorrhage from the ulcerated parts is in so violent a degree as to prove fatal of itself.

The progress of scirrhus of the testicle is usually slower than where the disease occurs in other glandular parts, yet it is capable

of being more or less accelerated, according to the degree in which the different causes of irritation, whether local or constitutional, are permitted to have influence. The tumour goes on gradually to increase in size, and is attended with nearly the same symptoms and appearances that have been described as appertaining to the cancerous breast. The acute darting pain is at first confined to the precise site of the swelling, but afterwards extends in the direction of the spermatic chord to the abdomen, and even up the spine and in the loins.

In process of time the shape of the gland becomes totally obscured, and nothing remains to be distinguished but the enlargement, which is remarkable on account of its weight, excessive degree of hardness, and its surface being studded more or less with protuberant inequalities.

When the disease begins to extend, it proceeds from the testicle to the epididymis, and thence by the lymphatic vessels of the chord, till it arrives at the lumbar glands. In this course there is produced great thickening and induration of the different parts through which it passes. An irregular or knotted feeling of the spermatic chord is another, and very striking effect, of the extension of the disease. Some time after the lumbar glands have been contaminated, derangement in the functions of the various neighbouring viscera are perceptible, and at this time a prominent tumour may be distinguished through the parietes of the abdomen, consisting of a cluster of these enlarged lymphatic glands. In process of time, cancerous ulceration of the testicle ensues, and in some instances is extended to the scrotum.

Scirrhosity of the prostate gland is a disease with which men far advanced in life are very apt to be afflicted, but particularly those who imprudently produce an excitement of the seminal vessels by unnatural means, or onanism. After a time, sharp lancinating pains are felt darting through the gland now and then, the flow of urine becomes considerably obstructed, and dysuria, and occasionally tenesmus, with other distressing symptoms, arise.

At length ulceration ensues, and the patient sinks gradually under a state of misery and pain, or he is cut off by a total suppression of urine.

The cancer with which chimney-sweepers are sometimes attacked, generally begins in the rugæ of the scrotum in the form of a wart. This, from the itching and uneasiness it at first occasions, and from the part being frequently rubbed in the act of climbing and descending the chimneys, is often scratched and otherwise irritated: thus a constant stimulus is supplied in addition to the action of the soot on the part. If the head of the wart is picked or rubbed off, another is soon formed, and at length there is not only a horny crust, but a thickened base beneath, proceeding inwards, until a large fungus or a spreading ulceration is produced, which at length occasions the testicle also to become affected.

Cutaneous cancer is most frequently observed to occupy the

lower lip, the angles of the eyes, the alæ nasi, and penis. At its commencement it usually appears under the form of a small preternatural enlargement, or elevation of the skin. Sometimes it is so hard to the touch and in consistence as nearly to approach to the nature of horn, while on other occasions, it will bear a much nearer resemblance to a common wart. In a few instances, it will put on the appearance of a small discoloured pimple.

Under whatever form the disease may first appear, a degree of surrounding hardness will invariably be found to take pla . Some degree of shooting pain from time to time, is likewise experienced in the part. In many cases, ulceration seems to be materially accelerated by the accidental irritation of the patient's fingers, which are often, although unconsciously applied in the vicinity of the disease. Sometimes, however, a sort of scale is generated so as to form a covering to the little tumour, and this will be removed, and again be renewed several times in succession, before ulceration is perfectly established.

When the part has once arrived to a state of ulceration, it quickly puts on those characters of malignancy, which have occasioned it to be classed as a species of cancer. The surface of the sore, possesses, indeed, the common appearance of carcinomatous ulceration, and there is a discharge from it of sanious or other ulcerated matter. In cutaneous cancer, it seldom happens that the lymphatic glands begin to enlarge or grow painful, till after the diseased part has been in a state of ulceration for a considerable time, which forms a striking point of difference between this disease, and that which has its seat in glandular structures.

Cancer of the tongue, like cutaneous cancer, seems to admit of a certain degree of variability in its appearance, which is, however, most commonly that of a small hard tumour, situated on the upper surface of the tongue, and at no great distance from its anterior extremity. The tumour usually possesses a firm connection with the subjacent parts, and before arriving at a state of ulceration, it is not unusual to see it attain a size equal at least to that of a common hazel-nut.

Another form under which this disease sometimes shows itself at an early period, is that of a little discoloured pimple, having a disposition to bleed very freely from the slightest causes; but there is likewise a third case, where carcinomatous ulceration suddenly breaks out upon the tongue without the part having previously suffered any morbid change of structure, or presented any unnatural appearance sufficient to attract notice.

The pain attendant on the disease in its different stages, though varying in degree, is yet always of that peculiar darting kind which belongs to cancer. When first complained of, it is only slight and partial, but gradually increasing in severity as the disorder advances, it will in time, extend so as to be felt both about the fauces and base of the skull. The disease may continue a long time even in an ulcerated state, without the health appearing to suffer very

materially from it. The entire destruction of a great portion of the tongue will sometimes be produced by cancerous ulceration before death takes place, in consequence of the disease.

Cancer of the tongue is more frequently met with in those who are pretty far advanced in years than in subjects under the age of puberty.

Scirrhous tumours are often removed with perfect safety, and thereby prevented from degenerating into true cancers, when extirpation is not delayed too long: but after a tumour of this description has ulcerated, thereby assuming the carcinomatous character, and has afforded an opportunity for an absorption of the matter into the system, there is every reason to suppose that a complete cure can seldom, if ever, be effected; for although we remove the diseased part, still the virus will be likely sooner or later to show itself in some other glandular place. Under such circumstances, extirpation will, therefore, in all probability, be attended with no lasting advantage.

Sir Everard Home* has observed, that with respect to the internal structure and appearance of the breast affected with a scirrhus, if a section is made of such a tumour in an early stage, where the structure is seen to advantage, it puts on the following appearances. The centre is the most compact, harder to the feel, has a more uniform texture that the rest of the tumour, and is usually of the consistence of cartilage. This middle part does not exceed the size of a silver penny, and from this in every direction, like rays, are seen ligamentous bands of a white colour, and very narrow, looking in the section like so many irregular lines passing to the circumference of the tumour, which is blended with the substance of the surrounding gland. In the interstices between these bands the substance is different, and becomes less compact towards the outer edge. On a more minute examination, transverse ligamentous bands of a fainter appearance, form a kind of net-work, in the meshes of which the new formed substance is enclosed.

In a further advanced stage of the tumour, the whole of the diseased parts has a more uniform structure: no central point can be distinguished, the external edge is more defined and distinct from the surrounding gland; and the ligamentous bands, in different directions, are very apparent, but do not follow any course that can be traced.

No regular distinction of structure can be made in parts affected with carcinomatous ulceration. In the centre, however, is a small irregular cavity, filled with a bloody fluid, the edges of which are ulcerated, jagged, and spongy.

When any gland has become enlarged, indurated, and shows a tendency to scirrhus, we should, from the earliest period, use our

* See his Observations on Cancer.
— Mr. Fearon's Treatise on this Disease.

utmost exertions to discuss it if possible, or at least to prevent its further increase. Applications of a discutient and sedative nature should be had recourse to without delay; pressure of any kind should be guarded against, particularly from the stays, if the breast is the part affected; the bowels must be kept free and open by gentle purgatives, administered from time to time, and a cooling regimen be enjoined, cautioning the patient to abstain from all vinous and spirituous liquors, and from other stimuli of every kind.

It will at the same time be necessary to draw blood from the vicinity of the diseased gland, or glands, by means of several leeches, which operation we ought to repeat frequently. They should never be applied to the skin immediately covering the tumour, for ulceration has been known to have been greatly accelerated, when leeches have been suffered to draw blood from the surface of an inflamed scirrhus. By being applied in the neighbourhood every good purpose will be secured, and the danger of exciting a comparatively dormant disease, be avoided.

In the incipient stage of scirrhus, and in addition to the means just recited, blisters have sometimes been applied with the view of promoting a considerable serous discharge from the neighbourhood of the part. In a posthumous work* of the late of Mr. John Howard's, and published by Dr. Gower, we are informed that the author was strongly of opinion, much may be done in all incipient scirrhous tumours by repeatedly blistering the part, having, however premised the frequent application of leeches, the use of discutient and sedative applications, with occasional purgatives, and a cooling diet.

If blistering is ever thought of, this circumstance ought to be cautiously kept in view, viz. the skin which covers the tumour should be in an uninflamed state, and not have taken on the shining purplish hue of cancer, the excoriation being likely to heal kindly. If applied when the skin is an irritable and inflamed state, it might tend to ulcerate the part, and prematurely bring on cancerous mischief, as happened in a case of scirrhous mamma which lately came under my inspection. The blister was applied by an ignorant pretender to a knowledge of curing such diseases; ulceration ensued, and spread most rapidly, whereby the unfortunate woman was soon destroyed.

Immersion of the body in a warm bath, by directing the circulation to the surface of the body, and increasing both the sensible and insensible perspiration from the cutaneous glands and pores, might perhaps be employed with some advantage in scirrhous tumours.

To allay pain and irritation, and probably thereby retard the progress of the disease, we may employ opium, which we may give internally, and likewise apply externally mixed with the dif-

* See Mr. Howard's Practical Observations on Cancer.

ferent preparations of lead that we use as sedatives and discutients.*

If the means which have been pointed out, are not, after a fair trial, attended with the benefit and relief that were wished for, we may then recommend a slight course of mercurial unction, either immediately over, or in the neighbourhood of the diseased gland, together with small doses of the hydrargyri submurias internally, joined with antimony. In the early stage of the disease, a slight course of mercury, conformable to the plan just mentioned, and assisted by a decoction of vegetable substances which possess a diaphoretic effect, such as guaiacum, sassafras, sarsaparilla, and mezereon, of which the decoctum sarsaparillæ compositum is composed, has in some instances been attended with a good effect.

With regard to the use of mercury in scirrhous tumours, it is necessary however to mention, that, when either given internally or applied externally, it can only be of service in the first or early stage of the disease, when simple obstruction, and not altered organization, has taken place. By its tendency to hasten ulceration (a natural consequence of its action) it will be likely to prove highly prejudicial in all cases which are verging on cancer.

Hemlock is a medicine which, since the days of Stork, has been much employed in every stage of cancer, and there is reason to suppose sometimes with advantage. To derive this with the greater certainty, however, we should make use of it during the occult or scirrhous state, and before ulceration has commenced. In administering hemlock we ought always to begin a small dose, and so augment it gradually, till the patient experiences some little inconvenient effects on the head and stomach, such as nausea and vertigo, when the quantity is to be lessened, or the medicine wholly be desisted from for a short time. The extract is the most active preparation, and this may be given in pills of two grains each, in the number of from one to ten or twelve in the twenty-four hours.

Belladonna and hyoscyamus are medicines of the same class with conium, and the timely use of these has sometimes proved advantageous in glandular tumours and indurations that are likely to become cancerous.

Where no advantage seems to be derived from any of the means which have been advised, but, on the contrary, the tumour is proceeding hastily on to ulceration, the only effectual remedy then left is the complete removal with the knife, not solely of the indurated part, but of the whole glandular substance of the breast so as to secure against a relapse; and this we should not fail to enforce

* R. Liquor. Ammon. Acet. ℥i.
——— Plumb. Acet. ♏. xxv.
Aq. Puræ ℥i.
Tinct. Opii ℥iss. M.
ft. Lotio.

Vel

R. Spirit. Camphoræ ℥ss.
Aceti Distillat. ℥i.
Liquor. Plumb. Acet. ʒi.
Tinct. Opii. ʒij. M.

most strenously to the patient, provided the tumour is moveable and not attached to bony parts, and its local situation does not render the operation improper. If there be one or more enlarged lymphatic glands in the direction of the axilla, these are also to be cautiously removed.

The causes of the failure of operations for the removal of scirrhi, proceed either from the constitution having been already involved in those diseased actions which were local in their origin, or from the diseased parts not having been perfectly and entirely removed by the surgeon. All carcinomatous tumours ought therefore to be removed at an early stage when the usual remedies fail in arresting the disease, and in performing the operation, the surgeon should not be contented merely to dissect away the diseased part from its neghbouring connexions; but a portion even of these should be cut away, so as to secure the patient against a recurrence of the disease.

To destroy the living powers of the morbid growth in scirrhous tumours, and to effect its consequent separation from the sound parts which are immediately adjacent, caustic applications, and particularly those composed of arsenic, have been much employed by itinerants and quacks; but when we seriously reflect on the danger and uncertainty which necessarily attend their operation, they must be held cheap in the estimation of the profession, and a decided preference be given to the knife.

As the female breasts are liable to enlargements and indurations from external injuries, exposures to cold during a puerperal state, and such other causes as by inattention might possibly be mistaken for a scirrhus, it will certainly be necessary in all doubtful cases to scrutinize minutely into the rise of the tumour, the symptoms and appearances with which it is attended, and the progress that it has made, in order that we may ascertain the real existence of the disease in question, previous to our having recourse to an operation.

Where this has been neglected, and the inflammation has proceeded on to suppuration and ulceration, we are then to endeavour to correct the fœtor and acrimony of the discharge; to defend the adjacent parts from its effects; and to quiet the pain and lessen the irritability of the sore.

The first of these intentions is to be answered by washing the ulcer with the oxymuriatic acid diluted with three times its weight of water, according to the irritability of the sore, and the smarting it occasions, as recommended by Dr. Crawford; and then applying a carrot poultice, or one composed of an infusion of malt, oatmeal, and yeast, as directed under the head of Gangrene. The cataplasma carbonis (which is composed of about half a pound of the common bread poultice, with two ounces of wood charcoal in very fine powder) is another application which has likewise been found highly useful in sweetening fetid ulcers, and obtunding the acrimony, and may perhaps be preferable to the

fermenting cataplasm, as this, by lying on the part some hours, becomes more offensive than the smell it was intended to correct.

The charcoal should be taken fresh from the fire, and powdered very fine as soon as cool; when it is immediately to be put into a bottle and corked, in order that it may not be exposed to the air.

The second indication, of defending the adjacent parts from being acted upon by the acrimony of the discharge, is to be effected by the strictest attention to cleanliness, and by dressing or covering them with mild cerates, composed of calamine, or the superacetate of lead: and

The third indication, of quieting the pain, and lesssening the irritability of the sore, is to be answered by fomenting it with a decoction of poppies, and then applying a cataplasm of hemlock, as likewise by an internal use of opium or hyoscyamus at the same time.

If the part affected will admit of it, the ulcerated tumour should be suspended, so as to keep it as easy as possible night and day. It should be kept neither too warm nor too cold, as both extremes would be injurious.

Henbane, nightshade, and others of the narcotic class, have also been employed in external applications as well as hemlock. When used in this way, the leaves may be boiled in milk, so as to form a decoction, sufficiently strong, and with this the part must be frequently fomented.*

Of BRONCHOCELE.

This disease is marked by a tumour on the fore part of the neck, and seated between the trachea and skin. In general, it has been supposed principally to occupy the thyroid gland.

It is a very common disorder in Derbyshire, but its occurrence is by no means frequent in other parts of Great Britain, or in Ireland. Among the inhabitants of the Alps, and other mountainous countries bordering thereon, the Valois, the Valteline, at Lucerne, Berne, Fribourgh, in some parts of Piedmont, in the valleys of Savoy and at Milan, it is a disease which is very often met with, and is there known by the name of Goitre. The cause which gives rise to it, is by no means certain, but by some writers it has been attributed to a use of snow water.

From its having been observed that the inhabitants of districts abounding with saline and mineral springs are more frequently affected with diseases of this sort than persons living in other situations, it has been supposed, that the waters descending from these mountains with which the dissolved snow mixes itself, may also

* A variety of other plans have been recommended, by different writers, for the cure of cancer. Subsequent experience has, however, exposed their inefficacy, and proved that the only remedy to be depended upon is early and complete excision of the diseased part. E.

be impregnated with some saline or mineral ingredients capable of producing this singular affection in the throat. The true cause has, however, as yet, by no means been ascertained.

In those situations in the vicinity of mountains, where the disease is found to be endemial, it has been attributed by some to a peculiarity in the air, and it has indeed been found more generally prevalent among the lower class of people, and those who are most exposed to the unguarded influence of the weather, and various changes that take place in the air of such situations.*

The swelling in bronchocele is at first without pain, or any evident fluctuation, and the skin retains its natural appearance; but as the tumour increases in size, it grows hard and irregular, the skin acquires a yellow colour, and the veins of the neck become varicose; the face is subject to flushings, and the patient complains of frequent head-aches, and likewise of pains darting through the body of the tumour.

When the disease is of long standing, and the swelling considerable, we shall find it, in general, a very difficult matter to effect a cure by medicine or any external application; and it might be unsafe to attempt its removal with the knife, on account of the enlarged state of its arteries, and its vicinity to the carotids; but in an early stage of the disease we may often be able by the aid of medicine and regimen to effect a cure, particularly if assisted by frequent frictions over the tumour.

Bronchocele has by some practitioners been supposed to be a dropsical affection of the thyroid gland; and it is true that a great number of capsules filled with water have in one or two instances been found in it on dissection, but in general no such appearances are to be observed. In two cases examined by Mr. Benjamin Bell, this gland was evidently much diminished in size from the compression of the tumour, which was chiefly composed of condensed cellular substance, with effusions of a viscid brown matter in different parts of it. To me the tumour appears to be of a steatomatous nature.

Although some relief has been obtained at times, and the disease probably somewhat retarded by external applications, such as blisters, discutient embrocations, and saponaceous and mercurial plasters; still, a complete cure has seldom been affected without an internal use of medicine, and that which has always proved the most efficacious is burnt sponge. The form under which this is most usually exhibited is that of lozenge. Many persons labouring under bronchocele have been cured by this remedy, some of whom began to suffer much, and to be seriously alarmed on account of the difficulty of deglutition and respiration, with which their complaints were attended; but whether it cures in a shorter

* This has particularly been observed to be the case in M'Kean's county, near Pittsburgh, in this state, where the disease is very prevalent. E.

space of time by being administered in the form of a lozenge, so as to allow of its gradual solution, in preference to being swallowed at once, is a point not yet fully ascertained.

Dr. Cheston, of Gloucester, has found burnt sponge to succeed in various cases when employed agreeably to the annexed formula,* and subject to the following regulations.

When the tumour appears about the age of puberty, and before its structure has been too morbidly deranged, a pill, consisting of a grain or two of hydrargyri submurias, must be given for three successive nights, and on the fourth morning a saline purge. Every night afterwards for three weeks, one of the troches should, when the patient is in bed, be put under the tongue, suffered to dissolve gradually, and the solution be swallowed. The disgust at first arising from this remedy soon wears off. The pills and purge are to be repeated at the end of three weeks, and the troches had recourse to as before; and this plan is to be pursued till the tumour is entirely dispersed.

It appears to me, that we should stand a better chance of effecting both a speedier and more certain cure by administering the remedy more frequently than is here recommended by Dr. Cheston, for instances have occurred, where one lozenge was taken even twice a day for a length of time to no purpose; but when the number was increased to three, a good effect was soon evident.

The formula inserted below,† is the preparation of calcined sponge, which I have been in the habit of employing, and generally with the desired success. Care must be taken that no more syrup be used than is absolutely necessary to make the dry ingredients cohere; for which reason, it must be added slowly, and the mass must be well beaten. The lozenges are to be dried before the fire on a plate that has been slightly oiled, to prevent them from sticking, and must be kept in some vessel tied over with bladder. One of them is to be placed under the tongue morning and night, so as to admit of its gradual solution; and if after a short time no apparent benefit seems to be derived, the same may be repeated thrice or even four times a day.

Sulphurated potash dissolved in water (in the proportion of thirty grains to a quart daily) is a remedy which has been employed by Dr. Richter with success in some cases where calcined

* ℞. Spongiæ Ustæ ʒss.
Mucilag. Acaciæ Gummi q.s.
Fiat Trochiscus.

† ℞. Spongiæ Ust. ʒvj.
Pulv. Gum. Acaciæ ʒj.
—— Zingib. ʒss.
Syrup. Simpl. q. s. M.
ft. Massa in Trochiscos duodecim distribuenda, quorum unus detineatur sublinguam donec liquescat.

sponge failed. Occurrences of this nature will rarely happen, however, if the disease is counteracted in time.

We are informed by the Rev. Joseph Townsend, in his Guide to Health, that the disease is very frequent in the vale of Pewsey, and that during thirty years he never failed to cure it in all those who applied to him for advice, by means of the burnt sponge.

Whether burnt sponge administered in the form of lozenge, or swallowed at once, acts locally, and if it acts locally, whether it is conveyed to the thyroid gland by means of absorbents not hitherto discovered; or whether the thyroid gland is a mucous gland, and is stimulated to excretion by the action of this medicine on the neighbouring parts, has not been ascertained. Such theories have, however, been suggested.

From the remedy in question having been so frequently employed in scrofulous cases with advantage, I am induced to suppose that its effects are by no means of a local nature.

It has been observed, under the head of the last-mentioned disorder, that the sodæ subcarbonas being the basis of burnt sponge, is now frequently employed instead of it, and it is indeed a more active medicine. In bronchocele it may likewise be substituted instead of calcined sponge, and may be made up into lozenges in the same proportion and manner as has been advised with the latter.

In this complaint, galvanism and electricity may possibly prove beneficial, if employed as auxiliaries.

A case is recorded in the 13th volume of the Medical and Physical Journal, p. 13, which resisted a long-continued course of burnt sponge, and was at last removed by a slight mercurial course of hydrargyri submurias. Under a failure of the means which have been mentioned, it may therefore be right to make a trial of the latter, directing a small quantity of the unguent. hydrargyr. fortius likewise to be rubbed in over the diseased part every night, as friction is to be considered as a powerful auxiliary.

Order VI.—Dolorosi. Painful Affections.

CEPHALALGIA, or HEAD-ACH.

[This being in almost every instance a symptomatic disease, depending for its cure upon the removal of the primary affection, the Editors have, therefore, thought it unnecessary to retain the author's account of its treatment. E.]

ODONTALGIA, OR TOOTH-ACH.

THE tooth-ach consists in an acute pain in one or more of the teeth; but most generally it originates in one, and from that is diffused to the adjacent parts.

A caries of the tooth itself, acted upon by different irritating causes, such as the application of cold, or some acrid matter, is the most usual cause of this complaint; but in some cases it would seem to proceed from a rheumatic affection of the muscles and membranes of the jaw; and here the whole side of the face will be affected. When it takes place in pregnancy, it is to be considered as arising either from an increased irritability or from sympathy.

It may be presumed, that the acrid matter which occasions the tooth-ach, is produced by some vice that originates in the tooth itself. In some instances the caries appears first upon the external surface or enamel of the tooth, in one or more spots which are superficial; but in others it commences in the internal surface, or bony part: the former is, however, by far the most frequent. The caries, by spreading and corroding deeper, at length penetrates the substance of the tooth; and the external air, and other matters, getting into the cavity, stimulate the nerve, and thereby excite the tooth-ach.

The most effectual cure for this disease is extraction of the carious tooth; but as this in some cases may not be adviseable, and in others might be strongly objected to by the patient, it will often be necessary to substitute palliative means.

To relieve the urgency of pain, in those cases where there is an opening made into the substance of the tooth by the caries, it is usual to introduce either cotton impregnated with substances of a caustic nature, such as the essential oil of cloves, cajeput, nutmeg, &c. together with sulphuric or other mineral acids, or a small pill composed of opium and camphor. In some instances, the actual cautery has been employed to destroy the sensibility of the nerve.

To prevent a return of the pain when it has ceased, the hole in the tooth should be widened within by a proper instrument, and then be stopped with leaf gold, or leaf lead, by which operation it may often be preserved for many years without any further inconvenience to the person.

These are the remedies and means to be made use of when the disease is confined to a single tooth; but when the neighbouring parts become likewise affected, or there is no access for such an application to the nerve, in consequence of the tooth having no cavity in it, other measures are to be adopted.

Exciting an irritation in the neighbouring parts, by means of blisters applied behind the ears, or by rubbing the jaws with some

kind of rubefacient liniment,* and afterwards keeping them warm with flannel, has often afforded much relief, in cases where the pain is somewhat diffused.

Promoting an increased excretion from the salivary glands, by means of pungent masticatories, such as horseradish, scurvy-grass, ginger, and pellitory-root, has likewise been adopted in similar cases with much advantage.

In those rheumatic affections of the maxillæ, to which many persons are subject under certain states of the atmosphere, and in which the pain is not confined in any one tooth, but occupies the whole jaw, the pyrethrum has often been peculiarly useful. When the tenderness or tumour of the gums renders the mastication of the root impracticable, a piece of lint, moistened in the tincture, prepared as below,† may then be applied to the most painful part, renewing it as the occasion may require; or the pill here‡ advised, may be held in the mouth until dissolved.

Washing the teeth every morning with a soft brush or piece of sponge, dipped in clear water; frequently removing the tartar from off them; and making use of some absorbent testaceous powder,§ reduced to a very fine consistence, twice or thrice a week, are the best means for preserving the teeth. Where the patient is of a scorbutic habit, and the gums inclining to softness and sponginess, they may be washed now and then with what is here‖ advised.

Charcoal reduced to a fine powder is an excellent dentrifice, and by washing the mouth with a little of it diffused in water, it immediately takes away the bad smell from decayed teeth. A lump of the charcoal should be put a second time into the fire till it is red-hot; and when it becomes cool again, the external ashes are to be blown off, and it is to be immediately reduced to a fine powder in a mortar, and kept close stopped in a phial for use.

Tinctures composed of mineral acids diluted, and concealed under various artifices, and gritty substances, tinged of divers

* R. Liniment. Ammon. Fort. ℥j.

Vel

R. Spirit. Camphoræ ℥j.
Liquor. Ammon. ℥ij.
Essent. Ol. Bergam. ♏. x. M.

† R. Pulv. Rad. Pyrethri ʒx.
Spirit. Rectif. Oj.
Infund. per dies decem et Cola.
Postea adde
Camphoræ ℥j.
Ol. Rorismarin. ʒss.
Tinct. Opii ʒij. M.
Fiat Tinctura.

‡ R. Pulv. Rad. Pyrethri ʒj.
Mucilag. Gum. Acaciæ q. s. M.
Fiant Pilulæ xij.

§ R. Bol. Armen.
Corn. Calcinat. āā ʒij. M.

‖ R. Tinct. Cort. Cinchonæ ℥ij.
—— Myrrh. ℥ss. M.

colours, are vended in the shops under pompous names, as dentrifices; but although they give a whiteness to the teeth, they nevertheless prove highly pernicious to the enamel, and ought therefore to be used with great caution.

FACIEI MORBUS NERVORUM CRUCIANS, OR PAINFUL AFFECTION OF THE NERVES OF THE FACE.

THIS is one of the most painful chronic complaints to which the human frame is subject; and although of rare occurrence, still practitioners have now and then the misfortune to meet with it, and to deplore the severe sufferings of the patient, and the inefficacy of any aid from medicine. It is the Trismus Dolorificus of Sauvage, or Tic Douloureux, by which name it is vulgarly known; but as the one which has been applied to it by a late writer* is more accurate and expressive of its real nature, I have been induced to adopt it. The term Neuralgia has been employed by a French nosologist of the present day, which indeed indicates with accuracy and precision the leading characters of the disease, and is at the same time consistent with a correct and philosophic nomenclature.

The late Dr. Fothergill† seems to have been the first author who noticed the disease; since which we have been furnished with some remarks on it by Dr. Haighton, in a paper inserted in the Medical Records and Researches, as likewise by Darwin in his Zoonomia. By some it has been supposed to be owing to a cancerous acrimony, but we may with greater reason attribute it to a diseased state of the nerves of the face or their covering. Its true cause has not however been satisfactorily ascertained, but it is well known that the several ramifications of the second branch of the fifth pair of nerves are the parts chiefly affected by it.

The most frequent seat of the affection is the nerves over the cheek-bone, just below the orbit; the alæ of the nose, upper lip, teeth, and gums. When this is the case, it will be found to proceed from the second branch of the fifth pair of nerves, the superior maxillary nerve, which passes through the foramen rotundum, and whose branches are chiefly distributed to those parts. Sometimes the forehead and temple and inner canthus of the eye, and even the globe of the eye itself, are first affected, from the first branch of the fifth pair, the ophthalmic branch being the subject of the disease; and as there are some cases recorded in which the patient suffered much from an effusion of tears, it might probably arise from that branch of the ophthalmic which goes to the lachrymal gland, being the seat of the disorder. When the lower jaw and tongue are affected in addition to the parts already named, the third branch of the fifth pair, or lower maxillary nerve, is diseas-

* See a Systematic Account of this Disease by S. Fothergill, M. D.
† Medical Observations and Inquiries, vol. v.

ed. Perhaps as frequently as any of these nerves, is the portio dura of the seventh pair diseased; it gives off branches to most parts of the face, and they communicate with several of those of the fifth pair. The distinguishing mark of its being affected is, that besides the parts already enumerated, we find pain in the ear, the mastoid process, and the angle of the lower jaw. The disease is then chiefly confined to the fifth pair of nerves, of which most frequently the second branch only is affected, and the branches of the portio dura of the seventh pair. From the intimate connection, however, of most of the branches of these nerves with each other, the disease seldom continues long without extending its ravages; and in very inveterate cases, all the nerves may possibly be affected.

The only diseases with which Tic Douloureux can be confounded are the rheumatism, hemicrania, and tooth-ach. It is to be distinguished from the first of these by a paroxysm being excited by the slightest touch; by the shortness of its duration, and the extreme violence of the pain: neither are the symptoms similar; for in rheumatism, if acute, there is fever with redness and increased heat in the affected part, and generally some degree of swelling; if chronic, the pain is obtuse, long continued, and often increased at night; whereas none of these symptoms occur in the morbus crucians faciei.

From hemicrania it may clearly be distinguished by the circumstance of the pain in Tic Douloureux accurately following the ramifications of the affected nerve; and

It may be known from the tooth-ach by the shortness of the paroxysm, and the rapidity of its succession; and during the interval an entire freedom from all pain; the seat of the pain, and its darting in several directions, according to the particular nerve affected, with an acuteness and poignancy differing from that of the tooth-ach, which seems to strike deep, while the pain of the morbus crucians faciei is always more superficial and infinitely more lancinating; and lastly, the convulsive twitchings, which, though not always present, are very frequent, and are never experienced in odontalgia.

Stimulating and anodyne embrocations, blisters, topical bleeding by means of leeches, frictions with mercurial ointment,* preparations of quicksilver, particularly the submuriate, given in combination with opium, in doses sufficient to exhibit a decided constitutional influence,† and electricity, have been resorted to in the palliative treatment of Tic Douloureux; and the arsenical solution, extracts of hemlock, bella-dona and opium in considerable doses, frequently repeated, as well as being applied externally in the form of liniment, the bark of cinchona, and the different me-

* See vol. iii. p. 272. of the Edinburgh Journal for a case of Tic Douloureux, successfully treated with mercurial ointment, so as to excite a copious ptyalism.

† See vol. iv. p. 306, of the same Journal.

— vol. vii. p. 381, of the New Med. and Phys. Journal.

dicines usually administered in nervous complaints, have at the same time been given internally with some temporary relief. Where the pain is excessive (as it usually is in decided cases of this disease) the extract of bella-dona given in a full dose of two, or even three grains, every three, four, or five hours, if the person be an adult, has proved highly efficacious, but as the shocks lessen in frequency and violence, it will be adviseable to lessen the quantity.

The most successful mode, however, of exterminating this excruciating affection, is by a division of the nerve. The operation is fully justified by the extreme acuteness of the disorder, and by the considerable degree of success that has attended this mode of treatment. It is well known, however, that the operation, although a radical cure in the part immediately affected, does not always prevent a recurrence of the pain in the collateral branches of the nerves; and therefore, previous to having recourse to it, we should consider whether the nerve or nerves can be divided between the part where the pain originated, and the parts to which it afterwards extended. When this can be done, there will be a probability of operating with success; but when several parts are attacked at the same time, or where the pain extends in several directions from the part primarily impressed, there will be but little reason to expect advantage from an operation.

When the portio dura of the seventh pair (which is distributed very extensively upon the face under the name of pes anserinus) is the seat of the disease, and which may be ascertained by the patient complaining of a pain that begins in the forepart of the check sometimes as high as the forehead, and extends itself in the direction of the ear, no relief whatever can be obtained by dividing the second branch of the fifth pair, as such a division cannot possibly give any interruption to the communication between the sensorium and the seat of irritation.

SPRAINS.

Accidents of this nature happen most frequently in the wrists, knees, and ankles; and are usually occasioned by a slip, or some sudden effort or violent exertion.

Sprains of the tendons and ligaments are usually productive of an immediate painful and inflammatory swelling. In severe sprains there is often not only an increased action of the arteries in the inflamed part, but there is likewise an instantaneous effusion from the rupture of some of the small vessels. In general, we may suppose the effusion to be of the serous kind, as the skin is not altered in colour for some time after the accident; but it sometimes happens that the tumid parts are either of a deep red or leaden colour from the very first, owing to blood being extravasated from the ruptured vessels.

In the treatment of sprains, two circumstances are principally to be attended to: the first, to prevent, by all possible means, the

swelling from arriving at any considerable magnitude; the second, to employ those remedies which are known to be powerful in removing inflammation.

