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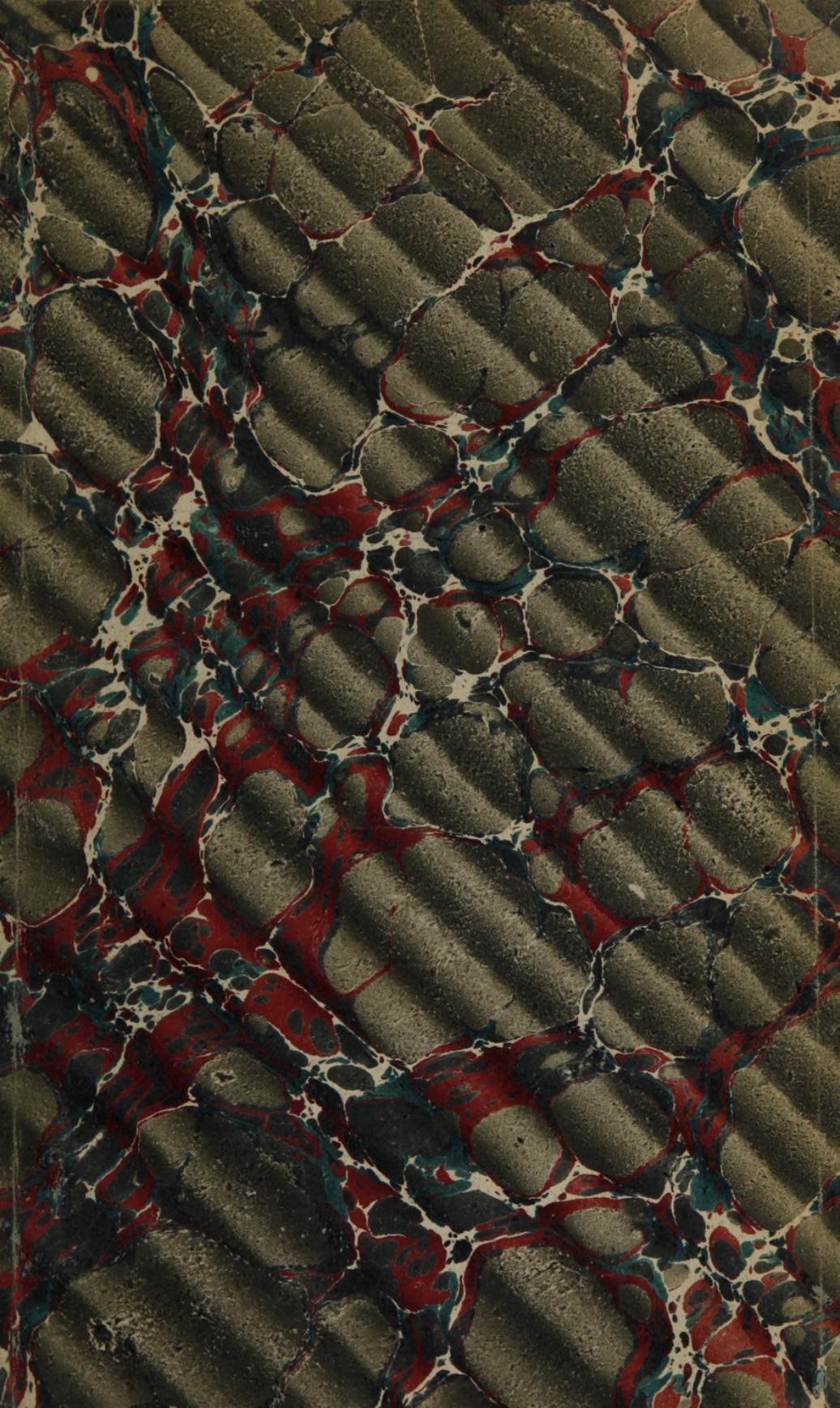
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Section

No. 25317



A

COMPENDIUM

OF

Medical Practice,

ILLUSTRATED BY

INTERESTING AND INSTRUCTIVE CASES,

AND BY

PRACTICAL, PATHOLOGICAL, AND PHYSIOLOGICAL
OBSERVATIONS ;

By JAMES BEDINGFIELD, SURGEON ;

Late Apothecary to the Bristol Infirmary.

“ By a union of experience and reasoning, are the great and valuable objects of Medical Science to be attained.”—*London Medical Repository*, No. 19, P. 2.

WITH NOTES,

By STEPHEN W. WILLIAMS, M. D.

First American from the last London Edition.

GREENFIELD, MASS.

PRINTED AND PUBLISHED BY ANSEL PHELPS.

Nov. 1823.

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District of Massachusetts, to wit :

District Clerk's Office.

BE IT REMEMBERED, that on the twenty-fifth day of September, A. D. 1823, in the forty-eighth year of the Independence of the United States of America, ANSEL PHELPS, of the said district, has deposited in this Office the title of a Book, the right whereof he claims as Proprietor, in the words following, *to wit* :

“A Compendium of Medical Practice, illustrated by interesting and instructive cases, and by Practical, Pathological, and Physiological Observations; by JAMES BEDINGFIELD, Surgeon; late apothecary to the Bristol Infirmary. “By a union of experience and reasoning, are the great and valuable objects of Medical Science to be attained.”—*London Medical Repository*, No. 19, P. 2. With Notes, by STEPHEN W. WILLIAMS, M. D. First American, from the last London edition.”

In conformity to the Act of the Congress of the United States intitled, “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 An act intitled, “An act supplementary to An act intitled, “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.”

JNO. W. DAVIS,

Clerk of the District of Massachusetts.

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PREFACE.

THIS volume forms an epitome of the medical practice of the Bristol Infirmary during the last five years. The object which its author has had principally in view, is the recommendation of that practice in the different diseases treated of, which he has seen, upon the whole, to be the most successful. He trusts that to the junior members of the medical profession, and to those whose conversation has been rather with books than actual disease, his endeavours to promote a knowledge of the most efficient remedies will not prove unacceptable.

In the schools of physic, and in books, such a multiplicity of remedies for diseases is sometimes enumerated, that the inexperienced practitioner is bewildered in his choice of them. In this volume he will find that an allusion to medicines of doubtful or of but little efficacy, is very rarely made.

The authenticity of the cases related may be relied upon. Well aware of the difficulty of engaging the attention to the perusal of long cases, the author has compressed his, as much as possible. It is to be regretted that this indifference to cases prevails, for they form a species of reading more beneficial than any other: nothing can exceed its utility but actual attendance upon the diseased.

So numerous a selection of unsuccessful cases as the author has made for the illustration of disease, seldom appears in one volume. This selection will, he trusts,

be attended with its advantages. It will tend to prove that the grand object to be kept in view in the practice of medicine, is the prevention of a derangement of structure; and that no means will be found so effectual for that purpose as copious venesection, and a strictly anti-phlogistic regimen.

The observations which the author has occasionally introduced, were made by the bedside of the patient.

The practical and the speculative parts of the work are carefully separated from each other. One advantage which the author hopes that his physiological conjectures will be found to possess, over many daily obtruded upon the Public, is, that however defectively supported by argument and experiment they may be, they will lead to a successful practice.

The author is aware that in some parts of his volume he has been betrayed into the adoption of an egotistic, in other parts of a dictatorial style. For this he craves the indulgence of the reader. Almost every thing here recorded has passed under his immediate observation. Ardently and deeply interested in all that he has described, he so completely identified self with subject, that he found it impossible to separate them.

Where he assumes a dictatorial language, it must be remembered that he is not insisting upon the efficacy of his individual practice, but upon that of Physicians who have long distinguished themselves by an eminent display of talent, and who now most deservedly enjoy the public confidence.

A
COMPENDIUM
OF
MEDICAL PRACTICE, &c.

SECTION I.

ON DISEASES OF THE BRAIN, &c.

CHAPTER I.

Painful Affections of the Scalp.

THE scalp is liable to painful affections, the causes of which it is frequently very difficult, and even impossible, to ascertain. Sometimes, they may be traced to an injury inflicted upon the part at a distant period ; at others, they appear to arise spontaneously. Derangement in the functions of the digestive organs often precedes the local affection, and they are uniformly aggravated by it. It not uncommonly happens that a partial or universal puffiness may be discovered upon examination ; the scalp however is sometimes excessively tender to the touch without exhibiting any visible marks of disease.

Mr. Abernethy has described these cases with great minuteness, perspicuity and elegance ; to his works* I must therefore refer all those who are desirous of obtaining full information relative to them. Some com-

* See Abernethy on the Constitutional Origin and Treatment of Local Injuries.

plicated and violent affections of this kind have fallen under my observation. Although, from their commencement to their termination they were highly interesting; they were of such long duration that I fear I could not describe them in detail without appearing tedious.

For their relief I have seen extensive incisions of the scalp resorted to, but without any durable advantage. In one case the trephine was applied upon the left parietal bone; but little good resulted from the operation.

Treatment.

A judicious regulation of the digestive organs will be found more beneficial than any local application or surgical aid. The blue pill unquestionably will, if properly administered, establish a more healthy action in the liver and alimentary canal than any other remedy. In these affections it will be found peculiarly serviceable. Fowler's solution of arsenic ought to accompany its exhibition. In what manner this medicine affords relief in these and other diseases it is impossible to explain. Five grains of the mercurial mass taken once, twice, or thrice a week, as circumstances may indicate, and eight drops of the solution three times a day, will, in these complaints, afford more speedy and permanent benefit than any other means that I have been able to observe.



CHAPTER II.

Tinea Capitis.

In cute capillata ad radices capillorum, ulcuscula humorem in crustam albam friabilem abeuntem fundentia.—Cl. iv. O. vii. G. cxxx. CULLEN.

TINEA CAPITIS is a very prevalent disease amongst the lower classes of society in this city; it appears to have its origin in a want of cleanliness; it is however

Treatment.

extremely probable that animalculæ have a considerable share in its production. The same remedies which prove so efficacious for the cure of psora, are equally so in this malady.

Sulphur in combination with tar seldom fails to remove it; when however it has been allowed to acquire a considerable degree of malignity, it will be necessary to vary the applications as well as the mode of applying them. If the head be very scaly, or covered with thick and indurated crusts, the practice pursued at this hospital, is to invest the whole scalp with a poultice of linseed meal. Some tar ointment with sulphur may be advantageously combined with the poultice. After this plan has been put in force, the hair is to be completely removed with a razor and the parts anointed with the ointment night and morning. Previously to rubbing on the ointment it will be extremely proper to wash the head with soft soap and water.

There is a species of *Tinea* or *Porrigo* much more difficult of removal, although less disgusting to the eye. It is in the highest degree contagious, and whenever it gets admission into a seminary of education, or other large establishment, it is not easily eradicated. The hair falls from the head either partially or entirely, The denuded places look as if they had been stripped of their covering by a razor or a pair of scissors. Whitish furfuraceous scales, which sometimes adhere with great pertinacity, form upon the bared parts.

Treatment.

With this species of the complaint mercurial preparations succeed more speedily than sulphurous.

If the scalp be not entirely free from hair, what remains should be removed with a razor. A blister should

then be applied, and dressed with mercurial ointment. Should a morbid skin be reproduced, anoint the scalp with an ointment composed of equal parts of tar and mercurial ointment. For this preparation diluted nitrated ointment of quicksilver may sometimes be advantageously substituted. Frequent washing is in this species of the disease highly desirable.

CHAPTER III.

Hydrocephalus Externus.

Capitis intumescencia mollis, inelastica, Hiantibus cranii suturis.—
Cl. iii. O. ii. G. lxxii. CULLEN.

THIS disease uniformly and inevitably proves sooner or later fatal. Its appearances are so universally known, that it would be superfluous in me to dwell upon them. It probably is the consequence of original defective organization in the brain.* Before it manifests itself by any enlargement or other symptom, its existence may be sometimes recognized by the veins of the scalp becoming varicose. The most beautiful appearance I ever saw those vessels assume was upon the integuments investing the head of a hydrocephalic patient.† The cranium was large, but had not acquired an immoderate size. In the cases I have witnessed there has been but a scanty growth of hair.

* Dr. Spurzheim has, I think, very satisfactorily shewn, that the deposition of fluid takes place within the ventricles, and not between the membranes of the brain as generally supposed. If it be so, the disease must no longer be designated—*external*.

† The superficial veins upon the abdomen often present the same appearance before any *great* accumulation of water has taken place within its cavity.

CHAPTER IV.

Hydrocephalus Internus.*

It is perhaps to be lamented, that professional men sacrifice so much of their time in searching after specifics for diseases which have been proved by the experience of ages, utterly incurable. Would they but employ it in devising measures for their prevention; and zealously insist upon the necessity of their being rigorously adopted; from what a series of sufferings and miseries would they deliver mankind!

When once *Hydrocephalus Internus* is fully developed, medicine can achieve but little. I will relate several cases of this formidable disease; detail the appearances which presented themselves upon dissection; investigate its nature; point out that which I conceive to be the most judicious mode of treating it; and finally give such directions as will, I hope, if steadily pursued, preserve many from becoming its victims.

CASE I.

On the 21st of January. 1811, a Boy, aged 15, by the name of Jesse Clissold, applied for relief as an out-patient to the Bristol Infirmary.

His mother stated, "that he had been in an indifferent state of health for a considerable length of time; that three or four days previous to his application he had been unmercifully beaten by some boys, and that he had scarcely held his head up since."

His appearance was by no means unhealthy. His countenance was florid, his complexion clear. He complained of slight headach and a sore throat. His pulse was full and rather frequent, the tongue white, the tonsils slightly inflamed, the parotid glands were very

* More properly, *Hydrencephalus*.

much enlarged, the bowels were confined, and there was a little oppression about the chest. The enlargement of the glands principally attracted attention, and the disease was considered to be *Cynanche Parotidœa*, attended with a more than usual degree of inflammatory diathesis. An emetic was ordered to be taken in the evening, a purgative on the following morning, and afterwards four grains of the antimonial powder every six hours. On the 24th, he appeared to be nearly in the same state. A blister was ordered to the chest, and a saline mixture to be taken in lieu of the powders.

On the 31st, he was admitted into the Infirmary.

Ten ounces of blood was drawn from the arm and fifteen grains of the cathartic powder of the House,* were taken on the following morning.

February 1st. Pulse soft and rather frequent, throat sore, tongue white, parotids not much enlarged, skin rather dry.

2nd. Delirium with loud and frequent moaning came on during the night, pulse strong and frequent, bowels costive. Ordered a stimulating enema. Eight ounces of blood were abstracted from the external jugular vein. A blister was applied between the shoulders. Three grains of calomel were taken at ten o'clock at night, and repeated on the following morning at four o'clock.

3rd. Has some lucid intervals. Pulse full, tongue moist. The bleeding was ordered to be repeated, and three grains of calomel to be administered every three hours till copious evacuations should be procured. The blood exhibited no inflammatory appearance.

4th. Bowels open, pulse 100 in the minute and soft, tongue clean and moist. Passed a more comfortable night, delirium continues, stools fetid and black, picks his nose and lips. Ordered three grains of calomel to be taken every six hours.

* This powder is formed of five grains of calomel, and fifteen of jalap.

5th. Delirium unabated, picking of the bed clothes, involuntary discharge of fæces, pupils dilated ; Strabismus.

6th. Continued in the same state till seven o'clock this morning, at which hour he expired.

Examination.

The vessels of the pia mater were very much distended with blood, and a large quantity of the same fluid escaped from the lateral sinuses through an accidental opening made into it, while sawing the occipital bone. The texture of the hemispheres appeared to be natural.

Upon making an incision by the side of the raphe into the lateral ventricle, a large quantity of water was discharged ; the right lateral ventricle was very much distended and appeared to have contained more than two ounces of the fluid, the left ventricle was filled with about an ounce and a half ; the choroid plexuses were remarkably pale. They in all probability were rendered so by the water in which they floated, having after death deprived them of the red particles of the blood ; in other words, they had a sodden appearance. The foramen of Monro was remarkably distinct, a small quantity of water was situated between the folds of the septum lucidum, the third ventricle contained nearly half an ounce of the serous fluid, the pineal gland was destitute of gritty particles, the fourth ventricle was in a healthy state, the prominences of the basis of the brain were remarkably distinct.

Appearances in the thoracic cavity.

The surfaces of the lungs had a tuberculated appearance, but no tubercles existed within the substance of those organs ; there were slight adhesions between the pleura and its reflected portion ; a mass of coagulable lymph was found in the right ventricle of the heart.

Appearances in the abdominal cavity.

All the abdominal viscera were perfectly healthy, but the stomach was very much contracted, and its internal surface beautifully corrugated.

I have seen a similar appearance in the stomachs of two executed patients.

These stomachs are preserved in the Museum at St. Thomas's hospital.

There were slight marks of external violence on the sides and back.

CASE II.

A boy 17 years of age, was admitted into the infirmary on April the 4th, 1811. Some months previous to his admission he received a blow upon his knee; inflammation and suppuration were the consequence; the ligaments covering the joint became very much thickened; pus was continually passing out of the joint; there was great constitutional irritation, and as there was but little chance of saving the limb, it was deemed advisable to remove it. It was considered a favorable case to operate upon. About four days after the operation the boy began to complain of headach, and the stump assumed an unfavorable aspect. The former symptom was unregarded, and stimulants were freely exhibited, with a view of bettering the condition of the stump.—The affection of the head daily increased in violence. The patient screamed with vehemence in the day time, and disturbed the whole ward by his moanings at night. He at length became delirious; his eyes looked glassy, but the pupils were but slightly dilated.

On the following day the patient became comatose. The stimulating plan was laid aside, and the antiphlogistic regimen adopted. Blood was twice taken from the temporal artery; once from the jugular vein; and once from the arm; in all about forty ounces. A blis-

ter was applied to the scalp, and three grains of calomel were given every six hours. This practice was however adopted too late, to afford any reasonable ground to hope that it would be attended with success. The patient died on the 6th of May. The brain exhibited the same appearances as those related in the former case, except that there was a larger quantity of water contained in the lateral ventricles. There was throughout the whole of this case but a very slight dilatation of the pupil. I do not recollect that its diameter ever measured more than one line. The application of the strongest light would not however stimulate the iris to a further contraction. In Jesse Clissold's case the dilatation was considerably greater, but there was throughout its whole progress a tendency to contract, whenever a strong light was suffered to fall upon the eye.

The lad whose case is above narrated was of a scrophulous habit of body.

CASE III.

Mary Ann Nelson, aged three years, a sickly child, and of a very diminutive size, was admitted into the Infirmary on May the 1st, 1815, in order to be operated on for a hare lip.

The head was large, the skin delicate, and there were other marks of a scrophulous disposition about the patient. The operation was performed, and the lip at the end of three or four days began to unite. At this time she was attacked with severe pain in the head, screamed violently, and refused all nutriment. A cathartic powder was administered, and afterwards a grain of calomel every six hours. On the following day the child became comatose; and there was considerable dilatation of the pupils. A blister was applied to the head. The calomel was persisted in, and a scruple of mercurial ointment was rubbed upon the abdomen every night. This practice was unattended with the slightest

diminution in the violence of the symptoms ; and on the 4th of June, the patient died. No opportunity occurred of ascertaining the state of the brain, but little doubt can exist of there having been considerable effusion into the ventricles.

I should have observed that the mouth was affected by the mercury.

CASE IV.

A sickly child, 4 years of age, with deformed rickety limbs, was placed under the care of the Surgeon of the week. A few days after her admission she was attacked with all the symptoms commonly attendant upon hydrocephalus internus. There was also great acceleration of the pulse and a hot skin. She screamed at intervals and refused all kinds of food. Two grains of calomel combined with eight of jalap were given to her, and afterwards a grain of calomel every six hours.

On the following morning she appeared somewhat better ; her pulse was slower and her skin more cool. The body was directed to be sponged and the cathartic and calomel to be repeated. The next day she appeared much better ; she had voided with her fæces two lumbrici, about four inches in length each ; she took a little nutriment and did not complain of her head ; the pupils were less dilated ; the powder and calomel were repeated.

She passed on the following day another worm, and from this time gradually recovered. One grain of calomel combined with ten grains of tin filings were administered every morning for about a week, and the child left the house free from any hydrocephalic symptoms.

That this was a genuine case of hydrocephalus Internus may be disputed. I can only say, that I never saw a case in which the symptoms of the disease were more decidedly marked.

CASE V.

A boy, sixteen years of age, was admitted into the Infirmary for a tumor in the thigh. This tumor, upon more minute investigation, was ascertained to form the most dependent part of a psoas abscess. The lad complained of universal indisposition, and there was a slight acceleration of his pulse.

On the 23d of July he became feverish; skin hot, tongue dry, great pain in the head. A purgative was prescribed, and he was desired to be kept cool.

On the 25th, his pulse was hard and rapid, his face flushed, his skin hot; there was but a slight dilatation of the pupils, but he complained of excessive pain in the head. It was evident that the disease had made very considerable progress, and that no time was to be lost.

Ten ounces of blood were directed to be taken from the temporal artery, and the following medicines were prescribed.

R. Calom. ppt. gr. iij. 6ta. quaq. hor.

Mist. Salin. unc. viii. Inf. Digit. dr. vi. M. Capt. cochl. iij. 6ta. quaq. hor.

His body was likewise sponged with vinegar and water.

26th. Pulse rather slower, skin cooler, pupils more dilated, delirium during the night, cannot be made to answer questions, bowels open.

The temporal artery was again opened, and twelve ounces of blood drawn from it; a large blister was applied to the head; the calomel and mixture were continued with an addition of two drachms of the infusion of the latter; a drachm and a half of strong mercurial ointment was rubbed upon each thigh at bed time.

27th. Pulse 130, but softer, pupil very much dilated, but contracts upon being exposed to a strong light, his stools pass involuntarily. Friction with the mercurial

ointment was directed night and morning; the calomel pill was omitted at bedtime, and a grain of opium with three grains of antimonial powder substituted.

28th. Salivary glands slightly affected; the patient could be roused, and replied readily to questions proposed. He swallowed a little food, tongue foul, pulse very frequent, pupils less dilated, fæces discharged involuntarily. In the afternoon he began to pick the bed-clothes, became insensible to all external objects, and died on the following morning.

Examination.

The brain exhibited evident marks of active vascular action having existed. Upon cutting off the hemispheres numerous minute spots of blood exuded from the divided vessels. The texture of the brain itself was firm, and rather more glutinous than is usually met with. The ventricles did not contain so large a quantity of water as was expected to be found within them; only two ounces were collected, and about half an ounce escaped. I am inclined to believe, that a partial absorption had taken place previous to the death of the patient. The abdominal viscera were all in a healthy state. The psoas muscle had been formed into a funnel, for the reception of about three quarts of cream-coloured pus. Solid flakes of considerable magnitude were deposited at the bottom of the abscess; and would have effectually prevented the matter from passing thro' the canula of a trocar, had one been introduced into the tumor for the purpose of evacuating it. The lumbar vertebræ were all in a diseased state, and large pieces were easily chipped from them with a common scalpel. There had likewise been considerable absorption of the bones of the sacrum. There was no projection of the spinous processes externally, nor did they deviate from the straight line. When pressure was firmly made upon them, the boy, at his first admission into the hospital, said it gave him considerable pain.

Observations.

The unfortunate termination of four out of five cases, although what have been generally conceived to be active remedies were employed, naturally leads to an inquiry in the cause of their failure. Are the medicines themselves improper, or does the nature of the disease for the most part preclude the possibility of relief? I much fear that we must attribute its fatality to the latter circumstance.

It is well worthy of remark that all the patients whose cases I have related were highly tainted with scrophula, and it is in scrophulous habits that I have uniformly observed the disease to occur.

In scrophulous patients, a peculiar sensibility or irritability of mind is very observable, and to this irritability of mind, I am inclined to attribute the susceptibility of these patients to the disease. It may perhaps be considered the predisposing cause.

Parts predisposed to disease, are more easily excited into sympathetic action with diseased parts, however remote they may be from them, than healthy parts although placed in their immediate vicinity. It is on this account, that local irritation proves so frequently the cause of *Hydrocephalus Internus*.

Hydrocephalus Internus is rarely an idiopathic disease. I have been induced to relate so many cases with a view of establishing this fact; they form however but a small proportion of those which have fallen under my observation.

The deposition of the serous fluid I conceive to be the consequence of sympathetic inflammation of the brain; the predisposing cause to this sympathetic inflammation, an irritability of mind; and this irritability of mind is most frequently met with in scrophulous habits. Local irritation is the immediate cause of the disease. In all the cases related, there was local irrita-

tion. Jesse Clissold had been severely beaten and much bruised; added to which his mind at the time was thrown into a violent state of perturbation. In the second case, the stump; in the third, the operation for the harelip and the pins; in the fourth, the worms; and in the last the diseased vertebræ, with the fluid collected beneath the psoas muscle, were the sources of local irritation.

Treatment.

By regarding *Hydrocephalus Internus* as a disease arising from sympathy, we shall perhaps be enabled to treat it more satisfactorily, if not more successfully.

The mind of the patient should be kept in as tranquil a state as possible, in order to prevent the brain from taking on a predisposition to the disease; and we should endeavor as far as we are able to improve the constitution of the patient.

For this purpose, we should direct much of our attention to the alimentary canal, but more especially to those parts of it, to which the process of digestion is more immediately consigned.

The inability of the stomach to convert the food received into it, to a nutritious chyme is, perhaps, the original cause of scrophula. Although the absorbents of the intestines in all probability possess to a certain extent the power to receive or refuse what may be presented to their mouths, if only an imperfect chyme be formed they will be necessitated to take it up. The imperfect chyme (or rather chyle) thus taken up, acts upon their inner surfaces as an extraneous body. They, as well as the glands attached to them, become inflamed, and thus is produced the disease termed *Tabes Mesenterica*.

Food easily digested should be given, and all that avoided in which animalculæ are known to exist; it should likewise be eaten at stated periods, and in smaller quantity than is usually supposed to be necessary.

If the stomach be overloaded, it must perform its offices imperfectly.

I have been induced to write thus much, because I feel firmly persuaded, that *Hydrocephalus Internus* may often be prevented from arising; I will now endeavor to ascertain what will be the practice most likely to be attended with success, when the disease has actually taken place.

The cure cannot I fear be effected, unless we possess the ability to remove the local irritation. If the irritation be produced by worms or by dentition, by speedily expelling the former, or by freely dividing the gums in the latter case, we may reasonably hope to put a stop to the disease. If however proper means be not taken before there has been much effusion into the ventricles, the termination will be fatal.

It must be recollected that although the disease is originally excited by local irritation, unless that irritation be speedily removed, the brain will acquire the power of acting independent of it. It is on this account that the speedy removal of the local affection is so desirable. If the local disease be externally situated we must endeavor to lessen it by such applications as have a tendency to allay irritation. It may sometimes be adviseable to remove the diseased part, provided it can be effected without making any violent impression upon the system, or without materially disturbing the mind of the patient. Where however these results are to be apprehended, the palliative treatment will be preferable; in two of the cases I have related, it must be admitted, that the disease was induced by the operations.

Our next object should be to diminish arterial action.

Although the blood seldom exhibits the buffy crust, it is unquestionably an inflammatory disease. The rapidity and hardness of the pulse; the strong pulsation of the carotid arteries, which sometimes is observable; the acute pain in the head; the irritability of mind, by

which, in its early stages, it is accompanied ; all clearly evince an inflammatory process.

To diminish this vascular action we must rely principally upon bleeding from the jugular veins or temporal arteries ; I am inclined to prefer the former situation. Blood can be taken away more freely and in larger quantities from those vessels.

After the venesection, the patient should be placed in nearly an erect position, his head shaved, and an evaporating lotion applied to the scalp.

The next thing to be attended to is the intestinal canal. Copious and frequent evacuations should be obtained from it.

If worms be suspected to exist, large doses of calomel should be given every four or six hours, and their operation assisted by exhibiting some infusion of senna, combined with sulphate of magnesia. If it be desired merely to procure stools, the *ol. ricini* will perhaps be the best medicine for that purpose.

If, in spite of this treatment, effusion take place, (which may generally be known by the further dilatation of the pupil, or by its becoming insensible to the stimulus of light) mercurial friction to a great extent may be employed.

In the first stage of this disease I apprehend that mercury is very injurious ; it only serves to increase the febrile symptoms.

It appears to me, that the deposition of water in the ventricles is effected by a process somewhat similar to a deposition of pus within the cavity of an abscess.

Inflammation exists for a considerable time before secretion takes place. Mercury, I apprehend, is prescribed with a view of exciting the absorbents to take up the fluid ; to exhibit it therefore before the fluid has been deposited must be useless.

It seems probable that the absorbent system is in a

state of quiescence during the increased action of the arterial ; at the precise moment the minute branches of the arteries are about to secrete* the absorbents acquire a disposition to act. They remove the surrounding solid substance to form a receptacle for the fluid. In the brain however there is not that necessity for their immediate action upon the solid parts, as a natural cavity exists ; but they in all probability possess the disposition to act, and will act, as soon as the deposited fluid presses upon them ; more especially if they be at the same time stimulated by mercury. They will relieve compression both by taking up the fluid and by enlarging the cavity of the ventricle. Many may be inclined to doubt their ability to effect this, but patients could not exist so long as they frequently do under the disease, unless a portion of the brain were removed. In the case last related, the ventricles did not appear to be nearly filled, and I hazarded an opinion that a part of the water had been absorbed. After remaining two days in a state of insensibility, this patient on the third could be made to answer questions distinctly. The salivary glands were at the same time affected.

CHAPTER V.

Apoplexia.

Motus voluntarii fere omnes imminuti cum sopore plus minus profundo.

Cl. i. O. i. G. xl. CULLENI.

IN the treatment of Apoplexy we must in a great measure be guided by the state of the pulse. If it be full and slow with an evident determination of blood to

* Whenever the arterial system acts either with too great or too little energy, there will be a deficient secretion ; my opinion therefore is, that a diminution in its action precedes the deposition of the fluid.

to the head, (which may be known by a redness and bloatedness of the face, strong action of the carotid arteries, and fulness in the jugular veins) we may bleed immediately and freely, with evident advantage; but if the surface of the body be cold, the pulse languid, or imperceptible, by drawing blood from the patient we run a great risk of extinguishing the vital spark altogether.

That species of apoplexy which depends upon the extravasation of blood upon the brain or within its ventricles, will generally be benefited by venesection to a considerable extent; recourse should however be had to it as soon after the seizure as possible, or it will avail but little.

When apoplexy arises from the reception of opium, vinous spirit, or other pernicious ingredient into the stomach, I have almost invariably seen bleeding prejudicial. In these cases we must, by every possible means, excite free and copious vomiting. Upon our ability to do this, will a successful termination principally depend.

CHAPTER VI.

Hemiplegia.

NOTHING more forcibly characterises the perversity of some professional men than the practice they pursue in Hemiplegia. Although dissection has repeatedly demonstrated, that the paralysis depends upon the pressure made by blood or serum effused upon the brain, they still persist in administering stimulating medicines internally, and in applying rubefacients, electric sparks, &c. to the parts deprived of muscular power. By the former, they often induce a recurrence of the effusion; by the latter, they injuriously exhaust what little nervous energy may have accumulated in the affected ex-

tremities. As reasonably might they expect by such means to relieve a patient laboring under symptoms of a compressed brain, from a portion of the inner table of the skull, or other extraneous body being driven upon it. Why will they tread in the intricate, dark, and often dangerous paths of their forefathers, instead of availing themselves of the light which anatomical investigations afford them, to form for themselves and for their successors, new, more sure, and safer roads?

Treatment.

In Hemiplegia our efforts must be directed to the removal of the whole or a part of the effused fluid; whatever therefore has the power to increase the energies of the absorbent system, will be found beneficial in this disease.

When there is nothing in the pulse or in the constitution of the patient decidedly to contradict it, the abstraction of blood from the arm or jugular vein will be proper. Large bleedings are not requisite; only enough blood should be taken to reduce the impetus of the heart and arterial system, and to keep it in a state of diminished activity. This can be better done by abstracting frequently small quantities of blood from a large orifice, than by having recourse to occasional copious bleedings.

Whatever produces nausea has a tendency to excite absorption. Upon this principle the administration of emetic tartar in nauseating doses will be found highly serviceable.

We are not to content ourselves with exciting a disposition to vomit, for a few hours; we must persist in giving the antimonial for days, and even weeks, if we can prevail upon the patient to take it. As, however, a state of continued nausea is of all others the most distressing, we shall often be obliged to suspend its use.