To answer the first of these intentions, restringent applications, such as vinegar, ardent spirits, and the lees of red wine, may be made use of. By immersing the injured part in any of these immediately on receiving the injury, the effusion will be rendered much less than it otherwise would be, and may perhaps be altogether prevented. Plunging the sprained limb into the coldest water that can be procured as soon after the accident as possible, is often attended with the best effect, and should be advised as the first step, till one or other of the articles just mentioned can be procured.

To answer the second intention, of removing inflammation, we may have recourse to local blood-letting by the application of several leeches to the tumid part; and if the pain and inflammation do not subside readily, they may be applied again the next day. Should any degree of fever attend in consequence of the violence of the sprain, opiates,* together with refrigerants, and the remedies which prove useful in other inflammations producing fever, ought to be administered.

In cases where the accident is trifling, or after blood has been drawn off from the part affected, we may apply a solution of the plumbi superacetas or liquor plumbi acetatis properly diluted, by keeping linen cloths dipped in either of them constantly to it throughout the course of the day. At night, a cold poultice consisting of oatmeal and linseed meal mixed up with vinegar, may be laid on. This last, however, will not be essentially necessary, except where much tension and pain are present.

With these and such other discutient applications,† proper rest will be necessary for the limb, which never should be kept in a pendent position.

Where a weakness remains in consequence of a sprain, pumping cold water upon the part every morning, and wearing a calico bandage for a considerable length of time, as a support to it, will be the best means to pursue.

LITHIASIS, OR, THE GRAVEL AND STONE.

THESE diseases depend upon a peculiar disposition of the fluids, and more particular the secretion of the kidneys, to form a cal-

* If opiates be employed at any time, it should be before febrile symptoms have made their appearance. E.

† ℞. Liquor. Ammoniæ Acetatis
Liniment. Saponis āā ℥j. M.
Vel
℞. Liniment. Camphoræ
Liquor. Ammon. Acetat. āā ℥j. M.

Vel

℞. Ammoniæ Muriat. ʒij.
Acidi Acetici
Spirit. Rectif. āā Oss. M.

culous matter, and have been supposed to be owing to the presence of an acid principle in them, termed the uric acid, which seems confirmed by the benefit derived from a course of alkaline medicines. A long use of fermented liquors, and of wines abounding with tartar, may possibly in some constitutions prove occasional causes of the gravel and stone. It has also been long supposed that water impregnated with sulphate and carbonate of lime, constituting what is called hard water, predisposes persons to be afflicted with the gravel and stone; but Dr. Henry, in his excellent thesis, looks upon this opinion as an unfounded prejudice. Instances have been adduced where a stone has arisen from the accidental introduction of some substance in the bladder, thereby forming a nucleus. That a morbidly increased secretion of gravelly matter frequently occurs independent of external causes, we have the most satisfactory proof in the hereditary disposition of many families to this complaint. The real causes of the formation of calculi remain, however, still unknown. An excess of uric acid is generally supposed to be the proximate one.

Those who are in the decline of life, and who have been much engaged in sedentary employments, as likewise those who are much afflicted with the gout, are in general very subject to nephritic complaints; but it is a matter of notoriety that the period of life from infancy to about fifteen years, is most subject to the formation of calculi in the bladder, and that the children of the poor are afflicted in a greater proportion than those of the opulent. From the difference in the structure of the urinary passages in the sexes, men are much more liable to them than women. In warm climates we seldom meet with instances of calculous concretions forming of any size either in the kidneys or bladder, as the particles of sand deposited from the urine usually pass off before they can adhere together, owing to the relaxed state of the parts, but in cold ones they are found frequently of considerable magnitude.

A fit of the gravel is attended with a fixed pain in the loins, numbness of the thigh on the side affected, nausea and vomiting, and not unfrequently with a slight suppression of urine. As the irritating matter removes from the kidney down into the ureter, it sometimes produces such acute pain as to occasion faintings and convulsive fits.

The symptoms which attend on a stone in the bladder are a frequent inclination to make water, which flows in a small quantity, is often suddenly interrupted, and is voided towards the end with pain in the glans penis. The patient, moreover, cannot bear any kind of rough motion; neither can he make use of any severe exercise without enduring great torture, and perhaps bringing on either a discharge of bloody urine, or some degree of temporary suppression. With these symptoms he experiences pain in the neck of the bladder, tenesmus, itching and uneasiness in the anus, frequent nausea, and sometimes a numbness of one or both thighs, with a retraction of one of the testes.

As all attempts to dissolve a calculus in the kidneys or bladder have hitherto proved ineffectual (whatever certain persons actuated by selfish motives may have alleged to the contrary,) we are to consider the disease as capable of being removed in males only by lithotomy; an operation always attended with much danger; but more particularly so where the patient is advanced in years, the disease complicated with any organic affection of the parts, and the general health considerably impaired. Under such circumstances it indeed never should be attempted.

In females, calculi of a moderate size, as likewise extraneous substances which have accidentally escaped from the urethra into the bladder, have been extracted therefrom* by gradually distending the former by means of a bougie, observing to increase its size every day until the urethra has become sufficiently distended to allow the introduction of a pair of forceps. The knowledge of this fact, I have deemed worthy of being recorded, as it may induce many to make trial of a mild mean, instead of resorting hastily to a severe operation.

When the preference is given to a palliative mode of treatment, instead of resorting to lithotomy, we must in that case have recourse to lithontriptics. These will prevent the farther accumulation of calculous matter. Of the class of lithontriptics, the fixed alkali seems to be the most powerful, and has indeed been most generally employed. It may be used both in its caustic† and mild‡ state.

It has been satisfactorily ascertained that in the majority of cases, the nuclei of calculi originate in the kidneys, and that of these nuclei, by far the greater number consist of uric acid: the good effect therefore so frequently observed from the use of alkalies, arises, not from any actual solution of calculous matter, but from the power which they possess of diminishing the secretion of uric acid, and thereby preventing the enlargement of the calculus, so that while of a very small form, it may probably be voided by the urethra.

The alkaline aerated water is a preparation of the mild kind, which has been much extolled for its virtues in calculous and nephritic complaints, and is indeed pretty generally substituted instead of the liquor potassæ, and other active lithontriptics, the long exhibition of which is commonly attended with injurious consequences. The quantity of the aerated alkaline water usually

* See the 138th No. of the London Medical Journal, p. 147.

† R. Liquor. Potassæ ℥. xx.—xxx. in Jusculi Cyatho ter in die.
Sensim augeatur dosis.

Vel

R. Potassæ Aerati ʒij. bis die in Aquæ distillat. Oj. solut.

Vel

R. Pilul. Sapon. gr. x. pro dos.

Vel

R. Liquor. Calcis Oj. in die.

Vel

R. Aq. Aerat. Alkal. Oj. in die.

‡ R. Sodæ Subcarbonat. ℈ss.—ʒij. bis terve in die.

Vel

taken is about a gill thrice a day, viz. before breakfast, dinner, and supper. When the stomach will bear a greater quantity, an English pint may be taken in a day. If it proves cold to the stomach, or occasions flatulency, a tea-spoonful or two of brandy may be added. Should the irritation of the urinary passages be great, it probably may be of use to take a few drops of the tincture of opium with each dose; but this ought to be discontinued as soon as there is an abatement of the pain. No particular diet or regimen is necessary to be observed while using this medicine, farther than abstaining from acids, butter, and fat meats.

Alkaline salts, although possessed of acrimonious properties in their separate state, are nevertheless rendered perfectly mild and inoffensive to the system, by combining them with fixed air, as in the aerated water, and they are found by no means to lose their solvent quality. For the introduction of this water into medical practice, the world is indebted to Mr. Colbourne, of Bath, since which, its beneficial effects have been noticed, and strongly recommended by Dr. Falconer, Dr. Percival, and other writers.

When the machine for preparing the aerated alkaline water invented by Dr. Nooth, is not at hand, a medicine nearly similar may be prepared in the following manner: Dissolve grs. 20 of the subcarbonate of potash, in two or three table-spoonfuls of water, and add to the solution a table spoonful of the juice of lemons. This mixture should be swallowed immediately, and is the proper dose, which may be repeated three or four times a day. It may however, be doubted, if the effects of this would be as powerful as the other. The method of preparing the aerated alkaline water with the machine invented by Dr. Nooth, differs from that just mentioned, in adding to each pint of water in the middle of the glass of the machine a quarter of an ounce of the fixed vegetable alkali.

The potassa aerata is a preparation somewhat of a similar nature, which is now used at St. Bartholomew's, and other hospitals, as a lithontriptic, and is given in the dose of two drachms, dissolved in a pint of distilled water twice a day. It consists of half an ounce of the subcarbonate of potash, five drachms of distilled water, and one drachm of subcarbonate of ammonia. The potash being dissolved in a water bath, the ammonia is to be added, and when the effervescence is at an end, the mixture is to be set by to crystallize.

Dr. Duncan is of opinion that a solution of the super-carbonate of soda in pure water, (in the proportion of four scruples to a pint,) is preferable to the aerated soda water, on account of the carbonic acid gas not being disengaged on exposure to the atmosphere. On the addition of a small quantity of lemon or tartarous acid, a very pleasant effervescence is produced. The carbonate of soda, by being combined with an excess of carbonic acid gas in this preparation, is rendered not only more pleasant to the taste, but less liable to offend the stomach; and Dr. Duncan thinks it is the only form in which the soda can be exhibited in sufficient doses, and

for so long a continuance as to derive much benefit from its use in calculous complaints.

Where alkalies fail to relieve the increased secretion of uric acid, and to prevent its forming calculi in the kidneys, and where they disagree with the stomach, magnesia has been found* generally effectual, and it may be persevered in for a considerable time without inconvenience, where the tendency to form uric acid remains.

Muriatic acid given in doses of twenty or thirty drops three or four times a day, diluted with water, has been found in several cases where gravel was expelled from the bladder, to afford much benefit, and to appease the pain in micturition.† It is moreover said to have proved a powerful lithontriptic. The constant and uniform effect of the medicine after a few doses, is stated to be the appearance of a considerable quantity of calculous sediment in the urine. In one instance, two ash-coloured concretions were passed from the bladder. In both the fusible and bone-earth calculus, it will certainly prove an excellent remedy, but will be of no use in the uric acid calculus, as the reader will observe by perusing a little further.

It has long ago been observed, that gravelly or sabulous matter forms a constituent part of all urine: that it is kept in chemical solution in this fluid, and is eliminated by it out of the system. This matter was proved by chemists to be of an acid nature, and to be possessed of peculiar properties. By Scheele it was denominated lithic acid, but more significantly by Dr. Pearson, uric acid, as pointing out its origin. The composition of different calculi, however, has been shown to be very different. Dr. Wollaston has particularly designated four species: 1st, The fusible calculus, consisting of phosphoric acid, magnesia, and volatile alkali, and hence called by Fourcroy the ammoniaco-magnesian phosphate; 2dly, The mulberry calculus, consisting chiefly of the oxalate of lime; 3dly, The bone-earth calculus, made up of phosphate of lime or animal earth; and 4thly, The uric acid calculus. Calculi of the latter kind are, however, of far more frequent occurrence than the other sorts. The uric acid, or gravelly matter contained in urine, is partly deposited on cooling; but (unless where it is in unusual quantity) commonly requires for the purpose, one, two, or three days, or till a beginning decomposition takes place.

Dr. Wollaston in noticing four species of calculus, has, at the same time, pointed out the means of distinguishing one from the other, when even a small fragment can be procured for chemical examination.‡ The uric acid calculus is soluble out of the body in

* See Observations on this subject in the Philosophical Transactions, by Mr. Brande.

† See Memoirs of the Medical Society, vol. v. Article 8. and vol. vi. Article 80.

‡ See vol. iv. p. 486, and vol. v. p. 306, of the Medical and Chirurgi-

very weak alkaline preparations, and also in lime-water, but not acted upon by muriatic acid. The fusible calculus is partly soluble in water, highly so in the carbonic acid, and consequently more so in the weakest possible acid impregnations that can be employed; nothing more being necessary for the purpose than the addition of so many drops of weak muriatic acid as will scarcely impart an acid taste. The moriform calculi are the most difficult of solution, and are not acted upon by alkaline solvents; but Fourcroy found that nitric acid diffused in water, in time dissolves them almost entirely, except the animal matter.

The bone-earth calculi are soluble in muriatic acid.

In recommending the use of lithontriptics for calculi in the urinary organs, the physician ought therefore to endeavour to ascertain the nature of the concretion with which his patient is afflicted. Possibly some advantages might be derived, and the solution of a stone in the bladder attempted by means of injection through the urethra, consisting of the substances found to dissolve calculi out of the body, and the operation of lithotomy thereby be avoided.

In violent paroxysms of pain, recourse must be had to fomentations applied both externally and internally;* and where these prove ineffectual, the patient should be put into a warm bath. With these means he should drink plentifully of diluting mucilaginous liquors, and take some proper opiate,† which he may repeat according to the urgency of the symptoms.

In cases of gravel the solution of the calcareous matter is to be attempted by the same means which have been recommended for a stone in the bladder. In those diseases which arise from a relaxa-

cal Review, for an account of the varieties of urinary calculi, and the valuable experiments of Dr. Wollaston and Dr. G. Pearson on the subject.

* R. Terebinth. Venet. ℥i.
Vitell. Ovi ij. vel q. s. ad solut. et adde
Decoct. Malvæ Compos. ℥xij.
Magn. Sulphat. ℥ss.
Ol. Olivæ ℥j.
Tinct. Opii ♏ xxx.—L. M.
ft. Enema.

Vel

R. Ol. Terebinth. ℥j.
Ovi Unius Vitell. vel q. s. ad solut.
Decoct. Avenæ ℥xij.
Tinct. Opii ♏ xxx.—L. M.
ft. Enema.

Vel

R. Decoct. Sem. Lini ℥xij.
Sodæ Sulphat. ℥ss.
Ol. Ricini ℥ij.—℥j.
Tinct. Opii ℥ss.—℥j. M.
ft. Enema.

† R. Aq Fœnicul. ℥jss.
Liquor. Potassæ Subcarbonat. ♏ xxv.
Spirit. Æther. Nitrici ℥ss.
Tinct. Opii ♏ xx.—xxx. M.
ft. Haustis 4tis horis sumendus.

tion of the kidneys and bladder, the uva ursi* with the alkaline aerated water will be likely to prove highly serviceable.

Some inquiries by Sir Everard Home into the functions of the stomach,† led him to consider, that the generality of calculous complaints might possibly be prevented by introducing into this organ such substances as are capable of preventing the formation of uric acid, and that this mode of treatment would have many advantages over the usual method, which consists in attempting to dissolve the uric acid after it is formed. Magnesia was supposed by Sir Everard Home, from its insolubility in water, to be well adapted to this purpose, as it would remain in the stomach until it should combine with an acid, or be carried along with the food towards the pylorus. Upon putting this theory to the test of experiment, it was found by a very careful examination of the urine, that in several instances where there was an increased formation of uric acid, magnesia diminished it in a much greater degree than had been effected in the same patient by a very liberal use of alkalies.

During an acute fit of the gravel, where nephritis ensues, or is to be apprehended, we should draw off a quantity of blood proportionable to the age of the person, after which he ought to be put into a warm bath. When taken out of it, flannel cloths wrung out in a warm infusion of emollient herbs, or bladders filled with warm water, may be applied immediately over the part; emollient and anodyne clysters‡ may be injected frequently, as advised for the stone, and opiates§ may be administered repeatedly until the pain and irritation are removed. To assist these means the patient

* R. Pulv. Uvæ Ursi ℈j.—ʒss.
Aq. Puræ ʒjss.
Spirit. Junip. ʒj.
Syrup. Cort. Aurant. ʒij. M.
ft. Haustus ter in die sumendus.

Vel

R. Pulv Uvæ Ursi ʒss.
Pulp. Prun. Gallic. ʒj.
Syrup. Althææ q. s. M.
ft. Electuarium cujus sumat quant. nucis moschatæ ter in die.

† See the Philosophical Transactions for 1810.

‡ R. Decoct. Amyli ʒxij.
Ol. Olivæ ʒss.
Tinct. Opii ♏ Lx. M.
Pro Enemate.

Vel

R. Aq. Fœniculi ʒjss.
Tinct. Opii ♏ xxxv.
Syr. Althææ ʒij. M.
ft. Haustus quartis horis sumendus.

Vel

R. Mucilag. Gum. Acaciæ ʒss.
Aq. Fœnicul. ʒj.
Spirit. Ætheris Nitric. ʒss.
Tinct. Opii ♏ xxx.
Syrup. Althææ ʒij. M.
ft. Haustus.

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§ R. Opii Purificat. gr. j.
Extract. Glycyrrhiz. gr. ij. M.
ft. Pilula 4tis vel 6tis horis repetenda.

should drink freely of mucilaginous diluting liquors, such as linseed-tea, solutions of gum. acaciæ and a decoction of barley; to which may be added a small quantity of the nitrate of potash if much febrile heat prevails, or there seems any tendency to inflammation.

If the pain and heat in the region of the kidney do not abate in twelve hours, and the pulse remains equally hard and frequent, the venesection may be again repeated.

When the pain has somewhat subsided, it will be right to give some opening medicine, such as the oleum ricini; but if the stomach should reject this, about two drachms of the sulphate of magnesia in linseed-tea, with or without four or five drops of the tincture of opium, may answer the intention.

Diuretics and blisters would be improper.

In local pains from the stimulus of any extraneous body, as in gravel descending along the ureter, the application of cold on or near the part affected may often be used with a very salutary effect. Dr. Darwin mentions a case of this nature where a gentleman who had laboured under excessive and continued pain from gravel in the ureter, found instantaneous relief very frequently in the day, by applying on the painful part a bag of snow, or pounded ice, and suffering it to dissolve. When these cannot be procured, cold may be generated by allowing æther to evaporate on the part so as to render the vessels torpid or inactive.

The diet of those who are afflicted either with the stone or gravel should be light and nutritive, carefully avoiding fermented liquors, wines abounding with tartar, and all acids. Spring or soft water will be preferable to pump water. The alkaline aerated water will be very proper for those who are afflicted either with stone or gravel. From various experiments, we seem authorized in concluding, that acids of every kind are prejudicial, and give rise, in those disposed to these complaints, to the formation of gravelly and calculous concretions, by causing a separation and crystallization of the uric acid contents of the urine within the body.

It is, indeed, a matter of common observation, that calculous and gravelly complaints are aggravated by acid and acescent drinks of all kinds, and that alkaline substances alleviate these disorders.

Seltzer water has sometimes been employed with much advantage in diseases of the urinary organs, especially those which are attended with the formation of calculus. What solvent power it may exercise over those concretions is not yet determined; but it is certain that under the use of this remedy the mucous, sabulous, and often purulent discharge which accompanies the urine, is rendered less painful; and, in general, micturition is much less difficult.

Many who have been much incommoded with gravelly com-

plaints have experienced relief by using the garden leek, prepared in the following manner.

Take a handful of the roots or fibrous parts, with a few sprigs of fennel, and boil them in two quarts of water over a gentle fire until the half is evaporated; then pour off the remainder, strain it, and drink about a pint a day.

Order VII.—DIALYSES.

Discontinuity of a part manifest to the sight or touch.

SCALDS and BURNS.

In all accidents of this nature, it seems to be of the utmost importance to apply a remedy at the instant; for by this means the violent anguish is allayed, and vesication, which in scalds at least is usually so considerable as to lay the foundation for a tedious curative process, is in a great degree prevented. Of the remedies most quickly to be procured on such occasions, plunging the part which has sustained the accident, without a moment's delay, into very cold water, or pumping upon it, is of the greatest service. The transition from torture to ease will be truly rapid. Water is always at hand, and after proper immersions in it for a due length of time, it may be sufficient to cover the injured parts with linen rags moistened therewith, passing over them from time to time streams of air by means of a small tube or bellows, until a sense of freezing or a considerable degree of cold arises. By this simple process, a large piece of skin that has been burned to the appearance of charring, and surrounded by a high degree of inflammation, has been perfectly cured in the course of a very short time, no sloughing or ulceration taking place, but the crust coming off dry, and leaving a sound surface.

Of late, the application of ice has been much recommended by Sir James Earle and a few other practitioners of eminence.

Æther, or rectified spirit, applied in such a manner as to favour its speedy evaporation, and thereby the abstraction of heat, may be still more efficacious than the remedies already mentioned. When there is no exposure from a separation of the cuticle, the æther or rectified spirit somewhat diluted, may be evaporated from the skin, by keeping a piece of thin linen cloth wetted therewith over the parts aggrieved, and moistening it from time to time; but when the injured parts have been deprived of their natural covering, it will be adviseable to lay immediately over them a piece of thin bladder, and then the linen cloth, as before, keeping it continually moist by squeezing a sponge wetted with the evaporating liquid over it. As long as the pain and heat last, this process should be

continued: but as soon as the inflammation is subdued, the process of evaporation must be discontinued, lest we should occasion a greater abstraction of caloric than is consistent with health.

To alleviate pain and procure rest, in cases where the injury is of an extensive nature, it will be right to have recourse to opiates.

When much febrile heat ensues, we should employ gentle laxatives and refrigerants; in short, the antiphlogistic plan should be strictly pursued.

If the parts become livid and black, so as to threaten the coming on of a mortification, then the cinchona bark and wine, with the other means advised under that particular head, must be resorted to.*

Instead of the application of cold water, ice, and the other soothing means just mentioned, a plan of a directly opposite nature has lately been recommended by Dr. Kentish.† He advises to apply stimulants externally, such as spirits of turpentine, the liquid volatile alkali, and æther so managed as to avoid the cooling process of evaporation.

In their application, we are directed to proceed as follows: The injured parts are to be bathed two or three times over with rectified spirit, camphorated spirit, or spirit of turpentine, heated by standing in hot water. After this, a liniment is to be applied on soft cloth, composed of the ceratum resinæ, softened with spirit of turpentine. This liniment is to be renewed only twice in twenty-four hours, and at the second dressing the parts are to be washed with proof spirit, or tinctura opii made warm. When a secretion of pus takes place, milder applications must be made, till the cure is effected.

To excite the system at the same time, he recommends the internal use of æther, brandy, opium, and other stimulants, which are to be given in proportion to the degree of injury, immediately after the accident, and to be repeated once or twice within the first twelve hours, and afterwards wine or ale till suppuration takes place, when it will be no longer necessary to excite the system.

On this mode of treatment, so highly spoken of by Dr. Kentish, I have to remark, that it requires further experience, and the concurrent testimony of other practitioners. Mr. Bell, has indeed lately favoured us with some observations,‡ which tend greatly to recommend it. His words are, "The superiority of the stimulating practice is manifested in this; that when the essential oil of turpentine is applied to a scalded or burned part, relief is, in most cases that I have seen, produced within half an hour, provided that the remedy is made use of as soon after the accident as possible; nor have I observed any case, under the above circumstances, where the pain was protracted more than two hours.

* Provided no activity of the pulse or heat of the skin be present. E.

† See his Essay on Burns.

‡ See Medical and Physical Journal, vol. iii. page 208.

"In several slight cases where I have seen cold water made use of, it always required six, and not unfrequently eight hours, to free the sufferer from agony; for the moment the application of cold water ceased, the pain returned with much greater violence." He adds, "I recollect a case which an eminent surgeon, in Newcastle, Mr. Anderson, communicated to Dr. Kentish more than two years ago, and which is most decidedly in favour of what is here advanced. A lady had both her arms severely scalded with boiling water, from above the elbows down to the finger ends. The ol. terebinth. was applied to one arm soon after the accident, and the other plunged into cold water, which was renewed as often as it became warm. That arm to which the ol. terebinth. was applied, became perfectly easy in about half an hour; the other continued to give pain, when taken out of the water, even for an instant, for more than six hours: and as far as I recollect, it required a much longer time for its cure than the other."

By further information from Dr. Kentish,* we are given to understand that the faculty in his neighbourhood† have almost all adopted his mode of practice on the fullest conviction of its efficacy. It appears likewise that Mr. S. Hammick, jun. of the royal naval hospital at Plymouth, has favoured him with his opinion of its superior merit to every other means used in that extensive institution, where he has an ample field for experiment, from the frequent explosions of gunpowder on board his majesty's ships. His words are, "I am decidedly of opinion that the practice of applying immediately to burns the spirit of turpentine, is the best I have ever yet seen adopted, as the process to suppuration is, in general, more rapid, and those irregular marks, or seams, found after other applications, are not to be met with after the turpentine; neither is the skin so disposed to crack, or break open again, as was formerly too often the case, producing the most troublesome and irritable sores."

In Dr. Kentish's second Essay on Burns, in which he attempts to refute the opinion of Sir James Earle, on the supposed benefit of the application of ice in such accidents, a number of additional proofs are brought forward to establish the superiority of his stimulant mode of treatment over that of cold applications. In the detail of practice he has however been induced to make some alterations from his original plan, notwithstanding that he therein pursues the principle of treatment recommended in his first Essay. His words are, "In the first species, *where the action of a part only is increased*, I have not found any thing better for the first application than the heated ol. terebinth. and the digestive thinned with the same. In superficial burns, when the *pain* has ceased, it will be adviseable to desist from this application in about four-and-twenty hours, as that time, in many cases, will be sufficient, and

* See Medical and Physical Journal, vol. iii. p. 262.

† Newcastle-upon-Tyne.

at the second-dressing, a digestive sufficiently thinned with common oil, will be adequate to the case, and on the third day to begin with the ceratum calaminæ. I have frequently seen secondary inflammation excited by the remedy, which in the first instance puzzled and perplexed me considerably. I have likewise been informed of this consequence by several gentlemen. The most certain *remedy* for this unpleasant symptom is to apply a plaster with digestive thinned with oil, or a plaster of cerate, and over that a *large warm* poultice. This most effectually takes off the irritation of the part, and the cerate will finish the cure. Should there be much uneasiness of the system, an anodyne proportioned to the age of the patient should be given."

Mr. Parkinson, of Leicester, is another advocate for the stimulating plan, and speaks highly of the efficacy of rectified spirit in relieving the pain and inflammation occasioned by burning or scalding any part of the body.* The mode of treatment he recommends is to cover the parts with pieces of bladder, softened by dipping them in warm water, keeping the outer surface constantly wetted with the spirits. He mentions that the pain usually ceases in half an hour, but in deep and extensive burns the application must be continued for twelve or twenty-four hours, at the end of which time the inflammation will be found to be entirely removed. To heal the ulcer, a cerate of wax and oil may be applied.

In the second volume of Medical Facts and Observations, the late Mr. John Hunter has stated the communications of an eminent brewer at Edinburgh (Mr. David Cleghorn) on the subject of burns and scalds, which accidents have been very successfully treated by applying vinegar. The good effects of vinegar in these cases Dr. Kentish is inclined to attribute to the alcohol it contains.

Between the advocates for the adoption of a cooling treatment and those who recommend a stimulating one, there seems indeed a perfect opposition both in theory and practice. My opinion is, that the cooling treatment will be most adviseable while the sensation of heat and pain exists; but when these are removed, and symptoms of debility occur, or when they primarily appear, I think the stimulant plan ought to have the preference.

Much certainly depends on the constitutional variety of the subjects, as well as on the different stages or degrees of the accident. Perhaps if no other inconvenience than a slight vesication of the injured parts is sustained, no remedy can be more aptly resorted to than the refrigerant application of cold water: but when the integuments are so burned that the cuticle is entirely destroyed, and the parts are affected with great vesication and pain, and there is at the same time inaction in the system, with symptoms of irritation, then the stimulant qualities of the terebinthinate application

* See Memoirs of the Medical Society, vol. v. article 7.

will certainly be preferable, as the sedative effects of cold under such circumstances might extinguish the vital principle.*

HERPES.

Herpes consists in an eruption of broad itchy spots dispersed here and there over the skin, of a whitish or red colour, which at length run into each other, discharge a thin serous fluid, and either form extensive excoriations or ulcers. After a certain time scurfy scales appear, which peel off, and leave the under surface red; the same appearances are, however, renewed in a successive series, till the disease is either cured, or goes off spontaneously, which is indeed rarely the case. Being a complaint confined to the skin, it seldom happens that the general health suffers any great change.

Its causes may be referred to a want of cleanliness, a low diet, and a damp situation; but certain constitutions seem nevertheless particularly predisposed to herpetic eruptions.

The best remedies for these eruptions are ointments prepared from the oxyd of zinc,† and the white precipitate of mercury, with a small quantity of hydrargyri oxymurias, and lard, making use at the same time of lotions somewhat of a similar nature, as recommended in psora; or, as here prescribed,‡ being somewhat similar to the nostrum sold under the name of Gowland's lotion. I have frequently found a strong decoction of the fresh leaves of digitalis to be a very good wash for herpetic eruptions of a troublesome and extensive nature.

Where the disease is inveterate, it may be necessary to have recourse to the internal use of medicine, such as pills of the submuriate of mercury and antimony,§ a solution of hydrargyri oxymurias, the liquor arsenicalis in the dose of six drops three times a day, increasing it gradually to twelve or fifteen; a decoc-

* Unless the vitality of the burnt or scalded part be destroyed to a considerable depth, the employment of stimulating remedies, as directed by Dr. Kentish and Mr. Bell, would be too much like adding fuel to the fire, but when such is the case, they ought undoubtedly to have the preference. E.

† R. Zinci Oxydi ʒss.
Adipis Præparat. ℥j. M.
ft. Unguentum

‡ R. Amygdal. Amar. Decort. ℥ij
Contunde in Mortaria Marmoreo, dein bene terens gradatim adjice
Aq. Distillat. Oj. et Cola.
Liquori Colatæ adde
Hydrargyr. Oxymur. gr. xij. in
Spiritus Rectificat. ʒij. prius solut. M.
ft. Lotio.

§ R. Hydargyr. Submuriat.
Antim. Sulphuret. Præc. āā ʒj.
Guaiac Gummi-resinæ ʒij.
Bals. Copaib. q. s. M.
Fiant. Pilul. lx. Capiat j.—iv. omni nocte hora decubitus.

Vel

R. Antimon. Tartarizat. gr. xv.
Hydrargyr. Submur. ʒj.
Opii ʒss.
Syrup. Simpl. q. s. M.
Fiant Pilulæ lx. Sumat æger j. mane et nocte.

tion of elm bark, sarsaparilla, or guaiacum, or the sulphuric acid julep,* together with a vegetable and milk diet, at least avoiding all salted meats. Some gentle aperient may be taken occasionally.

The effects of a tepid bath in promoting the natural excretions by the skin, render it very serviceable in curing herpetic eruptions: indeed in all cases of cutaneous foulness, it will be found a most important auxiliary to internal remedies. A bath prepared from, or satured with the sulphuret of potass, has been employed with great success in the cure of herpes.

TINEA, OR SCALLED HEAD.

THIS disease consists in a chronic inflammation of the skin of the head, productive of a secretion of matter peculiar in its nature, and capable of propagating the complaint, if applied to the scalp of a healthy subject. At first, the eruption is confined, probably, to only a small portion of the head; but by degrees its acrimony is extended to the neighbouring parts, and at length the whole of the scalp is eroded, and beset with a scabby eruption. Dr. Willan has substituted the term Porrigo for that of Tinea, as being less objectionable, and considers this genus as consisting of several varieties.†

Children are principally affected with it, particularly those of the poor; hence it evidently arises from uncleanliness, from the want of a due proportion of wholesome nutritive food, and possibly from bad nursing. At any rate, these will very much aggravate the disease. In many instances it is propagated by contagion, either by using a comb imbued with the matter from the head of a person labouring under it, or by putting on his hat or cap.

When proper means are adopted, the disease seldom proves of difficult cure.

The treatment consists in shaving the head close, and afterwards covering it with an ointment made of sulphur and pitch, or muriated mercury and pitch,‡ previous to the daily application of which it may be washed with a little of either of the lotions§ here ad-

* ℞. Acid. Sulphuric. ʒij.
Aq. Fontan. ℥jss. Post effervescentiam adde
Syrup. Simp. ʒij. M.
Capiat. ʒj. vel. ʒij. bis terve in die ex Aquæ Puræ cyatho.

† See his Treatise on Porrigo and Impetigo.

‡ ℞. Picis Liquid. Oss.
Ceræ Flav ℥ss.
Sulph. Sublimat. ʒij. M.
ft. Unguentum.

Vel

℞. Unguent. Picis Liquid. ℥ij.
Hydrarg. Oxymuriat. gr. vj. M.
ft. Unguentum.

§ ℞. Tabaci ℥ss.
Aq Fontan. Oj. Coq. ad Oss. et Colaturæ adde
Liquor. Potass. Subcarb. ʒj. M.
ft. Lotio.

Vel

℞. Potassæ Sulphuret. ℥ss.
Liquor. Calcis Oj.
Liniment. Saponis ℥j. M.
ft. Lotio.

vised. If these should fail, we may substitute astringent or stimulating applications, paying a cautious attention at the same time to the general health. As a covering for the head, we may use the oiled-silk cap.

In those scurfy eruptions of the head which are observed in children, and where a thin ichor pervades the cuticle and excoriates the parts, the application of a little of the ointments marked thus* will seldom fail of effecting a radical cure. It should be applied every night, covering the parts with a bladder or linen, and again be washed off in the morning with soap and water.

In the cure of tinea capitis, cutting off the hair as close as possible, well washing the parts with warm soap and water, and afterwards sprinkling them pretty thick with powdered charcoal night and morning, has proved very efficacious.