The scalp should be frequently blistered and dressed with mercurial ointment. Once a week, or oftener, if

it should be necessary, a brisk purgative must be given.

The practice above recommended I have seen in several instances attended with complete success ; from the measures reprobated I have never witnessed any good, but very often mischief to arise.

I shall conclude these observations upon Hemiplegia, by giving the history of a case which terminated unfortunately. The appearances after death will shew, that there is nothing in the nature of the disease which precludes the possibility of relief being obtained from the plan of treatment I have recommended.

CASE VI.

William Ryall, aged 55 years, was admitted on the 9th of June, 1814. He laboured under considerable weakness of the right side, the consequence of an attack of Hemiplegia, which happened three years since. His speech was imperfect, but this seemed to depend as much upon a malformation of the palate as upon a partial paralysis of the lingual muscles. There was some degree of stertor, with determination of blood to the head ; his pulse was full and rather frequent, and he complained of headach ; his lower extremities were œdematous.

Purgatives were diligently administered, and blood to the amount of forty ounces was drawn from the arm at three different times. Under this treatment he rapidly improved, and was about to be discharged convalescent, when he was visited by another hemiplegic attack. Twelve ounces of blood were drawn from the temporal artery, which afforded much relief. The use of the limbs in some measure returned ; in this last attack however there was not that decided paralysis of one side, which is generally occasioned by an effusion of blood from the vessels of the brain in such quantity as

to cause compression.* On account of his continuing very lethargic, a seton was cut in the nape of the neck ; it discharged freely for some days ; his spirits however daily grew worse ; his appetite and strength failed him ; his voice was at times very indistinct ; he became more drowsy ; some difficulty was experienced in respiration ; his cheeks and lips assumed a purplish, and his complexion an extremely sallow hue. He died on the 13th of August.

Examination.

After death the brain was examined, and the following morbid appearances discovered.

Between the dura mater and arachnoid tunic, there was an accumulation of a serous fluid, particularly at the basis of the cranium, where it amounted to nearly three ounces ; the veins of the pia mater were much distended with blood ; the lateral ventricles contained about an ounce of water ; the choroid plexuses were very small, and in the right there were found three hydatids, the largest of the size of a pea.

At the basis of the brain, the tunica arachnoides had acquired a very unusual degree of density and opacity. Where it passed under the inferior surface of the left lobe of the cerebellum, it formed an extensive bag ; upon cutting this open, a considerable excavation presented itself. This cavity was lined with a thick stratum of a yellowish gelatinous substance. Upon scraping this away with the back of a scalpel, it was found that the pia mater had been absorbed, and in its stead that peculiar appearance, denominated arbor vitæ, was seen almost as distinctly as if an incision had been made into a healthy part of the cerebellum, to demonstrate it. There was scarcely any fluid in the cell.

* When serum is effused, the paralysis will seldom be so perfect as when it depends upon extravasation of blood.

CHAPTER VII.

Phrenitis.

Several violent cases of Phrenitis have fallen under my observation. They all terminated favourably.

Treatment.

Bleeding was employed to a very great extent. Seldom less than twenty ounces of blood were drawn from the arm or jugular vein twice, sometimes three times a day, for four or five days in succession.

No regard was paid to the quantity taken; an abatement in the violence of the phrenetic symptoms formed the criterion by which the flow of the sanguineous fluid was regulated.

A strict antiphlogistic regimen was enjoined; active purgatives administered; the head shaved, and kept constantly enveloped in cloths, thoroughly moistened with cold spirituous lotion. The most decided benefit was derived from this application.

Remarks.

I am persuaded that venesection frequently fails in affording the expected relief, in active inflammatory diseases, from Physicians directing a limited quantity of blood to be taken away, instead of desiring it to be continued until a mitigation in the violence of the symptoms be effected.

Phrenitis, Pneumonia, and Peritonitis, may be arrested almost to a moral certainty in their *early* stages, by one or two copious evacuations of blood.

Thirty or forty ounces taken at one operation will more decidedly stop their progress than sixty or eighty drawn off by driblets of fourteen or sixteen ounces at a time. It will be found that persons bear the loss of blood well or ill in proportion to the degree of inflammatory action which exists.

A man, who in a state of health would faint from the abstraction of a pound of blood, will, when an inflammatory diathesis is present, part with two or three pounds, without any, or but trifling inconvenience.

CHAPTER VIII.

Inflammation of the Pia Mater.

THE following case, although in its symptoms and progress it bears a strong analogy to Hydrocephalus Internus, presents some peculiarities which it may be useful to record.

CASE VII.

Diana Lovell, aged 22 years, was admitted into the Infirmary, on the 13th March, 1815.

For fourteen days previous to her application she complained of constant and violent headach. In addition to this symptom she had a dry skin, frequent pulse, and a furred tongue; the fur nearly approached to the colour of lemon-peel. An uneasiness was occasioned by the admission of light to her eyes, and large and numerous blood vessels were seen ramifying upon the tuniçæ conjunctivæ.

14th. She passed a restless night; pulse rather more frequent, skin hot, tongue foul, bowels confined; she could not move her head without suffering excessive pain.

15th. Delirium came on in the evening and continued throughout the night.

16th. In nearly the same state; muttered incessantly.

17th. Lay upon her right side; fixed her hands powerfully between her thighs, and moved in a peculiar manner, a manner extremely difficult to describe. I

know not how to convey an idea of it better than by stating, that she rocked herself upon her side. She screamed when her head was touched.

18th. Comatose, fæces and urine passed involuntarily; seesaw motion of the body continued.

19th. In the same state.

20th and 21st. Perfectly sensible; pulse very rapid and full; tongue foul; skin dry.

22nd. A strong epileptic fit terminated her sufferings.

Examination.

The sinuses of the dura mater were full of blood, but neither that membrane, the pia mater, nor the substance of the hemispheres exhibited any marks of disease. About half an ounce of serous fluid was found in the lateral ventricles.

At the basis of the cranium a large quantity of serum, slightly tinged with the red particles of blood, had been deposited. The arachnoid coat was destitute of transparency, and much thickened. The almost triangular compartment, formed by the converging optic nerves, was filled up with a jelly-like substance. The tuber annulare, crura cerebri et cerebelli, were almost veiled from the eye.

This obscurity was occasioned by the pia mater, which, (where it is passing over the tuber annulare, crura cerebelli, and parts adjacent,) was in a high state of inflammation. Its vessels were extremely numerous and had acquired an undue magnitude. The increase of vascularity extended upon each side of the medulla oblongata, and probably was continued for a considerable distance along the medulla spinalis. That projecting ridge formed at the superior part of the cerebellum by the union of its two lobes, had undergone some change in its appearance, but there was no perceptible alteration in its structure; it looked as though pus were de-

posited beneath the pia mater. I have observed the same change in the brains of several epileptic patients.

The deposition of fluid at the basis of the cranium undoubtedly took place from the inflamed portion of the pia mater. Was the peculiar motion to which I alluded, occasioned by the tuber annulare and its continuations participating in the inflammatory process with which the pia mater investing them was attacked?

The effusion of the fluid into the ventricles is to be regarded as symptomatic of the disease at the basis of the brain.

The treatment employed in this case, consisted in the abstraction of blood from the arm and temporal artery, the administration of active purgatives, antimonials, &c. as circumstances indicated. Cold Lotions were applied to the head, and a blister to the nape of the neck.

CHAPTER IX.

Cerebri Abscessus.

THE following case will perhaps be found to possess a sufficient degree of interest to render it worthy of perusal. How is it that the slightest injury inflicted upon the brain will sometimes terminate fatally in a few hours; while at other times extensive lesion will exist for weeks, months, even years, without destroying life or materially disturbing the functions of the animal economy.

CASE VIII.

Jane Bevan, aged 36, was admitted on the 12th of November, 1813. Three weeks previous to her admission she miscarried. Nothing remarkable occurred.

At the time she presented herself to the Physician

her head was drawn towards the right side, she had however power to turn it partially towards the left; a considerable degree of stupor was observable, but upon being roused, she gave reasonable answers to such questions as were proposed to her. She complained of great pain in the head; the pupils were considerably dilated, more particularly that of the right eye, the globe of which was drawn towards the nose, inducing strabismus; the bowels were constipated, pulse natural; that is to say it was soft, regular, destitute of undue force, and about seventy in the minute. Purgative medicines were administered and a blister applied to the nape of the neck.

13th. More comatose, but still could be made to understand what was said to her; the pupils were more dilated. It was evident that there was considerable pressure upon the brain, but there was almost a total absence of that stertorous breathing which for the most part attends a state of apoplexy. Bowels slightly relieved, a plentiful secretion of urine, pulse distinct, slow and regular. The purgative medicines were directed to be continued, and a blister was applied to the calf of each leg.

14th. Still able to reply to questions proposed to her; pulse somewhat more full, the spasm affecting the muscles of the neck had subsided. In the afternoon twelve ounces of blood were drawn from the temporal artery; she died about an hour after the evacuation.

Examination.

Upon examination the following were the appearances which the brain exhibited.

The dura mater adhered so firmly and universally to the bones of the cranium that it could only be separated from them with extreme difficulty; the vessels of the pia mater were minutely injected; the cortical part of the cerebrum had a yellowish hue as though it were

tinged with bile. The structure of a portion of the middle of the right hemisphere of the cerebrum was completely destroyed; a considerable excavation of that part of it which is opposed to the squamous plate of the temporal bone had been effected by the absorbents. A loss of substance had likewise occurred in the anterior and posterior lobes, but the mischief was more superficial. The walls of the cavity seemed to be without organization, the slightest force being sufficient to break them down. They had a pulpy feel, and were of a reddish brown colour. It seemed to me that an abscess having the middle lobe of the cerebrum for its centre had extended itself upon the anterior and posterior lobes; in fact the whole lateral part of the right hemisphere of the brain was in a diseased state. There was no pus or other fluid in the cavity of the abscess. The right lobe of the cerebellum was perfectly healthy, but the texture of the left was completely altered; it was pulpy, of a dark red colour, and almost as destitute of regular organization as the parietes of the abscess.

The ventricles were distended with an immense quantity of water; the different parts contained within them had in consequence been rendered more than usually distinct. The foramen commune anterius was almost large enough to admit the point of the little finger and a large goose-quill would readily have passed through the foramen of Monro.

This patient had complained of occasional indisposition for a year and a half. She was affected with but little stertor throughout the disease. Only two hours before her death she could be made to answer questions, thrust out her tongue, and stretch forth her hand, for the purpose of having the pulse examined.

CHAPTER X.

Epilepsia.

Musculorum convulsio cum sopore.—Cl ii. O. iii. G. 1. CULLENT.

MOST sincerely do I lament my inability to furnish a successful method of treating this formidable malady, but I have known every measure which consummate ability and ingenuity could devise, rendered perfectly abortive when it has been of long duration.

By far the greater number of epileptic cases arise from causes which we cannot ascertain, or which if ascertained, perhaps, we do not possess the power to remedy.

Treatment.

The treatment I have seen upon the whole the most efficacious was the following.

The force of the arterial system was diminished by drawing blood from the arm in small quantities, as frequently as circumstances indicated; an active purgative was given once or twice a week, and on the intermediate days, the oxid of zinc in sufficient doses to excite nausea.

To adults were usually prescribed five grains three or four times a day, gradually increasing the quantity to a scruple. It will seldom be found necessary to give a larger dose than this, although a larger may be taken without injury. With children it will be adviseable to begin with one or two grains.

By persisting in these measures for a length of time, in several cases of extreme obstinacy and violence, the disease was suspended; upon laying them aside it returned, and generally terminated in fatuity or death.

I have given the spirit of turpentine in large as well as in small doses, but no decided benefit accrued from its exhibition.

In incipient cases, where the disease depended upon the retention, suppression, or imperfect flow of the catamenial discharge, venesection employed monthly, with active purgatives and electric shocks applied to the public and lumbar regions has been decidedly useful. Bleeding, instead of diminishing the interval between the paroxysms has always appeared to me to increase it.*

When epileptic fits depend upon the presence of worms in the intestines, means must be resorted to for their speedy expulsion.

Sometimes epileptic fits are excited by the pressure of an extraneous body upon the brain, as a spiculum of bone. If we should be fortunate enough to discover its situation, we must remove it with a trephine. A slight depression upon the surface of the cranium will sometimes lead to a detection of the injured part.

The brains of epileptic patients will be generally found to present the same diseased appearances as are met with in persons who die of serous apoplexy; in addition to these, I have sometimes observed that change in the colour of the superior part of the cerebellum noticed in Case 7th.

NOTE.—This work had thus far passed through the press, before I discovered that I had inadvertently made extracts from one of the earliest editions of Dr. Cullen's Nosology; those which follow are made from his fifth edition, printed in 1792.

* This observation is I believe in opposition to generally received opinion.

A few months ago I bled a patient while labouring under an epileptic paroxysm with manifest advantage. In this case the heart and carotid arteries throbed with great violence, apoplectic stertor had commenced, and I am strongly inclined to suspect, that, had not thirty ounces of blood been speedily drawn away, effusion upon the brain would have taken place. For several days after the attack the mental faculties were much impaired, and it was apprehended that the case would terminate in complete fatuity; the powers of the mind however gradually returned, and the patient is now in a fair way of recovery. January, 1816.

CHAPTER XI.

Chorea Sancti Viti.

Impuberis utriusque sexus, ut plurimum intra decimum et decimum quartum ætatis annum adorientes, motus convulsivi ex parte voluntarii, plerumque alterius lateris, in brachiorum et manuum motu, histrionum gesticulationes referentes; in gressu, pedem alterum sæpius trahentes quam attolentes.—Cl. ii. O. iii. G. li. CULLENI.

UPWARDS of forty cases of this disease have presented themselves at this Infirmary within the last five years. With one exception they were all cured by the oxid of zinc, given in the manner recommended for epilepsy; in fact, so speedily and decidedly did this remedy put a stop to the disease, that I cannot avoid regarding it as a specific for it. Why it has so frequently failed in the hands of other practitioners I cannot tell; probably however the failure arose from its not having been given with sufficient regularity, and in sufficient doses to excite nausea. In some patients this oxid cured the disease without producing a nauseating effect, but these cases were of short duration, and not very violent.

Perhaps tartarized antimony would cure the disease with equal certainty, but it is a less manageable medicine, and the nausea it induces is of a more distressing nature. When the cases were of extreme obstinacy and violence, the cold shower was directed in conjunction with the zinc, and sometimes with advantage. When the disease seemed to depend upon the retention of the menses, electricity was found useful. Occasional purgatives were employed, but I do not recollect any case in which constipation formed a prominent symptom.

The subjects of this disease were mostly between the ages of seven and nine, and twelve and fifteen years; in one case only had the patient reached her eighteenth year. This patient was more decidedly benefited by electricity than any other.

The disease sometimes arose spontaneously ; in by far the greater number of instances, however, it was induced by the children having been frightened. Retention of the menses formed another frequent exciting cause. The case which resisted the long-continued exhibition of the oxid of zinc was finally cured by the following combination.

R. Tinct. Opii dr. ij. Liq. Ant. Tartariz. dr. vi. *M.*
Of this, thirty drops were taken three times a day.
The patient, a boy, was twelve years of age.

CHAPTER XII.

Tetanus.

Plurium musculorum rigiditas spastica.—Cl. ii. O. iii. G. xlvi. CULLEN.

I HAVE only witnessed one decidedly tetanic case ; it was induced by an extensive laceration of the sole of the foot. The patient died on the fourth day after the attack, and the 12th after the accident.

Examination.

The brain was examined but it presented no morbid appearances. I traced the posterior tibial nerve to some distance under a suspicion that it might be in an inflamed state. Instead of exhibiting any marks of inflammation it was exceedingly white.

A short time previous to my appointment to this hospital, several cases had been successfully treated by giving opium and antimonial powder in combination. The quantity directed was half a grain of opium and five grains of antimonial powder every two hours.

It ought to be observed, that in these cases the tetanic symptoms were not induced by irritation from a wound. I could not learn their exciting causes.

As the case above alluded to forms a tolerably accurate history of the symptoms and progress of this formidable and inexplicable affection, I subjoin it.

CASE IX.

Mary Timmins, aged 17 years, was brought into the Infirmary with a lacerated wound of the foot, on the 28th February, 1815. The part was highly irritable and painful to the touch. It was dressed superficially; a cathartic powder administered, and twenty-five drops of the tincture of opium directed to be taken at bedtime.