Besides these external applications, it may sometimes be necessary to administer alterative medicines† at the same time. The doses must be varied according to the age, constitution, &c. of the patient; and if acidity abounds in the primæ viæ, some absorbent, such as the creta præparata, or magnesiæ carbonas, according as the bowels may be more or less affected, should be combined. In all cases, the body ought to be kept open. The occasional use of a tepid bath might probably be of some service.

The eruption in tinea has been known to give way to the internal use of sulphuric acid, where only wheat flour has been applied externally. It is said to have been frequently cured likewise by testaceous powders alone; two materials very different in their chemical properties, but agreeing in their power of promoting cutaneous absorption.

If the glands of the neck should happen to swell on the head becoming dry, we ought to advise the insertion of an issue in the neck, or the occasional application of a blister to it.

* R. Cret. Præparat.
Hydrargyr. Præcipitat. Alb. āā ℈j.
Plumbi Superacet. ʒss.
Unguent. Hydrargyr. Nitratis ʒij.
Unguent. Picis Liquid. ʒij. M.
ft. Unguentum.

Vel

R. Adipis Suillæ ʒi.
Æruginis
Hydrargyr. Præcip. Alb. āā ℈j. M.
ft. Unguentum.

† R. Magnes. Carbonat.
Hydrarg. cum Sulph. āā gr. v.
——— Submuriat. gr. 1-4—1-2. M.
ft. Pulvis hora somni sumendus.

Vel

R. Antimon. Sulphur. Præcipit. gr. i.
Hydrargyr. Submuriat. gr. ss.
Sacchar. Alb. Pulv. gr. v. M.
ft. Pulvis mane et nocte capiendus.

Vel

R. Hydrarg. Submuriat. ʒss.
Antimon. Tartarizat. gr. xv.
Opii Purificat. ʒss.
Syrup. Simpl. q. s. M.
Fiant Pilulæ lx. quarum sumat æger j. vel ij. omni nocte hora decubitus.

The diet in tinea capitis should be wholesome and nutritive, avoiding salted meats and fish.

PSORA, OR THE ITCH.

THE Itch is evidently confined to the skin, and never affects the general system, however great its irritation.

It arises most usually from infection, communicated by coming into immediate contact with the body of a person already affected, or by wearing the same clothes, or lying in the same bed-linen that he has done; but it is sometimes produced by unwholesome food, bad air, and a neglect of cleanliness.

The itch shows itself in small pimples about the fingers, wrists, hams, and waist, which after a short time become so many pustules, and are attended with such an itching, as to occasion a constant desire to scratch. When they break, the acrid fluid which they contained, falls on the neighbouring parts, and thereby spreads the disease over almost the whole body, if proper remedies are not used to check its progress. Where the pustules are very large, and attended with much inflammation, they are apt to run into boils. The animalcula which are seen in the pustules are the effect, not the cause of them; as all other stagnating fluids abound with microscopic animals.

The remedy which has been employed with the greatest success in the cure of this disease is sulphur, which is not only used externally in the form of ointment, as in the unguentum sulphuris, but is sometimes also given internally. As its external use, although very efficacious, is however, attended with much inconvenience from the dirtiness of its application, as well as its disagreeable smell, other remedies are frequently substituted. The most efficacious of these are a solution of arsenic, or oxymuriate of mercury;* different combinations of the sulphuric acid,† white hellebore,‡ and a strong decoction of digitalis. In some cases of psora, I have succeeded by employing merely an infusion of tobacco as a lotion, two or three times a day.

* R. Hydrargyr. Oxymuriat. gr. vj.
Ammon. Muriat. gr. x.
Aq. Distillat. ℥iv. M.
ft Lotio.

Vel

R. Hydrargyr. Oxymuriat. gr. x.
Ovi Unius Vitellum
Adipis Præpar. ℥ij. M.
ft. Unguentum.

† R. Acidi Sulphurici ℥ss.
Adipis Præparat. ℥j. M.
ft. Unguentum.

‡ R. Veratri Pulv. ℥j.
Adipis Præpar. ℥iv. M.
ft. Unguentum.

Vel

R. Pulv. Rad. Veratri ℥j.
Aq. Distillat. Oij.
Decoque ad libram unam, et liquori frigefacto et colato adde
Spirit. Rectif. ℥ij. M.
ft. Lotio frequenter utenda.

Vel

R. Decoct. Veratri ℥xij.
Hydrargyr. Oxymuriat. ℥ss.
Ammoniæ Muriat. ℥ss. M.
ft. Lotio.

Besides the hydrargyri oxymurias, other preparations of mercury have been employed with success, as in the formulæ specified below:* should any of these occasion heat, rash, or other effects of too powerful a stimulus applied to the skin, they are to be relieved by substituting a little plain lard, instead of the ointment, and this application is to be continued until the troublesome symptoms are perfectly removed.

That species of the itch which consists of small ulcers in the skin is readily cured by an internal use of the acid of sulphur, which increases the cutaneous absorption. The external application of sulphur, mercury, and acrid vegetables, acts on the same principles.

In that species of the disease which has been denominated Psoriasis Diffusa, the most beneficial effects have been derived from exhibiting the liquor arsenicalis, using warm bathing at the same time. The dose may be six drops three times a day, increasing it gradually to twelve or fifteen.

Such as are afflicted with the itch, should be debarred the use of high-seasoned dishes, salted meats, fish of all kinds, and heating liquors; their diet consisting principally of vegetables and milk, with a small proportion of animal food. They should shift their linen frequently, and pay the greatest attention to cleanliness. When the unguentum acidi sulphurici is used, the parts to which it is applied, should be covered with flannel instead of linen, on account of the destructive effects of the acid on vegetable substances.

IMPETIGO, OR RING-WORM.

THIS is a cutaneous disease, chiefly occupying the scalp, but sometimes other parts of the body, and arises most frequently from coming in contact, or using the same comb, cap, or hat, with those already affected by it; but in some habits there seems a predisposition to it. It is a disorder more frequently met with in warm climates than in cold ones; is of a very contagious nature, and in inveterate cases is very difficult to eradicate.

It shows itself in small red pimples, which break out in a circular form, and contain a thin acrid fluid. When the body is heated by exercise, these itch intolerably, and upon being scratched, discharge their contents, which by falling on the neighbouring parts, spread the disease to a considerable degree. The original size of

* R. Hydrargyr. Præcipit. Alb. ʒj.
Hydrargyr. Submur. ʒss.
Sulphuris Sublimat. ʒij.
Ol. Essent. Lavend. ♏. xl.
Adipis Præparat. ʒij M.
ft. Unguentum omni nocte hora decubitus applicandum.

Vel

R. Hydrarg. Præcipitat. Alb. ʒij.
Plumbi Superacetat.
Potassæ Subcarbonat. āā gr. x.
Adipis Præparat. ʒij.
Essent. Bergamot. ♏. xx. M.
ft. Unguentum.

the circle formed by the pimples, is usually about that of a sixpenny piece; but in process of time it will become, by neglect, as large as the palm of the hand.

In some cases, the disease is so universal that the habit becomes tainted; the skin puts on a leprous appearance, is much disfigured with blotches, and the unhappy patient enjoys not a moment's ease from the intolerable itching and painful excoriations.

Where the disease is not of an inveterate nature, it may easily be removed by washing the parts affected with some kind of astringent lotion;* and where this fails, recourse may be had to the remedies advised for the cure of herpes. The application of mushroom catsup to the pimples is reported to be a very efficacious remedy.

It seldom happens that an internal use of medicine is necessary. Where the disease is very inveterate, some gentle alterative, such as the pilul. hydrargyr. submur. compos. with a decoction of the woods, may probably be most proper. See Herpes.

The ring-worm generally appears on the head in a small circle of redness, which increases in diameter by degrees, and contracts a branny scurf, the hair separating at the roots from the slightest touch. After one circle has made its appearance, other similar circles may be expected soon to show themselves, till they reach one to another, and at length occupy the whole of the scalp. Unless proper means are resorted to in time, glandular swellings will ensue, and sometimes ulcerations.

When the scalp is much affected, the treatment to be adopted should be, to shave the head every four or five days; to bathe it twice or thrice a day with the lotion of the sulphate of zinc; and to apply every night a little of the unguentum hydrargyri nitratis, washing this off again the next morning with warm water and soap and a bit of flannel. In inveterate cases, where glandular swellings or ulcerations attend, we may advise alteratives internally, such as the hydrargyri submurias, &c.

ACNE, OR BLOTCHED FACE.

According to Dr. Willan's arrangement, Acne belongs to the Order Tubercula, and the genus is characterized by an eruption of distinct, hard, inflamed tubercles; which are sometimes permanent for a considerable length of time, and sometimes suppurate very slowly and partially. They appear on the face, especially on the forehead, temples, and chin, and sometimes also on the neck, shoulders, and upper part of the breast; but never descend to the lower parts of the trunk, or to the extremities. As the progress of

* ℞. Zinc. Sulphat. ʒss—ʒi.
Plumbi Superacet. gr.xv.
Aq. Distillat. ℥vj. M.

each tubercle is slow, and they appear in succession, they are generally to be observed at the same time in the various stages of growth and decline: and in the more violent cases, are intermixed with the marks and vestiges of those which have subsided. The eruption occurs mostly in persons of the sanguine temperament, and in the early part of life, from the age of puberty to thirty or thirty-five. It is common to both sexes, but the most severe form of it is seen in young men.

Dr. Willan has noticed four varieties of this eruption, which he designates by the titles of Acne Simplex, Punctata, Indurata and Rosacea.

The affection being generally local, is to be treated by external applications, and the most proper are those of a gentle stimulating nature, such as lotions containing alcohol reduced or strengthened according to circumstances, by the addition of any distilled water, such for example as equal parts of spiritus tenuior and of rose or elder-flower water. If the tubercles are much inflamed, and many of them pustular, the effect of a very acrid lotion would be to render them more confluent, and to produce the formation of a crust of some extent, as well as to excite an inflammatory redness in the adjoining skin.

As the inflammatory disposition subsides an additional stimulus is often useful, such as from half a grain to one grain, or even more of the muriate of mercury dissolved in each ounce of the spirit, or one drachm or more of the liquor potassæ, or of muriatic acid in six ounces. Acetous acid, and the liquor ammoniæ acetatis afford also an agreeable stimulant in proper proportions.

The general health does not usually suffer, even under an aggravated form of the eruption. Many persons, however, who are affected with the eruption are liable to disorders of the bowels and stomach, to hemorrhoids, and some to phthisis pulmonalis. Its first appearance too, is frequently ascribed to some irregularity of diet, or to some cold substance swallowed when the person had been overheated, and was in a free perspiration. Hence the appearance of the first eruption is not unfrequently somewhat sudden.

By a steady use of external stimulants, combined with a proper regulation of diet and exercise, the Acne Indurata, which is distinguished by the tubercles being larger and more indolent than in the Acne Simplex, is often greatly alleviated, and sometimes entirely removed. Even from the beginning, the eruption will bear a more acrid stimulus than in the inflamed Acne Simplex. A spirituous lotion, at first a little diluted, and containing the oxymuriate of mercury in the proportion of a grain or somewhat less to the ounce of the vehicle, is often extremely beneficial. An empirical preparation, vended under the name of Gowland's lotion, which is generally supposed to contain this mercurial salt in an emulsion of bitter almonds, has been much used, and where its

strength happens to accord with the degree of irritability in the eruptions, it is doubtless beneficial in this species of the disease. Many other stimulants* may be substituted with a similar effect. In general it will be found requisite to augment the activity of all these applications, in the progress of the treatment, partly in consequence of the diminished effect of an accustomed stimulus, and partly on account of the increasing inertness of the tubercles, as the inflammatory state subsides, which must be determined by the appearances.

Frequent purgatives, which are often resorted to, are of no advantage, but on the contrary only tend to augment the disease in feeble habits. The copious use of crude vegetables in diet, which the misapplication of the term "Scurvy" has introduced, is likewise to be deprecated, as well as the free use of vegetable acids, especially in constitutions predisposed to indigestion. It is a fact not easy to explain, that under many modifications of cutaneous inflammation, especially about the head and face, inflammation is immediately increased in sympathy with the offended stomach, when these substances are taken. In cases of Acne Indurata, the diet should be good, light, and nutritious, but not stimulating, consisting of animal food, with well dressed vegetables, and the farinaceæ, wine and fermented liquors being omitted, or taken with great moderation.

Internally, medicines are generally supposed to effect very little, but in some inveterate cases an increased amendment has been observed, when in addition to the external treatment already noticed, small doses of soda, sulphur and antimony were at the same time administered, and by which plan duly persevered in, the skin has been perfectly cleared.

PERNIO, OR CHILBLAIN.

CHILBLAINS are painful inflammatory swellings, of a deep purple or leaden colour, to which the fingers, toes, heels, and other extreme parts of the body are subject, on being exposed to a severe degree of cold. The pain is not constant, but rather pungent and shooting at particular times, and an insupportable itching attends. In some instances, the skin remains entire, but in others it breaks, and discharges a thin fluid. When the degree of cold has been very great, or the application long continued, the parts affected are apt to mortify and slough off, leaving a foul, ill-conditioned ulcer behind.

Children and old people are more liable to be troubled with chil-

* R. Misturæ Amygdal. Amar. ℥vj.
Spirit. Rorismar. ℥iss.
Hydrargyr. Oxymuriat. gr. iv. M.
ft. Lotio, partibus affectis ter in die applicanda.

blains than those of a middle age; and such as are of a scrofulous habit, are remarked to suffer severely from them.

The best mode of preventing these affections is to avoid with much care any exposure to wet or cold; wherefore those who are subject to them should be cautious, on the approach of winter, to cover the parts which are apt to be injured with woollen gloves and stockings, and not expose the hands or feet too precipitately, when cold, to a considerable degree of heat.

In common cases of chilblains, as soon as any part is perceived to be affected, it will be proper to rub it well with warm spirits of rosemary, to which a small addition of spirits of turpentine has been made; after which we may apply pieces of soft linen, moistened with camphorated spirits, and they are to be kept on constantly.

When the swellings break and discharge a thin matter, or ulcerate, poultices and emollient ointments may be applied for a few days; but as these are apt to induce fungous excrescences over the sores, which it will be difficult afterwards to remove, they should not be persisted in long. The occasional application of caustic to the edges, and dressing the sore daily with the unguentum hydrargyri nitratis, will effectually prevent any luxuriancy of granulation. Should this be found of too escharotic a nature, its strength may easily be reduced by a small addition of the unguentum cetacei.

DISEASES NOT REFERRIBLE TO ANY PARTICULAR CLASS.

VERMES, OR WORMS.

THE human body is infested by three kinds of worms, viz. the the ascarides, or small white worm; the teres, or round worm, and the tænia, or tape worm, which is flat, consists of many joints, and is usually of a considerable length. The last is, however, more rarely met with in this country than the others: but in Germany and Switzerland the inhabitants are much troubled with it. Different situations of the intestines have been mentioned as being occupied by each kind, particularly the rectum as the seat of the ascarides, where they are observed always involved in mucus; the teres occupy the small intestines and sometimes the stomach; the tænia the whole intestinal tube, more especially the ilium.

Unwholesome food, with a bad digestion, seems to be the principal cause of worms. They appear most frequently in those of a relaxed habit, and whose bowels contain a preternatural quantity

of mucus, or slimy matter. Hence it is a disease most common to children; but they sometimes prevail in adults to a very high degree, particularly in those who live chiefly on a vegetable diet. The tape worm is not often met with in infancy or childhood; instances of it do, however, now and then occur.

Worms may readily be distinguished by the following symptoms, viz. variable appetite, fetid breath, acid eructations and pains in the stomach, grinding of the teeth during sleep, picking of the nose, paleness of countenance, hardness and fulness of the belly, slimy stools, with occasional griping pains, more particularly about the navel, heat and itching about the anus, short dry cough, emaciation of the body, slow fever, with evening exacerbations, and irregular pulse, and sometimes convulsive fits.

It is often a very difficult matter to expel worms from the body, but more especially the tænia. When they prove fatal, it is by their erosion of particular parts, and their inducing a tabid state.

In the cure of this disease we must have in view, first, the effecting the destruction and discharge of the worms; and secondly, the preventing their future generation.

The first of these is to be accomplished by certain remedies, known by the name of vermifuges, which all act in one of the three following ways.

1st. By simple evacuation or purging, as mercury, rhubarb, jalap, and aloes; as also the different strong bitters, as rue, tansy, and wormwood.

2dly. Mechanically, as the pulvis stanni, cowhage, &c. or,

3dly. Chemically, as lime-water, which loosens their adhesion to the intestines by dissolving the mucus in which they are involved.

We may begin with those which act mechanically,* and which have been found the most powerful; and after continuing them for two or three days, we may have recourse to those which have a purgative effect,† changing both after a continuance of some time,

* R. Stanni Limatur. ℥ss.
Confect. Rutæ ℈j.
Syr. Zingib. q. s. M.
ft. Bolus.

Vel

R. Stizolobii gr. vj.
Limatur. Stanni gr. xv. M.
ft. Pulvis, mane et nocte capiendus.

Vel

R. Stizolobii ℥j.
Syrup. Simpl. q. s. M.
ft. Electuarium. Capiat. Cochl. minimum mane primo per dies tres.

† R. Hydrargyr. Submuriat. gr. iij.—v.
Pulv. Rhei. gr. x. M.

Vel

R. Pulv. Jalapæ gr. x.
Hydrargyr. Submuriat. gr. iij. M.

Vel

R. Olei Ricini ℥ss.—℥j. pro dos.

Vel

R. Aloes Spicat. Pulv.
Pulv. Jalapæ āā ℈j.
Syrup. Rhamni q. s.
ft. Massa in pilulas xij. distribuenda, quarum sumat tres vel quatuor pro dos.

for those which act chemically.* Along with those which act mechanically, it will be proper to employ some of the bitter infusions.

If these means prove ineffectual, we may then make use of the Indian pink root, or spigelia, which has on many occasions been found a very powerful medicine.† About ten grains of the powder may be given morning and night to a child of eight or ten years old, to which age the doses of the preceding remedies are adapted. The spigelia is without doubt a narcotic vegetable, and it is in all probability by virtue of this quality that it proves so beneficial in cases of worms.

By a proper use of stizolobium, siliqua hirsuta, or cowhage (the dolichos pruriens of Linnæus,) with the oleum ricini after every third dose as a purgative, we seldom however shall have occasion to seek relief from any other medicine, as in several hundred cases where I had used it during my practice in the West Indies, I never knew it once to fail. It appears to have been but very lately introduced into this country, which considering its wonderful vermifuge powers, is somewhat surprising.

A decoction of the Geoffræa inermis, or cabbage-bark, is a remedy much used in the West Indies, but more particularly in Jamaica, for destroying worms, and often with a very happy effect.

For the destruction of ascarides it is very usual to throw up injections into the rectum that will prove obnoxious, and thereby dislodge them.

Turpentine has been used with success in the form of clyster. About two drachms of it, blended with a decoction of oatmeal or sweet oil, may be thrown up at a time.

Dr. Darwin has proposed the introduction of a piece of candle up the rectum, well smeared with mercurial ointment, as a likely method to destroy ascarides.

The male fern, or filix mas, which forms the basis of Madame Noufler's celebrated remedy, is a medicine which has been much extolled for its destructive powers to the tape-worm, which, of all others, proves the most difficult to expel from the body. The dose for an adult is from one to two drachms. After two doses, it will be right to give a purge of the submuriate of mercury and jalap, in about the proportion of five grains of the former to five-and-twenty of the latter.

* R. Liquor. Calcis Oss. in die.
Vel
R. Pil. Saponis.

† A draught of the decoction or strong infusion of spigelia, given night and morning for the space of three days, followed by a mercurial cathartic, generally succeeds with more certainty than any other remedy, in cases where the patient is not much debilitated. E.

The common spirit of turpentine, it appears,* has recently been administered in doses from half an ounce to two ounces, with a very good effect in some cases of tape-worm, having caused many feet in length of the animal to be brought away, or expelled. When considerable doses of this medicine are given, it may be necessary to defend the kidneys and stomach from its action by ordering the patient to drink plentifully at the same time of emollient liquors. It frequently produces purging, and this speedily.

The pomegranate root has been found a very effectual remedy† for destroying this species of worm.

Those who are afflicted with worms should abstain from all crude vegetables and unripe fruits, making their diet consist chiefly of animal food that is light, nutritive, and easy of digestion.

After a proper course of the vermifuge medicines which have been advised, we should employ such others as have a tendency to strengthen the stomach and intestines, in order to prevent any worms from being generated in future; a relaxation of these parts being a constant attendant on the disease. The most proper tonics are the cinchona bark, astringent bitters, and chalybeates; various forms of which will be found under the head of Dyspepsia.

Of POISONS.

Poisons are of four kinds—mineral, vegetable, aerial, and animal. Mineral poisons are to be distinguished from vegetable ones by their action. The former corrode, stimulate, or inflame; the latter generally stupify, and leave no marks of inflammation. None of the mineral poisons terminate life, till after a most excruciating operation of two or three hours at least; whereas some of the vegetable class destroy in a few minutes. From the animal poisons the distinction is as striking; for, although in the plague, the mouth and throat are frequently affected in the same way, yet the local disease of the stomach is never present. The aerial poisons operate still more quickly than any of the other classes, and their action on respiration is so peculiar, that it can never be mistaken.

Of the MINERAL POISONS.

The chief of the mineral poisons are arsenic, oxymuriate of mercury, and lead.

Where arsenic has been administered, or taken perhaps in a mistake for some other medicine of a similar colour, a pricking and burning sensation will soon be experienced in the stomach,

* Reported in No. 131 and 132 of the Medical and Physical Journal. See Transactions of the London Medical Society, Vol. I.

† See Edinburgh Medical Journal for January 1807.

sudden and excruciating pains will be felt in the bowels, a severe vomiting will arise, the tongue, mouth, and throat will become rough and parched, and an unquenchable thirst will prevail, with much anxiety and restlessness. If the dose has been considerable, and proper antidotes have not been employed in time, an inflammation of the stomach and intestines will be the consquence, which will soon terminate in gangrene, giving rise to much distention of the abdomen, coldness of the extremities, fetid vomiting and stools, hiccups, and lastly, the death of the person.

The effects produced by swallowing oxymuriate of mercury in a considerable dose are pretty similar to those occasioned by arsenic.

The effects of lead introduced into the stomach and bowels have already been noticed under the heads of Colica Pictonum and Palsy.

From poisons of all kinds, more or less danger is always to be apprehended; but the degree will ever be in proportion to the quantity which has been swallowed, and to the time which has elapsed previous to any assistance being given.

When an animal is killed by arsenic, or the oxymuriate of mercury taken internally, the stomach is usually found to bear marks of inflammation, and it is a very general opinion that this inflammation is the cause of death, and that it is the consequence of the actual contact of the arsenic with the internal coat of the stomach; but we are told by Mr. Brodie,* that as a general proposition, the first of these opinions is incorrect, as he has found in several cases the inflammation of the stomach so slight, that on a superficial observation it might have been easily overlooked, and that in most of his experiments with the poison of arsenic, death has taken place in too short a time for it to be considered as the result of inflammation. He is of opinion that vegetable substances when applied to wounded surfaces, affect the system by passing into the circulation through the divided veins, and he thinks that arsenic, in whatever way it is administered, does not produce its effects on the stomach until it is carried into the blood. In short, that the symptoms produced by arsenic may be referred to the influence of the poison on the nervous system, the heart, and alimentary canal.

In all cases of poison arising either from arsenic, oxymuriate of mercury, or any other mineral, it will be necessary to procure as speedy and quick an evacuation upwards as possible, by means of a strong emetic;† drinking freely afterwards of diluting liquors,

* See his Observations on the Action of Poisons on the Animal System which were read before the Royal Society in February 1812.

† ℞. Zinc. Sulphat. gr. xv.—℥ss.
Pulv. Ipecac. gr. x. M.
ft. Pulvis statim sumendus.

Vel

℞. Antimon. Tartarizat. gr. ij.
Zinc. Sulphat. gr. xv.—℈j.
ft. Emeticus.

such as a decoction of barley, with gum. acaciæ, mutton and veal broths, linseed tea, and milk, in order to sheathe the parts, and prevent their being acted upon by the particles of the poisonous matter.

With the same intention, oil is not only frequently administered by the mouth, but likewise thrown up into the intestines in the form of clyster, mixed with a decoction of emollient herbs.

It appears, however, from numerous trials, that when arsenic is given to animals combined with oil, butter, or other fatty substances, they are destroyed much more quickly than when it is given in an aqueous vehicle. The use of fat bodies ought therefore to be interdicted during the first moments in cases of such a poison, and mucilaginous and gelatinous substances be employed in their stead.

Alkaline salts have been found to diminish the injurious effects of mineral poisons, and therefore in accidents of this nature it will always be adviseable to make use of them without loss of time. For this purpose, dissolve about an ounce of the subcarbonate of potash, in half a gallon of water, and give the patient a teacupful frequently.

Where none of these salts are at hand, then a small quantity of wood-ashes, mixed up with boiling water, so as to make it of a sufficient strength, may be substituted, suffering the liquor to stand until it settles, and then filtering it through linen for use.

Of all antidotes to the poison of the oxymuriate of mercury we are informed by a French writer* that he found albumen (which is only the white of egg dissolved in water and filtered) to be the most powerful and efficacious. It is to be properly diluted with water previous to use.

On the principle of removing inflammation in cases of mineral poisons, it may be adviseable to employ copious bleeding, together with the application of a large blister to the epigastric region, keeping the bowels open at the same time with frequent doses of the oleum ricini. A successful case of this nature is recorded in the 2d volume of the London Medico-Chirurgical Transactions.

Indeed when inflammation is only commencing from the absorption of the mineral, and the morbid symptoms have not yet reached to any alarming height, it would appear that after having administered an emetic to clear the stomach of the poisonous particles and then an oily purgative to evacuate the bowels, bloodletting is a remedy obviously pointed out.

In cases where the poison of verdigris has been recently swallowed, emetics should first be given, and afterwards cold water, gently alkalized, ought to be drank in abundance.

By experiments made on animals by the French writer just quoted, it was ascertained that sugar exercises a chemical action

* See Traité des Poisons par M. P. Orfila, Docteur en Medicine, Tom. 1. Partie I.

on verdigris, and renders it insoluble in water. It was therefore used by him and others as an antidote to verdigris, and was found in all cases of this poison to allay the pain and other alarming symptoms, and to produce an immense quantity of liquid stools.

To obviate the deleterious effects of lead introduced into the stomach and bowels, the means which have been advised under the head of Colica Pictonum must be adopted. I would, however, mention here, that the sulphates of soda and magnesia, are antidotes to the salts of lead, and barytes.

Muriate of soda counteracts the corrosive effects of nitrate of silver.

Milk is the real antidote of muriate of tin, by which it is completely coagulated. The coagulum contains muriatic acid and oxide of tin, and is not deleterious.

Acetic acid is the best antidote against the effect of alkalies.

Calcined magnesia answers very well as an antidote to the corrosive action of mineral acids, if used very soon, or the patient may drink freely of luke-warm water to weaken the causticity of the poison, and then he may take a solution of the subcarbonate of potass or clean pearl ashes in water (about half an ounce of either of the former to a pint of the latter) dividing it into six or eight draughts. Having neutralized the poison with the alkaline solution, or evacuated it by vomiting, we may then advise the patient to drink freely of milk should there be a burning heat in the stomach and bowels. Clysters of the same may also be injected frequently to sheath the intestinal canal.

The following are the tests by which arsenic may be discovered in the contents of the stomach, where it has been administered as a poison. First, if a few grains of it are thrown on a red hot iron, a smell like garlic will be perceived. 2dly. If a few grains are placed between two plates of copper, and subjected to a red heat, the copper becomes whitened. 3dly. Where the quantity is sufficient, some wheat may be steeped in a solution of it, and which, if given to chickens or small birds, will destroy them.

A simple and efficacious mean for detecting the presence of arsenic is that of Bergman. It consists in infusing a portion of the suspected matter in a solution of vegetable alkali: after standing an hour or two, pour upon it a solution of the sulphate of copper.

If any arsenic is present, the copper will be immediately converted into a beautiful green, and will soon be precipitated. In this way water, or the contents of a stomach supposed to contain arsenic, may be examined.

The precipitation of arsenic from any fluid in which it is dissolved may also be made by an alkaline hydro-sulphuret.

Another test for discovering the presence of arsenic is the ammoniaco-nitrate of silver, which produces a precipitate of a bright yellow colour.

For the discovery of the oxymuriate of mercury, the methods

almost exclusively resorted to, are its precipitation by means of one of the carbonated fixed alkalies, or by lime water, which detach it under the form of an orange coloured, or orange yellow, sediment. Dr. Bostock has lately recommended muriate of tin.

The presence of lead may be detected by adding a little sulphuric acid, which will precipitate the mineral in the form of a white powder. Sulphuret of potash, or lime, may also be employed, which will occasion a blackish deposit.

When copper is taken into the stomach, the beautiful blue colour produced in its solutions by pure ammonia, is the most decisive and satisfactory evidence that can be required.

Such are the tests by which the practitioner will be enabled to form his opinion with tolerable accuracy, if called upon to appear before a court of judicature in cases of supposed poison by any mineral.

Before I quit this subject, it may not, however, be amiss to notice a peculiar appearance which is now and then met with in the stomach on dissection, and which, in a case of judicial investigation, might be mistaken by the inexperienced practitioner for the effect of some mineral poison. I allude to the dissolved or eroded state in which a portion of this organ is at times found on anatomical inspections, and solely occasioned by the gastric juice. Several well authenticated instances have lately been brought forward, proving satisfactorily a solution of the coats of the stomach, either partly or wholly, by this secretion. Such a solution is most frequently met with in those who have been suddenly deprived of life when in full health, a circumstance first noticed by the late Mr. John Hunter; but still the occurrence is not confined to such cases alone; it has been found in those who have died of lingering and debilitating diseases.* This, however, is in contradiction to the opinion of some practitioners who have written on the subject; for they hardly conceive it possible that the coats of the stomach can be dissolved in a person labouring under a state of debility at the time of death, by the gastric juice. The fact appears, nevertheless, incontrovertible.

In the case of the young woman at Liverpool, whose body was opened under the supposition of being poisoned, and for which a trial was instituted, a hole of considerable size was discovered in the stomach; but as no particles of any metallic poison were found, and one of the physicians who was examined as an evidence suggested the possibility of the erosion being occasioned by the gastric juice, the prisoner† was acquitted. The case and result gave rise to much medical controversy at the time.

* See Mr. Burns's Observations on Digestion of the Stomach after Death, in the 22d Number of the Edinburgh Medical and Surgical Journal.

† Several experiments made by Dr. Bostock, of Liverpool, in consequence of the acquittal of this person, and recorded in the seventeenth

Of VEGETABLE POISONS.

Some species of fungi, particularly the small argaric, denominated champignon by the French, nearly resembling mushrooms, as well as laurel water, hemlock, nightshade, foxglove, and other plants of the narcotic tribe, by being taken through mistake, often prove a source of poison. In the West Indies similar accidents frequently happen from using the cassava root, in its crude state. In this state it acts as a most deadly poison: but by having its acrimonious juice carefully expressed, and being afterwards baked into thin cakes, it becomes a wholesome and nutritive kind of bread, much used in most of the islands, as also in Africa.

The symptoms occasioned by all poisonous substances of the vegetable class are, giddiness, confusion of sight, wildness of the eyes, palpitations, loss of memory and voice, stupor, nausea, vomiting, great distention of the stomach, universal twitchings and convulsions.

Under accidents of this nature we must attempt the immediate evacuation of the offending matter; but it is only quickly after the narcotic has been taken, and before it has excited its peculiar symptoms, that an emetic can be advantageously given, as the efforts to vomit might increase the dangerous determination of blood to the head. The most proper emetic will be a strong solution of the sulphate of zinc or tartarized antimony, as advised under the head of mineral poisons.

To counteract the effects of the poison, the patient should be made to drink copiously, if possible, of liquors strongly acidulated with the juice of lemons, vinegar, or sulphuric acid, giving the preference however to the former.

In very urgent cases, the opening of the jugular vein may be necessary, as by this means only can the dangerous accumulation of blood in the brain be relieved; but bleeding unnecesarily might not only retard, but endanger the recovery of the patient.

For the purpose of rousing the system from a state of torpor, particularly in cases where an immoderate dose of laudanum or opium has been taken, the patient is to be kept in constant motion on his legs, if capable of standing, but if not, by frequently shaking

Number of the Edinburgh Journal, ought to have some influence in all judicial proceedings, where the question of poisoning is agitated. He found that an animal may be suddenly killed by receiving a metallic poison into the stomach, and yet that the nicest tests may not be able to detect any portion of the poison, after death, in the contents of the stomach. A poison may, I think, produce fatal effects, and yet be so completely evacuated by vomiting and purging, as to leave no trace, discoverable by chemical analysis, in the contents of the alimentary canal. A case reported in the 26th Number of the Edinburgh Journal by Dr. Henry, confirms this opinion.

and moving his body. We may at the same time assiduously rub different parts of it with warm salt and other stimulating applications.

To assist in producing such a degree of irritation as shall counteract the soporific quality of the poison, a large blister may be put between the shoulders, and sinapisms to the palms of the hands and soles of the feet.

With the like view of obviating the torpor of the stomach, and stimulating the whole system, it would appear adviseable to give considerable doses of ammonia. Indeed we are informed by a modern writer,* that he has observed where any of the narcotic poisons, particularly opium or hyoscyamus, has been swallowed, and an alarming stupor has continued for many hours, notwithstanding every effort made by the by-standers, a spoonful of a strong solution of ammonia has awakened the patient, and enabled him by words to express the benefit he has received from it; and by a repetition of the medicine, as the stupor returns, the sensibility and irritability have been gradually restored.

There can be no doubt but that strong stimuli will be necessary as soon as the effects of the one constituting the disease, are observed to be subsiding, and the system discovers marks of sinking. In this state we ought therefore, not only to employ frictions externally with salt, as have been directed, and excite the action of the intestinal tube by irritating clysters, but we should give ammonia; with as much brandy as can be got down into the stomach, even by tea-spoonfuls at a time.

Where the cause of death is the cessation of the functions of the lungs as in cases of suffocation, inflating these organs, is generally recommended. Possibly the same mode of treatment might be employed with advantage as an auxiliary for the recovery of persons labouring under the effects of opium and other vegetable poisons.

It appears from some experiments made by Dr. Thompson,† 1st, that oxalic acid, taken into the stomach, acts as a virulent poison, although the exact quantity that will produce this effect has not been accurately ascertained. 2dly. That oxalate of lime does not produce any deleterious effect when swallowed; and 3dly, that a mixture of chalk and water, by producing oxalate of lime in the stomach, where oxalic acid has been previously swallowed, may be regarded as the antidote of that acid, when exhibited very soon after the poison has been swallowed.

Of AERIAL POISONS.

The external appearances of persons suffocated by the deleterious fumes arising from charcoal, various metals, such as copper,

* See Dr. Stone's Treatise on the Diseases of the Stomach.

† See No. 17, p. 388, of the London Medical Repository.

lead, antimony, mercury, &c. as well as in consequence of sleeping in unventilated apartments, or respiring the foul air of wells, caverns, and mines, are as follow: The head, face, and neck are swoln; the eyes are propelled from their sockets; the tongue is protruded at one side of the mouth; the jaws are firmly closed; the face is of a livid, and the lips are of a deep blue colour; the abdomen is inflated; the body is insensible to pain, and the person appears to be in a profound sleep.

The first symptoms which the patient experiences on inhaling air vitiated with these deleterious fumes, are, giddiness, head-ach, lethargy, fainting, convulsions, and general torpor.

Immediately on discovering a person who has been suffocated by any kind of deleterious fumes, the windows and doors ought to be thrown open, and the body be undressed and exposed freely to cool air, being supported at the same time in a leaning posture on a chair: after a little time it must be covered with flannel or blankets; the face be sprinkled with vinegar, and the pit of the stomach with cold water. The legs may also be put into a cold bath; and as it is a well-known fact, that the recovery of the dogs which are made the subjects of experiment in the Grotto del Cani, was much favoured by their being plunged into a neighbouring lake, possibly a sudden immersion of the whole body in cold water might be of service. After each application of vinegar and water, the skin ought to be rubbed with flannel, or a soft brush, the temples and inside of the nostrils be stimulated by applying volatile spirits, and bottles filled with warm water be laid to the soles of the feet, then leaving the person for a few minutes in an undisturbed state. Farther, clysters consisting of vinegar and water will be useful; and on the return of life, an inclination to vomit should be promoted by a feather dipped in oil, while gentle friction is to be continued, at intervals. The first symptoms indicating this happy change, will be, foaming at the mouth, and shivering of the whole body, especially after affusions of cold water.

Where the means which have been mentioned fail in re-animating the patient, it will be adviseable to employ the united powers of electricity or galvanism; repeated shocks of either of which, particularly the latter, may be passed through the chest. Bloodletting, and the artificial introduction of air into the lungs by means of a pipe or bellows adapted for the purpose, are also to be tried. If these efforts prove successful, so that the patient seems again to breathe, he may then inhale oxygen gas. When he is able to swallow, the most proper drink will be vinegar and water, or some other acidulated liquor.

Of ANIMAL POISONS.

Several of these have already been mentioned, and their mode of operation noticed under the heads of Hydrophobia, Syphilis,

Cancer, and Contagion. It only therefore remains to treat of the poison of venomous snakes.

The symptoms which attend the bite of the rattlesnake are, nausea; a full, strong, agitated, pulse; swelling of the whole body; eyes much suffused with blood; sometimes copious bloody sweats; and often hemorrhages from the eyes, nose, and ears. The teeth chatter, and the pains and groans of the sufferer indicate approaching dissolution.

The poison of this reptile during the coupling season is observed to be more active or virulent than at any other. So deadly are its effects, that it has been known to kill a dog in a few minutes.

When a person has been wounded by a venomous snake, the first step to be adopted is, to pass a tight ligature above the injured part (where capable of such an application,) so as to prevent the further absorption of the virus into the system, and then to evacuate that which has already been admitted by sucking the wound, as practised by the Creek Indians with impunity, and by afterwards promoting discharges of blood and serum from it by means of scarifications, cupping, excision, or the application of caustic.

In bites of the rattlesnake, cobra capello, &c. cutting out the wounded part as quickly as possible, and afterwards immersing the limb in warm water so as to encourage the bleeding, together with the internal use of opium to allay irritation and pain, have in some instances proved a successful mode of treatment.

Soap-lees, volatile alkali, and the spiritus ammoniæ succinatus, and eau de luce, have all been found excellent applications to wounds inflicted by the rattle and other venomous snakes, provided they have been used immediately after the accident.

When through neglect the venom has been absorbed, all that can be done, is to excite a strong perspiration, by means of emetics and powerful sudorifics. This, we are informed by Dr. Barton,* is effected in a violent degree by the juice of the garden-rue, which the Indians in Jersey give in the dose of two table-spoonfuls every two hours.

Where this is not to be obtained, or ready at hand, we may advise large doses of Venice treacle, with volatile aromatic spirit, and æther, which may be frequently repeated, the patient drinking a little warm rum and water after each.

In bites of other venomous serpents, the same mode of treatment must be adopted as has just been advised.

In the second volume of the Asiatic Researches, page 323, we are favoured with an account by J. Williams, Esq. of the surprising efficacy of a remedy against the deleterious effects of the bite of several snakes, and especially of the cobra di capello. It

* See Transactions of the American Philosophical Society, held at Philadelphia, vol. iii.

consists in the external application to the bitten part, and likewise internal exhibition of liquor ammoniæ. We are told that the remedy has been found to put a sudden stop to the baneful effects of the poison of this reptile, and possibly that it may have a similar power in the bites of the rattlesnake, viper, &c. In the bite of a rabid animal, when the patient will not consent to have the wounded part excised, or even after it is cut out, this remedy might be tried.

Poisonous serpents are best distinguished from those that are innoxious by an accurate inspection of their teeth, the poisonous ones or fangs being usually of a tabular structure, and furnished with a small hole or slit near the tip: they are rooted into a particular bone, so jointed to the rest of the jaw on each side, as to permit the fangs to be raised or depressed at the pleasure of the animal. Above the root of each, is a glandular reservoir of poisonous matter, which, in the act of biting, is pressed into the tube, and discharged into the wound through the hole near the tip. In general, the fangs are single on each side, but sometimes they are double and even triple. There are usually small or young fangs situated at the base of the larger ones, ready to grow up and supply the place of any which may be lost by accident or violence. It may be said that innocent serpents have four rows of teeth in the upper jaw, two on the palate and the rest on each side, but that poisonous serpents have no outward or side teeth but the fangs. Dr. Russel tells us* that in serpents not venomous, there are three rows of common teeth in the upper jaw; in the poisonous kinds, the external row is wanting.

The symptoms which attend on a bite of the viper are, acute pain in the wounded part, together with a considerable degree of swelling, that is at first red, but which afterwards becomes livid, and diffuses itself over the neighbouring parts. After a short time, the constitutional symptoms make their appearance; the person becomes faint, the pulse is small and intermitting, nausea and vomiting ensue, the skin has a yellow tinge, and death not unfrequently is the consequence.

The treatment to be adopted in a case of this nature, must be pretty similar to that which has been advised for the bite of the rattlesnake, viz. preventing the absorption of the matter into the system, by means of a ligature above the part, and destroying the virulence of that which has been introduced into the wound, by scarifications, cupping, excision, caustic, or the application of soap-lees, volatile alkali, or the spiritus ammoniæ succinatus; employing strong diaphoretics internally at the same time, in order to determine to the surface.

As an external application, a poultice of quick-lime with oil and honey, has been recommended, as has likewise a cataplasm of garlic. This last has also been given internally with advantage.

* See his Account of Indian Serpents.

Europeans, on their first going out to the West Indies, and other tropical situations, usually suffer very much from the bite of moschetoes. They are a species of gnat, and on whatsoever part these pitch, they immediately produce small tumours, which are attended with so high a degree of itching and inflammation, that the person cannot refrain from scratching, by a frequent repetition of which he not uncommonly occasions them to ulcerate, particularly if he is of a robust and full habit.

To allay the itching and inflammation, the parts may be bathed frequently with a solution of opium in water, or with the liquor plumbi acetatis, sufficiently diluted. The liquor ammoniæ carbonatis is likewise a good application. It will at the same time be necessary to make use of some cooling laxative, and a spare diet.

Where pustules arise on the parts that have been bitten, opening them with a lancet about the third day, and letting out the watery matter, will be proper.

Those who suffer much from the bite of these insects, should wear gloves and long linen trowers by day, in order to defend the extremities from their attacks; and by night, they should sleep under the cover of a net, which being usually made of thin lawn or gauze, is perfectly cool, and effectually shuts them out.

To obviate the poisonous effects, which sometimes arises from eating muscles, lobsters, oysters, eels, fish, &c. a smart emetic should be administered as quickly as possible, and then the patient may take the acetous acid, and likewise milk.

Of SUSPENDED ANIMATION and RESUSCITATION.

In consequence of drowning, and also of suffocation and strangulation, a considerable check is often given to the principle of life, without wholly extinguishing it. When it happens from the first of these causes, the circulation becomes gradually more feeble and slow, and much anxiety is felt about the præcordia; to relieve which, the person attempts to rise to the surface of the water; he then discharges a quantity of air from the lungs, and receives into them a very small portion of water, when he again sinks. After struggling in this manner for some short time, convulsive spasms arise, the organs of respiration cease to act, and he at last expires; soon after which the skin becomes of a purple or blue cast, particularly about the face and neck, and the body sinks.

It has been supposed, and the opinion is indeed still very general among the common people, that in the act of drowning, the water enters the lungs, and completely fills them. Experience, however, has shown, that unless the body lies so long in the water, as to have its living principle entirely destroyed, the quantity of fluid present in the lungs is inconsiderable. The circumstance may readily be accounted for by recollecting that the muscles which form the opening into the trachea are exquisitely

sensible, and contractly violently upon the least irritation, as we frequently experience when any part of the food or drink happens to come in contact with them.

When a person dies from suffocation, the symptoms are nearly the same as in apoplexy. (See Aerial Poisons.)

The phenomena which attend on strangulation are, convulsive paroxysms superadded to the apoplectic symptoms.

Livid and dark-brown spots on the face, with great rigidity and coldness of the body, a glassy appearance of the eyes, and a flaccid state of the skin, denote a perfect extinction of life; but the only certain sign is actual putrefaction; and therefore, in every case where this symptom is not present, and where we are unacquainted with the length of time the body may have been under water, every possible mean should be employed immediately upon its being found for restoring it to life, as the noble machine may be stopped, and the spring nevertheless still retain, in some degree, its elastic vigour.

Dissections of those who have died by drowning, show that an accumulation of blood in the venous system, forms the great morbid change which takes place in accidents of this nature. The lungs are in a stage of collapse, and the accumulation of blood is confined to the vena cava, the heart, and the parts of the venous system. In some cases, the stomach is found to contain a small quantity of water; in others, none is to be perceived. From the muscles of the trachea having lost the principle of life, upon which the power of muscular contraction depends, they become relaxed, the water enters the wind-pipe. In all instances, the external surface of the brain appears of a highly florid colour, without any great distention of vessels, or marks of effusion. It has been supposed, however, by many, that persons who die by drowning, suffer from the intervention of apoplexy. After a recovery from apoplexy, the person is generally paralytic, whereas, no such event follows the recovery from a suspension of life by drowning. In both hanging and drowning, the proximate cause appears to be the stoppage of air to the lungs, which the following experiment, made some years ago by an eminent medical professor at Edinburgh, clearly confirms. A dog was suspended by the neck with a cord, an opening having been previously made in the wind-wipe, below the place where the cord was applied, so as to admit air into the lungs. In this state he was allowed to hang three quarters of an hour, during which time the circulation and breathing went on. He was then cut down, without appearing to have suffered much from the experiment. The cord was now shifted below the opening into the wind-pipe, so as to prevent the ingress of air to the lungs; and the animal being again suspended, he was completely dead in a few minutes.

The appearances exhibited on dissection, in cases of strangulation and suffocation, are pretty similar to those in drowning, except the absence of water in the lungs and stomach: and that, in

these instances, there is always a greater turgescence in the vessels of the pia mater.

The following are the means to be employed for the recovery of persons recently drowned.

As soon as the body is taken out of the water, it is to be speedily conveyed in men's arms, or placed upon a door, or in a cart upon straw, if the distance be considerable, to the nearest house, where it is quickly to be stripped of the wet clothes; to be wiped perfectly dry; and then to be laid between warm blankets, spread upon a mattress, or a low table, and on the right side in preference to the left, in order that the passage of the blood from the heart may be favoured by the position. The head is at the same time to be covered with a woolen cap, being properly elevated with pillows, and bags filled with warm sand, or bricks heated and wrapped in flannel, are to be applied to the feet. The doors and windows of the apartment are to be thrown open, in order that the cool air may be freely admitted, and no persons but such as are necessary to give due assistance, should be allowed to enter it.

Having taken these steps, we should next endeavour to expand the lungs, and make them, if possible, re-assume their office. When not furnished with a flexible tube made of elastic gum, and of a sufficient length, or with the bellows invented by Mr. Hunter for this express purpose (which is of such a construction, that, by one action, fresh air is thrown into the lungs, and by another it is thrown out again, so as to imitate or produce artificial breathing,) we must be content with blowing in air by means of a common pair; or by inserting a pipe into one nostril, compressing the other, shutting the person's mouth at the same time, and then blowing through the pipe with a considerable degree of force. By any of these means we may be able to inflate the lungs.

At the same time that the lungs are inflated, we should rub every part of the body with warm flannel cloths. On all occasions it will be the best way to divide the assistants into two setts; the one being employed in endeavouring to restore the heat of the body; the other, in instituting an artificial breathing in the manner just pointed out. Should the frictions not be attended with any effect, we ought to apply flannel cloths, wrung out in very hot water, over the heart and thorax, or we may put the person into a warm bath. A high degree of heat will not be necessary; a moderate degree will be sufficient. If the weather be under the freezing point, and the body, when stripped, feel cold, and nearly in the same condition with one that is frozen, it will be necessary at first, to rub it well with snow, or wash it with cold water; the sudden application of heat in such cases having been found very pernicious. In a short time, however, warmth must be gradually applied.

To assist in rousing the vital principle, it has been customary to apply various stimulating articles, such as common salt, and rectified and also volatile spirits, to different parts of the body; but, as the skin loses its sensibility in proportion as it is deprived of

heat, and does not recover it again until the natural degree of warmth be restored, it is obvious, that previous to the restoration of heat, all such applications are useless. Rectified spirits evaporate fast, and thereby, instead of increasing warmth, as they are expected to do, carry off a part of the heat from the body. Volatile spirits are liable to the same objections, and are, besides, distressing to the eyes of the assistants. Common salt quickly frets the skin, and has, in some cases, produced sores which were difficult to heal after recovery. When there is reason to think the skin has, in some degree, recovered its sensibility, the wrists, ankles, temples, and parts over the stomach and heart, may be rubbed with a little of the linimentum ammoniæ carbonatis, which will evaporate but slowly, and produce no cold in being rubbed in. In cases of suspended animation, it has likewise been usual to stimulate the stomach and intestines; the former by means of some moderately warm liquor, such as negus highly spiced, introduced into the organ through a flexible tube, and the latter by means of injections.

Some time ago, it was the practice to employ the smoke of tobacco, but this, instead of answering our wishes, would prove injurious by further depressing the vital principle. Instead of it, we may recommend a clyster, consisting of a pint or more of water, moderately warmed, to which may be added a little volatile spirit, essence of peppermint, or rectified spirit.

Electricity is sometimes had recourse to, in order to promote a restoration of life; unless employed by insulation alone, it will, however, be more likely to do harm than good. The body may be completely insulated, by placing it on a door, supported by a number of quart bottles, whose sides are previously wiped with a dry towel, to remove any moisture they may have contracted. Moderate shocks are found to answer best best, and these may, at intervals, be passed through the chest, in different directions. They may likewise be sent through the limbs, and along the spine, but it is doubtful how far it is safe to pass them through the brain, as many have recommended.

Bleeding is a remedy which is sometimes employed in cases of a suspension of the vital powers from drowning. Where stupor, head-ach, &c. remain after the person has come to himself, it certainly will be adviseable to draw off some blood, and possibly the best way of doing it, will be by the application of leeches to the temples; but where these symptoms do not prevail, or before the natural heat is restored to the body, bleeding in any manner will be more likely to do harm than good by hazarding the entire destruction of those feeble powers which yet remain, to increase and support which our best endeavours should be directed.

Hanging the patient by the heels, as is sometimes adopted by the ignorant in cases of suspended animation from drowning, under the mistaken principle that this is induced by the water taken into the stomach and lungs or both, is a most dangerous practice,

calculated only to extinguish the spark of life, if any remained, and consequently to exclude every hope of recovery.

The means which have been advised are diligently to be persevered in for a considerable time, and the case by no means to be given up as irretrievably lost until at least after the expirationof four or five hours trial, as recoveries have been effected to this extent.

When the patient is so far recovered as to be able to swallow, he should be put into a warm bed, with his head and shoulders properly elevated with pillows. Warm wine whey, or any other light and nourishing drink, should now be given in moderate quantities at a time, and a gentle diaphoresis promoted by wrapping the feet and legs in flannels well wrung out of hot water. If the stomach and bowels feel distended and uneasy, a clyster composed of a pint of warm water, with about an ounce of purgative salt dissolved in it, and a little oil, may be administered. The general practice in this case is, to give an emetic; but from the powers of the machine being still very weak, the agitation of vomiting would appear somewhat hazardous. The patient should on no account be left alone, until the senses are perfectly restored, and he is able to assist himself, some persons having relapsed and been lost, from the want of proper attention to them, after the vital functions were, to all appearance, tolerably established.

In cases where life is suspended by hanging, the same means recommended for drowned persons are to be pursued, with the addition of opening the jugular veins, or applying cupping glasses to the neck, which will tend considerably to facilitate the restoration of life, by lessening the quantity of blood contained in the vessels of the head, and thereby taking off the pressure from the brain. Except in persons of a full plethoric habit, the quantity drawn off need seldom exceed an ordinary teacupful, which will in general be sufficient to unload the vessels of the head, without weakening the powers of life.

With regard to the method of treatment to be adopted in cases of general torpor from cold, the same caution and reserve in the application of heat do not appear to be so necessary as in those of benumbed or frost-bitten limbs. In the former, the principal indications to be kept in view are to communicate heat, and to excite the respiration and circulation. The patient may be safely brought into a warm room, provided it be, at the same time, well ventilated. He should be immediately chafed with warm flannels over the whole body, but more particularly the trunk; his nostrils, temples and epigastric region should be rubbed from time to time with liquor ammoniæ carbonatis, and his lungs be inflated. As soon as he has so far recovered as to be able to swallow, it will doubtless be proper to give him some warm and gently stimulating drink, by spoonfuls at a time.

While the body is cold, and the circulation and respiration are languid, I think blood-letting would be improper. If, however, af-

ter these functions and the natural temperature are restored, the patient should remain any time in a comatose state, with a strong full pulse, the propriety and necessity of venesection can hardly be doubted.

Before I close this subject, I think it proper to observe, that in all cases of drowning, as well as in every other instance where death appears to be the consequence of apoplexy, syncope, lethargy, hysteria, or asphyxia, &c. we should be cautious in not allowing the body to be interred until evident signs of decomposition or putrefaction are apparent; as the suspension of respiration, rigidity of the limbs, abolition of sensation and motion, the want of pulsation in the heart and arteries, coldness of the body and the collapse, opacity, and want of lustre in the eyes, are but equivocal symptoms of death, and ought not therefore to be relied on alone.

FROST-BITTEN.

If a person has exposed his hands and feet to a very severe cold, the excitability of these parts will be so much accumulated, that if they are brought suddenly near a fire, a violent inflammation and even a mortification may take place, which has indeed often happened; or at any rate that inflammation called chilblain will be produced, from the violent action of the heat upon those parts; but if a person so circumstanced were to put his hands and feet into cold water, very little warmer than the atmosphere to which he had been exposed, or rub them with snow, which is not often colder than 33 degrees, the morbid excitability will gradually be exhausted, and no bad consequences will ensue. When the hands, feet, nose, or any other part of the body have therefore been exposed to violent cold, so as to be frost-bitten, they ought at first either to be well rubbed with snow, or be put into cold water, and afterwards be subjected to warmth in the most gentle and gradual manner.

THE DISEASES OF PREGNANCY.

Three different stages evidently exist during a state of pregnancy, each of which has a distinct set of symptoms; and when we reflect on the alteration which the constitution suffers in consequence of impregnation, and the vast distension and dislodgment of the uterus which prevail at a more advanced period, we cannot be surprised at the many complaints and irregularities which then arise.

The first stage of pregnancy is usually accompanied with a suppression of the menses, together with frequent nausea and vomiting, particularly in the morning, heart-burn, indigestion, peculiar longings, head-ach, giddiness; the breasts though at first diminished in size, soon become enlarged, shooting pains extend through

them, and the circle round the nipple alters to a dark brown colour. There often occurs likewise a feverish disposition, with debility, emaciation, irritability and peevishness of temper, and a total alteration of the countenance, every feature of which becomes much sharpened. Some women, however, breed so easily as to experience hardly any kind of inconvenience whatever; whilst others again are perfectly incapable of retaining the least thing on the stomach, and are thereby reduced to a state of extreme weakness.

With some women, the vomiting will continue during the whole or greater part of the second stage of pregnancy, as well as the first; but this does not usually happen. Partial suppressions of urine, with a frequent inclination to void it; costiveness, tenesmus, and the piles, are what they are chiefly incommoded by during this period. Most women quicken about the sixteenth week after conception, at which time the mother becomes sensible of the slight efforts of the child; and besides the complaints just enumerated, she will then, if of a delicate constitution, be liable to sudden faintings, and slight hysteric affections.

According to the common received opinion, quickening so termed, has been generally understood to commence at the time when particular sensations are perceived by the mother, supposed to be occasioned by the first motion of the child. The most usual time of feeling any such symptoms is about the latter end of the fourth, or beginning of the fifth month of pregnancy; at this period the uterus filling up the pelvis, rises above the rim* and from that sudden transition, women of a delicate constitution and irritable fibre, are apt to faint, more particularly so if in an erect position.†

During the last three months, or third stage of pregnancy, general uneasiness, restlessness (particularly by night,) costiveness, œdematous swellings of the feet, ankles, and private parts, cramps in the legs and thighs, difficulty of retaining the urine for any length of time, varicose swellings of the veins of the belly and lower extremities, and the piles, are the affections which usually prove most troublesome.

Nausea and vomiting.—It has been observed, that frequent nausea and vomiting are apt to prove somewhat troublesome to pregnant women, and in many cases to reduce them to a state of very great debility. As these most frequently arise immediately upon first getting out of bed in the morning, the patient should be recommended under such circumstances, never to rise until she has

* It is by this sudden change in the position of the uterus, and not by any motion in the child, that the sesation denominated quickening, is occasioned. E.

† See Obstetric Studies by Mr. James Hogben.

taken either a dish of tea, coffee, or whatever else she has usually accustomed herself to for breakfast.

If the vomiting should at any time become so severe as to threaten the bringing on a miscarriage, from the violence of straining, it may then be adviseable to direct two or three table-spoonfuls of the saline mixture, to be taken every now and then, in such a manner as that the effervescence shall ensue after it is swallowed; besides which the patient's body should be kept open with some gentle laxative, such as magnesia calcinata or ol. ricini. If these means do not succeed, we may order about six or eight ounces of blood to be drawn from the arm, and which, if necessary, may be repeated. The sickness, in such cases, depends on irritation, and is only to be removed with certainty by bleeding.

Local applications have been recommended to abate excessive vomiting. As such, a piece of folded linen cloth, moistened with tinctura opii, may be kept constantly applied to the region of the stomach. Probably a small addition of æther might increase its good effect.* It sometimes happens that vomiting is incessant for many days together, accompanied with great prostration of strength and constant thirst, and at the same time an utter impossibility of retaining any thing on the stomach. In this state the application of leeches to the pit of it, and a constant attention to suffer nothing to be swallowed that can irritate, allowing the patient only milk, rennet whey, rice water, or sago, and that by single spoonfuls, have been found to afford relief. If a considerable degree of nausea prevails, without the ability of throwing up, fourteen or fifteen grains of pulv. ipecac. may then be given, experience having proved that gentle emetics may be administered with perfect safety to pregnant women.

Head-ach with Plethora.—When either head-ach, drowsiness, or a sense of fulness in the vessels, proves troublesome, drawing off a few ounces of blood from the arm in robust women, will mostly be attended with advantage. In those of a weak, irritable habit, the application of leeches to each temple will be more adviseable than bleeding from the system where the head-ach proves obstinate and resists the other means we have employed. The bowels are at the same time to be kept in a proper state by some gentle aperient.

Heart-burn.—If the patient be incommoded by heart-burn (which usually proceeds from an acidity in the stomach,) half a drachm of magnesia may be taken morning and evening, to obviate it; and if this fails, we may then have recourse to the absorbent mixture ad-

* The Anodyne Plaster of the London Dispensatory, is more convenient than the application directed above and equally beneficial. E.

vised below,* which Dr. Sims informs us† he has found the most efficacious of all remedies for the removal of this distressing symptom in pregnant women.

Longings.—When peculiar longings arise in a state of pregnancy, they should always be gratified, if possible, as women are apt to miscarry from the anxiety these occasion, when not indulged in them: but that the child in uteri can be marked by any depraved appetite of the mother, or be mutilated by any disagreeable object being presented to her, cannot be admitted. All aberrations from the usual form ought to be ascribed to the irregular operation of the powers concerned in generation, and are not produced by the imagination of the mother.

Hysteria.—Should any hysterical affection or sudden fainting arise, little more will be necessary than to expose the patient to a free open air, to place her in a horizontal position; and to give her a glass of cold water with a few drops of the liquor volat. cornu cervini, or a little wine sufficiently diluted.

Costiveness, Piles, &c.—Costiveness, partial suppressions of urine, and the piles, which attend on the second stage of pregnancy, are occasioned by the great pressure of the uterus on the rectum and bladder. The first and last of these symptoms are to be obviated by a daily use of some gentle laxative, such as a solution of manna, or the electuary advised below.‡ Pills composed principally of aloes (such as Anderson's,) are too generally used by pregnant women for this purpose; but they are highly improper, as being of too stimulating a nature, and very apt to occasion hemorrhages and the piles. In troublesome piles, which are externally seated, the best application is leeches, and the irritation may afterwards be lessened by preparations of the plumbi superacetas. Ten grains of this dissolved in four ounces of rose-water, form a good lotion, with which the parts may be washed frequently.

Diarrhœa.—If diarrhœa arises in a pregnant woman, it should be treated just as at any other time (see this disease,) and after the

* ℞. Magnesiæ ℥j.
Aq. Puræ ℥vss.
Spirit. Cinnam. ℥iij.
Liquor. Ammon. ℥j. M.
ft. Mistura, cujus sumat Cochl. larg. ij. vel iij. pro re nata.

† See Medical and Physical Journal, No. viii. p. 206.

‡ ℞. Elect. Sennæ ℥ij.
Potassæ Supertart. ℥ij.
Pulv. Jalapæ ℥ss.
Syrup. Rosæ q. s. M.
ft. Electuarium, cujus sumat ægra molem nucis moschatæ hora somni vel pro re nata.

stomach and intestines are cleared, astringents may be used, if there is no great degree of fever. If fever be present, that must be attended to chiefly, and be first removed.

Suppression of Urine.—When a suppression of urine takes place, which is apt to happen in the advanced stage of pregnancy, besides making use of emollient fomentations, clysters and gentle purgative medicines, such as the oleum ricini, the patient drinking plentfully at the same time of diluent liquors, it will be necessary to have recourse to chirurgical assistance, by drawing it off by means of a catheter morning and evening.

Retroverted Uterus.—It sometimes happens that a retroversion of the uterus ensues, in which case it becomes misplaced downwards and backwards, because the os uteri is tied forwards to the meatus urinarius, and there is no communication behind by which it is held to the rectum; but anteriorly, it is connected with the neck of the bladder, by close cellular substance; therefore whatever raises the bladder will raise the cervix uteri, and what raises this must, at the same time, depress the fundus: so that in a retroversion of the uterus, the urethra is drawn up close behind the symphysis pubis, and in the case now under consideration, the bladder rises, and draws up the os uteri with it.

The only period of pregnancy at which a retroversion of the uterus is apt to arise, is between the end of the third and fourth months; for in the early months of pregnancy, the uterus in length from the fundus to the cervix, is not so great as to fill the space between the sacrum and the neck of the bladder, and cannot for that reason produce suppression. This applies to all situations of the uterus in unimpregnated women, and women who are with child, till the close of the fourth month of pregnancy; after which, the uterus cannot be made to go down into the pelvis. When the uterus has once fairly ascended into the abdomen, it is impossible for it to return into the pelvis, until its volume has been diminished by delivery or abortion.

In most of these cases the suppression of urine is the only material object to be attended to; for the uterus being retroverted, the woman cannot make water; therefore it must be drawn off by the catheter. If necessary, this operation is to be repeated twice a day, till the uterus, by a gradual enlargement, recover its natural situation, which will be preferable to any interference of the attendant to reduce it. Where it is impossible for him to attend twice a day for the purpose of drawing off the water, the reduction may possibly be effected by the patient placing herself on her hands and knees, and then passing two fingers of one hand into the vagina, and a finger of the other into the rectum, by which means it is possible sometimes to succeed. Where the event is left to time, the uterus is sure to recover its proper situation; for which reason it is preferable to leave it.

In passing the catheter in cases of retroverted uterus, it will be necessary to attend to its curve, which curve is given by holding the instrument in one hand, and pressing the thumb of the other hand on one side, while it is gently drawn through the hand. The point of the catheter must be dextrously introduced close behind the pubes; for if some dexterity is not used, it frequently will not pass into the bladder.

Œdematous Swellings.—The swellings of the feet, ankles, and private parts, which arise in the last stage of pregnancy, are occasioned by the pressure made by the womb, which now prevents the free return of the blood from the lower extremities. Gravid women are usually free from these complaints in the morning, but towards night they frequently suffer much from them. Slight scarifications with the edge of a lancet, to discharge the stagnated fluid, have been employed in cases of great distention. In general, however, it will only be necessary that the patient does not keep her feet in a pendent position for any length of time.

Cramp.—Cramps of the legs and thighs are to be relieved by rubbing the parts with camphor dissolved in oil, or the liniment here* advised, the person wearing stockings in bed. At an advanced period of pregnancy, they are only to be relieved by labour removing the cause. Where the stomach is affected with spasms, proper doses of æther and tincture of opium, with the other means advised under the head of Hysteria, in cramps of that organ, will afford the greatest benefit. In such cases, the patient must carefully avoid every kind of food that is apt to prove flatulent or hard of digestion, and she must keep her body perfectly open.

Inability of Sleeping, and Restlessness.—Inquietude and inability to sleep prove troublesome complaints towards the latter period of pregnancy, the patient being obliged to rise frequently throughout the course of the night, in order to expose herself to the influence of cool air. Nothing affords so great relief in cases of this nature as bleeding in small quantities, with the occasional use of some cooling laxative medicine. Opiates are never attended with advantage in such conditions.

Varicose Veins.—The veins of the legs, thighs, and belly, often become varicose in the last stage of pregnancy, and sometimes put on an alarming appearance from their great enlargement and distention. No bad consequences have, however, been observed to attend such a condition, and the only thing necessary to be done is

* R. Spirit. Camphoræ ℥i.
Æther. Sulph.
Tinct. Opii āā ℥ss. M.
ft. Linimentum.

to empty the vascular system by moderate bleeding, gentle purging, and a spare diet. Should the vein of any particular part become so distended as to prove troublesome, it may be adviseable to apply a bandage of a moderate tightness, so as to give the necessary support to it.

Jaundice.—Jaundice, or any other bilious affection, prevailing during a state of pregnancy, from the pressure of the uterus on the gall-bladder or ducts, is to be obviated by keeping the body open with some gentle laxative, such as pills composed of rhubarb and soap.

Incontinency of Urine.—This is a very disagreeable complaint, as it keeps the woman constantly in an uncomfortable state. It is to be removed only by delivery, but may be moderated by a frequent horizontal posture. Its bad effects may be prevented by a scrupulous attention to cleanliness, and the use of a thick compress of linen, or of a sponge of considerable size.