March 1st. She slept well; the foot not very painful; the cathartic operated. The foot was directed to be kept constantly wet with a saturnine lotion.

2nd. Continued in good health; slept well.

3rd. From this day to the 8th, she progressively improved; when she complained of general uneasiness.

9th. At ten A. M. The muscles of the lower jaw contracted powerfully, and the mouth was only prevented from entirely closing, by a piece of wood introduced by the nurse between the teeth;* the pulse quick; slight pain in the neck and between the shoulders.

Nine, P. M. The pain between the shoulders very distressing; occasional spasmodic action of the muscles; the feet and hands cold. She was directed a grain of opium and a quarter of a grain of tartarized antimony every fourth hour.

10th. Ten, A. M. Passed a very bad night; took only one pill, not being able to swallow; bowels open; pulse full, and 124 in a minute.

Thirty-two ounces of blood were taken from the arm; an enema, composed of four ounces of gruel and three ounces of oil of turpentine, was injected; she was de-

* This is a precaution which never ought to be neglected in cases where apprehensions of trismus are entertained, as it very much facilitates the exhibition of remedies.

sired to continue the pills if possible. She fainted from the bleeding.

Eight, P. M. The spasms made her shriek frequently; she said, "she felt hungry, but had no power to swallow." The enema was returned in a quarter of an hour and procured three evacuations; the crassamentum of the blood was firm, but no buff was seen upon its surface; some difficulty was experienced in respiration.

11th. At twelve o'clock she seemed rather better; her breathing was more free; the spasms and pain in the back less violent; pulse 130, and full; when food was introduced into the mouth she swallowed it with less difficulty, but her jaw continued firmly closed.

She was directed another enema, to be bled ad deliquium, and to take four grains of antimonial powder, and one grain of opium every four hours. The foot was enveloped in a poultice of linseed meal; the wound looked healthy. Thirty-six ounces of blood were taken away.

Nine, P. M. She was relieved for a short time by the bleeding, but the spasms returned again.

12th. Passed a dreadful night; the muscles of the back and neck rigidly contracted, felt as firm as boards; pulse 160. The enema was retained an hour but failed in procuring any evacuation; she rapidly grew worse; dreaded even the thought of swallowing; all the muscles of the body affected with violent spasms. About ten o'clock, P. M. she expired.

She remained perfectly sensible almost to the last minute of her existence.

CHAPTER XIII.

Tic Douloureux.

No very severe cases of this distressing affection have fallen under my observation. Such as I have seen have

readily yielded to the regular administration of the arsenical solution, conjoined with a proper attention to the state of the digestive organs.

I was sometime ago informed of a new and successful method of treating this disease, which, as I am not aware that it has ever been made public, I shall take the liberty to insert. I regret that I am unable to give the name of its ingenious proposer with it.

CASE X.

“ In the month of December 1813, a man was admitted into Guy’s Hospital with Tic Douloureux. He had the infra-orbital nerve twice divided without any good effect; he had taken the liq. arsenicalis with as little benefit; when one of Mr. A. Cooper’s dressers suggested to him the probability of paralysing the nerves by the application of Cerussa. Accordingly, two scruples, formed into an ointment, were rubbed in the morning on the affected cheek, about an hour before the paroxysm of the disease was expected. This application was continued for a month or more and the man left the Hospital apparently perfectly cured.

“ Should you not be inclined to fear a recurrence of the disease, upon the recovery of the nerve from the sedative effects of the lead ?

“ The effect of the lead was rapid and striking, and the patient, from a state of excruciating torment, was rendered comparatively comfortable, in a short time.

“ A knowledge of the remedy is valuable as procuring even temporary relief. Its effect upon the bowels was very slight, the system but little deranged, the pulse rather diminished in frequency.

“ The young man’s idea of the application of lead to relieve pain by its action on the nerves is by no means original, but in this particular instance I believe it to be strictly so, and as such, he is undoubtedly entitled to considerable credit.”

The above is extracted from a letter with which I was favoured by a friend. With respect to the query contained in it; I am inclined to think that the paralysis of the nerve will remain. How often do we see permanent paralysis induced by the application of lead; a paralysis which baffles all our attempts to relieve?

CHAPTER XIV.

The Functions of the Brain.

EVERY attempt which has been hitherto made to explain the functions of the brain has been defeated, nor is it probable, that, where so much must be founded upon conjecture, any incontrovertible conclusions can be drawn.

The following are the conjectures which I have *adopted* respecting them:* That the office of the brain is to convert a portion of the blood sent to it, into a fluid, in which the *living principle* essentially resides; that this fluid is distributed by the nerves to every part of the body; and that it forms the connecting medium between the soul and the body.

In support of this theory, I have first to endeavour to prove, that the brain is a glandular organ.

Blood is distributed to the different parts of the body for its nourishment, or that it may be converted into a fluid to answer some purpose in the animal economy.

We find that the quantity of blood conveyed, and the vessel conveying it, are proportioned to the size of the

* In the manuscript copy of this Volume I had employed the word *formed*; for, at the time of writing it, I had neither heard nor read that the brain had been regarded as a glandular organ. I have since discovered that I have been anticipated in many of my conjectures; firmly persuaded however that many diseases can be more successfully treated by regarding the brain as a gland than by suffering our practice to be influenced by any other theory which has yet been advanced concerning its functions, I again present them to the public eye.

body which it is destined to nourish, or to the function it has to perform. Thus, the kidney has a much larger artery distributed to it than is necessary merely for its nourishment, but it is employed in converting a quantity of blood into urine. So it is with the brain. The blood which the carotid and vertebral arteries convey, is infinitely greater than is necessary for its development and support; it is, therefore, fair to conclude, that it is destined to answer some other purpose.

Glands are the most vascular organs in the body; the brain is the most vascular of all organs; for we are not to judge of the vascularity of a body by its redness only; the division of the arterial branches of the brain is too minute to allow of the passage of the red particles of the blood through them; the absence therefore of vessels containing red blood within its medullary portion, is to be considered as a mark of the extreme minuteness of their division.

Having thus made it appear probable that the brain is by its structure calculated to perform the functions of a gland, and that it is furnished with a sufficient quantity of blood for the purpose of conversion; I have secondly to endeavour to prove, that it does convert it into a peculiar fluid.

All the other glands of the body convert the blood sent to them into fluids. To this law of the animal economy I do not know that there exists one exception. Even the earthy parts of bones are deposited in a state of solution; they afterwards acquire their solidity, either by a chemical attraction which exists between their particles, or by the removal of the fluid which held them in a soluble state, by the absorbents.

From analogy, therefore, we are justified in concluding, that as all the glands of the body convert a portion of the blood propelled through them into fluids, that the brain does the same.

I am next to investigate the nature and properties of this fluid.

That the fluid must be of the most subtle description is demonstrated by the extreme minuteness of the division of the arteries of the brain. It probably is the most subtle of all fluids. In many of its properties it resembles electric matter; its essential difference seems to consist in its being endowed with the principle of vitality.

That it possesses this principle I trust I shall be able to give satisfactory reasons for believing; it is in the first place necessary to point out the manner in which it is distributed to every part of the body.

All the glands of the body are furnished with excretory ducts; I do not think that even the spleen, thymus, and thyroid glands, form exceptions to this law of the animal economy. Anatomists* in their search after the excretory ducts of these glands, appear to have disregarded the absorbent vessels as such. The absorbent vessels are the excretory ducts of the absorbent glands; they probably perform the same office to the thymus and thyroid glands. The thymus and thyroid glands are perhaps nothing more than modifications of absorbent glands.

That every gland should be furnished with an excretory duct is absolutely necessary for the preservation of parts in a natural and healthy state; the deposited fluid, would, but for this provision, by its accumulation simply, prove destructive to all organization.

Equally destructive to the brain would be the accumulation of the fluid which it forms, if it were not provided with excretory ducts. These excretory ducts are the nerves which proceed from it.

* I must beg leave to make an exception in favour of Mr. Thomas Shute, an excellent anatomist in this City. This gentleman has for several years, in his lectures, expressed his opinion that the absorbent vessels were the excretory ducts of the spleen, and other glandular organs.

That the nerves are by their structure admirably calculated to conduct a subtle fluid, the phenomena which they exhibit upon the application of the electric or galvanic fluid, clearly demonstrate.

In a manner precisely similar to that in which electric matter passes along a metallic chain, I conceive the nervous fluid to be conveyed by the nerves to every part of the body, and to be expended in its preservation, and in enabling it to perform its various functions. Those parts of the body, destitute of nervous fibre, are not capable of conveying this fluid, neither do they present any greater obstacle to its passage than the atmospheric air does to the transmission of electric matter along a wire.

That this fluid possesses the principle of vitality, is also evidenced by the effects of electricity upon an animal recently killed. So long as any of it remains the muscles will be thrown into violent contractions; upon its exhaustion, or destruction, the further application of electric stimulus produces no sensible effect, although the nerves remain in their structure unimpaired.

This property, which electric matter possesses, of exhausting or destroying the nervous fluid, satisfactorily explains the reason, why persons are so instantaneously deprived of their existence, when struck with lightning. Again, the rapid decomposition of animal bodies destroyed by lightning, clearly evinces, that they have been entirely deprived of the principle upon which their vitality and consequent ability to resist putrefaction depended.

The necessity for the existence of such a fluid as I have described, will be readily admitted, if it be considered, that in the performance of all the motions of the body, whether voluntary or involuntary, there must be an expenditure of vital power; unless therefore an organ existed capable of furnishing this vital principle,

life would soon become extinct. Who will say that the powers of life are not enfeebled, may not even be destroyed by exertion? who does not feel that they are increased by occasional rest? During the active state of the body there is an expenditure of the vital power, in a state of quiescence there is an accumulation of it.*

One of the strongest proofs which can be adduced that vitality does depend upon the due performance of the functions of the brain, is the debility which is almost instantaneously brought on when any accidental circumstance arises to interrupt them. A robust man in perfect health exposes his head to the action of a tropical sun; he immediately falls upon the ground destitute of power to raise himself again. Unless speedy relief be afforded him, all the functions of the body become deranged, and a rapid tendency to putrefaction manifests itself. Take from the brain the superabundance of blood which has been driven into it by a copious bleeding from the arm or jugular vein; it resumes its functions, and the man recovers his strength, with almost as much rapidity as he was deprived of it.

In order not to be misunderstood, I beg leave to state that I consider the Tuber Annulare, Medulla Oblongata, and Medulla Spinalis, to constitute parts of the brain.†

Having from strong analogy endeavoured to shew that the brain is a glandular organ; that it forms a fluid in which the living principle resides, and that this fluid is distributed to every part of the body through the medium of the nerves, it remains for me to offer an explanation of the manner in which it forms the connecting medium between the soul and the body.

* Darwin's Zoonomia.

† The nervous ganglia are perhaps reservoirs in which the nervous fluid accumulates, and passes off, as occasion requires. But for the existence of such an apparatus it would be difficult to account for the sudden and almost irresistible force which maniacs or persons under some mental affections sometimes exert.

Of the properties of the soul, or of the peculiar manner in which it is united to the body, we must ever remain ignorant; it is however impossible to conceive that so pure a spirit as it unquestionably is, a spirit emanating from the bosom of the Deity, can form an intimate union, or come in immediate contact with gross animal fibre. It is much more probable that it is connected with it through the medium of some subtle fluid. That the nervous fluid in which the living principle resides, approaches nearer in its properties to those of the soul than any other is also extremely probable; to me therefore it seems to be best calculated for conveying impressions made upon the body by external objects to the soul.

Suppose an irritating substance applied to any part of the body; the consequence is an exhaustion or passing off of a quantity of nervous fluid. The expenditure of this fluid makes an impression upon the soul and produces that sensation which we denominate consciousness.

The soul resides not in the brain only, but pervades every part of the body; it is however most intimately connected with the nervous system, through the medium of the nervous fluid.

The soul with its appendage, the nervous system, may be aptly compared to a spider upon its web. Touch the web ever so lightly the animal is conscious of it; make an impression upon a nerve, a quantity of fluid passes off; by the escape of the fluid the soul is informed that an impression has been made.

Place a person upon an insulated stool and charge him from an electrical machine; he is unconscious of the presence of electric matter till something which has an attraction for it is brought in contact with his body. We are all charged with nervous fluid, and should remain unconscious of its existence, if external objects

did not, when brought in contact with it, occasion its partial expenditure.

I am fully aware that many objections may be urged against this theory ; it is impossible for me to anticipate them all. When they are brought forward, I shall, at some future period, feel great pleasure in answering them, or in admitting of their validity if they appear unanswerable.

Throughout the whole of this dissertation upon the functions of the brain, I have studiously avoided employing the word *secretion*. This term has probably led many to form an inaccurate conception of the function of glands.

The glands do not *separate* their fluids from the general mass of blood as the term secretion implies, but they *convert* it into fluids possessing distinct properties. The same blood which in passing through the kidney was converted into urine, would, if it had been sent to some other organ, have been converted into the fluid peculiar to that organ. The emulgent and spermatic arteries arise nearly together from the aorta ; the blood which they receive must therefore possess the same properties, but the living principle resident in each gland changes it, not in its elementary principles, but in its sensible properties. The gland is merely the instrument by means of which the living principle is enabled to effect its purposes. Let the deadly nightshade and the succulent endive be planted in the same soil and their roots nurtured by the same water. The former will convert the water into a deadly poison, the latter into a nutritious juice. Will it be said that the nightshade separates the poison from the fluid with which its roots are cherished ? Attaching to the term secretion the idea of conversion, I shall throughout this work employ the two words indiscriminately.

SECTION II.

ON DISEASES OF THE FAUCES, TRACHEA, &c.



CHAPTER I.

Ophthalmia.

Rubor et dolor oculi ; lucis intolerantia ; plerumque cum lachrymatione.
Cl. i. O. ii. G. viii. CULLENI.

I HAVE found nothing so completely and effectually relieve inflammation of the eyes as frequent scarifications. Merely dividing the enlarged vessels which are ramifying upon the surface of the eye-balls is not sufficient ; the lancet must be also passed freely over that part of the tunica conjunctiva which is spread upon the inner surfaces of the eyelids. The operation can be more easily and effectually performed with a round lancet than with the shoulder or point of the lancet in general use. A small quantity of blood thus abstracted from the eye and eyelids will be productive of much more benefit than many ounces drawn from the temples or parts in the proximity of the eyes by means of leeches. The scarifications should be made daily, and after the parts have ceased to bleed, the eyes should be kept constantly moistened with an aqueous solution of opium. From one to two grains of the extract should be dissolved in an ounce of water. It should either be applied cold, or made warm, as the feelings of the patient indicate.

When with the local affection there exists pain in the head, symptomatic fever, &c. general as well as local depletion must be employed. In addition to bleeding from the arm and brisk purgatives, an antiphlogistic regimen should be attended to, and light must be carefully excluded from the eyes.

CHAPTER II.

Dentitio.

THERE is no process which requires greater attention than that of dentition, as, when disregarded, it often lays the foundation for diseases in their nature the most formidable. Among these, hydrocephalus internus, convulsions, and tabes mesenterica, hold the first rank; symptomatic fever, a deranged state of the stomach and bowels, eruptions upon the head, face, and neck, and sometimes over the whole body, are next in order.

As soon as swelling of the gums, an undue degree of heat in the mouth, and attendant symptoms of irritation arise, we ought to employ every means we possess to expedite and facilitate the progress of the teeth; this is more particularly necessary when there is reason to suspect the existence of a scrophulous diathesis in the infant. When treating of hydrocephalus internus, I observed "that I had uniformly seen the disease in scrophulous subjects." It arises from no source of irritation more frequently than from painful and protracted dentition.

Upon a free division of the gums we must chiefly rely for the prevention or removal of the diseases to which the process renders children liable. In less than two hours after the operation, I have frequently seen the most violent symptoms diminished, hydrocephalus internus arrested in its progress, convulsions cease, symptomatic fever subside, and, in a few days, cutaneous eruptions disappear.

Even were there nothing to apprehend from allowing the process to be completed by natural means, we should be justified in lancing the gums, for we thereby spare the little sufferers many painful, restless moments. The pain which the instrument inflicts in dividing the gums, is trifling when compared with that occasioned by con-

stant pressure and distention from a tooth. A gentleman declared to me that one of the most pleasurable sensations he ever experienced, was that which immediately succeeded the division of the gum distended by a dens sapientiæ.