Over-distention of the Abdominal Skin.—In the latter months of pregnancy, the integuments of the abdomen will sometimes become cracked and sore, the skin seeming to suffer from over-distention. In this case nothing is so effectual as a frequent use of warm oil by friction, to which may be added a little camphor.

False Pains.—Pains somewhat resembling those of labour, and known by the name of false pains, are apt to come on at an advanced stage of pregnancy, and often to occasion an unnecessary alarm. In such cases, confinement in an horizontal position, bleeding, if plethoric, laxative medicines, if costive, and administering small and frequent doses of some opiate until the patient finds ease, will be necessary.

Of Convulsions.—Cases of puerperal convulsions bear some likeness to epileptic fits, and it is only by being aware of the different degree of violence attending each, that at first sight we can distinguish them. A fit of puerperal convulsion is much more severe than one of epilepsy, and a paroxysm of the former is usually so violent, that a woman, who when in health was by no means strong, has been so convulsed, as to shake the whole room, and to resist the coercive powers of many attendants. No force indeed can restrain a woman when in these convulsions. The distortion of her countenance is beyond conception; in regard to deformity of countenance, nothing bears any resemblance to the progress of this disease; the rapidity with which the eyes open and shut, and the sudden twirlings of the mouth, are inconceivable and frightful.

Puerperal convulsions seldom happen before the sixth month, but may occur at any time between this period and the completion

of labour. They may arise as the first symptom of labour, or after the labour is finished. This species of convulsion depends on the state of the uterus, and has been observed to arise oftener during the first pregnancy than in any after one, particularly where the woman is unmarried.

The characteristics of puerperal convulsion are as follow:—The paroxysms occur periodically, like labour pains, so that there is a considerable space between them at first, but afterwards they become more frequent. They not only occur with the labour pains, but in the intervals between; and whether there have been labour pains or not before they come on, we shall usually find the os uteri somewhat dilated, and it is sure to become still more so from the continuance of these convulsions. At length, if the woman is not relieved, and the convulsions continue without destroying life, the child is actually expelled by the contraction of the uterus, which power is capable of expelling it even after death.

The immediate symptoms are somewhat similar to those of the epileptic paroxysm. The woman suddenly loses all sensation and stretches herself out, the muscles then become extremely rigid, and are speedily afterwards thrown into violent convulsions, the face is distorted, the eyes are protruded, she gnashes her teeth and foams at the mouth. After the paroxysm is over, she remains in a comatose state, and has stertorous breathing similar to what takes place in apoplexy. At length, except in very aggravated cases, she slowly comes to herself, but without being conscious that she has been in a fit. After a longer or shorter interval, a fresh attack takes place in the manner just described, for it rarely happens that there is not a repetition of the paroxysm in all cases of true puerperal convulsion. During the fit, the skin becomes dark and purple, proving that the circulation through the lungs is not free, which purple colour leaves the woman after the fit is over. By the introduction of the hand into the uterus, when these convulsions have come on, it has been ascertained that this organ is contracted, but with a tremulous undetermined sort of force, perfectly different from what takes place at any other time.

There are two cases of puerperal convulsion which are very distinct: one is a convulsion dependant on an irritable or excitable state of the nervous system: the other on a fulness of the vessels of the brain, or perhaps a slight extravasation from the vessels thereof. When puerperal convulsion arises from the latter cause, it is always preceded by some symptoms, which, if watched, will enable us to relieve, if the patient applies in time, but which is rarely done; and if these symptoms are neglected, at some period or another, convulsions will follow. In a woman strongly disposed to this complaint from such a cause, there will be a sense of great fulness in the head, giddiness in the advanced periods of pregnancy, drowsiness, and a sensation of weight when she stoops forward, imperfect vision, and atoms floating before the eyes. These symptoms strongly denote fulness of the vessels of the head, and

if allowed to continue, may lead to extravasation, or puerperal convulsion; but if early attended to, may be removed, and premature labour prevented. Under such circumstances, the first step to be adopted is, to draw ten or twelve ounces of blood from the arm, repeating the operation the next day or so, if no alleviation takes place. After the first bleeding, the bowels should be opened by some mild purgative, such as the neutral salts and manna, which may be repeated every third or fourth morning, until the plethora is removed. With these means, the patient ought to abstain from all solid food, and wine, &c.

When these precautionary means have not been adopted, and puerperal convulsions have ensued, we are, on being called in, to open a vein immediately, particularly the jugular, or even the temporal artery, and to draw blood in a considerable quantity, being regulated therein by the appearance of the person, and her habit of body. From twelve to twenty ounces may be the extent of the first bleeding.* If the disease goes on, and the os uteri does not admit of delivery from its not being dilated, the convulsions not abated or gone off, and the pulse in such a state as to admit of it, we should bleed again and again. Sixty ounces of blood have been drawn off in the course of twenty-four hours under these circumstances, and with a happy effect. Women in such a state admit of divided bleedings very largely. On examining the bodies of women who have died of puerperal convulsions, the vessels of the brain are always found enormously turgid; in some cases blood is extravasated, and the heart is often perceived completely empty.†

After the first or second bleeding, the head should be immediately shaved and a blister of considerable size be applied to it. The next point to be attended to is to get the bowels to act as quickly as possible, and this will be effected by throwing up a solution of soft soap as a clyster, and then giving a strong solution of some neutral salt, as magnesiæ sulphas, potassæ tartras, or soda tartarizata, with an infusion of senna.

If it be a case of convulsion, depending upon irritation, we may likewise bleed, but we must proportion the quantity accordingly. Eight or ten ounces of blood will be sufficient, and where more may appear necessary, it will be best to draw the remainder by applying leeches to the temples. In cases dependant on irritation, opium will be very proper, and it ought to be given to the highest possible extent, the form of a clyster being that to which we ought to give a preference. We are at the same time not to neglect the bowels, which should be kept perfectly open. Dr. Den-

* From late observations it is certain, that in this disease more advantage is derived from drawing off at once, twenty-four to thirty-six ounces, than from any smaller quantity. E.

† See cases reported by Mr. Chevalier in the Medico-Chirurgical Transactions.

man proposes that a clyster containing six grains of opium should be administered, under the supposition that by putting a stop to the contractions of the uterus, the convulsive contractions in other parts of the body may also cease. From the tendency of opium to affect the brain, some practitioners have strongly objected to its use in puerperal convulsions. By throwing it into the intestines, it will not, however, be so likely to affect the sensorium as when received into the stomach.

Some physicians recommend the use of a warm bath, while others again disapprove of it. The pediluvium, or the application to the soles of the feet of bottles filled with warm water, may, at any rate, be proper.

Dr. Denman recommends a warm bath in labours rendered complex by convulsions, and this upon a long and extensive experience. He says that when convulsions have continued or increased, notwithstanding copious bleeding and the use of all other rational means, the patient may be put into the warm bath, in which she may remain a considerable time, if the convulsions are suspended while she is in it. In instances where a warm bath could not be procured, or while it was preparing, he has directed flannels wrung out of hot water to be applied over the whole of the abdomen.

In all cases of puerperal convulsion, after having paid due attention to the lessening of the cause which has given rise to it, we should uniformly exert our best endeavours to deliver the woman as expeditiously as possible where it is practicable, without violence. When we find that the os uteri begins to relax and open, and which may take place although there be no labour pains, we must introduce the hand slowly, dilate it, and deliver the child.

Where convulsions continue after the uterus is emptied of its contents, all that we can do is to keep the brain unloaded, the bowels open, and where the disorder continues many hours, we may apply a large blister to the back of the neck, and if benefit is not obtained by the next day, one may also be applied to the inside of each leg. These, by exciting an irritation upon a part distant from the seat of the disease, may tend to diminish the diseased action, and thereby afford some relief.

To prevent puerperal convulsions from supervening, as they are in every instance to be considered as highly dangerous, particularly at an advanced stage of pregnancy, it will be prudent, in robust and plethoric habits, to pay an early attention to the use of the lancet during the progress of pregnancy, by drawing off a sufficient quantity of blood at different periods, taking care at the same time, and particularly near the termination of pregnancy, to keep the body open by cooling purgatives. In women of an irritable constitution, all exciting causes should be carefully avoided, and the habit be strengthened as much as possible, and thereby be rendered less susceptible of disagreeable or ready impressions.

ABORTIONS.

By abortion is to be understood the expulsion of the contents of the gravid uterus at a period of gestation so early as to render it impossible for the fœtus to live. It is an accident or disease of frequent occurrence, which is always attended with disagreeable circumstances, and which, although it seldom proves immediately fatal, may still be productive of much mischief at a future period.

Abortions may happen at any period of pregnancy, but they take place most frequently about the third or fourth month.

From the end of the third month to the period of quickening, there is a greater susceptibility in the uterus to have its action interrupted than either before or afterwards, which is the reason of more miscarriages happening at that time than at any other, and points out the necessity of redoubling our vigilance in watching and guarding against the operation of any of the causes from the tenth to the sixteenth week, that may be likely to excite abortion.

When a woman happens to part with her burden before the seventh month, she is said to have miscarried or aborted; but when delivered of it after this time, the term labour is usually applied.

Children born at the end of the seventh month are seldom reared, and when they are, they usually prove small and weakly; but those of eight months are frequently preserved by bestowing proper care on them.

In consequence of an imperfect conception, it sometimes happens that moles or substances of a fleshy nature (which upon being cut open contain not the smallest vestige of a child) are formed in the uterus; and these at length becoming detached, give rise to a considerable degree of hemorrhage.

As some women menstruate during the first months of pregnancy, it will be necessary to distinguish between an approaching miscarriage and a visitation of the menses, which may readily be done by inquiring whether or not the hemorrhage has proceeded from any evident cause, and whether it flows gently or is accompanied with unusual pains. The former generally arises from some fright, surprise, or accident, and does not flow gently and regularly, but burts out of a sudden, and again stops all at once, and is also attended with severe pains in the back and bottom of the belly; whereas the latter is marked with no such occurrences.

Voluptuous women who are of a plethoric habit, as well as those who are of a weak and irritable frame, are most apt to miscarry; but accidents of this nature sometimes occur from a general defective constitution, or from a mal-conformation of the sexual organs.

The causes which give rise to floodings during a state of pregnancy are, violent exertions of strength, lifting some heavy weight, severe exercise, as dancing or much walking, the fatiguing dissipations of fashionable life, sudden surprises and frights, violent fits of passion, great uneasiness of mind, uncommon longings, overfulness of blood, partial spasmodic action about the os uteri, aloetic purges, profuse evacuations, excessive venery, former miscarriages, weakness in the parts immediately concerned, a diseased state of the uterus, general debility of the system, external injuries, as blows and bruises, strong acrid medicines, such as savin and hellebore, which are often taken for the express purpose of exciting abortion, and the death of the child.

A pregnant woman may be attacked with a flow of blood from the womb in consequence of any cause which is capable of separating a part of the ovum from the corresponding part of the uterus. The vessels which before passed straight from its internal surface into the membranes or placenta, and connected them together, now open, so as to allow the blood to escape between them, and to flow externally. This separation and consequent rupture may arise from any of the various causes just recited, but in a few instances it is occasioned by an implantation of a part of the placenta immediately over the os uteri, which cause is by far the most important, because it is the most dangerous, and the least likely to find a spontaneous remedy.

Abortions are sometimes induced by what is termed a retroversion of the uterus, in which the fundus uteri is retroverted and pressed down between the rectum and the vagina. This rarely occurs, however, beyond the first or second month of gestation, and is generally preceded by a difficulty in making water, and a consequent tumour of the bladder; a violent pain about the perinæum is thus caused, and a miscarriage is liable to follow.

Abortions are often preceded by a general sense of coldness, flaccidity of the breasts, slight pains in the loins, and lower region of the belly; and sometimes with a slight febrile state of the system. In plethoric habits, and where abortion proceeds from overaction or hemorrhagic action of the uterine vessels, the fever is idiopathic, and precedes the hemorrhage. After a short continuance of these symptoms, a slight discharge of blood ensues, coming away sometimes in clots, and at others, gushing out in a florid stream, then stopping perhaps for a short time, and again returning violently.

Sometimes nothing but coagulum can be perceived, that is so firm, and the globules and lymph so disposed as to make it assume, more especially if it has been retained for any time about the uterus or vagina, a streaked or fibrous appearance, which often gives rise to a supposition that it is an organized substance. When the contents of the uterus are expelled, a bloody discharge continues for a few hours, and is then succeeded by a serous fluid.

When the pregnancy is advanced beyond the third month, and

abortion is likely to ensue, there is much bearing down, together with a derangement of the stomach, causing sickness and faintness, and there is likewise a most rapid discharge, owing to the increased size of the vessels. In this stage, the membranes often give way, and the fœtus escapes with the liquor amnii, whilst the rest of the ovum is retained for some hours, or even days, when it is at length expelled with coagulated blood. In some instances the whole ovum comes away entire. After the expulsion, the hemorrhage ceases, and is succeeded by a discharge somewhat resembling the lochia.

With regard to the symptoms and duration of abortion, there is a great diversity in different instances. In some cases, the pains are very severe and long continued; in others, short and mild. Sometimes the hemorrhage is profuse and alarming; at other times, although circumstances may not be apparently very different, it is moderate or inconsiderable. Often the sympathetic effects of the stomach and bowels are scarcely productive of inconvenience; whilst in the greater number of instances they are very prominent symptoms. As there is a diversity in the symptoms, so there is also in the duration of abortion; for, whilst a few hours in many, and not above three days in the majority of cases, is sufficient to complete the process, we meet with other instances, in which it is threatened for a long time, and possibly some weeks elapse before the expulsion takes place.

Floodings are more or less dangerous according to the stage of pregnancy in which they happen. The farther a woman is advanced therein, the greater will be the risk, especially if unaccompanied by labour pains, as the mouths of the vessels which pour out the blood are much enlarged during the last stage of pregnancy, and of course a vast quantity will be discharged in a short space of time. Although miscarriages before the fifth month are seldom attended with immediate danger, the loss of blood being usually small, they nevertheless frequently lay the foundation of many grievous ailments by happening repeatedly. Some women are visited by habitual miscarriages, and observe a stated period for several successive pregnancies, which is more usually about the third month, than at any other time.

The danger of abortion is to be estimated by considering the previous state of health and habit of the patient, and by attending to the violence of the discharge, the duration of the complaint, the difficulty of checking it, the disposition to expulsion which accompanies it, the period of gestation at which it is threatened, the frequency of its occurrence, and its combination with spasmodic affections or convulsions.

Previous to my pointing out the best means for checking an abortion, and the method of conducting the woman through it when it cannot be avoided, it appears proper to notice those steps which should be taken for preventing miscarriages in those to whom they are rather habitual. In all such cases it will be highly necessary

to attend to the history of such former accidents, to the usual habitudes and constitution of the woman, and to her condition when she becomes pregnant.

A woman that is subject to habitual abortions, and who is of a full plethoric habit, ought to be bled just before the usual time of her miscarrying. She should likewise keep her body perfectly open with gentle aperient medicines; use a spare diet, consisting principally of vegetables, and avoid all agitations of the mind, severe exercise, violent efforts, and such objects as may be likely to make a disagreeable impression on her. The sleep should be abridged in quantity, and not be taken on a bed of down, but on a firm mattress, preventing at the same time the accumulation of too much heat about the body. Every day she ought to take regular and moderate exercise, being cautious at the same time not to carry it to the length of exciting fatigue.

To bridle the circulation in women of a full plethoric habit, that are subject to habitual abortions, in addition to drawing off blood from the arm; when the pulse is full or inclined to throb it would appear adviseable to give half a grain of digitalis twice or thrice a day, continuing this medicine until after the usual period of the woman's miscarrying.

In women of a weak lax habit, bleeding would be highly improper as a mean of preventing habitual abortion. For such, a nutritive and generous diet, moderate exercise in a carriage, cold bathing, and a course of chalybeates, with other tonics, will be necessary, the patient at the same time avoiding all exciting causes. Until gestation be far advanced, it would even be adviseable to live absque marito. Indeed, in every instance of habitual abortion, whatever the condition may be that gives rise to it, it will be essential that the greatest attention be paid to the avoiding the exciting causes. In some cases it may even be necessary to confine the patient to her room until the period at which she usually aborts is past.

In those cases of habitual abortions accompanied with spasmodic pains in the uterus, or a disposition to convulsions, opium given in small doses twice a day might prove eminently serviceable.

Where nausea or vomiting prevails in a high degree, in addition to the means before pointed out, we may apply either an opium plaster, or a blister, to the region of the stomach.

An abortion being threatened in consequence of some slight separation of the placenta from the uterus, may frequently be stopped by immediately adopting proper steps, and the woman be enabled to go out her full time.

On the first appearance of a flooding, the woman should be confined to her bed, and be placed with her hips somewhat more elevated than her head, keeping her at the same time perfectly cool, debarring her of all food of a heating stimulant nature, and giving her cold liquors to drink sharpened with some agreeable acid.

With the view of moderating the symptoms attending the progress of a threatened abortion, and preventing it, if possible, from actually taking place, it may be proper in robust and plethoric habits, and where the pulse is in any degree full and frequent, to take away blood from the arm, after which, if the bowels are confined, we may administer a laxative clyster.

If the discharge continues to be copious, (after repeated depletion by venesection and purging, or mild enemata,) it will be adviseable to prescribe opiates in small and frequently repeated doses* so as to keep up a constant effect, and they may be combined either with refrigerants, or with astringents, or with both. To assist the effect of these medicines, anodyne clysters may be injected from time to time, and linen cloths wrung out of cold vinegar and water be kept constantly applied to the back and private parts.

Astringent injections composed of a saturated solution of alum, sulphate of zinc, or the plumbi superacetas, or of a decoction of oak-bark, are often employed in floodings; and where the hemorrhage is slight or remits for any length of time, they undoubtedly will prove beneficial, and ought therefore to be used as mentioned under the head of Menorrhagia: but in floodings unaccompanied by any remission, they are by no means likely to afford much relief.

In such cases it will be best to trust to the formation of a coagulum. Rest will be absolutely necessary to enable the woman to go out her full time; therefore it is sometimes necessary to confine her for a few weeks perhaps to her bed, at the same time that we put her upon an effective course of digitalis, giving her an anodyne at bed-time, but taking care to keep the bowels in a proper state by some gentle aperient medicine.

Where we cannot prevent the abortion, our study must be to conduct the patient safely through the process; and the point which first claims our attention, is the hemorrhage. Bleeding is an operation employed by some practitioners to check this; but unless the vessels are above their natural force and strength of action, it is not likely to do much good. Indeed the fulness and strength of the pulse are lost much sooner in an abortion than can be explained by the mere loss of blood. Instead of repeated bleeding, we had better therefore give the digitalis, if there be no irritation at the stomach. In protracted cases, where the discharge has continued long, this medicine will be highly proper.†

When the means above mentioned have been pursued without the desired effect, and the woman becomes exposed to imminent

* In such cases, after the activity of the arterial system is considerably reduced, a large dose of opium in a small mucilaginous injection has been found much more efficacious than small and repeated doses taken by the mouth. E.

† ℞. Tinct. Digital. Purp. ♏. xx. 4ta quaq. hor. ex quovis vehiculo.

danger from great loss of strength, it will then be necessary to have recourse to powerful astringents, such as zinci sulphas, cupri sulphas, and plumbi superacetas. Of this last we may give one, two, or even three grains, repeating the dose every three or four hours, according to the urgency of the case. As soon however as the hemorrhage has ceased, a gentle purge of the oleum ricini should be administered, in order to prevent any bad effect from the action of these remedies on the coats of the stomach and intestines. Astringents used internally have however been thought by some to possess little effect, unless they excite sickness, which is a different operation from what is expected from them.

The application of linen cloths dipped in cold water to the back and external parts will have a much better effect than internal astringents, and ought therefore never to be neglected. The introduction of a small piece of smooth ice into the vagina has often a very speedy effect in retarding the hemorrhage. A snow-ball wrapped in a bit of soft linen will have the same effect; but neither of these should be continued so long as to produce pain, or much and prolonged shivering. The heat of the surface may also be moderated, by covering the bed lightly with clothes, and admitting a free circulation of air.

The most effectual local method however of stopping the hemorrhage is by plugging up the vagina;* and this is best done by taking a pretty large piece of soft linen cloth, dipping it in oil, and then wringing it gently. This is to be introduced with the finger, portion after portion, until the lower part of the vagina be well filled. The remainder is then to be firmly pressed on the orifice, and held there for some time. This acts by giving time to the effused blood to coagulate. In obstinate cases, previous to the introduction of the plug, we may insert a little pounded ice, tied up in a rag, if it is to be procured.

To recapitulate the means which we are to employ for restraining the hemorrhage: if the pulse be full, hard, and frequent, bleeding is to be resorted to; but if not, we are to trust to digitalis; the application of cold to the external parts; keeping the heat of the body at a low temperature; absolute rest, and which must be continued during the whole process, however long it may be; cold acidulated liquors for ordinary drink, light food taken in small portions at a time, and plugging up the vagina.

Where any sickness or great feebleness attends on an abortion, the body is to be kept at rest with the head low; and we may at the same time give small quantities of some stomachic cordial, such as a few drops of æther in a little cinnamon-water, or a little peppermint-water with fifteen or twenty drops of the tincture of opium.† In very urgent cases, Madeira or diluted brandy may be

* See Mr. Burn's Treatise on Abortions.

† The opium should not be employed previously to the contents of the uterus being expelled. E.

given, but these are not to be frequently repeated. Where spasmodic contractions attack the stomach, producing sudden and violent pain, a full dose of the tincture of opium conjoined with æther, must be ordered immediately. Spasms about the intestines are also to be relieved by opium in some form or other.

Where abortion is accompanied by strong hysteric paroxysms, besides attending to the state of the discharge, the best practice is to give thirty or forty drops of tinctura opii, with about two drachms of tinctura valerianæ ammoniata or tinctura assafœtidæ in a little peppermint-water every four or six hours. A clyster composed of water, with the addition of two drachms of the tincture of assafœtida, is also sometimes of service.

In all cases where a considerable hemorrhage has begun, but particularly at an advanced age of pregnancy, the first thing of importance to be enquired into and ascertained, is its cause, and this can hardly be done too early; for as long as the accoucheur allows himself to act without this piece of essential information, his practice must necessarily be uncertain, and the life of his patient be exposed to danger. In such cases, it will, therefore, be of the utmost importance to subject the woman to an examination, and in effecting this it will be necessary to introduce the hand into the vagina, passing one finger within the os uteri. This will be preferable to the common mode; for in presentations of the placenta, this part does not always adhere close to the orifice of the womb, but is sometimes attached inward to the collum uteri, and if we trust to the common mode of examination, we shall be liable to fail in feeling the placenta, even when its presentation is the cause of the flooding.

If the placenta is in the right place, it is probable, at any rate it is possible, that the hemorrhage may subside permanently by the aid of an horizonal posture, a low diet, the application of cold, and a use of the other means before noticed; but if on the contrary, the placenta be placed over the mouth of the womb, however these remedies may afford a temporary relief, we may be assured that the discharge will return, for the next time that a dilatation of the os uteri takes place, and which must recur sooner or later, a fresh portion of the placenta will become detached, and other bleeding vessels unavoidably be opened. Our practice ought therefore to be determined by the result of the examination. If it appear that the placenta is in the right place, the means and remedies before pointed out may be trusted in, unless the symptoms be so alarming as to compel us to deliver the woman; but on the contrary, if the placenta be discovered over the mouth of the womb, or very near thereto, even should there have been only one considerable discharge, we should watch the patient with the greatest vigilance, and proceed to deliver her as soon as the parts are sufficiently dilatable to allow the introduction of the hand without improper force.

In all cases during the last stage of pregnancy, where our en-

deavours to stop or repress the hemorrhage prove abortive, and the life of the woman becomes endangered by its severity, it will be adviseable to deliver her as soon as possible, although we may encounter some difficulty, unless somewhat assisted by the coming on of the natural labour pains. If the ovum be still entire, and the pregnancy considerably advanced, the expulsive action is to be excited by rupturing the membranes.

It sometimes happens in abortions, that the whole ovum does not come away at once, but only the fœtus, and that either a part, or the whole of the secundines remain behind. These by long retention give rise to an offensive discharge from the vagina, and a febrile state accompanied with hysterical affections. In such instances, instead of endeavouring to extract the remains of the ovum, either with the forceps or fingers, which would be productive of irritation, it will be adviseable to keep the parts clean, by injecting an infusion of chamomile-flowers; to keep the bowels open with gentle laxatives or clysters; to support the strength by light nourishment with small portions of wine frequently repeated, and plenty of subacid fruit; whilst at the same time we procure rest, or allay irritation, by opiates, if necessary.

After every abortion the woman should be confined to bed for a few days, as getting up too soon is apt to produce a debilitating discharge. Should any morbid symptoms present themselves, they are to be obviated by a suitable treatment. If the patient continue weakly for any time, the use of a cold bath, with bark and other tonics, a generous diet, and pure air, will be necessary.

It has been before observed, that miscarriages are sometimes induced during the first or second month of gestation by the fundus uteri being retroverted and pressed down between the rectum and the vagina: in which case they are preceded by a difficulty of making water, and a consequent tumour of the bladder, together with a violent pain about the perinæum or rectum. On such occasions draw off the urine with a catheter, and inject an enema with sixty drops of the tincture of opium, if it can be done. Should these symptoms recur after the miscarriage, a wax candle, or a pessary, made by rolling some emplastrum plumbi spread on linen, may be introduced into the rectum, and worn as a compress to prevent the return for a few days, till the parts recover their strength. See Dr. Hunter's Tables of the gravid Uterus, and London Medical Observations, vol. iv. p. 388.

DISEASES OF THE PUERPERAL STATE.

PARTURITION, it is well known, is a natural process, and cannot therefore be considered as a disease; but still it often lays the foundation of many distressing complaints, and is now and then attended suddenly even with fatal consequences.

On the separation of the placenta, and on the sudden removal of pressure on the expulsion of the uterine contents, every parturient

woman encounters some degree of risk: the latter is indeed not unfrequently a source of danger, which has not been sufficiently insisted upon, and practically attended to.

A woman sometimes appears safely put to bed after an easy and natural labour; she has suffered no unusual loss of blood on the separation and removal of the placenta: the uterus, on the application of the hand, is found well contracted, and the patient, thus far at least, appears in a fair way to do well; but, notwithstanding these favourable appearances, and perhaps, even during the congratulations of her friends upon the termination of her sufferings, she complains of a degree of faintness, attended with an inexpressible sensation of sinking; this is followed by restlessness, with an anxious depressed countenance, and occasionally by pain and a sense of constriction at the pit of the stomach; and expressions of alarm for approaching dissolution are not unfrequently repeated. Shortly afterwards the restlessness increases, the countenance becomes more dejected and ghastly, the pulse gradually sinks and fails in its stroke, the oppressive constriction on the epigastrium becomes intolerable, so as considerably to affect respiration; and if relief to these symptoms be not speedy, she becomes shortly a corpse.

That a woman may die suddenly from the rupture of a vessel in the brain, or in the thoracic or abdominal cavities, during the violent efforts of labour, is a conclusion sufficiently natural; but in accidents of this nature, there would be symptoms of pressure on the sensorium in the one instance, and of internal hemorrhage in the other; and the cause of death, on inspection, would be apparent.

To theorize, or reason on a parturient women suddenly falling into deliquium animi, and almost immediately expiring, is inconsistent with the nature of this work, but it has been attributed to the removal of pressure from the parietes of the abdomen, and the contents of its cavity.

At the commencement of faintness without loss of blood, we should have recourse to the exhibition of brandy, or other spirits, undiluted or diluted, according to the urgency of the symptoms, and the rapidity of their progress, and in such quantity as may seem adequate to answer the intended purpose. That being attained, and the patient relieved, the medicated stimuli, as æther, volatile spirit, cordial tinctures, &c. may be substituted. Moderate pressure upon the abdomen with the hand, or a bandage applied round the body, will assist the general intention; and the patient ought, on no consideration, to be allowed to raise herself from the recumbent posture, till she be so far recovered as to warrant security from the recurrence of the symptoms of alarm and danger.

The most usual complaints however which occur after delivery, and which demand the attention and assistance of the medical practitioner, are as follow, viz.

After-Pains.—Shortly after delivery, these usually come on, and

with some women prove remarkably severe. The quicker the labour has been, the slighter will they prove in general. Women with their first child are seldom much troubled with after-pains; but as the uterus contracts less readily after each future labour, so they are more liable to suffer from them in any succeeding delivery, than in the first.

When after-pains prove so troublesome as to deprive the patient of her rest, it will be necessary to have recourse to opiates joined with other antispasmodics.* Heated cloths or bladders filled with warm water may be applied as an external fomentation. These means are to be assisted by keeping up a sufficient pressure on the belly at the same time, by means of a broad bandage.

Costiveness.—This is apt to prevail after delivery, and should always be removed by a laxative clyster, or some gentle purgative, such as a solution of some neutral salt and manna, or about an ounce of the oleum ricini.

Flow of the Lochia.—In all women, a certain degree of hemorrhage usually takes place after delivery, produced by the removal of the placenta, which thereby lays bare the mouths of the blood-vessels in the inside of the uterus; and this commonly continues until the womb contracts to such a size as to close them up again. The discharge for the four or five first days consists usually of florid blood, after which time it assumes a mucous appearance, and so ceases gradually.

In weak and relaxed habits, it sometimes happens, that instead of saturating a cloth now and then, as is natural to all women, the blood gushes out with such rapidity and violence as to run quickly through all the bed-clothes, and even to soak through the bed itself; in which case, the patient will be reduced to a state of great debility, if the hemorrhage be not soon restrained. To effect this, the means recommended under the heads of Menorrhagia and Abortions must be adopted.

Where a suppression of the lochia ensues before the accustomed period, the discharge ought again to be promoted, if possible, by plentiful dilution, and the application of warm fomentations to the parts. Should these means prove ineffectual, gentle evacuations must be made.

The Milk Fever.—About the third or fourth day after delivery, the breasts generally become turgid and painful, from the secretion

* R. Aq. Cinnam. ℥j.
Tinct. Opii ♏. xxxv.—L.
—— Castor. ℥ss.
Syrup. Violæ ℥ij. M.
ft. Haustus hora somni sumendus.
Vel
R. Castorei gr. v.
Camphoræ gr. iij.
Opii gr. jss.
Confect. Rosæ q. s. M.
ft. Bolus.

of milk which then takes place in them. When this is moderate and free, no inconvenience will be experienced; but when copious, and accompanied by any obstruction in the lactiferous tubes, in consequence of the use of some repellent application, or of an exposure to cold, the breasts will then become hard, swelled, and painful, and a slight fever will arise, accompanied by nausea, restlessness, pains in the head and back, and a considerable degree of thirst.

To prevent any consequences of this kind, it will always be adviseable to apply the child to the breasts at a very early period after delivery. By delaying to do so immediately on the secretion of milk commencing, the breasts are not only apt to become much enlarged and distended, but the nipples are often so much retracted, that the child cannot lay hold of them without the greatest difficulty.

Where the mother's health will not admit of her suckling the child, or any other thing happens to prevent it, she should be careful to have her breasts drawn three or four times a day by some other person; and with the view of preventing a copious secretion of milk, she should use a very spare diet, keep her body perfectly open with laxative medicines, and abstain as much as possible from all liquids. This mode of proceeding will be far preferable to the use of repellent applications to put a stop to the secretion.

If any degree of fever arise, besides confining the patient to a spare diet, keeping her very quiet, and obviating costiveness by means of cooling laxatives, we may give her small and frequently repeated doses of antimonials, together with refrigerants, such as the nitrate of potass, as advised under the head of Simple Fever.

Inflammation and Tumours in the Breasts.—From exposure to cold, and neglect to put the child at an early period to the breasts, or to get them drawn by some other person, accidents of this nature happen very frequently to lying-in-women.

With respect to the mode of treating these kind of tumours, practitioners differ very much; some asserting that discussion should always be attempted, and others, that they ought to be allowed to suppurate; as, when the discussion does not succeed, there may be some danger of inducing a scirrhous affection of an obstinate nature. I think the same practice should be adopted in this case of inflammation as in every other, and that the discussion of the tumour ought by all means to be attempted on its first appearance; the distress and pain which always attend on a suppuration of the mamma being very great. When the inflammation and swelling have been of such long standing as to show an evident tendency to suppurate, any attempt to discuss the tumour will not be adviseable.

Where discussion is proper, recourse should be had at a very early period to a strict pursuance of the antiphlogistic plan. The

strength is to be supported by a cool spare diet; the body is to be kept perfectly open with mild laxatives; febrile heat is to be abated by refrigerants, such as the nitrate of potass, with the aid of frequent small doses of some antimonial, such as the pulvis Jacobi, pulvis antimonialis, or solution of tartarised antimony; pain and irritation are to be allayed by sufficient doses of opium;* and the inflammation, when considerable, is to be abated by means of leeches applied to the part, as likewise by the constant application of linen cloths dipped in some sedative lotion.† To assist the effect of these means, the breasts are to be evacuated frequently throughout the course of the day, but more particularly the one diseased, either by the infant or some other person accustomed to the business. When they are so much swelled as not to allow of laying hold of the nipple, the proper glasses made for that purpose should be employed.

If the tumour proceed to suppuration, notwithstanding we may have used every endeavour to prevent it, we should then assist the operations of nature by the application of emollient poultices and fomentations. As soon as the suppuration is completed, the tumour should be opened, after which it may be dressed with dry lint, and a pledget spread with simple ointment be laid over all. Should any fresh suppuration ensue, which not unfrequently happens, the same mode of treatment must be adopted.

Excoriations of the Nipples.—From the constant state of moisture in which these parts are kept with those who give suck, such occurrences are very apt to happen. When excoriations do arise, the parts should be washed two or three times a day with a diluted solution of sulphate of zinc, the superacetate of lead, or a few drops of the liquor plumbi acetatis, in rose-water, and then be sprinkled with a little powder of calamine, or of gum arabic or starch; or they may be dressed after each washing with a little ungt. calaminar. thinly spread on lint. To prevent the sore from being aggravated by sticking to the woman's clothes, a little cup made of wax may be laid over the nipple, which is the part most apt to suffer. If only one nipple be affected, the child may be confined to the other; but if both are affected, and the pain occasioned by its suckling is too great to be borne, the woman must then desist from the duties of a mother until the excoriations are somewhat healed, taking care however to have her breasts drawn regularly twice or thrice a day. As long as we are under the necessity of applying any of the preparations of lead to the nipples of the

* These should be deferred till the arterial system is evidently reduced below its usual healthy standard. E.

† R. Liquor. Ammon. Acetatis
Spirit. Rectif.
Aq. Distillat. āā ℥ij. M.
Vel
R. Ammon. Muriat. ℥ij.
Acidi Acetic. ℥ij.
Spirit. Camphoræ ℥ss.
Liquor. Plumbi Acet. ♏. xxv. M.

mother, it will be prudent not to suffer the child to suck her, as there is reason to fear that it might be materially injured by so doing. Where this cannot however be dispensed with, the part should be well washed with a little cool water each time previous to giving the child the breast.

When great soreness of the nipples has taken place, it has been proposed, with the view of protecting them, to use an artificial teat, by which the child will be able to suck tolerably well, and the nipple itself being undisturbed, to heal soon. The way in which one of these substitutes is prepared, is to procure a fresh teat from a heifer, and scooping out the inside to steep it well in cold water, then put it into spirits, till an hour or two before using it, when it must be again laid in water to take away the spirituous taste. The teat is then to be wiped dry, and sewn closely and firmly at the edges to the row of holes made in the shield. Such shields are usually made of silver, but ivory ones turned on the same model will answer equally well. The teat ought to project somewhat longer than the shield, that it may the more readily yield to the infant's mouth. Great attention should be paid to washing the whole thoroughly after suckling, and to keep it constantly in cold water. A woman is often capable of giving milk with a flat, or even concave surface, by drawing out the nipple with a glass tube, that has a small ball to it, by which a vacuum is produced; the instant the glass is removed, the child being put to the breast will keep it out by sucking until satisfied.

Miliary Eruptions.—In consequence of keeping women very warm, and of using a heating diet, it not unfrequently happens that miliary eruptions, attended with some degree of fever, arise during a puerperal state. Sometimes they are dispersed over the whole body, but they are more usually observed about the neck and chest.

To conduct the patient with safety through the disease, the practitioner must have recourse to the means advised in other eruptive fevers.* Should the eruptions strike in suddenly, and the pulse sink, blisters, with cordial sudorific medicines and wine, will be proper.

Affections of this nature may however be avoided, in general, by an attention to diet, by keeping the patient's body perfectly open and her bed lightly covered with clothes, and by admitting a proper ventilation through the chamber.

* In which the state of excitement in the arterial system should always be taken for our guide. E.

PHLEGMATIA DOLENS PUERPERARUM, OR THE PAINFUL INTUMESCENCE OF THE LOWER EXTREMITY INCIDENT TO LYING-IN WOMEN.

THE characteristic of phlegmatia dolens is a firm, glossy, warm, tense, elastic, painful, sudden swelling, of a pale white colour, which attacks the groin, labium pudendi, thigh, leg, and foot of a lying-in woman some days after delivery, or miscarriage at an advanced period of pregnancy. Mr. White looks on the swelling of the labium pudendi as an invariable symptom of the disorder, and he asserts that, when one limb only is affected, the intumescence is confined so exactly to the labium pudendi of that side, that if a line were drawn from the navel to the anus it would be found never to go beyond that line in the smallest degree. We are told, however, by Dr. Hull, that the swelling of the labium pudendi is to be considered rather as marking the extent, than serving to characterize the complaint.

Mr. White attributes the proximate cause of the disease in question to an obstruction, detention, and accumulation of lymph in the limb, and imagines the lymphatics to be obstructed as high up at least as where they enter the pelvis under Poupart's ligament, in consequence of some accident happening during labour, or some state peculiar to childbed. He conceives it might probably arise from the continued pressure of the lymphatic vessels by the head of the fœtus on the pelvis, which, he says, is often rough and sharp on its ridge, and might be followed by a rupture of these vessels in some part of their course.

The disease has been attributed by Mr. Trye to an obstruction of the lymphatics; but he apprehends that this originates in the inflammation of the trunk or trunks of these vessels, which inflammation may be excited by pressure or the absorption of some acrimonious matter.

Dr. Denman entertains sentiments pretty similar to those of Mr. Trye; for he believes the disease to arise first in the inguinal glands, by the absorption of some irritating principle in the discharge, the consequence of an unhealthy secretion from the uterus.

Dr. Ferriar is of opinion* that phlegmatia dolens may exist independently of every circumstance regarding parturition,† and he does not think it impossible for it to take place before delivery.

† See his Medical Histories and Reflections, vol. iii.

‡ It certainly may; for I had a case lately under my care in an aged woman, and of course unconnected with parturition.

The violent pressure on the internal iliacs, and the accompanying veins and nerves, which takes place during labour, must undoubtedly, be considered as a powerful occasional cause of lymphatic inflammation, quite sufficient to account for the phenomena without the supposition of a rupture of the vessels.

He adds, that the constitution is much more irritable, more liable to febrile and inflammatory complaints, after than before delivery. The balance of the circulating fluids is suddenly and violently changed; there are new determinations, new sympathies produced in a state of debility, agitation and anxiety. It cannot, therefore, surprise us, that, under circumstances so peculiar, a set of vessels, commonly exempted from inflammatory affections, should take on an unusual disposition.

These theories are rejected by Dr. Hull, as being inadequate to explain the various phenomena of the disease; and he offers the following, which he conceives to be more consonant to its real nature.* As predisposing and exciting causes to it, he enumerates —1st, the increased irritability and disposition to inflammation which prevail during pregnancy, and in a still higher degree for some time after parturition. 2dly, The over-distended or relaxed state of the blood-vessels of the inferior part of the trunk, and of the lower extremities. 3dly, Contusions, or violent exertions of the muscles about the pelvis and thighs. 4thly, Plethora, occasioned by a suppression or diminution of the lochia, or of the secretion of milk. 5thly, Food taken too freely; and 6thly, Standing or walking too much or too early.

The proximate cause he supposes to consist in an inflammatory affection, producing suddenly a considerable effusion of serum and coagulable lymph from the exhalents into the cellular membrane of the limb; and he thinks that there exists a close connection between phlegmatia dolens, puerperal fever, peritonitis, and some other disorders.

Such a conclusion, in my humble opinion, is not well founded; for phlegmatia dolens is a disease as distinct from either puerperal fever or peritonitis as it is possible to be. Little or no inflammatory tendency prevails in the system in this complaint, neither are any of the abdominal viscera nor their peritoneal covering occupied by inflammation. The disease appears to be of a local nature, and confined to the lymphatics of the limb on the side affected. The slight temporary derangement which takes place in the system appears to be induced wholly by the local affection, pain, and distention.

Phlegmatia dolens generally takes place on one side only at first, and commonly begins in the hypogastric or inguinal region, or in the hip, or top of the thigh, and corresponding labium pudendi, preceded by rigors, and followed by pyrexia. In this case the pa-

* See his Essay on Phlegmatia Dolens.

tient perceives a sense of pain, weight and stiffness, in some of these parts, which is increased by every attempt to move the pelvis, or lower limb. If the part be carefully examined, it generally is found rather fuller or hotter than natural, and tender to the touch, but not discoloured. After a little time, the pain increases, always becomes severe, and in some cases is highly excruciating: it extends along the thigh, and at length the top of the labium pudendi becomes greatly swelled and distended; but on this happening, the pain is usually somewhat alleviated in these parts. It however extends down to the knee, and is generally most severe on the inside and back of the thigh. When it has continued for some time, the whole thigh becomes in its turn swelled, and the pain extending down to the leg and foot, these parts also swell; but on the swelling taking place, there is a considerable abatement of pain, and the woman does not experience much except she moves the limb.

The extremity being now swelled throughout its whole extent, appears perfectly or nearly uniform, and is not perceptibly lessened by an horizontal position like an œdematous limb. It is whiter than the natural colour, is hotter than usual, excessively tense, and exquisitely tender when touched. When pressed by the finger in different parts, it is perceived to be elastic, little, if any, impression remaining, and that only for a short time. If a puncture or incision is made into the limb, in some instances no fluid is discharged; in others, a small quantity of fluid escapes, which does not coagulate, but the whole of the effused matter cannot be drawn off in this way. The swelling of the limb varies both in degree and in the space of time requisite for its full formation. In most instances, it arrives at double the natural size, and, in some cases, at a much greater. In lax habits, and in patients whose legs have been very much affected with anasarca during pregnancy, the swelling takes place more rapidly than in those who are differently circumstanced; it sometimes, in the former class of patients, arrives at its greatest extent in twenty-four hours, or less, from the first attack.

After some days, generally from two to eight, the febrile symptoms diminish, and the swelling, heat, tension, weight, and tenderness of the lower extremity begin to abate, first about the upper part of the thigh, or knee, and afterwards in the leg and foot. Some inequalities are found in the limb, which, at first, feel like indurated glands; but, upon being more strictly examined, their edges are not so well defined as those of conglobate glands, and they appear to be occasioned by the effused matter being in different degrees of consistence in different points. The conglobate glands of the thigh and leg are sometimes felt distinctly, and are tender to the touch, but are seldom much enlarged; and as the swelling subsides, it has happened that an enlargement of the lymphatic vessels in some part of the limb has been supposed to be felt.

The febrile symptoms having gradually disappeared, the pain and tenderness of the limb being much relieved, and the swelling and tension considerably diminished, the patient is much debilitated, and the extremity feels stiff, heavy, benumbed, and weak. It seldom, if ever, returns to its former size, but usually is considerably enlarged for the remainder of life, being always more easily affected by cold than the other, and, after exercise, it will be more stiff and weak than the sound extremity. It sometimes happens, that after the disease abates in one limb, the other is attacked in a similar way, goes through the same stages, and continues much about the same time as the first.

Phlegmatia dolens is often slow in its progress, and tedious in its cure; but it is rarely followed either by suppuration or gangrene; and still more rarely does it terminate fatally; the extravasated fluid being at length taken up, and returned into the circulation, although, from the great distention of the limb, there is usually much tenderness, pain, and a febrile disposition. We are told by Mr. White, that, when not complicated with any other disease, he has never known it to have a fatal termination; neither has he ever observed the skin to be so discoloured, as to point out the presence of local inflammation: on the contrary, it is of a paler white than ordinary, which circumstance has induced him to name the disease Phlegmatia alba dolens Puerperarum. By Dr. Hull we are, however, informed, that he has seen cases which have terminated in suppuration, as also in death.

With respect to the treatment of phlegmatia dolens, much must be left to the discretion of the practitioner, who ought to prescribe according to circumstances.

When a woman, who is of a robust plethoric habit, is attacked shortly after delivery with a painful, tense swelling of one of the lower extremities, accompanied by much heat, thirst, restlessness, and other symptoms of pyrexia, the antiphlogistic plan ought certainly to be pursued. Bleeding from the system in a moderate quantity, keeping the body open with saline purgatives, so as to procure one or two motions daily; administering small and frequently repeated doses of some antimonial preparation, to promote a regular and gentle determination to the surface; giving plentifully of diluent liquids; confining the patient to bed; covering her lightly with bed-clothes, and keeping her chamber of a proper coolness, will undoubtedly be highly proper in all such cases. Where nausea exists at the commencement of the attack, an emetic may likewise be adviseable, but otherwise it appears unnecessary.

If the irritability or excitability (adopt which term you may) of the system is much increased, and, from the severity of the pain in the limb, the patient is deprived of rest for a succession of nights, we may, with safety and much advantage, after having premised proper evacuations, employ opium. The best mode of ad-

ministering it will be, to combine it with some diaphoretic,* and, probably, the pulvis ipecac. compos. may be as good a medicine as we can use.†

Such is the general treatment to be adopted in phlegmatia dolens, when arising in a robust or plethoric habit, and where the febrile symptoms are evident; but the antiphlogistic plan would certainly be improper for a woman of a weakly constitution, and who has already been much debilitated by floodings, or other evacuations. In all those cases which are marked with general debility, and impoverished state of the blood, and a diminution of the tone and action of the heart and arteries, we should pursue a different course.

Mercury has been recommended both by Mr. Trye and Dr. Hull in phlegmatia dolens; but I think it is a remedy from which no benefit is likely to be derived, and particularly in debilitated habits.

Our attention is next to be directed to the local treatment. When the limb and labium pudendi are occupied by much pain, and any degree of inflammation, the application of leeches will be proper; after which the parts may be well fomented with flannel cloths wrung out of hot vinegar, (or rather cold vinegar and water, E.) renewing them as often as they become warm.

To drain off some of the fluid effused in the limb, it will be adviseable, in an early stage of the disease, (after sufficient bleeding,) to apply a blister to the calf of the leg, renewing the application from time to time in the neighbourhood of the former, when it ceases to produce the desired effect. In some instances, coagula-

* R. Tinct. Opii ℥. xl.
Vin. Antimon. ℥. xv.
Aq. Puræ ℥j.
Syrup. Simpl. ℥ij. M.

† Small doses of calomel combined with squills have been successfully employed by Dr. Hosack of New York, in the treatment of this disease; but one of the Editors, has more than once had occasion to regret having prescribed small doses of calomel for the purpose of inducing a gentle salivation, before the inflammatory symptoms, indicated by the pain and frequency of pulse, had entirely subsided, as it invariably rendered the pulse more frequent, and increased the heat of the skin and pain of the limb previously to the mouth becoming affected, and still more so, for the first three or four days after the salivation had commenced, in consequence of which, the recovery of the patient appeared to be considerably retarded.

With respect to the effects of opium, the experience of the Editors has been more limited; but from analogy it appears to be an improper remedy so long as the cause of the swelling and pain continues. In chronic cases, however, in which the activity of the arterial system is considerably below the healthy standard, both mercury and opium, judiciously administered, would most undoubtedly be proper. E.

tion quickly succeeds the effusion, and, therefore, neither scarifications nor punctures would be likely to prove beneficial.

Notwithstanding every attention, the complaint often leaves considerable weakness in the leg, requiring a bandage or laced stocking, avoiding, at the same time, much standing or walking. To increase the action of the absorbents in the limb, frequent frictions, with rubefacient liniments, or simply with the hand, flannel, or a flesh-brush, may be employed, the effects of which may be assisted by topical cold bathing, or by cold water, fresh or salt, dashed upon the parts, and by electricity.

HYSTERITIS, OR AN INFLAMMATION OF THE UTERUS.*

In natural labours, as well as in those of a difficult sort, many causes of injury to the uterus and the peritonæum which covers it, will be applied. The long-continued action of the uterus on the body of the child, and the great pressure made by its head on the soft parts, will farther add to the chance of injury. Besides these, an improper application of instruments, or an officiousness of the midwife in hurrying the labour, or extracting the placenta, may have contributed to the violence. To these causes may be added exposure to cold, by taking the woman too early out of bed after delivery, and thereby throwing the circulating fluids upon the internal parts, putting a stop to the secretion of milk, or occasioning a suppression of the lochia.

An inflammation of the womb is sometimes perfectly distinct, but it is more frequently communicated to the peritonæum, Fallopian tubes, and ovaria: and having once begun, the natural functions of the organ become much disturbed, which event greatly adds to the disease.

It is oftener met with in women of a robust and plethoric habit, than in those of lax fibres and a delicate constitution, particularly where they have indulged freely in food of a heating nature, and in a use of spirituous liquors. It never prevails as an epidemic, like puerperal fever, for which it has, probably, often been mistaken; and to this we may, with some reason, ascribe the difference in the mode of treating the disease which has taken place among physicians.

An inflammation of the uterus shows itself usually about the second or third day after delivery, with a painful sensation at the bottom of the belly, which gradually increases in violence without any kind of intermission. On examining externally, the uterus appears much increased in size, is hard to the feel, and, on making

* This disease, as well as the two which succeed, belong properly to the class of Pyrexiæ; but as the two first do not often occur in the unimpregnated state, and the last is a disease confined to that of the puerperal, I have judged it most proper to insert them all here.

pressure upon it, the patient experiences great soreness and pain.

Soon afterwards there ensues an increase of heat over the whole of the body, with pains in the head and back, extending into the groins, rigors, considerable thirst, nausea, and vomiting. The tongue is white and dry, the secretion of milk is usually much interrupted, the lochial discharge is greatly diminished, the urine is high coloured and scanty, and if the inflammation has extended to the bladder, it becomes totally obstructed; the body is costive, and the pulse is hard, full, and frequent.

These are the symptoms which usually present themselves when the inflammation does not run very high, and is perfectly distinct; but when it is so extensive as to affect the peritonæum, those of irritation generally succeed, and soon destroy the patient.

Uterine inflammation is always attended with much danger, particularly where the symptoms are violent, and the proper means for removing them have not been timely adopted. In such cases, it may terminate either in suppuration, scirrhus, or gangrene and mortification.

Frequent rigors, succeeded by flushings of the face, quickness and weakness of the pulse, great depression of strength, delirium, and the sudden cessation of pain and soreness in the region of the abdomen, denote a fatal termination: on the contrary, the ensuing of a gentle diarrhœa, the lochial discharge returning in due quantity and quality, the secretion of milk recommencing, and the uterus becoming gradually softer and less tender to the touch, with an abatement of heat and thirst, prognosticate a favourable issue.

When shiverings attack the patient after several days continuance of the symptoms, but little relief can be afforded by medicine, the event being generally fatal. In this case, the woman emaciates, and loses her strength, becomes hectic, and sinks under colliquative sweating or purging.

Upon opening the bodies of women who have died of this disease, and where it existed in a simple state, little or no extravasated fluid is usually to be met with in the cavity of the abdomen. In some instances, the peritoneal surfaces have been discovered free from disease; while, in others, that portion which covers the uterus and posterior part of the bladder has been found partially inflamed. The inflammation has been observed in some cases to extend to the ovaria and Fallopian tubes, which, when cut open, are often loaded with blood. The uterus itself usually appears of a firm substance, but it is larger than in its natural state, and when cut into, a quantity of pus is often found. Gangrene and mortification are seldom, if ever, to be met with.

By an early attention to the disease on its first approach, we may often subdue it, and prevent the inflammation from proceeding to any great height. Our immediate and speedy care ought therefore to be directed towards diminishing the quantity of the

circulating fluids, and weakening the action of the heart and arteries; and this is to be done by drawing blood from the system, regulating the quantity which we take away by the violence of the symptoms, the state of the pulse, and the age and habit of the patient. In repeating the operation, we are to be governed by the same circumstances, and by the effect produced by the former evacuation. In plethoric habits, a second or a third repetition may be necessary; but in those who are less robust, if the inflammatory symptoms are not entirely carried off by the first bleeding, it may be more adviseable to draw off blood by the application of six or eight leeches to the belly, than to make use of the lancet again.*

To remove the tension, and alleviate the pain and soreness, flannel cloths wrung out in a warm decoction of bruised poppy-heads and chamomile-flowers, with an addition of about an eighth of spiritus camphoræ, may be kept pretty constantly applied throughout the course of the day, to the abdominal region, and at night it may be anointed with a little of the linimentum camphoræ. In using fomentations, due care must however be taken that they are not applied so wet as to run about the bed, and thereby occasion inconvenience to the patient.†

Evacuation by purging would be improper in this inflammation; but it would be right to preserve the regular motion of the bowels, by giving from time to time, as may be found necessary, some gentle laxative, or by administering emollient aperient clysters, which perhaps may be the preferable way of procuring stools, as they not only unload the intestines, but likewise act as fomentations.

In most internal inflammations, blisters prove a useful remedy; but in that of the uterus, their application is attended with the risk of increasing the irritation in the system, and of adding to the inflammation, by affecting the bladder and kidneys. Whenever they are made use of in this disease, with the hope of affording relief, they ought to be sprinkled with camphor, and the patient should drink plentifully of diluting mucilaginous liquors, to guard against such consequences. Diluents will indeed be proper, whether we have recourse to blistering or not.

To determine to the surface of the body, and excite a gentle perspiration, which often proves highly serviceable in this inflammation, it will be adviseable to give diaphoretic medicines. As

* This is incorrect;—there is no fact better established in the practice of medicine, than that, in all cases of fever depending on, or connected with, local inflammation, bleeding from the general system, should be repeated at short intervals, until the activity of the heart and arteries is reduced below their usual healthy standard. E.

† In place of warm fomentations as directed above, the Editors would here prefer the application of cloths wrung out in cold water, to be renewed when they become warm. E.

such, we may employ the pulvis ipecac. composita, in the quantity of eight or ten grains, repeated every four hours; or the pulvis antimonialis, in the quantity of about two grains, and half a grain of opium, made into a bolus, with a little of the confectio rosæ rubræ. These may be washed down with two or three spoonfuls of a saline mixture.

Should a diarrhœa arise spontaneously in the course of this disease, it ought by no means to be checked, unless it proceeds with such violence as to exhaust the woman's strength. Under such circumstances, the mistura cretæ, with an addition of a small quantity of tinctura opii, may be given with advantage. Should the remedy not be found sufficiently powerful in lessening the number of evacuations, three drachms of the tinctura kino, or catechu, may be added to about six ounces of the mixture.

Where the inflammation has extended to the bladder, and occasioned a suppression of urine, we must employ the catheter.

Throughout the whole course of the disease, the patient is to be supported by food of a light nutritive nature, and such as is easy of digestion, carefully avoiding all kinds of fermented and distilled liquors.

In chronic inflammation of the uterus or state of scirrhosity, the repeated application of several leeches above the pubes, or to the perinæum, the use of gentle laxatives, emollient clysters, and fomentations and blisters to the lower part of the abdomen, frequent immersion of the lower parts of the body in a warm slipper bath, with an antiphlogistic regimen, and detaining the patient as much as possible in an horizontal posture, appear to be the most probable means of affording relief at an early period. Hyoscyamus and conium, joined with cinchona and opium, both by the mouth and in the form of clyster, more particularly the latter, to assuage pain, together with injections of tepid water and milk, or of some gently astringent liquor, together with warm bathing, may be the most adviseable remedies in the advanced or carcinomatous stage of the disease. In order to prevent excoriation from the acrimony of the discharge, some simple ointment should be applied to the parts over which it passes.

Too much caution cannot be observed by women in guarding against any exposure to cold after delivery, as they are thereby apt to bring on diseases, which, if they do not prove quickly fatal, not unfrequently leave effects behind them, of which they will be sensible the whole future period of their life.

PERITONITIS, OR INFLAMMATION OF THE PERITONÆUM.

The peritonitis of the puerperal state appears to be only the common inflammation of the peritonæum attacking a woman already labouring under debility, and being somewhat conjoined thereby with puerperal fever.

Peritonæal inflammation frequently occurs in women after delivery, and is produced by the same causes which give rise to an inflammation of the uterus—viz. tedious and difficult labours; officiousness in the midwife; the use of instruments; the application of cold, and administering heating liquors to excess. The disease has by some authors been called puerperal fever; but this seems improper, as it neither is attended with contagion, nor ever prevails epidemically; and therefore the term is more properly applicable to the disorder treated of under that particular head.

In some cases of peritonitis the inflammation attacks only a small portion of the membrane at first, and is afterwards communicated to the whole of it; and in others it occupies the whole at once. The patient usually is seized with rigors and shiverings, thirst, fever, and an accelerated pulse, and soon feels considerable pain with soreness, either in a particular part of the abdomen, or over the whole of it. The uneasiness and pain increasing rapidly, the abdomen becomes puffed up and swelled to a size nearly equal to what it was before delivery. From the inflamed state of the parts, and the exquisite pain which prevails, the very weight of the bed-clothes becomes irksome and insufferable; and in order to support it, the patient is obliged to lie on her back with her knees bent in towards her belly. She is, moreover, incapable of bearing the least motion.

The stomach in most cases is much affected, and a constant sickness with a vomiting of bilious matter ensues. The state of the intestines is variable; sometimes costiveness prevails, at others a purging, and sometimes the body is perfectly regular. The bladder likewise becomes affected, and there arises a constant inclination to make water, but which comes away, however, in a very small quantity at a time.

As the disease advances, and the tumefaction augments, great difficulty of breathing ensues; and in consequence of the general determination to the bowels, the secretion of milk becomes much diminished, and is at last entirely stopped; the breasts are flaccid and empty, and the lochial discharge is perhaps wholly suppressed.

The system is usually affected with a mixture of general inflammation, and symptoms of irritation; the pulse is frequent, small, and contracted, beating about 120 or 130 in a minute; the skin is dry and hot, with flushing of the face and redness of the eyes: the tongue is white and dry, with the prevalence of great thirst; the appetite is diminished, but not wholly lost; and the patient is restless, uneasy, and gets little or no sleep.

The disease continuing to proceed in its course, all the symptoms become highly aggravated, and at last a total cessation of pain ensues; the pulse becomes still smaller, but is at the same time more frequent; cold clammy sweats break out; the urine and fæces come away involuntarily; the extremities are cold, and the

patient is carried off in the course of the sixth, seventh, or eighth day.

We may regard the following appearances in a favourable light: The pulse becoming fuller and less frequent, the skin moister and cooler, the respiration less laborious, the urine being voided in a proper quantity and less frequently, the return of the milk in the breasts, the re-appearance of the lochial discharge, a gradual diminution of the pain and tension in the abdomen, with the ability of remaining in a sitting posture, and the coming on of a gentle diarrhœa towards the close of the disease. On the contrary, we are to consider the sudden cessation of pain, with a sinking pulse, effusion, and tumefaction, as fatal symptoms.

The appearances on dissection have been those of inflammation in the peritonæum covering the different viscera, as the stomach, liver, spleen, omentum, intestines, &c.; but that which covers the uterus and bladder is usually found in a higher state of inflammation than any other part. Moreover, there is generally perceived in the cavity of the abdomen, a large quantity of a fluid resembling serum, mingled with pus, and intermixed with shreds of coagulable lymph, or portions of solid matter, similar to what is mentioned under the head of Puerperal Fever. It seldom happens that gangrene or mortification of any of the viscera is to be observed, but the intestines are usually greatly distended with air.

In the cure of this disease, nearly the same mode of treatment which has been advised for an inflammation of the uterus must be adopted. Bleeding from the system to about sixteen or twenty ounces should therefore be had recourse to at a very early period, particularly where the patient is of a robust plethoric habit, and with such it may be necessary to repeat the operation within twelve hours.

In the pure peritonitis, local blood-letting should never be solely trusted to, and indeed ought not to be advised until there appears some diminution of pain from general bleeding, or till the constitutional effects occasioned by the local inflammation are partly removed, and the disorder thereby reduced to a state more nearly approaching to a simple topical affection.

An occasional irregularity in the complaint sometimes occurs, which is liable to mislead the practitioner: and that is, at the very first attack there is sometimes so great a degree of prostration of strength, accompanied likewise by a pulse scarcely perceptible at the wrist, as might induce us to consider the patient nearly at the point of death, and unequal to undergo the treatment here recommended. These appearances, however, may be supposed to arise from the inflammation extending to the peritonæal coat of the stomach and intestines. Here the pain on pressure must be the chief criterion to determine our practice, and if it should be found exquisite, no accidental symptom should lead us from trusting chiefly to the lancet. Such a decision will soon be justified by a

freedom in the action of the arterial system, by an abatement of the languor, and by a diminution of the pain.

Some cases are recorded in a late publication,* attesting the good effects of cold applications by linen cloths dipped in camphor mixture and water in this disease.†

Under an apprehension that the application of a blister to the abdomen might prove injurious by its irritating effect, some physicians have objected to advise it in peritonitis, while others again have recommended it to be employed, under the idea that its determining the inflammation to the external parts, and thereby lessening it on the internal ones, will greatly counterbalance any excitement it may occasion. When the constitutional effects occasioned by the local inflammation are partly removed by general bleedings, and the disorder is reduced to a state more nearly approaching to a simple topical affection, there can be no doubt, I think, of the propriety of blistering the abdomen.‡

To empty the bowels freely, it will be necessary to employ active purgatives from time to time. A pill composed of three or four grains of the submuriate of mercury, followed by a full dose of an infusion of senna with sulphate of magnesia, or of castor oil, will not fail to afford relief by promoting several evacuations of fetid and dark stools.

Emollient clysters may be administered during the intervals of our employing purgatives, as they will not only assist in keeping the bowels open, but will act likewise as internal fomentations.

Should there prevail great irritation at the stomach, with frequent vomiting, the patient should be directed to drink freely of diluted mucilaginous liquors, taking every two or three hours a saline draught in the act of effervescence.

In order to determine the circulating fluids to the surface of the body, and excite a slight degree of perspiration, by occasioning nausea, we should administer small and repeated doses of tartarised antimony.

Where the urine becomes suppressed by the inflammation having extended in a high degree to the bladder, an occasional use of the catheter may be necessary.

If a gentle diarrhœa should come on in the course of the disease, it is by no means to be checked, unless when violent, as it may prove critical.

Throughout the whole period of the disorder the patient is to be supported by food of a light nutritive nature, administered in small quantities at a time, and repeated frequently, so as never to overload the stomach.

Where effusion in the cavity of the abdomen with tumefaction

* See Observations on Peritonitis by T. Sutton, M. D.

† The Editors are convinced that such applications would be productive of good effects. E.

‡ Under such circumstances blisters should not be omitted. E.

takes place, no relief can be obtained by medicine: death is the infallible consequence.

FEBRIS PUERPERARUM, OR PUERPERAL FEVER.

GREAT soreness, pain, and tension of the abdomen, short anxious breathing, uncommon quickness of the pulse, increased temperature of the body, tensive pain over the forehead, peculiar wildness of the eyes, prostration of the vital powers, suppression or diminution of the milk and lochia, a flaccid state of the mammæ, and an unnatural condition of the excrements, accompanied by diarrhœa, may be regarded as the pathognomic symptoms of puerperal fever.

The period at which women are attacked with this disease is uncertain, as in a few instances it has arisen at the distance of a week after delivery: but the most usual time of its attack is on the third or fourth day after that event.* The patient is seized at first with a slight coldness and shivering, succeeded by pains in the head, ringing in the ears, flushings in the face, great anxiety and restlessness. As the disease advances, the whole abdomen becomes affected, is highly painful to the touch, and much tumefied. She likewise feels great pain in the back, hips, and sometimes in the legs, and she performs respiration with difficulty, the breathing being short and laborious, from the pressure against the diaphragm, as well as from an organic affection of the chest itself. If the milk has been previously determined to the breasts, it suddenly disappears on the approach of the disease; but if the attack of fever commence sooner, the milk does not appear. The lochia are altered both in quantity and appearance; the urine is turbid, small in quantity, and voided with pain, and a tenesmus often arises. The skin is hot and dry, the pulse frequent, the number of pulsations being often from 110 to 130 in a minute; thirst prevails, and there is apparent prostration of strength, with anxiety, depression of spirits, a disinclination to suckle, carelessness about her child, and watchfulness. To these symptoms are added a tensive pain over the forehead, and a peculiar wildness of the eyes.

A vomiting not unfrequently attacks at the same time, and in so high a degree as to prevent the smallest quantity of food or medicine from being retained on the stomach. The matter thrown up is of a dark porraceous colour, and often of a disagreeable smell. The functions of the primæ viæ are likewise much disturbed. At the commencement, they usually go on well; but in the progress of the disease, a severe purging often ensues, particularly in those

* In a large majority of the cases which occurred to Mr. Hey, of Leeds, the attack took place about, or within the expiration of forty-eight hours after delivery. See "Treatise on the Puerperal Fever, 1815." E.

cases where the abdomen has been much distended, and the dejections are abundant, serous, and putrid. It seldom happens that any violent delirium arises, but the patient is apt to fall into a low comatose state, wishing by no means to be disturbed.

After one or two days continuance of these appearances, the fever often acquires a malignant and typhoid tendency, particularly in hospitals and confined situations, or when the state of the atmosphere predisposes to diseases of that nature; the lips, teeth, and tongue are covered with a dark brown fur; aphthæ beset the whole internal surface of the mouth, tongue, uvula, tonsils, and pharynx; the breath is highly offensive; the stools are fetid, of a dark brown colour; and pass off involuntarily; and in a few cases purple spots appear on different parts of the body.

Such in general is the course of a puerperal fever; the symptoms of which, however, may be often varied, according to the constitution of the patient, the degree of the disease, and its earlier or later invasion.