In performing the operation, care should be taken that the edge of the instrument comes in contact with the teeth or but little benefit will be derived.

I have heard the operation objected to, upon the ground that when the teeth are deeply seated, a hard cicatrix will be formed over them, which will be absorbed with more difficulty than the original gum; the reverse however happens.

It is now I believe almost universally admitted, that the absorbents act with much greater facility upon parts which have been deposited for the purpose of repairing a breach of continuity, than they do upon parts originally formed.* It is upon this principle that the operation is recommended.

CHAPTER III.

Odontalgia.

THE toothach is sometimes permanently relieved by the application of the fumes of henbane seed. The smoke may be directed to the affected tooth by being drawn through a tobacco pipe; this method however will upon some persons produce extreme nausea. The following process will be found more eligible and equally efficacious.

Put from one to two drachms of the seed upon a red hot iron or some lighted cinders and immediately cover them over with a bason. As soon as you suppose the

* A similar opinion is expressed by Mr. Fox, in his excellent Treatise on Diseases of the Teeth.—See second edition, pages 36 and 37.

seed to be consumed and the vessel impregnated with the fumes ; place it upon its bottom and fill it with boiling water. The person affected with the toothach is then to inhale the vapour for twenty minutes or half an hour, a blanket or some other covering being previously thrown over the head and shoulders to prevent its escape. It will be advisable to go to bed immediately afterwards, as it often induces profuse perspiration.

Should this seed fail of producing its desired effect, if the tooth be much decayed, its extraction ought to be recommended ; if however it has only a small foramen in it, its removal will not be advisable. By simply applying the odontagra to it with some degree of force, a force sufficient to effect a partial destruction of its natural adhesions, but not violent enough to remove it from its alveolar processes, the tooth may be sometimes preserved without ever again proving painful. When the pain induced by the operation has subsided, the hollow should be filled up by the Dentist.

French bole finely levigated, forms the best dentrifice. It may be deprived of its disagreeable earthy taste by having a small quantity of the essential oil of cinnamon added to it. It may be prevented from dashing surrounding objects and its powers as a dentrifice increased by previously rubbing the brush dipped in warm water upon a square of Windsor soap. Whether in the summer or winter season the teeth should always be washed with luke-warm water.

CHAPTER IV.

Cynanche.

Pyrexia aliquando typhodes; rubor et dolor faucium; deglutitio et spiratio difficiles, cum angustiae in faucibus sensu.—Cl. i. O. ii. G. x. CULLENI.

CYNANCHE from whatever cause proceeding is more frequently aggravated than relieved by gargles. The force which the neighbouring muscles are obliged to exert to perform the process, often occasions great pain and sometimes increases the inflammation. The inhalation of the steam of hot vinegar or the gradual deglutition of small quantities of honey acidulated with muriatic acid will be found more effectual in allaying irritation or in giving tone to whatever parts may be in a state of relaxation.

When suppuration has commenced in the tonsils the steam of vinegar will be peculiarly serviceable by accelerating its progress. As soon as it is evident that pus is formed, if the tonsils are much enlarged and deglutition or respiration thereby impeded, we must not wait for their bursting spontaneously, but pass a lancet into them, bearing in our recollection however the importance of the parts* in their vicinity.

In syphilitic sore throats fumigations with cinnabar will be found highly useful, particularly when the disease is extending itself with great rapidity. If the superior part of the soft palate be affected, advantage will sometimes be derived from drawing a weak solution of muriate of mercury through the nostrils into the throat. In this way the lotion will be applied to the diseased parts with a greater degree of certainty.

* The internal carotid arteries pass very near the tonsils.

CHAPTER V.

Pharyngis Ulceratio.

CASE IX.

MARGARET SEMAY, aged 30 years, was admitted on the 14th of December, 1814, with the usual symptoms of Pneumonia. For their relief she was bled, antimonial medicines prescribed, and a strict antiphlogistic regimen enjoined.

Under this treatment, persisted in for fourteen days, she appeared to be nearly recovered; when she began to complain of a disagreeable sensation about the throat, attended with a disposition to cough, and a frequent discharge of frothy mucus. These symptoms gradually became more urgent and distressing; a disagreeable hoarseness succeeded, which sometimes was so great as to prevent what she said from being understood; at other times she could only whisper faintly and indistinctly.

Difficulty in deglutition and respiration was next experienced; deglutition occasioned much pain; the inhalation and expulsion of the air, produced a peculiar and disagreeable sound. A sound somewhat similar may be feigned by drawing air quickly and forcibly down the trachea, at the same time contracting the glottis, and making an effort to form the guttural sound ur-r-rh-r. Instead of this noise, occasionally an unpleasant whistling prevailed.

These symptoms evidently pointed out a diminution, from some cause, in the capacity of the glottis or trachea; while the incessant cough, copious expectoration of frothy mucus, and pain felt upon handling or pressing upon the sides of the thyroid cartilage, seemed to indicate that ulceration existed upon some portion of the membrane lining the larynx.

Upon inspection of the posterior parts of the fauces

and pharynx, no trace of disease could be discovered ; but the difficulty and pain experienced in swallowing, rendered it probable that some morbid change of structure existed out of sight.

The patient remained in this state for twelve weeks, when the powers of life rapidly declined. Her pulse became almost imperceptible ; respiration laborious ; deglutition nearly stopped. In this state she continued four days, when she suddenly threw up a large quantity of blood from the lungs which threatened instant suffocation. She expired within a few hours after this occurrence.

Examination.

The appearances, which the parts exhibited upon dissection, afforded a satisfactory elucidation of the symptoms which existed during the life of the patient.

In consequence of a thickening of the membrane of the larynx, the rima glottidis was considerably diminished in its diameter ; this, in addition to the smallest trachea, I ever met with in an adult, will explain the cause of the difficulty which was experienced in respiration. The trachea was not larger than we generally meet with it in a child of twelve years of age. The bronchiae were proportionately small ; they would not allow of the introduction of the first joint of the little finger. A full sized urethral bougie would have passed with a tolerable degree of facility. In a trachea so much smaller than is ordinarily met with, it is evident that even a slight diminution of its capacity must be productive of serious inconvenience.

Just below the arytaenoid cartilages, a considerable degree of inflammation had existed. Marks of increased vascularity were very apparent ; a redness extended itself for the distance of an inch and an half along the posterior part of the trachea. I shall have occasion again

to notice this circumstance, when the disease which existed in the pharynx is described.

At the anterior part of the pharynx, just below the rima glottidis, a tumor in shape and size resembling a filbert, was situated. Its external surface, or that part looking towards the back of the pharynx was smooth, and it had the appearance of an absorbent gland; that portion of it (its basis) which was opposed to the anterior part of the pharynx was in a state of ulceration. By its pressure it had likewise produced an ulceration of the membrane of the pharynx and the adjacent muscles.

This ulceration extended for a considerable way downwards, and by it an excavation had been effected, which, had the patient lived a short time longer, would have formed a communication between the pharynx, larynx, and superior part of the trachea; the membrane spread upon those parts forming the only barrier between them. This is the spot to which I alluded as being in an inflamed state. This inflammation probably induced the incessant cough with which this woman was harrassed.

The slight partition, which existed between the pharynx and larynx, and the superior parts of the trachea and œsophagus, could not be discovered, until a considerable quantity of curd-like scrophulous matter had been dislodged from the excavation.

Several scrophulous tumours, about the size of large glandulæ Pacchioni were met with upon the inner surface of the œsophagus. No disease was found in the lungs or abdominal viscera.

CHAPTER VI.

Laryngis Ulceratio.

THIS disease is of more frequent occurrence than is generally suspected. It is often mistaken for phthisis pulmonalis; but the peculiar hoarseness and the difficulty of respiration with which it is attended, together with an almost total exemption from hectic paroxysms, are circumstances which will enable us to distinguish them from each other. Its precise nature will be best elucidated by a narration of one or two cases.

CASE XII.

William Birch, aged thirty-nine years, was several times admitted into the Infirmary in the course of three years, labouring under symptoms of pneumonia. These symptoms were uniformly relieved by venesection, blisters upon the chest, and low diet; he complained however of a "tickling sensation about the upper part of the throat with a constant desire to cough," and his voice gradually underwent considerable alteration. At first it was only thick, but it became by degrees exceedingly hoarse and disagreeable.

At the last time of his admission, the symptoms were the following. Hoarseness, a harrassing and almost incessant cough, with a very copious expectoration of a frothy mucus, in which purulent particles were plentifully interspersed; the expectorated fluid had sometimes rather the appearance of pus distended with minute air bubbles, than simple mucus.

The pulse was frequent and rather full; the tongue generally white in its centre and florid at its edges; the uvula was seen to be elongated; the back part of the fauces very red, and the tonsils somewhat enlarged; appetite and spirits good; no other feeling of indisposi-

tion than that of lassitude, which a want of natural rest induced; for during the night the cough was so incessant as frequently to preclude sleep altogether. The body was much emaciated; the skin was sometimes dry and rather hot and the cheeks a little flushed, but he never perspired profusely. He continued in this state four months when the powers of life became utterly exhausted.

Examination.

A diminution existed in the superior aperture of the larynx, and its membrane was thickened and vascular; more particularly about the edges of an ulcer, by which one of the arytenoid cartilages had been completely destroyed, and a large portion of the other removed. There were no marks of disease in the trachea, and as the ulceration within the larynx so satisfactorily accounted for the symptoms which had existed during life, the lungs were not examined; from having however inspected several similar cases in which no disease of those organs existed, I am inclined to believe that in this case they were but little, if at all affected.

CHAPTER VII.

Laryngis et Tracheæ Ulceratio.

CASE XIII.

SARAH HOPKINS, aged nineteen years, was admitted on the 2nd of June, 1814, affected with difficult respiration accompanied by a peculiar noise in the trachea somewhat resembling croup; a cough; and a soreness of the throat. Upon inspection of the fauces the uvula was observed to be elongated and the tonsils enlarged. She exhibited no marks of constitutional disease nor of

debility ; her pulse was perfectly natural, and she was entirely free from pain in the chest. According to her own account, she had been in the state above described three months.

Treatment.

Twelve ounces of blood were taken from the arm ; a blister applied to the chest ; a saline antimonial mixture taken every six hours ; and a lohoc whenever the cough was troublesome.

June 4th. The same difficulty of respiration ; bowels confined. A cathartic powder was ordered to be taken immediately ; and twenty drops of tincture of opium mixed with forty drops of tartarized antimonial wine at bed time.

Early in the morning of the 5th, she died suddenly. Her breathing had become more laborious the preceding evening.

Examination.

The rima glottidis was very much contracted and the epiglottis abraded upon its sides and concave surface.

An ulcerated surface commencing at the superior and posterior part of the larynx extended downwards to a small distance below the ventricles of Galen.

The trachea was filled with purulent matter. Upon this being sponged away, an extensive and deep ulceration was discovered upon its posterior part, about half an inch below the inferior aperture of the larynx. About a quarter of an inch below this, upon the anterior part of the membrane another ulcer was situated. This ulcer spread in a circular direction and nearly embraced the whole circumference of the trachea for the space of the third of an inch. In short the whole surface of the trachea was more or less destroyed by the disease, to within about half an inch of its division into the bronchiæ. Upon this small portion there were slight traces of in-

flammation, and its follicular structure was very apparent.

The membrane lining the bronchiæ was highly vascular, but no disease existed in the lungs, heart, or abdominal viscera.

Remarks.

Every case of ulcerated pharynx, larynx, and trachea, which has fallen under my observation, has terminated fatally, and I feel myself incapable of suggesting any perfectly satisfactory or successful mode of treatment; I suspect however that much time is lost in having recourse to constitutional remedies, instead of regarding it as a local affection.

The disease is extremely insidious in its approaches and progress, and will often commit extensive and irremediable ravages before its existence or nature can be ascertained.

From the frequent application of blisters along the larynx, trachea, and parts adjacent, some advantage will be derived; blood ought also to be often drawn from the same parts by means of leeches. I have never seen much benefit result from the inhalation of any vapour. In Birch's case, which was suspected to have a syphilitic origin, mercury was exhibited and the fumes of cinabar inhaled. Where such a suspicion exists, no doubt can arise as to the propriety of this practice.

Query? Would it be advisable to make an opening into the trachea or larynx, and apply such substances to the ulcer as would have the effect of exciting a healthy action upon its surface? I have seen several ulcers upon the surface of the body, bearing a very strong resemblance to ulcers of the larynx, cured by one or two applications of nitrated silver.

That this is a hazardous operation, I am ready to admit, but perhaps the fatality of the disease fully justifies its being resorted to. Ample experience has shewn

that, if the disease be left to itself, or combated only by internal remedies, it will uniformly prove, sooner or later, fatal.

There are many chronic affections, which, to be conducted to a happy termination, require as prompt and active assistance as the most acute. Until professional men arouse themselves from that apathy with which they too frequently contemplate danger at a distance, the practice of medicine will be unsatisfactory and inefficient, and many valuable lives will be sacrificed to their supineness.

CHAPTER VIII.

Bronchitis.

CASE XIV.

GEORGE CARTER, aged forty years, on the 6th of December, 1813, from exposure to great heat in a sugar-house, to which he was not accustomed, and afterwards going into the open air, was attacked with what seemed to be symptoms of pneumonia. These symptoms becoming daily more severe, he was compelled to relinquish his occupation, and on the 20th of the same month applied for relief.

Upon his admission, he laboured under the following symptoms :

Great pain in the chest, and about the scrobiculus cordis ; dyspnœa ; an inability to lie on either side, or on the back ; he could only remain in bed in an upright posture, or while resting his head upon his hands and knees, with the trunk bent forwards ; he had a violent cough, and spat a quantity of mucus, of a purulent appearance ; he passed but little urine, the pulse was extremely rapid and full, and his countenance indicative of effusion into the thorax.

Dec. 23. On the 21st and 22d he was bled, and from sixteen to twenty ounces of blood taken away at each operation ; a blister was also applied to the chest ; purgatives administered ; six drops of the tincture of digitalis taken three times a day, and a lohoc to relieve the cough. The blood exhibited no buffy appearance.

He found but little benefit from this treatment, the symptoms continued nearly as violent, and he was obliged to sit in a chair through the night, as in a recumbent posture he was threatened with suffocation ; so laborious and difficult was his respiration. Pulse 130, but not so full ; tongue white.

He was directed to take one grain of calomel and two grains of powdered squills at bedtime, and eight drops of the tincture of digitalis every eight hours.

Dec. 24th. Felt fatigued last night and desired to go to bed ; he expired very shortly afterwards, and was found lying on his side.

Examination.

On opening the chest, the lungs with the other thoracic viscera, presented externally a most healthy appearance ; the pleura costalis and pulmonalis had no inflammatory appearance ; no adhesions were formed, nor was there any effusion into the cavity of the chest. The structure of the lungs, when examined by the hand felt natural.

The pericardium contained about an ounce of fluid of a red tint ; no peculiarity existed either in the structure of the pericardium or heart. The liver, with the chylopoietic and other assistant chylopoietic viscera, presented every mark of health.

The symptoms which existed previous to dissolution making this appear remarkable, an investigation of the internal lining of the trachea, bronchiæ, and their ramifications was instituted. Their membrane was found to be inflamed to a high degree ; a purulent secretion had

been the consequence of this inflammation, and the bronchiæ were filled with the fluid. Throughout all their ramifications which could be traced, the same appearances were met with.

That this pus was thrown out from the membrane of the Bronchiæ is evident, as there was not the slightest vestige of an abscess in the substance of the lungs.

Observations.

There is no disease to which the lungs are liable, more formidable in its appearance, or dangerous in its nature than bronchitis. To treat it successfully, we must attack it in its earliest stages with the lancet. We ought not to be satisfied with the abstraction of sixteen or twenty ounces of blood in the course of twenty-four hours; we must take away thirty, forty, fifty, or even more, if the patient be not relieved.

The patient whose case is above related, had laboured under the malady fourteen days before he applied for medical assistance; it was then fully formed; effusion into the bronchiæ had taken place. Venesection, or any other remedy could avail but little.

In addition to general depletion, a great number of leeches ought to be applied along the course of the trachea, but more particularly in the vicinity of its bifurcation. Blisters, an antiphlogistic regimen, &c. are indicated, but nothing is to be relied upon except the copious general, and local evacuation of blood.