Puerperal fever is readily to be distinguished from that affection known by the name of after-pains, by the intervals of ease which attend these last, and by the absence of fever and abdominal tension; whereas in the former there is fever with its concomitant symptoms; great soreness and swelling of the abdomen, and an almost uninterrupted continuance of pain throughout the course of the disease.

Many circumstances evince a dissimilarity between the puerperal and miliary fevers, notwithstanding the symptoms of anxiety and oppression are common to both. In the puerperal fever the rigor is more violent, of longer duration, and not interrupted, as in the other. The pulse at first is fuller and stronger; the skin is more hot; and the tongue, whether moist or dry, though generally the latter, is not of a white but brownish appearance.

Peritonæal inflammation is the disease which bears the strongest resemblance to puerperal fever.

The progress of a puerperal fever is sometimes so very rapid, particularly in warm climates and hot seasons, as to destroy the patient in forty-eight hours. Even in cases seemingly the most favourable, we should look on the event as doubtful, as the complaint is apt to be accompanied with delusive remissions, and indications arise in its progress, which are by no means equal to the danger.

The re-appearance of the lochia and a gradual subsidence of the abdominal tension, and soreness after copious stools, the pulse at the same time becoming slower, with a moist skin, may be regarded in a very favourable light. On the contrary, an extensive swelling of the belly, so as to sound on striking it with the fingers, sudden cessation of pain, irregularity in the pulse, coldness in the extremities, clammy moisture diffused over the whole body, frequent dark-coloured and fetid evacuations by stool, and an indifference to all external objects, denote certain and speedy death.

On a fair computation, three-fourths of the women who have been attacked with this disease, have fallen sacrifices to it.*

The morbid appearances observed on dissection are usually confined to the abdomen. The first thing that often presents itself is a collection of whey-like fluid in the cavity of the abdomen, which is sometimes so considerable in quantity, as to amount to several quarts; and it has a peculiarity of smell different from any other fluid to be met with in the human body, either in health or disease. Where it is large in quantity, the surfaces of the different viscera, and of the peritonæum, will usually be found covered with a crust formed of a solid part of this matter, resembling coagulated lymph. If there be any interstices between the intestines, or the other viscera, they are frequently filled with large masses of the same, adapted exactly to the shape and size of such interstices. In a few cases, a deposit of a caseous and serous nature has been discovered likewise in the head, breast, and external cellular membrane, as has before been observed. In most instances there is found a slight degree of inflammation in some part of the cavity; but it is not confined invariably to any particular place; as the uterus, ovaria, peritonæum, omentum, intestines and bladder, have all in their turn been observed in a state of inflammation. In many cases of dissection, a considerable quantity of purulent matter has been found in the cavity of the abdomen.

In a disease where the symptoms come on with such violence, where the progress is so very rapid, and the event so generally fatal, every assistance should be afforded as soon as possible. Unfortunately, however, there has prevailed a great diversity of opinion among physicians relative to the remedies to be employed during its first stage, some advising copious bleeding, and others highly disapproving of its being ever adopted. Under such a contrariety of opinion, which can only be accounted for by presuming that other complaints, such as an inflammation of the uterus or peritonæum, &c. have been mistaken for this, it will be best to pursue that plan which seems most congenial to the nature of the disease.

[From a comparison of the symptoms of different cases of puerperal fever, when it has occurred in lying-in hospitals, as well as when it has prevailed epidemically in particular districts and situations, and from the phenomena which have been generally observed upon dissection, the disease appears to the Editors to be connected with, or to depend upon an inflammation of the peritonæum, &c. but which, in confined or crowded situations, where the patient is exposed to air contaminated by or containing some infectious or noxious principle, secreted by and exhaled from diseased animal bodies, is frequently combined with fever of a typhoid type, and is in such cases more or less contagious. As the treatment advised by the author of this work, as well as that recommended by

* This has not arisen from the disease being beyond the reach of medicine, but from its nature having been heretofore misunderstood. E.

Mr. Burns, of Glasgow, in his last edition of the Principles of Midwifery, is only applicable to the disease when it occurs under the circumstances last mentioned, and not to its most general form —or, when it occurs in situations where no contagion exists, as is satisfactorily proven by Mr. Hey, of Leeds, in his "Treatise on the Puerperal Fever," published in 1815; the Editors, after mature consideration, have concluded to omit what Dr. Thomas has said upon the subject, and substitute in its place the following abstract of the more successful mode of treatment advised by the former gentleman.

According to Mr. Hey, the puerperal fever in its most simple state, may be defined to be, "fever in child-bed, accompanied with pain which has no complete intermission, and extreme soreness of the abdomen. These may, he thinks, be properly called pathognomic symptoms, because they are inseparable from it; and accordingly we find, that, however authors may differ in their ideas of the nature of the fever, or however different the forms of it which they describe, these symptoms invariably make a part of the description."

Mr. Hey considers puerperal fever to be of an inflammatory nature in its commencement, but speedily degenerating into a low typhoid type if neglected or improperly treated in its first stage. "It is not however, to be denied," he observes, "that there is a vast difference in the puerperal fever at different times, and in different situations and circumstances. In some cases, it appears like a phlegmonous inflammation. Its progress is comparatively slow, and it will admit of bleeding for some days after its commencement. In others, it destroys with more rapidity and certainty than the plague. But all its varieties so far as he can judge from his experience and reading, may be reduced to two denominations, the *Sporadic*, and *Epidemic* puerperal fever; in which he includes inflammation of the uterus and peritonæum. However nosologists may think proper to describe the disease according to its seat, &c. he is persuaded that no other distinction is of any real practical importance. Nor is *this* of any further consequence, than that the epidemic disease requires more prompt attention, and more vigorous treatment. The means of cure being precisely the same in both: but in the latter their measure is greater and less limited, and the period within which they must be employed, is far more circumscribed.

With respect to the treatment of puerperal fever, Mr. Hey informs us that "when he was called in at an early period, he seldom took away less than twenty-four ounces of blood at first; unless some peculiar delicacy of constitution or an excess of the previous evacuations forbade it; and, if the delay was protracted to eight or ten hours, or the symptoms were unusually severe, a larger quantity, to the extent of thirty, forty, and in one instance more than fifty ounces, in proportion to the urgency of the symptoms, and the loss of time."

If the pain and soreness of the abdomen are not removed, or very materially alleviated, in six hours, the bleeding ought to be repeated; nor should a considerable degree of faintness, or even a deliquium, make us suppose, that further bleeding is either unsafe or unnecessary. In short, Mr. Hey knows not from any experience of his own, that scarcely any other limit should be put to the quantity of blood than the removal, or considerable diminution of the pain; provided all that is requisite, be drawn within twelve hours of the first evacuation.

"If the disease be clearly ascertained, no other consideration is of much importance. The state of the pulse affords little information either as to the propriety of bleeding, or the quantity of blood proper to be taken away; and if we are deterred either by the apparent weakness of the patient, by the feebleness and frequency of the pulse, or by any other symptoms, from bleeding copiously, we shall generally fail to cure the disease."

Immediately after the bleeding, the most speedy and effectual means should be adopted for opening the bowels. Mr. Hey usually gave half a drachm of jalap, and three or four grains of calomel, in a bolus; and directed that after a short interval, three table spoonsful of a saline cathartic solution should be taken every hour or two, till copious evacuations should be procured. This method seldom failed quickly to excite a diarrhœa: and the solution, which is a good febrifuge, was afterwards continued in such quantity, as might produce an evacuation once in three or four hours. The purging was maintained for two or three days, or longer, if necessary: and when the symptoms had entirely subsided, it was suffered gradually to decrease. If the bowels were costive, an injection was often attended with good effect, as it quickly evacuated the contents of the large intestines, and expedited the operation of the purgatives. Mr. Hey entirely coincides in opinion with Dr. Gordon, when he says, that "purging is to be early excited, and to be continued without intermission, till there be a complete termination of the disease."*

Mr. Hey frequently tried opiates in this disease, but he thinks never with advantage. The respite which they afforded, was but an insidious truce; and rather tended to prolong the disease. In one case which occurred previous to his having adopted the practice of bleeding, they were employed with apparent good effect, but the termination of the disease led him to conclude, that the benefit arose alone from the purging which was at the same time resorted to; that the comfortable repose procured by opiates was deceitful; and that the interruption occasioned thereby to the purging, was injurious. It became his practice therefore, to continue the purging literally *without intermission*, and without the interposition of opiates: and to this, in conjunction with more copious

* See Dr. Gordon's treatise on the Puerperal fever.

bleeding, he attributes the more speedy termination of the disease. For instead of its being brought to a close, as Dr. Gordon says it is, generally on the fifth day; in a very large majority of Mr. Hey's cases it was completely removed within two days. Indeed he does not recollect but one case in which the disease was not subdued within two or three days, when the proper means were early employed.

"If an opportunity be afforded of using the appropriate remedies at the commencement of the disease, bleeding and purging alone will soon overcome it, and no other means will be found requisite. But circumstances may occur, in all its stages, in which purging or emollient injections will prove beneficial. Fomentations of warm water, if properly applied, are soothing: and he has never seen them do harm. Blisters are inconvenient, and will seldom be necessary. But he has sometimes thought them useful, and never detrimental, except the disease be advanced to the last stage; when they can only add to the general irritation, without any prospect of advantage. A saline draught, taken in a state of effervescence, is refreshing to the patient; and as it coincides with the intention of the principal remedies, may be given when there is opportunity, between the exhibition of the purgatives.

"If these means should fail to cure the disease, from being employed too late, or in an improper manner, grateful cordials may be given in its latter stages to alleviate the distressing feelings of the patient; but cordials or tonics can afford no other advantage. The mischief which has taken place in the cavity of the abdomen, whether by extravasation, suppuration, or gangrene, renders the disease incurable; except in the two former cases, by some extraordinary effort of nature, of which Dr. Gordon has related three instances, where the confined fluid made its way by a direct outlet, in two at the umbilicus, and in a third by the urethra.

"Purging, however, is proper in every stage of the disease, unless gangrene has actually taken place; and should be excited if possible, when bleeding has become inadmissible. For even if some degree of effusion should be suspected, the morbid fluid may possibly be absorbed; and nothing is more likely to promote its absorption and to carry it off through the medium of the circulation, than a discharge from the intestines.

The above method of treatment, Mr. Hey found uniformly and completely successful in the puerperal fever of Leeds, whenever it was fairly tried. In thirty-three patients in which it was employed only three died, and the circumstances of even these latter cases were such as to convince him, that they cannot be considered as instances of its failure. Previously to the adoption of this plan almost every case of the disease proved fatal, out of fourteen patients only three recovering, excluding from the account all such cases as were so far advanced before Mr. Hey was called in, as to preclude the possibility of a recovery. A similar plan of depletion by the lancet was likewise found most successful by Dr. Gordon in the puerpe-

ral fever of Aberdeen, and a variety of communications from different other gentlemen who have made trial of this mode of treatment bear testimony of its efficacy. E.]

PROLAPSUS UTERI.

This complaint consists (as the name implies) in a change of the situation of the womb, by which this organ falls much lower than it ought to do. In some cases, it absolutely protrudes entirely without the vagina. The slighter cases are therefore named a bearing down, and the more violent ones a descent or falling down of the uterus. The complaint is met with in women of every rank and age: but more frequently in those who have had several children, than in such as have not had any.

Every disease which induces general debility, or local weakness in the passage leading to the womb in particular, may lay the foundation of this complaint; hence frequent miscarriages, improper treatment during labour, too early or violent exercise after delivery, immoderate venery, &c. are, in married women, the most frequent circumstances by which a bearing or falling down of the womb is produced. In the unmarried, it is apt to take place in consequence of violent exertions, such as jumping, dancing, riding, lifting heavy weights, &c. while out of order.

The disease comes on generally with an uneasy sensation in the loins whilst standing or walking, accompanied now and then with a kind of pressure and bearing down. By disregarding these feelings, the woman becomes at length incapable of making water without first lying down or pushing up the swelling which seems to impede the discharge of urine, and if the complaint continues to increase, the womb is actually forced out of the parts, and takes on the form of a bulky substance hanging down between the thighs. This severe degree of the disorder seldom occurs, however, among women in northern climates, except in those who have had many children, and are at the same time of a relaxed and feeble frame; but in warm climates it is very frequently to be met with, and particularly in negroes and mulattoes, among whom I often observed the protruded parts considerably ulcerated, and occasioned no doubt by a neglect of cleanliness, and external irritation.

Although prolapsus uteri is a local disease, it is frequently productive of several distressing symptoms which undermine the constitution. These principally arise from disturbed functions of the stomach and bowels, and an impaired condition of the nervous system. When of long-standing, it will be difficult to effect a cure.

In the treatment of this complaint, the means must be adapted to the degree of its violence. When the case is of a recent nature, and the descent inconsiderable, an invigorating diet with horse exercise, the daily use of a cold bath, both general and local, and the injection of some mild astringent liquor into the vagina (as

advised in leucorrhœa) twice or thrice a day, may probably prove successful. But when the disease exists in a higher degree, or is of long standing, a course of tonics with the frequent use of some strong astringent wash* must be added to the means already mentioned.

If the disease resists these remedies, or it shall appear unnecessary to employ them from any idea of their inefficacy, the only relief that can be afforded unless the woman becomes pregnant, is to be obtained by wearing a pessary. This is usually made either of wood or ivory, and if properly adapted to the passage, and of a fit construction, may be worn without much inconvenience, or any pain. Whenever such an instrument is used, certain attentions will, however, be necessary. Thus, the pessary should never be allowed to remain in the passage above a few days at a time, otherwise it may become the source of some irritation. It ought therefore to be withdrawn occasionally on going to bed, be well cleaned, and re-introduced in the morning before the patient quits her bed.

Where a woman who is liable to prolapsus uteri becomes pregnant, there will be no occasion for the pessary after the third month, and by proper treatment, after delivery, a return of the complaint, may, probably, be prevented.

In married women whilst there remains a possibility of pregnancy, the hope of a radical cure remains, because the processes to which the vagina and parts connected with it are subjected after parturition, often produce a permanent reduction of the tumour. In these cases, the principal remedies therefore are pessaries. But the complaint frequently remains after the period of menstruation is over, and when all likelihood of a radical cure is done away. In cases of this nature, Dr. Hamilton, of Edinburgh, has attempted, by exciting artificial inflammation of the vagina, to procure an adhesion of its sides, and thus to form what he terms, a fleshy pessary. Unhappily Dr. Hamilton failed in the experiment which he made for this purpose.

DISEASES OF INFANTS.

MUCH attention and experience are required to treat the diseases of infants judiciously; close and repeated observation being the principal means of supplying the want of that kind of assistance which the personal information of adult patients generally affords.

* ℞. Cort. Querci ℥ij.
Aq. Puræ Oij.
Coque ad dimidium et colaturæ adde
Aluminis ʒiss.
Zinci Sulphat. ʒss. M.
ft. Injectio.

Vel

℞. Aluminis ϑiv.
Plumbi Superacet. ϑss.
Aq. Rosæ ℥x. M.

The disorders of early infancy are, however, more obvious than has been generally supposed; their number is comparatively small; their causes are uniform; and the treatment of most of them is simple and pretty certain.

Improper food, confined and unwholesome air, the want of due exercise and cleanliness, difficult dentition, and unhealthiness of the parents, are the most general causes of the diseases of infants. Others have indeed been enumerated both by ancient and modern writers, such as their general laxity, the greater irritability of their nervous system, and the delicacy of their muscular fibres, which may indeed be considered as so many predisposing causes.

The symptoms of the first diseases of infants (by which we also judge of their nature) are chiefly retention and excretion, sour belchings, sickness, vomiting, purgings, inquietude, crying, wakefulness, heaviness, loathing of the food, contractions and sharpness of the features, blueness about the mouth, turning up of the eyes, sudden startings from sleep, thirst, heat, the manner of breathing, and of crying, retraction of the lower extremities, hardness and distention of the belly, and pustules or eruptions, external or internal. To these may be added, the openness or firmness of the fontanelles and of the sutures, the strength and figure of the bones, and the relaxation or contraction of the skin in general, and of the scrotum in particular. The pulse and urine are less certain marks, in the greater number of their complaints, than they are in older children and adults.

Having thus briefly noticed the causes and symptoms of infantile diseases in general, I shall proceed to consider each separately. Small-pox, chicken-pox, measles, scarlatina, and such other eruptive diseases, together with croup, hydrocephalus, ophthalmia, whooping-cough, scrofula, rickets, tinea capitis, worms, and a great many other diseases, being equally liable to attack children of a maturer age, have already been noticed in the preceding pages of this work, in the class and order to which each belongs.—See the Index.

As it is always more desirable, as far as we are able, to prevent diseases, rather than to cure them, and to obviate the causes rather than to remove their effects, I beg leave, previous to my entering on the treatment of infantile diseases, to offer a few observations on the diet and proper management of young children.

During the first months of a child's life, the milk of its mother is unquestionably preferable to every other kind of nourishment, and even to the milk of another woman, provided the parent is in good health, and labours under no malformation of the nipples, or constitutional imperfection of importance. As, however, it is usually more convenient, and at times absolutely necessary, to bring up the child partly by the hand, as it is called, at the same time that it sucks, we should be careful to regulate the diet both with regard to quality and quantity, that its stomach may neither be disordered with what is improper, nor be oppressed with excess.

The food which is prepared by art, should be thin and liquid, and be made fresh every day. It is to be offered to the infant frequently by little at a time, and at proper intervals, and not to be crammed down its throat as often as it awakes from sleep, or cries, as is the custom with many nurses. Instead of a spoon, a horn or glass bottle, covered with parchment, and perforated, so as to imitate a nipple, may be used. This gives occasion to some little exertion in sucking, imitative of what we see in nature, and is, morever, attended with the advantage, that the infant will not be gorged, or induced to take more than it really wants.

At first, it will be sufficient to give infants occasionally, along with the breast, a little milk and water warmed to the temperature of the mother's milk, with a very small proportion of sugar, or we may substitute thin gruel made from rice, or arrow-root, mixed with about a third of cow's milk, which may occasionally be changed for thin panada made with bread or water biscuit, with a due proportion of fresh milk; but all these should first be passed through a lawn sieve, to insure their being thin and smooth.*

At the end of five or six months, the diet may be made a little stronger, consisting of plain mutton or chicken-broth, clear and free from fat, or beef-tea, and occasionally, some light pudding may be allowed, rather rice pudding. About the eighth or ninth month, a small portion of animal food of easy digestion, may be given, particularly if nature has pointed out its propriety by early dentition.

If teething commence soon, and go on well, the infant may be weaned at about nine months old; but if dentition be late, or accompanied with much irritation, it may continue at the breast, for a whole year, provided the health of the mother will admit of it, or that she is not again pregnant. When the child is weaned, any kind of light plain animal food may be allowed it once a day with a due proportion of vegetables, consisting principally of the farinacea, as flour, rice, sago, &c.

From a mistaken expectation of strengthening weakly children, some people give them animal food twice or thrice a day, but this is injudicious. The most proper drink for children will be plain water.

The practice of swathing infants with bandages is now judiciously laid aside. The rule to be observed with respect to the article of dress, ought to be, that a child have no more clothes than are necessary to keep it warm; that they sit easy and loose on its body; and that they be changed frequently, especially when they happen to be wetted. Dirty clothes not only gall and fret the tender skin of infants, but likewise give them an unpleasant smell, and are apt to produce cutaneous disorders, whereas cleanliness,

* Dr. Clarke, in his Commentaries on the Diseases of Children, prefers fresh rennet whey, to cows milk, for the food of infants. E.

assisted by gentle friction with the hand over every part of the body morning and night, together with proper ablutions with tepid or even cold water, tends greatly to preserve the health of children, and promotes perspiration.

In dressing the infant, if the nurse observes the skin any where chafed, after washing the parts, and drying them well, let her apply a little common hair-powder to it by means of a puff; but if much galled, which will sometimes happen at the time of teething, particularly in very fat children, from the heat and sharpness of the urine, let her bathe them with a wash composed of two parts of common water and one of rectified spirit, and afterwards sprinkle them with a little prepared chalk or Fuller's earth, powdered very fine. When cutaneous eruptions appear during dentition, no repellent application should be employed.

A young child should be amused through the day, and not suffered to sleep much during that time, that it may get the more rest by night. The curtains of its bed should not be drawn closely round, that it may breathe free and easily. It should be early accustomed to be much in the open air, for vigour of the body conduces to that of the mind; and as it is incapable of any exercise of itself, it should be the business of its nurse or other attendant, to toss it well about in her arms from time to time. If the season of the year will admit of it, bathing the child frequently in cold water will very much tend to strengthen and invigorate it.

The chamber which is appropriated for the nursery should be roomy, and it ought to be kept remarkably clean, sweet, and properly ventilated.

Asphyxia.

The apparent cessation of life in new-born infants may be owing to various causes, such as universal weakness of the vital powers, collections of glairy matter in the vesicles of the lungs, the introduction of a quantity of the liquor amnii into the trachea, and a congestion of blood in the lungs, arising either from the neck of the child being tightly encircled by the os uteri or navel-string, or from the head being long detained in the passage.

When universal weakness of the vital powers seems to be the cause, we must be cautious not to suffer any effusion of blood from the umbilical cord. The communication between the child and the mother should be kept up as long as possible; for which reason, we should avoid any violent pulling at the cord, that the placenta may not be too soon detached; and we should likewise not be in a hurry to apply a ligature.

It not unfrequently happens, after a tedious labour, that the child is so weak and faint, as to shew little or no signs of life. In such cases, after cleansing it and wrapping it in flannel, we should stimulate its temples and nostrils with spirits of hartshorn, and rub

its chest with brandy.* If these means fail to excite the languid circulation, we should then introduce a pipe or catheter into its mouth, and thereby endeavour to inflate the lungs; which plan ought to be pursued for a considerable length of time, as there is great reason to suppose, that many children might be saved were we to adopt the means which have been pointed out, and continue them long enough. Stimulating the intercostal muscles to contraction, by pouring cold water on the child's thorax, so that air may rush in by the glottis, may likewise be tried. Besides inflating the lungs, and pursuing the other steps which have been mentioned, care should be taken that the child does not lose its heat; for which reason, it will be adviseable to put it into a bath of warm water, and while this is preparing, it may be enveloped in warm flannel.

Where a portion of the liquor amnii gets into the trachea, and produces asphyxia, or the mouth of the infant is discovered to be filled with a glairy matter, rendering the respiration difficult, sonorous, and rattling, we must not only rinse the throat of the child, but likewise place it in an attitude which will facilitate the discharge of the liquor. Having done this, we should endeavour to re-animate the infant, by inflating the lungs, and then pressing out the air, imitating in this way, for a considerable length of time, natural respiration.

If a congestion of blood in the lungs, from the causes before mentioned, has occasioned the suspension of life, the most proper step to be pursued will be, to suffer a small quantity of blood to be lost from the end of the divided cord.

The same will be adviseable after a tedious labour, where there is much stupor present, in order to lessen the determination of blood to the head.

Professional men being often called upon to give evidence before a court of judicature in cases of supposed infanticide, it seems right to mention, that much careful observation is required to discriminate between a child that is still-born, and one that has lived only a short space of time after its birth. Various appearances also, both internal and external, may be mistaken for marks of violent death. Even the swimming of the lungs in water, a test on which much reliance has been placed, is, on many occasions, found to be fallacious; for they will float in consequence of a putrefactive process having commenced, as well as when filled with air by respiration.

Those who wish to make themselves well acquainted with medical jurisprudence, will derive full information from Dr. Hunter's Remarks, inserted in the 6th volume of Medical Observations and Inquiries, p. 271; and from Dr. Farr's Translation of Joh. Fred. Faseli's Treatise on such Tokens in the Human Body as are requisite to determine the Judgment of a Coroner and Courts

* Or rather, with a little dry flour of mustard. E.

of Law, in Cases of Divorce, Rape, Murder, &c. London, Becket, 1788.

The Black or Livid Colour of Infants.

It sometimes happens, that immediately after birth, the face and neck of the infant put on a livid or black appearance, the lips become purple, and the breathing short; which symptoms either go off soon again, or terminate in death. They are to be attributed either to some mal-formation of the heart or lungs, or to the vessels having imperfectly undergone those changes which are necessary for all animals who breathe the common air. I know of no remedy likely to remove these appearances.

A Retention of the Meconium.

A dark-coloured viscid matter, known by the name of meconium, is contained in the bowels of all infants at their birth, and is usually discharged during the two or three first days, in consequence of the milk of the mother, which is first secreted, being somewhat of an aperient nature.

In general, this will be sufficient to bring off the meconium; but where it fails to do so in the course of a day or so, the aid of medicine may be necessary, and the best we can employ is about half a drachm of the oleum ricini, repeated every two hours until it operates. If this do not act readily, a clyster of thin gruel, with a little olive oil, may be thrown up into the intestines.

The custom of drenching children with some drug or other the moment they are born, whether requisite or not, with the view of carrying off the meconium, is highly reprehensible, for, in most cases, the milk of the mother will of itself be amply sufficient.

The Yellow Gum, or Icterus Infantum.

This is a species of jaundice, which affects many children at or soon after their birth, and which usually continues for some days.

It has generally been supposed to arise from an obstruction of the biliary ducts forcing the bile back upon the liver, from the meconium impacted in the intestines, or from mucus or viscid matter clogging the ductus communis.

The effects produced by it are, languor, a yellow tinge of the skin, bilious urine, and a tendency to sleep, which is sometimes fatal, where the child is prevented from sucking.

For the most part the disease is easily removed by clearing the intestines by some mild laxative, such as the oleum ricini, where the mother's milk does not of itself prove sufficiently aperient.

The disease, in some instances, has been supposed to proceed from a viscid matter obstructing the gall-ducts. In these it may be necessary to give a gentle emetic consisting of a few drops of

the tartarised wine of antimony,* and on the succeeding day we may administer four or five grains of rhubarb, or magnesia calcinat. Should the yellowness continue after these means have been adopted, the emetic as well as the opening medicine may be repeated in the course of a few days. Dr. Underwood mentions that in those cases where an emetic has been objected to, and the attention devoted wholly to keeping the belly open, the yellowness not unfrequently will continue to the end of the month, accompanied with languor and other symptoms of debility.

We now and then meet with instances, where infants are affected with the true jaundice, distinguished by the skin being every where discoloured, as well as the whites of the eyes. Sometimes this appearance is of little importance, scarcely requiring any particular medical aid, and disappearing spontaneously; but in other cases, the infant appears to suffer much. In these, besides employing daily frictions to the stomach and belly, as well as a warm bath, we should administer saponaceous and other medicines as advised under the head of jaundice, (See that Disease.)

Excoriations and Ulcerations.

From a neglect of proper cleanliness, children are very apt to become chafed in the wrinkles of the neck, behind the ears, and in the groins.

To remedy occurrences of this nature, it will be proper to bathe the excoriated parts twice or thrice a day with a little warm milk and water, and afterwards to sprinkle them with some absorbent powder, such as tutty or calamine, laying over all a bit of scorched linen rag. Where the excoriation is very considerable, a wash composed of two parts of rectified spirit and one of common water, may be used. A little of the ceratum plumbi superacetas spread upon fine lint may be employed as a dressing. In obviating excoriations, we are however to be cautious in drying up discharges behind the ears in infants, as very bad consequences have been observed to ensue from making use of repellent applications in such cases.

In some children of a gross habit of body, and particularly about the time of teething, a species of excoriation extending low down in the neck is apt to take place, which at length degenerates into large deep sores, and not unfrequently has terminated in gangrene. Here fomentations of cinchona will be necessary, and we should at the same time administer its powder internally. Cases of this nature do not occur, however, very frequently.

Where ulcerations ensue, and they are large and painful, fomentations of poppy-heads boiled in milk will be likely to prove beneficial. Should they show no disposition to heal after such treat-

* Unless the infant be very robust, it would be safer to employ the vinum ipecacuanhæ. E.

ment, some mercurial application* may be made use of, and this may be laid on morning and evening spread on a bit of soft linen or fine lint. Where alteratives are thought necessary, small doses of the submuriate of mercury with the testacea may be given internally.

Hiccups.

Some infants are much incommoded by hiccups, and they arise probably either from acidity in the stomach, or from some nervous irritation.

In the former case, a powder composed of a little prepared chalk and rhubarb (about eight grains of the former, with two or three of the latter) may prove beneficial. In the latter, it may be proper to give a few drops of the spiritus ammoniæ aromaticus, or the tinctura camphoræ comp. In some instances, a little plain vinegar has proved an effectual remedy. Where the complaint is severe, or returns frequently, it may be adviseable to rub the stomach with soap liniment, to which a little tincture of opium has been added.

Infantile Erysipelas.

[This disease is almost entirely confined to the crowded wards of the hospital:—for its history and mode of treatment the reader is referred to Dr. Underwood's Treatise on the Diseases of Children. E.]

Cutaneous Eruptions.

Children at the breast are very subject to slight eruptions, particularly during the first month. Of this kind is the red-gum, which consists in an efflorescence of small red spots, most usually confined to the face and neck, but in some cases extending to the hands and legs, and even over the whole body, appearing in large patches, and sometimes raised considerably above its surface. Now and then it shows itself in the form of small pustules, which are filled with a limpid, or sometimes a purulent or yellow fluid.

Every species of this eruption has generally been attributed to a predominant acid.

All that is generally necessary in this complaint is to give a little magnesia, or testaceous powder, according to the state of the bowels, and to keep the child moderately warm; otherwise by the

* ℞. Hydrargyri Submuriat. ʒj.
Unguent. Sambuci ℥j. M.
Vel
℞. Unguent. Hydrargyr. Præcip. Alb. ʒij.
——— Cetacei ʒvj. M.

rash striking in, it will occasion sickness and purging, till perhaps the eruption appears again on the skin. In cases of nausea at the stomach, or any disposition to fits upon this eruption being repelled, some light cordial, such as a few drops of the spiritus ammoniæ aromaticus, may be given twice or thrice a day, and the child's feet, or perhaps the whole body, be put into warm water. The state of the skin and bowels has a peculiar consent; and on this account infants whose first passages have been frequently disordered, are always benefited by eruptions on the skin. In such, peculiar care is therefore necessary to guard against their being repelled, as well as to invite their return.

Another species of eruption which is frequently to be met with in young children, is that to which medical writers have given the name of crusta lactea or lactumen. This often puts on a very unpleasant appearance, but is nevertheless of an innocent nature, and it has been observed that those children who have been much loaded with it, have usually been healthy, and have cut their teeth easily. A remarkable circumstance attending this eruption is, that however thick and long-continued the scabs may be, the crusta lactea never excoriates, nor leaves any scar on the parts.

The crusta lactea appears first on the forehead, and sometimes on the scalp; and then often extends half way over the face in the form of large loose scabs, which, as the disorder increases, appear not very unlike the small-pox pustules after they have become dry. It begins with white vesicles larger than the itch, will soon become of a dark colour and then scab, with an efflux of ichor and great itching of the parts affected.

The rash generally disappears of itself when the child has cut three or four teeth, though it may sometimes continue for several months, and in a few instances even for years. In such cases, testaceous powders, the submuriate of mercury, and other alteratives, have usually been administered, but in general without success. Sulphureous waters might probably have a good effect. In very bad cases, a blister might prove serviceable.

During early dentition a rash very much resembling the measles is apt to make its appearance, and this usually continues very florid for three or four days, but it does not dry off in the manner of that disease. It is often preceded by nausea and vomiting, but is attended with little or no fever. During the continuance of the eruption, a few doses of the testaceous powders, with the addition of a little of the nitrate of potass, will be the most proper medicines; and when it disappears, some gentle laxative may be adviseable.

Other rashes, in which the spots are larger and often attended with some degree of fever, (occasioned probably by the irritation of teething,) are frequently to be observed during a more advanced stage of dentition, particularly while the double and eye teeth are cutting. These require only a proper attention to be paid to the state of the bowels, unless the fever is considerable; in

which case we should pursue the steps recommended under the head of Dentition.

A slight species of essera or nettle-rash, is another eruptive disease, to which infants are liable; but this requires in general little attention, and often disappears in a few hours. When the body is much covered with eruptions, and they remain long out, attention should be paid to their not being repelled suddenly by any exposure to cold, or by any other improper treatment; but should they happen to strike in, we may then have recourse to the tepid bath and light cordials, in order to solicit their return to the surface of the body, which will be of the greatest consequence should the child suffer much from the repulsion.

An eruption very much resembling the itch is sometimes to be met with in infants at the breast; as likewise in children who have cut their first teeth. It will in general, be removed by the remedies suited to the latter disease.

In all the eruptive complaints of infants, their taking cold ought carefully to be guarded against, and the belly should be kept open. If the child is sick at the stomach, a little magnesia or testaceous powder with a small addition of the pulvis contrayervæ compositus may be given now and then. Should the eruptions strike in suddenly, every mean should be used to reproduce them again on the surface of the body. Repellent applications should never be employed when eruptions appear during dentition.

In consequence of some bad quality in the milk of the person who nurses the child, it sometimes happens that an eruption comes out on different parts of its body. In all such cases the nurse should be changed. Constipation should likewise be obviated, and some gentle absorbent medicine be given once or twice a day.

Acidities, Gripes and Flatulency.

Costiveness, improper or too much food, bad milk, weak digestion, and that natural tendency there is in the stomach of all children to generate acidity, are the causes which give rise to these affections.