The disease, in its latter stages, may be sometimes mistaken for hydrothorax, but the expectoration of purulent matter, together with the inflammatory diathesis, which, even in its latter stages prevails, constitutes a striking difference.

Delirium is frequently a symptom attendant upon bronchitis.

CHAPTER IX.

Hæmoptysis.

Genarum rubor; molestiæ aut doloris, et aliquando caloris, in pectore sensus; dyspnœa; titillatio faucium; tisis aut tussicula sanguineum floridum sæpe spumum rejiciens.—Cl. i. O. iv. G. xxxvii. CULLEN.

THE propriety of venesection in this disease has been disputed by some medical writers. I know of no other remedy upon which we can rely; of nothing which so effectually restrains the hemorrhage, lessens the force of the circulation, or prevents the disease from terminating in phthisis.

We are often reduced to the alternative of taking blood from the arm, or of allowing it to rush from the lungs. Which mode I would enquire is attended with the greater hazard and inconvenience to the patient?

After proper bleeding, digitalis may be sometimes advantageously exhibited; I must confess, however, that this medicine is not a favourite article with me. I have certainly seen it of service; but in my opinion the good which has been derived from it, bears no proportion to the mischief it has produced. Unless given in sufficient doses to produce its specific effects, it frequently increases the force of the pulse and the rapidity of the circulation; if administered in quantities large enough to bring the system under its influence, it will sometimes, in spite of all our vigilance, destroy life. I could instance many cases of its deleterious and even fatal effects; one or two shall suffice.

CASE XV.

A woman, twenty two years, of age, labouring under symptoms of acute pneumonia, and a supposed effusion into the cavity of the thorax, after a moderate bleeding, was directed to take half an ounce of the infusion of

digitalis every six hours. She took three doses and died at the end of twenty four hours in the act of raising herself from the pillow. Upon dissection, traces of inflammation were found within the lungs, and upon the pleura, but they were not at all sufficient to account for the death of the patient. No effusion into the thoracic cavity had taken place.

The inner coat of the stomach was free from any peculiar or diseased appearance. All the abdominal viscera were perfectly sound.

CASE XVI.

A man, aged twenty three years, was affected with excessive pain in the right hip joint, attended with a high degree of symptomatic fever. Twenty-five ounces of blood were taken from the arm, and some leeches applied over the inflamed joint. The blood upon separation exhibited upon the surface of its crassamentum a thick inflammatory crust; its serum was beautifully transparent.

On the following day, the pulse continuing strong and rapid, he was directed to take half an ounce of the infusion of digitalis every six hours. He took this quantity only four times before an intermission in his pulse became very evident, and he complained of slight vertigo. He was desired to discontinue the medicine and keep in bed. At the end of twelve hours from this time; a nurse came and informed me of his dissolution.

All the thoracic and abdominal viscera were free from disease. The hip-joint was not examined.

These are the only cases in which I have seen digitalis act as a direct poison, and prove rapidly fatal; I could however cite others in which it destroyed after being continued for a longer period; and many, very many, in which the patients narrowly escaped.

Even in several of the cases in which I have seen it

of service, I feel persuaded that milder and less dangerous medicines would have been equally beneficial. I have to add that I have seen it given in large doses for a great length of time without its producing the slightest effect.

I will briefly recapitulate my objections to the medicinal employment of this plant.

Upon some persons it acts as a powerful and deadly poison ; but upon what peculiarities of constitution this depends, we are at present ignorant.

If not given in sufficient quantity to produce its specific effects, it frequently increases the inflammatory diathesis.

When the habit is once brought under its influence, it will continue for an indefinite period.

Should the effect produced be too powerful, we are without ability to moderate it.

The life of a man under the influence of this medicine, is in perpetual jeopardy ; the incautious or accidental elevation of his body may destroy him.

It may sometimes be given to a great extent before it produces any effect ; its presence will then be suddenly manifested, and perhaps so powerfully as to extinguish the vital spark.

Lastly, I object to *digitalis*, because I firmly believe that all its beneficial effects may be derived from less powerful and less dangerous ingredients ; among these I number *ipecacuanha*, squills, and tartarized antimony, given in nauseating doses.

I hope the importance of the subject will be accepted as an apology for this long digression. I should not have acted conscientiously if I had not entered my protest against the incautious, indiscriminate, or fashionable exhibition of a medicine, which has hurried thousands to their graves.

Digitalis ought only to be prescribed in cases of extreme danger.

To return to the treatment of Hæmoptysis. Bleeding is our sheet anchor; we must from time to time recur to it, so long as sanguineous expectoration, or an inflammatory diathesis prevails.

The best time for taking away blood is towards evening, more particularly if a tendency to evening exacerbations can be observed. The patient must be enjoined absolute exemption from personal exertion, and rigid abstinence from stimulating liquors, or highly nutritive food. Cool air must be admitted into his apartment, and cool acidulated fluids freely allowed.

A small quantity of syrup of opium, or white poppies, held in the mouth for a length of time, and swallowed very gradually, will allay irritation at the upper part of the trachea, and a disposition to cough more effectually than if it be immediately received into the stomach. The infusion of roses, strongly acidulated may be taken every three or four hours, and twice or three times a day, from half a grain to a grain of the acetate of lead. Independently of the styptic property which the lead possesses, it will sometimes materially diminish the frequency of the pulse.

Whether or not pain be felt in the chest, a blister may be advantageously applied to the sternum.

If this plan, persisted in for a few days, does not succeed, full vomiting should be induced with ipecacuanha, and afterwards a constant state of nausea should be kept up with small doses of the same root, with emetic tartar, or with, what will in some cases be found more serviceable, a combination of squills and antimonial powder. With these remedies, aided by occasional venesection, hæmoptysis may be generally conducted to a happy termination, provided a strong predisposition to phthisis does not exist.

I have sometimes seen benefit derived from keeping a piece of sulphate of alumine constantly in the mouth.

It would appear that the astringent effects of the alum upon the fauces are continued along the membrane of the trachea ; whether directly or sympathetically is not very evident. Upon the same principle we must account for the relief obtained by the gradual deglutition of the syrup of opium.

CHAPTER X.

Phthisis Pulmonalis.

Corporis emaciatio et debilitas, cum tussi, febre hectica, et plerumque expectoratione purulenta.—Cl. i. O. iv. G. xxxvii. CULLENI.

PHTHISIS, in this infirmity, almost uniformly proves fatal. Some few cases, indeed, of *supposed* phthisis recover, in which even hectic paroxysms and the expectoration of pus are present ; but these symptoms are not to be considered as decisive of the character of the disease. An expectoration of pus may, and often does occur where there is no derangement in the structure of the lungs.—In the case last related the secretion of a large quantity of pus from the surface of the bronchiæ was pointed out ; a less active secretion is often mistaken for phthisis.

In cases of this description, moderate venesection, emetics, the judicious administration of opium, an anti-phlogistic regimen, change of air, and more especially a sea voyage, sometimes preserve the patient ; but where scrophulous abscesses or tubercles have formed, the disease is, and it is much to be apprehended, ever will remain without a remedy. I think it will be found that, however sanguine a man's expectation of curing it may be, the deliberate examination of the lungs of a few consumptive patients, will thoroughly convince him of its entire impracticability ; that the ravages committed are of such a description as neither nature nor art can repair.

The structure and functions of the lungs oppose to the recovery of phthical patients impediments truly formidable. What can be conceived greater obstacles to the healing process, than the constant motion or distention of a diseased part, exposed to innumerable vicissitudes of temperature, and in actual contact with atmospheric air?

When cartilage upon the extremities of bones is destroyed, its place is sometimes supplied by a deposition of earthy particles, but cartilaginous matter is rarely if ever reproduced; in fact a constitutional power to form it anew does not exist.* The lungs contain a vast proportion of cartilaginous matter; to the destruction of this matter, the almost uniform fatality of the disease is in a great measure to be ascribed.

Can any reasonable man believe that he can by the exhibition of a few grains of digitalis, or a few grains of any vegetable or mineral production, impart a power to the animal machine of which it is destitute *ab origine*? or that with such feeble instruments he can effectually oppose the destructive processes which have been established? As well might he pretend to hush the whirlwind, or "direct the storm."

My professional Brethren, let us no longer deceive mankind; let us candidly acknowledge that there are diseases which cannot be cured. Were this generous confession universally made, the world would more earnestly adopt preventive measures. So long as we promulgate opposite doctrines, we are no better than empirics; we are destitute of honor, of humanity.* Rather would I be exposed to the chances of war, pestilence and famine, than become the subject of phthisis pulmonalis.

* Perhaps it ought rather to be said, that the vessels capable of forming cartilage being destroyed, there does not appear to be a power in the constitution capable of re-producing those vessels.

† Empiricism and falsehood if not twin-brothers are certainly very nearly allied.

CHAPTER XI.

Pneumonia.

Pyrexia ; dolor in quadam thoracis parte ; respiratio difficilis ; tussis.

Species sunt,

1. Pneumonia (peripneumonia) pulsu non semper duro, aliquando molli ; dolore thoracis obtuso ; respiratione perpetuo difficili, sæpe non nisi trunco corporis erecto exercenda ; faciei tumidæ colore purpureo ; tussi plerumque humida, sæpe cruenta.

2. Pneumonia (pleuritis) pulso duro ; dolore, plerumque lateris, pungente, sub inspiratione præsertim aucto ; decubitu in latus molesto ; tussi dolentissima, initio sicca, postea humida, sæpe cruenta.—Cl. i. O. ii. G. xi. CULLENI.

THE necessity for an immediate and free evacuation of the blood in pneumonia, is now almost universally admitted ; the manner in which the process is conducted, however, not unfrequently aggravates the disease.

In inflammation of the lungs it is for the most part necessary, not only to diminish the force of the heart and arteries, but likewise to lessen considerably the quantity of blood circulating in the system. Our endeavours are often frustrated by following the directions usually given.

We are told that to induce the full effects of venesection, we must bleed from a large orifice ; there is however reason to suspect, that this opinion is erroneous.

A physician desires sixteen or eighteen ounces of blood to be taken *pleno rivo*. The consequence frequently is, that the patient faints before two thirds of the quantity directed, are evacuated ; the physician, satisfied with having reduced the force of the circulation, leaves his patient for twelve, sixteen, or twenty-four hours.

By such a mode of proceeding the disease will be rendered more formidable. Just enough blood is removed to relieve the vessels from that state of over-distention by which their force and activity was restrained, and their ability to do mischief in a great measure pre-

vented. The temporary debility induced by the operation is soon recovered from; the vessels speedily accommodate themselves to their contents; when, freed from their previous state of distention, they are enabled to act with a degree of violence which, in the course of a few hours, often proves destructive to the organization of the lungs, and lays the foundation for imposthume or effusion.

It has already been stated that, in pneumonia, it is peculiarly desirable to lessen considerably the volume of blood, as well as to diminish the rapidity of its circulation. By inducing syncope by the abstraction of blood from a small orifice, both these objects are with facility accomplished. It will be found that this is the most effectual way of arresting the progress of all active inflammatory diseases, more particularly if it be resorted to in their early stages. By it, decided and permanent relief will be obtained, and the necessity for such repeated venesection as is often demanded when an opposite line of practice is adopted, in a great measure obviated.

Debilitated persons are occasionally the subjects of inflammatory affections. It can scarcely be necessary to observe, that the practice here recommended is not adapted to them; it is only calculated for the vigorous and plethoric.

In weak habits, we may advantageously abstract a small quantity of blood from a large orifice. In conjunction with venesection, an antiphlogistic regimen, &c. is of course to be enjoined.

PLEURITIS requires the same treatment as pneumonia; in this form of the disease, however, the application of leeches and blisters to the chest will be attended with more advantage than in simple inflammation of the lungs.

CHAPTER XII.

Empyema.

Post pneumoniam suppuratione terminatam, sæpe post vomicam, remissio doloris, dum perstant dyspnœa, tussis, decubitus difficilis, et febris hectica, sæpe cum sensu liquoris in pectore fluctuantis, et signis hydrothoracis.—Cl. i. O. ii. G. xii. CULLEN.

CASE XVII.

JOHN NAISH, aged thirty-seven years, by trade a carpenter, related that, about August, 1812, while in the pursuit of his daily avocations, he was almost instantaneously seized with lassitude, coldness of the extremities, and rigors of the trunk, which, in a few hours were succeeded by a preternatural degree of heat. A cough, which he had considered as trivial, became now more violent, and was attended with a copious expectoration. His nights, for the most part, were restless, his extremities feeling generally cold, and his body being covered with a profuse and clammy perspiration. His diet was strictly antiphlogistic, and he persevered in the use of such medicines as the practitioner prescribed for him, until he was informed that medicine was superfluous, there being no chance of recovery.

Thus abandoned, he resolved to go into the country and try a change of air. By this change he regained his health so rapidly, that at the expiration of six months from the commencement of the attack, he was enabled to return to his labour. During these six months he experienced no pain in the thorax, but from the commencement, a sensation of weight and occasionally some difficulty of breathing. The cough continued troublesome until he went into the country, when it gradually decreased. He continued uninterruptedly in the pursuit of his daily labours for four months, at the expiration of which time, symptoms exactly similar to those already described, again affected him, with these differ-

ences only; that the cough was more troublesome, and the expectoration less copious. After five months from the commencement of this second attack, with the exception of a slight cough, he found himself once more restored to health. He again renewed his trade, and followed it to the commencement of May, 1814, when he was visited by a third attack, much more violent than those which preceded it. He now, also, felt considerable pain in the left side, and oppression at the scrobiculus cordis. Little variation in the symptoms occurred during this month.

Early in June he discovered, upon moving his body backwards and forwards, a fluctuation of something in the left side of his chest, which daily became more evident and ascended upwards, until it could be distinguished above the clavicle. An enlargement of the left side of the thorax next took place, and the fluid subsided.

On the 17th of October, he became a patient at this Infirmary. The symptoms of disease which were at this time present, were the following. A troublesome cough; difficult breathing; little expectoration; an evident fluctuation of fluid in the left side of the thorax. The noise produced when the fluid struck against the parietes of the chest, could be heard at a considerable distance. To the feeling, it conveyed the idea, not of an agitated *watery* fluid, but of a thick oleaginous matter, shaken in a cask partly empty. When he lay on the side affected, a palpitation of the heart ensued; when he elevated the left arm he experienced great pain in that side; his pulse was rather full and accelerated; his nights were rendered restless by the cough; his right shoulder was evidently higher than the left; on striking the diseased side with the hand, it sounded heavily and obscurely. He was somewhat emaciated, but his countenance had a healthy aspect; his constitution seemed to be but little impaired.

26th. This day in consultation the Physicians and Surgeons of the House determined upon evacuating the fluid. Since his admission no alteration had taken place in the symptoms.

29th. An incision was made between the sixth and seventh ribs; a female catheter passed into the wound, and thirty-six ounces of imperfectly formed pus, slightly tinged with blood, evacuated. As the pus passed off, his breathing was relieved. Immediately after the operation, his pulse was weak, but in the course of an hour, became tolerably good; he felt no pain in the chest; the edges of the wound were dressed with adhesive plaister.

30th. He passed a tolerably comfortable night; pulse rather full, and eighty-six in a minute; tongue white; bowels not relieved since the operation; breathing continued free; did not complain of any pain in the chest.

31st. Pulse good; tongue not so white; bowels relieved; slept well; had no pain in the chest, except when he coughed. There still remained an evident fluctuation.

November 4th. The fluctuation could still be distinguished.

8th. The pulse full and frequent; tongue white; bowels open; had some degree of heat on the surface; his breathing was more difficult.

Five o'clock, P. M. A pint of fluid was discharged from the wound, which greatly relieved him.

9th. Nine o'clock, A. M. About one pint and a half of fluid was evacuated; fluctuation still evident. Two flakes of coagulable lymph passed through the wound.

10th. At eleven o'clock, P. M. The wound burst open and discharged twenty-four ounces of pus.

11th. No fluctuation perceptible; his breathing relieved materially.

13th. No fluctuation evident; about four ounces of

matter evacuated in the course of twenty-four hours ; no disposition in the wound to heal ; general health not much affected.

17th. Large flakes of coagulated lymph continually escaped ; when he rested on the right side, air passed through the wound.

22nd. Pulse full and frequent ; breathing excessively laborious ; he complained of pain in the chest, and had hectic flushes.