When the food becomes acid on the stomach, instead of being properly concocted and converted into chyle and blood, it is likely to give rise to continual crying, restlessness, drawing up of the legs forcibly to the body, hiccups, vomiting, diarrhœa, flatulency, sour eructations, griping pains, green stools, and a depression of strength; and where the irritation is very considerable, convulsions are apt to ensue.

If acidity prevails in a high degree, and the infant is troubled with sour belchings and much irritability at the stomach, it may be adviseable to evacuate its contents by a weak solution of tartarised antimony, given in the quantity of one or two tea-spoonfuls every quarter of an hour, until a sufficient effect has been procured; af-

ter which, a few grains of rhubarb and magnesia may be ordered, to carry off the remaining offending matter.

To prevent any fresh accumulation of the same nature, it will be proper to give as circumstances may seem to require, a little of the mistura cretæ, but more particularly where any severe degree of purging attends. Together with these or other remedies, exercise, and frictions of the body, but of the abdomen in particular, should not be forgotten.

Acidities and flatulency sometimes prevail in so high a degree as to occasion severe griping pains, perfectly obvious by the infant's screaming, crying, and drawing its knees up to the belly, with the presence of abdominal tension. In such cases it will be necessary to dislodge the contents of the intestines, should costiveness prevail, by some gentle laxative; after which we may administer absorbents and carminatives; the last of which we may give in a clyster* as well as by the mouth; and where the pains seem very acute, and by no means relieved, we may make a small addition of opium. As opiates do not however agree well with children, they should not be resorted to on trivial occasions. Besides adopting these steps, it will be proper to apply warmth externally to the stomach and bowels by means of heated bran, or chamomile-flowers put into a soft flannel bag, which will greatly assist in abating the pain.

Children that are partly brought up with the spoon, and who are very subject to flatulency, should always have a few caraway seeds boiled up with their food.

As acidities, gripes, and flatulency, seem frequently to originate in some error of the diet, the proper regulation of this ought to form a principle part of their cure. Sometimes it may be necessary to change it almost wholly, or at least to diminish the quantity of whatever farinaceous substances are used, and substitute milk and animal soups.

A costive habit of body is very apt to occasion flatulency and griping pains in infants. This ought therefore to be obviated by giving twice or thrice a week, as the occasion may require, a small quantity of the oleum ricini, or we may substitute a few grains of magnesia in a spoonful of the aqua anethi sweetened with a little syrup of roses, or manna, to which may be added a few drops of tinctura sennæ in order to render it warmer, and quicken its operation. Either of these will be preferable to rhubarb, as this possesses too restringing a power, which is not to be counteracted even by joining it with magnesia. To promote the peristaltic mo-

* ℞. Decoct. Hordei ℥iv.
Ol. Olivæ ℥ij.
— Anis. ♏. iv. M.
ft. Enema.
Adde pro re nata
Tinct. Opii ♏. viij.—x.

tion in costive habits, it will be adviseable to rub the region of the stomach and belly several times a day with a piece of flannel or the hand somewhat warmed, in addition to using medicine.

Where flatulency is an attendant upon a lax state of the bowels and indigestion, its remedy will consist in a removal of these complaints, as advised under the heads of Diarrhœa and Dyspepsia.

Dr. J. Clarke, of Dublin, observes,* it is the general opinion of writers on the diseases of infants, that by far the greater number of these originate from acidity or coagulation of the milk, and that therefore absorbent and saponaceous medicines ought to be used, to counteract these morbid causes. From various considerations, he is induced to suppose that this opinion is founded on a fallacious analogy and superficial observation of the matters evacuated by infants. He finds, that healthy human milk suffers no coagulation from acids, ardent spirits, runnet, infusion of the stomach of a fœtus, nor from any of the known coagulating substances; and that it contains little or nothing of that matter which constitutes curd, so that there can be no power in the stomach of an infant to separate curd from it: that though it is supposed prone to run into an acescent or acid state, it is far less so than that on which the young of ruminant animals are fed; a cow's milk acquiring greater acidity in thirty-six hours than the human milk does in many days; and that cow's milk in moderate warmth becomes offensively putrid in four or five days, a change which human milk does not undergo in many weeks and sometimes months. He finds also that green fæces, commonly ascribed to acidity, because bile is turned green by acids, cannot arise from acid milk, because it is only the mineral acids which produce that change of colour; nor has the daily use of sour milk or vegetable acids any such effect on adults, and fæces of this colour are observed in cases where no acidity has been suspected.

Dr. Underwood, in speaking on the properties of human milk,† enters into a controversy with Dr. Clarke for alleging that this contained no sensible quantity of curdy mattter. From the experiments made by the former of these gentlemen it appears that the human milk does really contain no inconsiderable portion of curdy or caseous matter, though its separation is attended with peculiar circumstances. He allows that neither runnets, acids, nor spirits, separate any very sensible quantity of this curd in the space of eight and forty hours, as they constantly do in cow's milk; but that in a longer time it is afforded in evident quantity. It appears also that human milk has less tendency than other kinds to run into acescency or putridity. The length of time necessary for the

* See his Treatise on the Properties attributed to human Milk, inserted in the Transactions of the Royal Irish Academy.

† See his Treatise on the Diseases of Children.

separation of the curd seems to have been the cause, in Dr. Underwood's opinion, of Dr. Clarke's denying its existence.

In a practical view this difference of sentiment on the subject does not seem very important. Although the coagulation of milk in the stomachs of infants labouring under disease, be granted, it does not follow, that the chief attention of the practitioner should be directed to the destruction of the acidity, as the means of preventing such coagulation. For the acidity itself is only an effect, arising from a diseased action of the stomach, which of course would engage his attention.

Of Vomiting.

When what has been taken is returned crude and unaltered, it may be suspected to arise from over-feeding, and to require nothing more than temperance for its cure. Vomiting, however, is often an attendant on other complaints, and sometimes of itself constitutes an original disease.

Where there is a vomiting of digested food, it will be right to change the mode of diet, or to open the body by some gentle aperient. If these means do not answer, and the vomiting continues, it will be proper to clear the stomach by a gentle emetic, afterwards giving the saline medicine in an effervescing state, with a drop or two of the tincture of opium. We may at the same time apply a blister over the region of the stomach, or rub it well with an anodyne liniment.

Of a Looseness of the Bowels.

Various causes may and do occasion a diarrhœa in infants, and perhaps in the greater number of instances it is brought on, either by too much or unsuitable food, in which cases a diligent attention must be paid both to the choice and regulation of the diet.

In some instances, however, it may be symptomatic of other diseases, or may arise from an exposure to cold, or an increased secretion of bile. In the latter case, it may be adviseable first of all to cleanse the stomach by a gentle emetic; but in all, it will be proper to clear the intestines by a few grains of rhubarb and magnesia, the operation of which being over, we may give a little of the prepared chalk,* joined with some aromatic, twice or thrice a day.

When the stools continue to be more frequent than they ought to be, and are either slimy or tinged with blood, it will be neces-

* ℞. Cret. Præparat: ℥ss.
Tinct: Lav: C. ℥jss.
—— Card. C. ℥ij.
Sach: alb. ℥ss. M.
Cap. Cochl. min. j bis terve in die.

sary to repeat the rhubarb and magnesia at proper intervals,* and in the mean time the infant may take something to control the complaint,† as well as proper nutriment to recruit its strength. Flour, sago, or rice boiled in milk, together with the jelly of a calf's foot or isinglass, with a small addition of wine, or a small portion of sound brandy, will be good articles of diet under such circumstances.

In addition to these means it will be adviseable to envelope the infant's body in flannel, so as to keep it of a proper temperature.

That form of diarrhœa which is attended by green stools and griping, may in general be removed readily by a brisk laxative, consisting of the submuriate of mercury and rhubarb, followed by small doses of magnesia and chalk. When obstinate, we may give half a grain of hydrargyri submurias each or every other night. The application of a small blister about the size of a crown piece, to the pit of the stomach, will sometimes produce a very good effect, where internal remedies have failed.

When the irritability of the intestines seems to be great, the fluid stools being thrown out with quickness and force, and the strength appears to be rapidly sinking, we may advise a clyster composed of starch, arrow-root, or rice water and milk, with a few drops of tinctura opii to be injected twice or thrice a day. The external application of opium by friction or plaster, is likewise useful. In such cases the application of a blister proves frequently of great use.‡

* If there be any pain in the bowels, it will be proper to substitute the ol. ricini in small and repeated doses. E.

† ℞. Confect. Aromat. ℈j.
Aq. Puræ
— Cinnam. āā ʒjss.
Tinct. Catechu ʒj.
—— Opii ♏. xij. M.
Cochl. unum Infantis mane, hora meridiana, et nocte sumendum.

Vel

℞. Misturæ Cretæ ʒij.
Aq. Cinnam. ʒj.
Tinct. Kino ʒj.
—— Opii ♏. xij.—xv. M.
ft. Mistura cujus capiat Cochleare Infantis bis terve in die.

‡ There is no disease, excepting perhaps cholera, which proves more fatal to children in the populous cities of the United States than diarrhœa, and as the treatment of it, advised by Dr. Thomas, though correct in its outline, is not altogether so explicit as the importance of the subject requires, the Editors have thought proper, in addition to what he has said above, to add, that when the symptoms indicate the existence of considerable debility, cordials and stimulants are the only remedies of much avail, though when the stools are green, curdled and frothy, the cretaceous julep, with the addition of a small quantity of cinnamon, or aniseed water, and a very small portion of tinct: opii, in each dose, is a useful auxiliary, as it serves to correct the irritating acid which usually abounds, and to ease the griping and spasmodic affection

Trismus Nascentium, or the Locked Jaw of Infants.

This is a disease of very frequent occurrence in the West Indies, where many infants are carried off by it soon after birth, and especially negroes and those of colour, as they are usually called. It is well known, however, to prevail in other parts of the world, and is frequently met with in Minorca,* in Switzerland, some of the northern districts of Scotland, especially in the island of St. Kilda, and among the children of the Westmann islands† near Iceland.

In most cases the disease is wholly confined to the jaw; but in a few a considerable contraction and rigidity of other muscles of the face, with strabismus and rolling of the eyes, together with subsultus tendinum, have been observed.

It has been attributed to costiveness, and not purging off the meconium in the bowels; to dividing the navel-string with a blunt lacerating instrument; to not paying attention to its falling off, and consequent irritation from a neglect of the remaining sore; and to exposures to cold, and currents of air, negro women being usually

of the intestines at the same time. Wine seldom agrees; but spiced brandy copiously diluted with water, or hot brandy toddy rendered agreeable by the addition of powdered nutmeg, generally does, and if given of proper strength is frequently beneficial; though we have in general found strong aniseed or cinnamon tea more grateful and equally effectual. In such cases, much benefit has sometimes been derived from the following:

℞. Magnesiæ Calcinat. ʒiij.
Gum. Acaciæ Pulv. ʒj.
Sach. Alb. ʒss.
Liq. Ammon. Sub. Carb. ♏. xxxij.
Spir. Lav. Comp. ♏. lxij. vel,
Ess. Menth. Pip. ♏. xvj.
Aq. Font. ℥iijss. M. cap. Cochl. min. j. vel ij. quaque secunda, tertia, vel quarta hora.

If the symptoms denote the pain to be spasmodic and not inflammatory, from the fourth of a drop to 2 drops of the tinct. opii should be occasionally added to each dose. These not succeeding, mucilaginous and carminative injections, with the addition of 4 to 12 drops tinct. opii to each, should be employed. The stomach and abdomen is also to be rubbed three or four times a day, with a warm stimulating liniment composed of ol. caryophil. or organum, and essence of mustard with the addition of camphor and oil of olives, or it may be covered with a plaster composed of Pulv. Zingib. ol. caryophil. or ol. anis. and yellow basilicum spread on soft leather. E.

* See Cleghorn on the Diseases of Minorca.
† — M'Kensie's Travels in Iceland, p. 413.

permitted to lie in at their own houses, which are often in but very indifferent repair.

I am much inclined to suppose that the disease often arises in negro children from the want of attention to the falling off of the navel-string, and the consequent irritation from a neglect of the remaining sore. The period at which the disease occurs seems to correspond exactly with the falling of the funis, and the ulceration left behind.

No effectual means has as yet been discovered for the cure of this disease, all that can be done therefore is to avoid as much as possible the several causes which have been mentioned as being likely to give rise to it. Every lying-in woman ought therefore to be accommodated in a comfortable house, which is annoyed neither by smoke, rain, nor any partial current of air. On the birth of the infant, the navel-string should be divided with a pair of sharp scissors, after which the portion that remains should be wrapt up in a little scorched linen. No force whatever must afterwards be used to bring on its separation; it should come away spontaneously; and if any little ulceration is left behind, it ought to be attended to, and daily be dressed with some mild healing ointment, such as the unguent. cetacei or ceratum calaminæ, avoiding at the same time any great pressure upon it by bandages.

As I have supposed the disease to arise most commonly from the irritable state of the divided funis, might it not be adviseable, by way of prevention, to wet the part frequently with a watery solution of opium?

To remove costiveness, and carry off the meconium, which has been assigned by some practitioners as a probable cause, one or two tea-spoonfuls of the oleum ricini may be given to the child the day after its birth, which may again be repeated in two or three days, should the mother's milk not procure a sufficient number of stools.

On an attack of the disease, we ought certainly to have recourse to the means advised under the head of Tetanus, however unsuccessful they may be likely to prove. A few recoveries, it is said, have been effected by the warm bath.

Febris Infantum Remittens, or the Infantile Remittent Fever.

[The disease, treated of under this title, by different writers, appears to be nothing but a variety of the common remittent fever of adults, modified by the difference of constitution, and requiring a similar plan of treatment for its removal, only keeping in view the difference in the age of the patients. For its treatment the reader will therefore refer to the chapter on the remittent fever. E.]

Aphthæ, or Thrush.

VARIOUS causes of derangement in the alimentary canal, particularly in the stomach, are to be regarded as the causes which occasion aphthæ. It may also be frequently referred to mismanagement in the mode of bringing up the child, particularly with regard to food, air, and the state of the bowels.

The disorder generally appears first in the angles of the lips, and then on the tongue and inside of the cheeks, in the form of little white specks. These increasing in number and size, run together more or less according to the degree of malignity, composing a thin white crust, which at length lines the whole inside of the mouth from the lips even to the œsophagus, and is sometimes found to extend into the stomach and throughout the whole length of the intestines; producing also a redness about the anus. When the crust falls off, it is frequently succeeded by another of a darker colour, or livid hue; but this happens only in the worst kind of thrush, for there is a milder sort that is spread thinly over the lips and tongue, which returns a great many times, and always lasts for several weeks.

When the thrush is an original disease, it is never attended with any fever at its commencement, although the mouth is frequently so much heated as to excoriate the nipples of the nurse, and becomes so tender that the child is often observed to suck with reluctance and caution; but when it has arisen in consequence of severe bowel complaints or other infantile disorders, it is then sometimes accompanied with fever and severe diarrhœa. Even in very bad kinds of thrush there does not appear, however, any evident fever at the commencement of the complaint; but towards the close it may be apparent, and is sure to be of the low kind. Violent hiccups, vomiting, sense of suffocation, great prostration of strength, severe diarrhœa, coma, the aphthæ being of a brown colour, and any of the symptoms of cynanche maligna attending, are to be considered as very unfavourable.

The disease, when recent, and confined to the mouth, may in general be easily removed; but when of long standing, and extending down to the stomach and intestines, it very frequently proves fatal.

To evacuate the stomach of acidities or other acrimonious humours, it will be proper on the first appearance of aphthæ to give a single emetic. This may even be done in slight cases.

After the operation of the emetic we may recommend a course of the testaceous powders, giving a preference to the purest and softest. If the child be of a costive habit, a little magnesia may be advised; on the contrary, if its bowels are rather loose, and its frame delicate, we may then substitute two or three grains of the compound powder of contrayerva. The testaceous powders are to

be administered for three or four days successively, and then we may prescribe something more laxative, to carry down the scales as they fall off from the ulcerated parts. In mild cases, rhubarb is regarded as the best medicine; but where the child is of a robust habit, and the disease is violent and has extended rapidly, it may be necessary to make an addition of a few grains of the submuriate of mercury.

When a child of a weak habit is attacked with thrush which appears of a malignant nature, and which from its dark appearance threatens to terminate in gangrene, we should give a decoction of the bark of cinchona joined with a little aromatic confection. To render its efficacy the more certain, it may likewise be used in the form of clyster with the addition of a few drops of tinctura opii to prevent its passing off by stool.

In order to keep the infant's mouth clean and comfortable, and to prevent as much as possible any injury to the nurse, as well as to dispose the sloughs to fall off, and incline the parts underneath to heal, it is customary to make use of detergent applications in the form of gargles and lotions. In the gangrenous thrush it will be best to wash the parts frequently by means of a syringe, or a piece of soft linen rag rolled round the finger, with a strong decoction of cinchona bark rendered somewhat sharp with the diluted sulphuric acid; but in common cases of thrush unattended by any disposition to gangrene, we may employ a gargle.*

If the aphthæ extend to the intestines, it may be adviseable to sheathe the parts by emollient clysters,† repeating them twice or thrice a day.

When an excess of purging attends, the medicines advised under the head of Diarrhœa will be necessary.

Prolapsus Ani, or Falling of the Fundament.

We often meet with this disease in children of a weak habit, or who have been much afflicted with severe purgings.

In prolapsus ani, considerable advantages have been experienced from a frequent use of astringent injections, particularly of an infusion of galls or oak-bark; and when a small proportion of opium is added to the liquor, it tends greatly to lessen the irritation in the

[* ℞. Seri alumin. cum
Sach. alb. q. s.
Vel
℞. Gum. Acac. Pulv.
Sodæ Borac. āā ℈iss.
Aq. Rosæ ℥iv. M.
ft. Gargar.—E.]

† ℞. Decoct. Avenæ ℥iij.
Gum. Acac. Pulv. ℥i.
Ol. Olivæ ℥ss. M.
ft. Enema octava quaque hora adhibendum.

extremity of the rectum. The same may be used as a wash to the protruded parts, after which they may be sprinkled with a little Armenian bole, powdered very fine, and then be reduced. Should great soreness be experienced by the reduction, the fingers employed on the occasion may be smeared with some of the ointment here directed.*

With the view of strengthening the parts, the debility of which is, in general, to be considered as the sole cause of this disease, we should advise not only the cold bath in a general way, but likewise the throwing cold water more directly on the buttocks and back of the child; and besides these tonics, it should be put under a course of steel, myrrh, and the bark of cinchona. See these under the head of Dyspepsia.

Atrophia Ablactatorum, or Weaning Brash.

This disease occurs in children that are weaned too early, or such as are attempted to be reared without the breast, and also where improper food is given with or without suckling. It appears most frequently in children of a lax fibre, and whose constitutions at a more advanced stage of life might be supposed liable to the attack of strumous disorders.

It commences with frequent griping and purging, in which the stools are usually of a green colour, and is often accompanied with bilious vomiting. In the progress of the disease, the stools are sometimes ash-coloured and shining, and sometimes lienteric.—Atrophy succeeds to these symptoms, and convulsions often come on, and carry off the child.

A modern writer† supposes the exciting cause of this disease to be too sudden an alteration of the diet of a child at an unfit season.

The weaning brash, if attended to in time, may in general be removed; but if neglected, it frequently proves fatal before the sixth or seventh week.

On dissection, the mesenteric glands usually appear either inflamed or enlarged. In some instances, tubercles have been found in the lungs. In others, the liver is firm, and larger than natural, and the gall-bladder is filled with dark green bile. Remarkable contractions of the diameter of the gut in several parts of the intestinal canal, have been perceived in some instances.

* R. Pulv. Gallar. ʒij.
Adipis preparat. ʒj.
Opii Purificat. ʒss. M.
ft. Unguentum.

† See Essay on the Diseases of Children, by J. Cheyne, M. D. vol. i. p. 34.

A proper attention to diet constitutes the first point to be attended to for the removal of the disease: and, above all, a return to the natural food, the mother's milk, where circumstances will admit of it. Where they do not, animal food, in the form of broth or jelly, should principally be employed. Vegetable food must be prohibited, as well as fruits, acids, and compositions, of which butter and sugar form a part. Pure air, exercise, gentle frictions, and frequent washings of the body with tepid or cold water will be good prophylatics. Flannel worn next to the skin, worsted stockings, and every precaution against cold irregularly applied, should be attended to. The employment of a warm bath, of a temperature from 90 to 100, twice or thrice a week, might prove advantageous.

For the cure of the disease, occasional gentle laxatives, such as rhubarb, with absorbents and aromatic medicines interposed, together with minute doses of ipecacuanha joined with the submuriate of mercury as prescribed below,* seem most adviseable.

Teething.

Of all the occurrences to which children are liable, not one is attended with such grievous and distressing symptoms as difficult dentition. With regard to the time of their cutting teeth, no fixed or exact period can be laid down, as some cut their first tooth at three or four months old, while others again have not the smallest appearance of a tooth before the eighth or ninth month. Dentition generally commences, however, in the majority of children between the fifth and eighth month, and the process of the first teething commonly continues to the sixteenth at the least, but often much longer. The two fore-teeth, or dentes incisores of the under jaw, are those which usually appear first, and shortly after these are observed, two more come out in the upper one exactly opposite to the two former. These are succeeded by the four molares, then the canina, and the last of all, of an infant's first teeth, their antagonists, or the eye-teeth, making, in all, sixteen. This, it is well known, is the ordinary number of a child's first teeth, as they are called; but some infants cut four double teeth in each jaw instead of only two, making the whole number twenty.

In children who are healthy and strong, the process of dentition goes on as has just been described, and the teeth are cut soon and easily; but, in unhealthy and weak infants, the process is both slow and uncertain. Accordingly, children sometimes cut their teeth

* ℞. Pulv. Ipecac. gr. j. ad ij.
—— Zingib. gr. iij.
Hydrargyr. Submuriat. gr. ss.—j. M. et in Chartulas iv. divide, quarum sumat infans j. singulis aut alternis noctibus.

irregularly, both by the teeth appearing first in the upper jaw, and also at some distance, instead of being contiguous to each other, which has been accounted, and with some reason, an indication of difficult or painful dentition. It may also be remarked, that the ease or difficulty of dentition may be guessed at by the circumstances under which the two first teeth shall happen to be cut, the succeeding ones generally making their way in a correspondent manner.

At six or seven years of age, all children shed their teeth in a gradual manner, and get a fresh set, and about the age of one-and-twenty, four more come out, one in the corner of each jaw, which, from their appearing at that period of life, have been named dentes sapientiæ.

Dentition is usually preceded by, or accompanied with, various symptoms: the child drivels; the gums swell, spread, and become hot; there is often a circumscribed redness in the cheeks, with eruptions on the skin, especially on the face and scalp; a looseness ensues, with gripings, stools of a green, pale, or leaden blue colour, sometimes mucous, and often thick; and the child is watchful and peevish, starts during sleep, and seems convulsed in particular parts of its body. In almost all cases, the child shrieks often, and thrusts its fingers into its mouth. These symptoms are sometimes followed by a cough, difficulty of breathing, scrofula, marasmus, and hydrocephalus, and very frequently by much febrile heat, thirst, and convulsions.

When the child's body continues open, and none of the violent symptoms attendant on much irritation ensue, we need seldom apprehend any bad consequences from teething.

It has been observed, that infants cut their teeth more readily in winter than in summer; that such as are inclined to be lean, cut them more easily than those that are fat, and children whose bowels are regularly open, the most safely of all.

The system during dentition being disposed to inflammation, strong lusty children are much oftener attacked with fever than the tender and delicate.

In those cases where the gum appears considerably swelled, and the child seems to suffer much from the stimulus of the tooth in working its way, it will be adviseable to cut down upon it with a lancet or scarificator. Where no such appearances present themselves, and the child seems, nevertheless, to be very restless and uneasy, we can do little more than attend to the different symptoms.

If acidity prevails, it is to be obviated by the mistura cretæ, or small doses of magnesia; if flatulency and griping pains attend, carminatives, such as caraway-seeds, or a drop or two of the oleum anisi, are to be mixed with the food; if the body is costive, it must be opened with some mild laxative, as the oleum ricini; and if violent startings, with loud shrieks, and a disposition to convulsions

takes place, opiates must be resorted to.* As such, about a teaspoonful of the syrupus papaveris will be the most proper. The application of a blister between the shoulders may also be adviseable.

When a considerable degree of fever attends on dentition, it has been customary to bleed from the neighbourhood of the parts immediately labouring under pain and irritation, and with this view, blood has been drawn from the jugular veins, and leeches have been applied behind the ears. It is probable that the application of small blisters to the same parts might likewise be attended with a good effect. Gentle diaphoretics, particularly the vinum antimonii, or antimonium tartarizatum, in very small doses, together with diluting liquors, if the child does not suck, will also be proper. Where there is a retention of urine, the nitrate of potass and warm bathing should be resorted to.

A slight purging, arising during dentition, should not be hastily stopped, as this, and eruptions on the skin, when spontaneous, are the best means of easy and safe dentition.

The practice hitherto adopted of giving children coral and other hard substances to put into their mouth during the period of teething, is highly improper, as they have a tendency to harden the gums. A piece of small wax candle, that will yield, in some measure, to whatever pressure is made upon it by the gums of the child, may be serviceable.

During dentition, children are sometimes troubled with ulcerated gums; but these may be easily cured by keeping the body open, and touching the parts affected with some astringent application. As much alum as will give a moderate roughness to a little honey, or a little sodæ boras and honey, may be used.

Pure air, proper exercise, wholesome food, an open belly, and every thing that has a tendency to promote general health, and to guard against fever, will greatly contribute to the safety of dentition, as well as to the child's passing quickly through this hazardous period.

Convulsions.

Violent spasmodic affections sometimes attack infants without any apparent cause; but in general they are produced either by a lodgment of some acrid matter in the intestines, or wind pent up, or they arise from teething, worms, the sudden striking in of a rash, or the accession of some constitutional diseases, as for example, the small-pox, scarlatina, &c. Any trifling matter capable of irritating the nervous system will induce symptomatic convulsions in some infants; while others again will withstand a great deal. The younger and more irritable the infant is, the more liable will it be

* If there be febrile symptoms present, opiates would be improper; in such cases the usual depleting remedies, together with an incision down to the tooth, are to be employed. E.

to symptomatic convulsion, especially from any considerable disturbance in the first passages.

When convulsions proceed from any other cause than an eruption of the small pox (in which they are usually regarded as prognosticating a favourable species of it,) they are always dangerous, as well as alarming. A surer indication of danger is to be drawn from the distance of the paroxysm than from the forcible contractions of the muscles during the fit. Where the intervals are short, although the fit itself be not long or violent, the disease is to be considered as more dangerous than where severe paroxysms are attended with long intervals.

In the treatment of convulsions in children, the chief object to be attended to is the removal, if possible, of the cause which has given rise to them. If they seem to be occasioned by improper food and indigestion, a gentle emetic may be given, and for this purpose we may employ a weak solution of tartarized antimony, of which a tea-spoonful may be administered every ten or fifteen minutes until the desired effect is procured. When supposed to proceed from a lodgment of acrid matter in the bowels, this ought to be removed by a laxative clyster, assisted by some gentle aperient given by the mouth, such as calomel, followed by an infusion of senna with a little tincture of jalap; if from flatulency, then carminatives ought to be used, as advised under that particular head; and if from teething, whenever the tooth can be discovered working a passage through the gum, an incision should be made down to the tooth with the edge of a lancet.

Worms having been looked upon as a frequent cause of recurring convulsions, we should always have recourse to the remedies which have been advised under that particular head, when from the prevailing symptoms we suspect them to have been excited by this cause.

Should convulsions have arisen from the sudden disappearance of a rash, or the drying up of a discharge from behind the ears, small blisters ought to be applied, and warm bathing be used.* Internally we may administer a few drops of the spiritus ammoniæ aromaticus.

When the disposition to convulsions continues and the bowels and stomach have been properly cleansed, but not before, we may have recourse to antispasmodics to allay irritation; such as castor, musk, the volatile tincture of valerian, rectified oil of amber, the tinctura opii camphorat. or a few drops of Hoffman's anodyne liquor. Rubbing the spine, palms of the hands, and soles of the feet with the oleum succini or liquor ammoniæ carbonatis, combined with ol. olivar. may likewise have a good effect. The appli-

* In every case of convulsions, where there exists no symptoms of inflammation, or of congestion of the brain, the warm bath will be a proper remedy, and immediately after its use, blisters should be applied. E.

cation of cold fluids or ice to the scalp is asserted by Dr. Clarke,* from experience to be a very useful remedy in the case of convulsions. To relieve the determination to the head, if any exist, it will be necessary to take away blood by leeches, cupping, or opening the external jugular vein.

In those convulsive attacks which frequently precede an eruption of the small pox, nothing will be required but the free exposure of the child to cool air.

The liquor potassæ subcarbonatis given in doses of from five to fifteen drops, according to the age of the child, and repeated every ten minutes, has been known effectually to remove convulsive affections in young children, which had for a length of time resisted the powers of the oxyd of zinc, musk, extractum hyoscyami, clysters of assafœtida, anodyne injections, with opium and blisters. It is probable, however, that in these cases the fits arose from severe griping pains in consequence of acidity.

Where a high degree of organic debility prevails, volatile alkali, viz. the spirit. ammoniæ succinatus in doses of a few drops, in some proper vehicle, may be substituted for the former. In clysters, the liquor vol. cornu cervi is likewise of avail in these cases in a greater or less dose, according to circumstances.

When convulsions are not preceded by any of the usual symptoms, they may be regarded as idiopathic. In difficult labours, for example, the brain is often much compressed, and soon after delivery the child is attacked with fits. In such cases it will be adviseable to let the navel-string bleed one or two tea-spoonfuls before it be tied. Thus the oppression of the brain will be relieved, and the disagreeable consequences will be prevented. But if this has been neglected, and fits have actually come on, we must then endeavour to make a revulsion, and empty the vessels of the head by applying leeches to the temples; by procuring an immediate discharge of the meconium; by putting blisters behind the ears, or to the back; by bathing the feet in warm water; and by rubbing the soles with liquor ammoniæ carbonatis.

Inward fits are much talked of by nurses, and some authors have indeed made mention of them; but more particularly Dr. Armstrong. Infants during the first month are said to be more or less liable to them. The symptoms are these: the child appears as if it were asleep, but the eyelids are not quite closed; and if you observe them narrowly, you will see the eyes frequently twinkle, with the white of them turned up. There is a kind of tremulous motion in the muscles of the face and lips, which produces something like a simper or smile, and sometimes the appearance of a laugh. As the complaint increases, the infant's breath seems now and then to stop for a time; the nose becomes pinched; there is a pale circle about the eyes and mouth, which sometimes changes to livid, and

* See Commentaries on the most important Diseases of Children, by John Clarke, M. D.

comes and goes by turns; the child starts, especially if you stir it ever so gently, or if you make the least noise near it. Thus disturbed, it sighs or breaks wind, which gives relief for a while; but presently it relapses into the dozing. Sometimes it struggles hard before it can break wind, and seems as if falling into convulsions; but a violent burst of wind from the stomach, or vomiting, or a loud fit of crying, sets all to rights again.

For the removal of these, Dr. Armstrong recommends us to give antimonial wine in a few drops, according to the age of the infant; but all that appears to be necessary is, to take up the child when it sleeps too long, and the smile often returns, with any of the other symptoms just described, and to tap it gently on the back, rubbing its stomach and belly well before the fire. This gentle exercise will bring a little wind from its stomach (which is supposed to be the cause of the complaint,) and the child will then go quietly to sleep again. Should these simple means not prove sufficient, some carminative may be given to it, such as a drop or two of the oleum anisi or oleum carui on a bit of white sugar.

Syphilis Infantum, or the Venereal Disease in Infants.

Although a child sometimes shows some appearances of syphilis at the time of its birth, still it more frequently happens that none are to be observed until after an expiration of at least ten or twelve days.

When the disease exists at the time of its birth, or shows itself soon afterwards, it makes its appearance in the form of an erysipelatous efflorescence dispersed over the whole body, the cuticle is in part or altogether destroyed, and a serous matter oozes from the skin. When it makes its appearance some days after the birth, irregular blotches of a light red colour and somewhat elevated, arise about the anus, nates, and pudenda. Crusty eruptions appear in other parts of the body, and these in some places continue dry and scale off, but in others an acrid thin matter exudes from them.

Although we may not be able to trace any marks of the existence of the disease, in either the father or mother of the child, still it may possibly be derived from them.

When children are born with the appearances just described, or several dead births have followed, we may for the most part attribute them to the parents labouring under some constitutional affection of syphilis, without their being probably aware of it. In all such cases it will be necessary to put both of them under a mercurial course.

To effect a cure in a child at the breast, it will in general be sufficient to give the necessary medicines to the woman who nurses it; which office should always be undertaken by the mother, as, by getting any other to suckle it, she would in all probability soon be infected likewise. In the progress of the cure, the same rules and cautions are to be observed as have already been pointed out in

the syphilis of adults. In instances of this nature, an alterative course long persisted in ought to be preferred to that of exciting any degree of salivation.

If it be found necessary to wean the child before the cure is completed, or to introduce mercury into the habit of the child from the very beginning, instead of giving it to the woman who suckles it, we may then direct that it shall take about a quarter of a grain of the hydrargyri submurias, every night and morning, mixed up in a little honey or thick syrup; which course ought to be continued for at least a week or ten days after the disappearance of all the symptoms.

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