Twelve ounces of blood were taken from the arm.

December 6th. The quantity of fluid lessened.

18th. The fluid discharged, varied in quantity, from two to five ounces daily.

23rd. He progressively improved ; the discharge from the side lessened ; he slept well at night, and was free from pain.

25th. No fluctuation evident.

February 19th. Throughout the month of January to the present day, he appeared to be convalescent ; when on the evening he expectorated about two ounces of blood combined with pus. The pulse being rather full and somewhat accelerated, ten ounces of blood were taken from the arm. He expired half an hour afterwards.

Examination.

Upon examining the thorax, the following appearances presented themselves. The costal and pulmonary pleuræ, on the left side, were much thickened, and their surfaces covered with a purulent secretion. They formed the sac in which the fluid had been contained. The left lung was diminished in size, flattened, and so much compressed as to have become perfectly useless.

Upon its anterior surface, a foramen as large as a six-pence, was situated. This opening had communication with an abscess of considerable magnitude, and this abscess with the left bronchiæ. A bougie could be readily

passed from the bronchia into the chest, or from the chest into the bronchia. This circumstance satisfactorily accounted for the passage of air through the wound in the side, during the life of the patient. In the cavity of the chest, about three ounces of imperfectly formed pus were met with. The right lung had formed a few inconsiderable adhesions, and had some tubercles here and there scattered throughout its substance, but was not so much diseased as in any respect to incapacitate it for performing its proper functions. The heart was small, but free from any morbid appearances. A small quantity of fat was situated at its basis and apex. The viscera of the abdomen were all perfectly healthy.

Observations.

I have found considerable difficulty in compressing this case; and even in its present abridged state, it will perhaps appear tedious. I was led into a narration of it, from a desire to shew that a large quantity of fluid may from time to time be removed from the thoracic cavity, not only with perfect safety to the patient, but without interfering in the slightest degree with the action of the heart. The dread of inducing a fatal syncope has, perhaps, deterred many from venturing upon paracentesis of the thorax, in this disease, as well as in hydrothorax.

Under several disadvantageous circumstances, the operation, as far as it was concerned, fully succeeded. In the first place, it was too long deferred; the pus had by its pressure, completely destroyed the organization of the left lung; upon its removal the lung was incapable of expanding and filling up the space which it had occupied. In spite of this obstacle to a perfect restoration of parts to their natural state, the quantity of fluid gradually diminished, and had for some days before the death of the patient entirely ceased. Had the fluid been evacuated at an earlier period, it is more than probable,

that the lung would have expanded, and have come in contact and formed adhesions with the costal pleura. That an effort to establish such adhesions was made, is evident from the quantity of coagulated lymph thrown out.

In the second place, an abscess situated at the root of the lung had communication with the thorax ; by which air was admitted, and formed another impediment to the recovery of the patient. I do not apprehend, however, that much pus escaped from this abscess into the chest ; almost the whole of it was probably secreted from the surfaces of the pleuræ.

It is difficult to account satisfactorily for the sudden death of this man. The quantity of blood ejected was very small ; it did not appear that it occasioned any interruption to the function of respiration. The abscess was probably a source of some irritation, but as the left lung had for a length of time ceased to perform its office, no great degree of importance can be attached to it. The right lung contained some tubercles, but none of them were in a state of ulceration ; the pulse, not half an hour before his death, was strong, full, and natural ; the body was somewhat emaciated, but the powers of the constitution were not so much impaired as might be supposed. Just before his dissolution, he appeared to be the subject of incipient, rather than of the last stage of phtisis pulmonalis.

I have seen one case of empyema in which an abscess formed by the side of the inferior bones of the sternum ; an immense quantity of pus escaped upon its bursting, and the patient recovered. Previous to this event the action of the heart and lungs was almost entirely suspended and the patient seemed to be in articulo mortis.

CHAPTER XIII.

Hydrothorax.

Dyspnœa ; faciei pallor ; pedum œdemata ; urina parca ; decubitus difficilis ; subita et spontanea ex somno cum palpitatione excitatio ; aqua in pectore fluctans.—Cl. iii. O. ii. G. lxxviii. CULLEN.

IF squills, digitalis, elaterium, mercury, &c. fail in exciting an absorption of the fluid in this disease, the subject of it is abandoned to his fate. In ascites, where no immediate necessity for an operation exists, the trocar is unhesitatingly plunged into the abdomen, but, although the water in the thorax threatens instant suffocation, an attempt to relieve the patient, by making an opening into the thorax, is rarely resorted to.

The case of empyema, just related, satisfactorily shews that the operation may be performed with perfect safety ; let us examine then the grounds upon which professional men oppose it.

In the first place, it is objected that hydrothorax is most frequently combined with some disease of the lungs, heart, or abdominal viscera ; that an evacuation of the fluid, is therefore merely palliative. Viewing it only in this light, I still contend for the propriety of the operation. It often happens that we are reduced to the alternative of allowing the accumulated water, by its pressure, to destroy life ; or, of enabling the heart and lungs to continue their action for an indeterminate period, by its evacuation. That period may be, and often will prove short ; but the evacuation of the fluid rescues the patient from the instant danger, and affords us further opportunity of employing other remedies.

The objection to the operation because it is only palliative applies equally to paracentesis of the abdomen ; but hydrothorax is not always combined with organic affections. I have met with several cases in which no trace of disease either in the lungs, heart, or abdominal

viscera could be discovered, not even so much as an adhesion between the opposed portions of the pleuræ. In these cases the accumulation of water was very rapid, and the patients died before the action of the absorbents could be sufficiently increased to enable them to remove the fluid. My mind is forcibly impressed with the belief that, had an opening been made into the thorax and the water drawn off, these persons would have been saved. So firmly convinced am I of it, that, if I were labouring under the disease, I should earnestly request and confidently submit to the operation.

Secondly. An objection is urged against the operation, on account of the uncertainty with which it is attended. To this I reply, that the symptoms of the disease, together with an attentive examination of the chest in the manner directed by Corvisart, will, for the most part enable us to determine whether or not water be present, as well as the point at which the opening may be most advantageously made.

Upon the sound produced by percussion of the chest, we are not however solely to form our judgment. It may, and often does happen, that extensive adhesions between the lungs and the parietes of the thorax take place. If this be the case, an indistinct noise somewhat similar to that emitted when water is present, will be produced.

Again ; if the heart be very large, the left side of the chest will sound much less than the right, although the latter may be full of fluid. If the sound of this right side were contrasted with the noise produced upon striking a healthy chest, the existence of fluid would be manifest ; but by being compared with that induced by striking upon the side in which an enlarged heart is situated, an erroneous conclusion may be drawn.

One of the greatest obstacles to the free discharge of the fluid arises from the adhesions which the lungs form

with the ribs. Those who have been in the habit of examining bodies, must have observed that these adhesions are more universal at the anterior than at the posterior part of the chest. In hydrothoracic patients more particularly, I have found that, after breaking them down for a short distance from the sternal extremities of the ribs, my fingers have come in immediate contact with the surface of the water. In order therefore to prevent our attempts to evacuate the fluid from being frustrated by any adhesions which may exist, the opening should be made in the posterior part of the thorax. As convenient a point as any, is probably between the sixth and seventh ribs, about an inch and a half anterior to their angles. An opening in this situation will allow of the ready escape of the fluid, whether the patient be placed upon the back, or upon the side affected.

Although I thus strenuously contend for the propriety of an operation, I would not have it supposed that it is to be performed before other means have been ineffectually employed. The absorbents opening upon the surfaces of the pleuræ possess a considerable degree of activity; this activity may be often much increased by proper medicines. Squills in nauseating doses will be found serviceable; but elaterium, administered in sufficient quantities to excite frequent, copious, and watery evacuations from the intestines, will be found more beneficial. In the early stages of the disease, venesection will be, not merely proper, but indispensable.

Although disapprobation of the indiscriminate exhibition of digitalis was so unequivocally expressed, when treating of hæmoptysis, it was admitted that it had in some cases been beneficial, and that, when imminent danger threatened, we were justified in making use of it. While allowing this, I had in recollection the advantages which I have twice seen derived from it in combination with nitrate of potash, in hydrothorax, and with opium,

in carditis. A quarter of a grain of the powdered leaf, united with ten grains of nitre, in the former disease ; and the same quantity every four or six hours, with a full dose of opium every twenty-four hours, in the latter, may, when other means fail, be administered.

SECTION III.

ON DISEASES OF THE HEART, &c.

CHAPTER I.

Carditis.

Pyrexia; dolor in regione cordis; anxietas; spiritus difficilis; tussis; pulsus inæqualis; palpitatio: syncope.—Cl. i. O. ii. G. xiii. CULLEN.

INFLAMMATION of the heart has lately become a very prevalent affection. In almost all the cases I have seen, it has either been combined, or has alternated with severe rheumatic attacks.

In the following case, a history of the disease in its different stages, is preserved with a sufficient degree of minuteness, to enable any one to distinguish it from other affections of the heart.

CASE XVIII.

A baker, by the name of Rider, aged eighteen years, on Wednesday, the 10th of December, 1810, as he was going to bed, felt a violent fluttering at his heart. It appeared to him to pulsate twenty times where it should beat only once. This increased action was attended with violent pain in the chest, spitting of blood, and sickness. On Thursday, Friday, Saturday, and Sunday, his limbs became stiff, cold, and painful, his legs swelled, and his fingers contracted.

On Monday, December 17th, he was admitted into this Infirmary. His symptoms at this time were the following: Great fluttering of the heart, attended with a rapid, irregular, and scarcely distinguishable pulse; the breathing was extremely laborious, and there was an expectoration of mucus tinged with blood; the bowels were confined.

A blister was ordered to the chest; two grains of digitalis every night; and a saline antimonial mixture with syrup of white poppies in the day time.

18th. The digitalis excited great nausea, it was therefore omitted, and the mixture alone continued.

19th. The increased action of the heart continued; pulse full and irregular; constipation of the bowels. Another blister was applied to the chest; ten ounces of blood were taken from the arm, and a purgative enema injected.

20th. The blood was rather buffy; the enema operated; a vein was again opened, and sixteen ounces of blood taken away.

21st. Blood not at all buffed. The pulse was hard, quick, irregular, and 160 in a minute. A grain and a half of powdered digitalis was directed to be taken every four hours, with the saline mixture.

22nd. The digitalis was ordered to be continued, and a bolus containing eight grains of aloes, and a grain and a half of opium was administered at bedtime. The symptoms as yesterday.

23rd. An astonishing abatement of all the violent symptoms. The pulse was found to be regular and rather full, but not more than eighty in a minute; the respiration became easy; tongue rather dry; he complained of much pain in the shoulder-blades, which he said he had felt throughout the whole attack, although he had not spoken of it before.

24th. Pain in the shoulder-blades continued; pulse regular, ninety in a minute, and not so full as yesterday; one alvine evacuation of a natural consistence and colour. The digitalis was ordered to be continued, and the aloetic pill, containing only a grain of opium, was taken at bedtime.

25th. Pain in the shoulders and back somewhat relieved; digitalis continued.

26th. Better; pulse eighty-eight.

27th. As yesterday.

28th. Pulse ninety, and stronger; tongue clean; bowels open; digitalis continued. He complained of great pain in the lower extremities, particularly about the gastrocnemii muscles.

29th. Better; pain in the extremities abated.

30th. As yesterday.

31st. Daily improving.

January 6th, 1811. He left the Infirmary in a state of convalescence. The increased action of the heart had completely subsided, and all he complained of was pain in the legs; the pain in the shoulder-blades was entirely removed.

Observations.

Although this case terminated favourably, it is probable that its duration might have been shortened, if instead of twenty-six, sixty, eighty, or a hundred ounces of blood had been taken away.

In carditis we must endeavour not only to diminish the inflammatory symptoms, but likewise to put a *speedy* termination to the increased action of the heart.

To effect these objects we must principally rely upon copious venesection, and opium.

When by the loss of blood, the action of the heart is moderated, a large dose of opium may be taken, with decided benefit. In the case above related, I am inclined to attribute its successful termination almost entirely to the opium. The digitalis might likewise be of some service.

This patient had a somewhat similar, but less violent attack three months previous to his being admitted into the Hospital. With the treatment to which he was then subjected, I am unacquainted. He was of a robust habit, and tolerably healthy countenance; his blood, however, did not appear to be very well decarbonized; his cheeks, lips, and finger-nails, had a bluish cast.

A case of carditis has fallen under my observation, in which the whole arterial system seemed to participate. A violent and rapid pulsation could be seen, as well as felt, in its minute ramifications. It was peculiarly distinguishable in the labial and digital arteries. This man lost in twelve days, two hundred and sixty ounces of blood. For eleven days in succession, twenty ounces were abstracted, and on the 12th forty at one operation. From this last bleeding, he derived more advantage than from all those which preceded it. Syncope was induced by it, and a permanent diminution in the force of the heart and arteries, was effected. He recovered more speedily than could reasonably have been expected, and is at this time in perfect health.

This man sometimes perspired so profusely, that it became necessary to place vessels under the bed to catch the fluid as it trickled through the bedclothes and sacking.

CHAPTER II.

Hydrops Pericardii.

THIS disease is almost always the consequence of some derangement in the structure of the heart. Dilatation of the auricles or ventricles; contraction of the auriculo-ventricular apertures; ossification of the valves; and ulceration upon the surface of the heart are its most frequent exciting causes. It is likewise frequently combined with aneurism of the aorta.

It may continue for a length of time and water accumulate in great quantity without exciting any symptoms by which its existence can be decidedly known, as the case about to be related will evidence.

To distinguish *hydrops pericardii* from *hydrothorax*

is extremely difficult; in some cases impossible. It frequently happens that they are united. It requires the same medical treatment. An operation is not admissible.

CASE XIX.

A woman, aged twenty-nine years, applied on the 27th of June, 1811, for admission into the Bristol Infirmary.

She was led into the room by two persons. She was incapable of supporting herself, and her spirits were so much depressed, that she seemed indifferent to the questions asked, and unwillingly returned answers to them. Her friends stated, that she had been ill many months, and that she had been taking medicines.

The fetor exhaling from her, was so extremely unpleasant that none but those whom necessity compelled would venture near her. The gums were absorbed, and it was evident a large quantity of mercury had been given to her. She said she had the dropsy, but observing that the tumor of the abdomen was much more circumscribed than it usually appears under that disease, it was suspected that the tumor had been produced by a more natural cause.

She was asked if she had any reason to suspect that she was pregnant. She replied, "I do not know whether I am or not; some people say I am, others, that I am not; I however never feel as though I were with child. My courses have disappeared for seven or eight months. My husband has not been with me for three years; but still I cannot be certain that I am not with child."

She was ordered to be put in the warm bath, merely with a view of rendering her less offensive. A scruple of jalap was given to her in the evening, and a gargle was ordered her to cleanse her mouth.

On the following morning, her skin was rather dry and hot, tongue foul, pulse ninety, somewhat oppressed, but perfectly regular; there was however nothing in the state of it which would have led any one to suspect much disease about the heart or lungs. Her breathing was rather difficult, but she did not complain of it.

Upon examining the abdomen, a circumscribed tumor was found extending upwards from the pubes to midway, between the umbilicus and scrobiculus cordis. This tumor was extremely firm and communicated the sensation of a solid body to the touch. It was endeavoured, but in vain, to distinguish a fluid. The urine was evacuated freely, regularly, and in large quantity. She complained of her mouth very much, but felt no pain in any part of the body.

All these circumstances in combination, led to an opinion, that the woman was in the seventh or eighth month of pregnancy. Nothing but the introduction of a catheter into the bladder, or an examination *per vaginam* could have detected the fallacy of this conclusion.

She was discharged under a suspicion of pregnancy, and died in the course of the following week.

Dissection.

I am not acquainted with the minutiae of the dissection, neither have I been very anxious to obtain them, as a Gentleman in this city has it in contemplation to publish the case with a plate representing some ulcerations which existed upon the surface of the heart.

These ulcerations were of considerable extent and nine ounces of fluid had been deposited within the pericardium.

The tumor in the abdomen was occasioned by an enormously distended bladder. Upwards of two gallons of urine were discharged upon an incision being made through its parietes.

Remarks.

Although there was so much disease about the heart, I cannot learn that any symptoms ever manifested themselves by which its existence could be decidedly known. It may be proper to state that, nine months previous to her admission, upon going hastily up stairs, she was twice in the same week suddenly attacked with a fluttering at the heart, which was followed by an alarming and long continued syncope. It is probable that the disease commenced nearly at this period.

Perhaps a greater number of circumstances scarcely ever occurred in any one case to deceive medical Men, as to the real condition of the sanguiferous, uterine, and urinary systems. With a regular and natural pulse; with respiration but little impaired, who would have suspected the presence of nine ounces of fluid within the pericardium? or extensive ulcerations upon the surface of the heart? With the discharge of the contents of the bladder without difficulty, and in large quantities, who would have divined that the tumor was occasioned by its over distention? On the other hand, the suppression of the catamenia; the gradual ascent of the tumor from the pelvis to between the umbilicus and scrobiculus cordis; its firmness, its form; the woman's indirect admission of the possibility of her being pregnant; with other collateral evidence, were circumstances sufficiently strong to induce a belief in the gravid state of the uterus.

This erroneous opinion could only have been corrected by the introduction of a catheter into the bladder or by an examination *per vaginam*. Professional Men ought never to hazard an opinion, as to the condition of the uterus, without being first permitted to make such an examination.

The contractile power of the coats of the bladder must have been in a great measure destroyed; we can therefore only account for the partial evacuation of the

urine, by supposing that, when extreme distention produced uneasiness, the abdominal muscles were called into action, and effected its expulsion.

CHAPTER III.

Ventriculorum Cordis Inflammatio.

I do not remember to have seen any where recorded a case precisely like the following: I suspect however that it is by no means of infrequent occurrence, and that, in a less aggravated state than is here related, it is often the cause of those palpitations of the heart which have lately become so very prevalent. Nearly as many cases of increased action of the heart as of phthisis, have been admitted into this infirmary within the last five years. Scarcely a female applies for the removal of hysterical symptoms, or labouring under amenorrhœa, but, in addition, she is affected with increased and inordinate action of the heart and carotid arteries. Amongst men likewise this affection is become very common. The metastasis of rheumatic inflammation from the extremities to the heart, often gives rise to it, particularly when venesection has been omitted or but sparingly employed.

CASE XX.

William Trick, a native of Wales, applied for admission on Thursday, January 10th, 1811. He was twenty-five years old, of a moderate size; his countenance indicating much disease. He stated, that he had been ill about six months; and that he conceived his malady was brought on by violent exertion, while working in a coal pit.

In the month of July, 1810, upon straining to lift up a heavy weight, he was seized with a violent cough,

and threw up a considerable quantity of blood from the lungs, the discharge of which continued for a few days and then subsided. Since that time he had been labouring under violent palpitation of the heart, attended with difficulty of breathing and an occasional cough. His strength gradually failed him; he became emaciated; he had resorted to medicine without deriving any benefit from it.

Upon making this statement, the Physician of the week gave it as his opinion, that there was some organic affection of the heart for which there was no remedy. He prescribed some saline antimonial medicine, and a lohoc for the cough.

As he did not appear to be in any immediate danger, he was directed to apply again for admission on the following Monday, and in the mean time to keep himself quiet.

On the Monday he came, but with all his symptoms of indisposition aggravated. He was scarcely able to walk; his breathing was very laborious; his heart palpitated violently; his pulse was hurried, irregular, and intermitting; and there was extreme anxiety of countenance.

It was observed that the action of the heart was feeble at its apex, but that at its basis it was very strong. A belief was induced, that a dilatation of the aorta at its origin was the cause of its irregular and convulsive efforts. It was deemed expedient to endeavour to diminish its impetus, by the exhibition of opium. A grain of that narcotic was administered, with directions to repeat the dose as occasion might require. At six o'clock in the evening, I was requested to see him. I found the heart throbbing against the parietes of the chest, with astonishing velocity, irregularity, and almost unprecedented violence. The pulsations of the radial artery could not be numbered. His breathing was so

laborious that it was expected instant suffocation would ensue.

Twelve ounces of blood were drawn from the external jugular vein. This evacuation seemed to afford some relief; his breathing became less difficult, and his pulse more regular. After the evacuation, sixty drops of laudanum were administered.

At eleven o'clock he complained of giddiness and loss of sight; the surface of the body became cold. At two o'clock, on the following morning he died, without any previous increase of the symptoms above enumerated.

Examination.

The pericardium was in a healthy state, nor did it contain more than its usual quantity of water. The heart itself was rather of a large size; it was coated at its basis, and upon its under surface, with a larger quantity of adipose substance, than is ordinarily met with in persons of the patient's age.

The auricles presented no unusual appearance, but the inner surfaces of the ventricles were highly vascular. The tricuspid and mitral valves were evidently in an inflamed state.

The outer coats of the aorta and pulmonary artery were rather red; their internal linings looked precisely like a highly inflamed tunica conjunctiva. The pulmonary artery was much more vascular than the aorta. There were slight adhesions between the pleura and its reflected portion, but the lungs did not appear to be in the slightest degree diseased.

Remarks.

The death of this man was, perhaps, occasioned by a rapid increase of the inflammation upon the inner surface of the pulmonary artery; in consequence of which,

that important vessel was rendered incapable of supplying the lungs with sufficient regularity.

The inflamed state of the ventricles, must likewise have materially diminished their powers of contraction. As, during the life of the patient, the auricles could be distinguished to act with so much greater violence than the ventricles, it is probable that the blood was propelled in a great measure by them into the aorta and arteria pulmonalis.

The arch of the aorta was slightly enlarged, but no aneurismal tumor existed, either upon it, or the neighbouring large vessels.

CHAPTER IV.

On the Velocity and Inequality of the Action of the Heart.

CASE XXI.

JOHN FERROL, aged twenty-three years, by trade a cooper, had been indisposed about twelve months previously to his admission on the 16th of December, 1811. He stated that he was first seized with a cold chill, since which time he had been labouring under more or less difficulty of breathing, with violent palpitation of the heart.

The symptoms of disease at the time of his admission, were the following. He was attacked every morning and evening with palpitation of the heart. At these times it acted with great force and rapidity. It pulsated 212 times in a minute. During this increased action, no pulsation of the radial artery could be discovered, nor was the action of the carotid arteries very evident. He was in no pain, but was under continual dread of suffocation. His breathing was very laborious; his

countenance bloated, and of a dark blue colour, more particularly when he was in a recumbent posture.

This action would continue one hour, when another equally curious would take place. The radial artery struck the finger feebly but regularly about seventy times in a minute, and the heart was distinctly felt beating against the parietes of the chest 140 times in the same space of time; that is to say there were two pulsations of the heart for one of the artery. This state of the pulse likewise continued about an hour, when the heart and arteries would move in unison about ninety-five times in a minute.

The evening paroxysms were more distressing than those of the morning; the duration of both could be somewhat shortened by giving a drachm of æther, and twenty drops of laudanum. He had been taking for a fortnight a saline mixture with a small quantity of digitalis, a pill composed of one grain of calomel, and three grains of powered squills every morning, and ten grains of the compound powder of ipecacuanha every night. Occasionally a cathartic powder was given.

By this treatment he was somewhat relieved, but as he was prepossessed with an idea, that in the event of his dying in the house he would be examined, he insisted upon leaving it. He died about three weeks afterwards.

Remarks.

I regretted extremely not being able to examine the state of the thoracic viscera in this case, as perhaps they would have afforded some explanation of the extraordinary pulsation of the heart and arteries.

That the heart did actually strike against the parietes of the chest 212 times in a minute, I positively affirm.*

* I am pointed in making this asseveration, because a man, more celebrated for height of impudence than profundity of physical and physillogical science, threw out insinuations against the veracity of this statement.

I counted them every day for a fortnight, with a stop watch in my hand. I not only reckoned them myself, but I requested one of my pupils to do the same; and that without previously informing him of the result of my examination. When I asked him how many strokes he could number, he unhesitatingly replied, "Two hundred and ten."

Some men have denied the possibility of distinguishing so great a number of strokes in the space of a minute. Of the fallacy of this opinion, any one may convince himself. Let him place a watch before him, and at the same time allow 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, to pass rapidly through his mind: he will find that he can distinctly count ten, twenty times over in the space of fifteen seconds. If then, 800 can be counted in a minute, why should it be deemed impossible to number 212 *strong, regular and, distinct* pulsations of the heart in the same space of time. A difficulty in numbering the pulse will be experienced only, when to velocity, is conjoined irregularity or intermission.

I do not imagine that the heart propelled blood into the aorta every time it was felt to pulsate. There was probably some impediment to the free passage of the blood from the auricles to the ventricles, and from the ventricles into the aorta and pulmonary artery. In consequence of this obstruction, the action of the heart at its basis, was rendered as distinct as at its apex.

When the hand was applied to the chest, I think the dilatation of the *auricles*, as well as of the ventricles was perceptible, an instantaneous intermission being observable between the dilatation of each; I conceive therefore that blood was only sent into the aorta at every alternate pulsation of the heart. That this was the case, further appears from the circumstance of there being, during one period of the paroxysm, only seventy pulsations of the radial artery, when 140 strokes were given to the hand applied to the parietes of the chest.

Why was it, when the ventricles were acting with so much violence and rapidity, that no action could be observed either in the carotid or radial arteries? Such an occurrence is by no means unfrequent. I can only account for it by supposing that some impediment existed at the mouth of the aorta, in consequence of which the ventricles not being able to empty themselves of their contents *per saltum*, pressed them forward in a continued stream. Under these circumstances the blood is afterwards carried on by the arteries unassisted by the heart, in the same manner as it is by the veins. I am confirmed in this suspicion from having examined a young man, in whom no action of the radial arteries could be felt for three weeks previous to his dissolution. In this lad the left auriculo-ventricular aperture, and the orifice of the aorta were so much contracted, that the first phalanx of the little finger could not be passed through them. Several polypus-like concretions were likewise met with in the left ventricle, which must have still further impeded the passage of the blood.

CHAPTER V.

Polypi of the Heart.

A DIFFERENCE of opinion with respect to polypi of the heart has long existed among professional Men. Some have contended that they often exist long before life is extinct; others, that they are formed immediately before or soon after death.

In these polypi, as they are called, a great variety of structure and appearance is observable. Some will be found to be constituted of layers of coagulable lymph regularly deposited upon each other, and intimately united, or as it were kneaded together by the long continued contractions of the heart; others are but loosely

connected ; have the red particles of the blood in greater or smaller quantities blended with them ; are in short a mass destitute of any resemblance to organized matter. They are evidently nothing more than portions of blood rendered somewhat firm by the separation of its serous parts, and the slight pressure to which they were a short time before death subjected. They are attached but feebly to the sides of the cavities of the heart, and are easily separated from them ; whereas the first species adhere with great pertinacity, and are with difficulty removed. So intimate is the union which exists, that I have sometimes suspected blood vessels were passing into them from the membrane lining the cavities of the heart.

I am inclined to think that they are often the consequence of inflammation upon this membrane, and would beg leave to submit the following conjecture, relative to their formation.

It is well known that, if blood received into a vessel be kept in motion with an unpolished piece of wood, the coagulable lymph will collect around it. In a manner precisely similar, I conceive the coagulable lymph to accumulate within the auricles and ventricles. From some accidental cause, as inflammation of one of the *carneæ columnæ*, the membrane is by the coagulable lymph thrown out deprived of its polished surface. The roughness thus produced, serves for a nucleus around which the coagulable lymph contained in the circulating blood gathers, and by degrees forms those extraneous bodies which are usually denominated polypi.

These concretions are occasionally productive of much inconvenience. Sometimes they are driven before the openings of the aorta and pulmonary artery, by which the passage of the blood becomes interrupted, and syncope, palpitation of the heart, irregularity of the pulse, &c. are induced.

By partially occupying the cavities of the heart, they

may also occasion their enlargement; I suspect, however, that dilatation of these cavities is much more frequently produced by violent and long continued exertion, or by painful mental affections. In persons who die of what is called a broken heart, the auricles will sometimes be found much distended. I remember examining a case of this description, in which no trace of disease could be detected except in the right auricle of the heart. This compartment was of three times its natural dimensions. It contained a large quantity of blood which had separated into serum, crassamentum, and coagulable lymph, as perfectly as inflamed blood does when drawn from a vein.

Scorbuticising the system would, perhaps, prevent the formation of these polypi, but could effect but little change upon them when fully formed.

CHAPTER VI.

Aneurism of the Aorta.

CASE XXII.

MARY TOWNSEND, aged thirty years, of a dark complexion, disagreeable Mulatto features, and emaciated form, was admitted on the 24th of February, 1814. She complained of frequent cough, and slight pain in the left side, but the most distressing symptom was occasioned by a violent palpitation of the heart. Sometimes this increased action would not come on for many days; even a week would elapse without her being affected by it; generally speaking, however, she had one or two attacks every day, more particularly upon making any unusual or violent exertion. It would sometimes continue for several hours, at other times it would subside in the course of forty minutes. The paroxysms could

for the most part be shortened by administering laudanum and æther in the proportions specified in case XXI. Whenever respiration was impeded, painful, or difficult, a few ounces of blood were abstracted from the arm. As soon as the violent action of the heart subsided, the pulse became soft, regular, and about eighty in the minute; but while she was labouring under it, it was excessively rapid and indistinct.

She had previously to her admission, led a very dissipated life, and had suffered for nearly two years in the manner above stated. Recourse was had to a variety of remedies; amongst the rest, small doses of mercury, opium, and digitalis, opium and digitalis combined, æther and camphor; and three or four times, during the three months she was in the house, she was bled to twelve ounces. She appeared once or twice to be very nearly recovered, but upon using exertion the palpitation returned; and from its violence one would have imagined she had but a few hours to live.

Three days before her dissolution, she requested permission to walk out. On the same evening she had a return of the palpitation, attended with great pain in the chest; laborious respiration, &c. and she spat up about an ounce of blood.

Twelve ounces of blood were taken from the arm, and at night the opiate was administered. The bleeding afforded much relief; the blood was devoid of any unhealthy appearance.

On Saturday morning, (the day before her death) she coughed up nearly a quart of blood, and became extremely faint; the radial artery was destitute of pulsation, but the vessels about the neck throbbled vehemently. Two ounces of the infusion of roses strongly acidulated, were administered instantly. Towards the evening the pulse at the wrist returned; the action of the heart was moderated; but she complained of great pain

in the chest, attended with difficult respiration. The opiate was taken at bedtime.

Sunday. She rested tolerably well, but about ten o'clock, A. M. the hemorrhage returned; the blood gushed in a full and uninterrupted stream from the mouth till nearly five pints were evacuated; she then sunk back and expired.

Dissection.

The first thing which attracted attention upon reflecting back the abdominal parieties, was the unusual position of the stomach. Instead of stretching obliquely across the upper part of the abdominal cavity, it was placed longitudinally, that is to say, parallel with the *linea alba*.

Its cardiac extremity was opposed to the diaphragm, its pyloric end nearly reached the brim of the pelvis. The duodenum passed upwards and behind it, to be joined by the pancreatic and biliary ducts in the usual situation.

The stomach was of a pale colour. Towards its upper extremity a hole was situated, through which a quantity of grumous blood escaped upon the viscus being slightly pressed. It was but moderately distended.

The colon, upon the right side, was filled with air; its descending portion was less inflated; its transverse portion passed behind the stomach. The gall-bladder projected above it, and its fundus rested upon the stomach which was stained with transuded bile. In short, the only things which presented themselves on first turning back the abdominal muscles were, the stomach, occupying the centre; the ascending colon distended; the descending colon less distended; a small portion of omentum, and the fundus of the gall-bladder.

The liver had no left lobe. The right lobe was perfectly healthy, though rather small. Upon the left side of the *ligamentum suspensorium*, instead of a lobe, there

was merely a small fleshy portion about the width, and half the length of the little finger.

The bile contained in the gall-bladder was of rather a pale straw colour.

The stomach contained large pieces of coagulated blood, with a considerable quantity of a coffee coloured fluid. Its inner surface was very much discoloured, more especially about the hole before alluded to. At this part, as well as in the other places, it had a dusky red aspect.

The small intestines were chiefly lying in the pelvis, and were contracted in their diameters.

On opening the thoracic cavity and separating the sternum from its clavicular attachments, a mass of coagulated blood was exposed to view. Upon feeling the inner surface of the first bone of the sternum, it was discovered that it had been rendered rough. It was conjectured that this roughness had been occasioned by pressure from an aneurism formed upon the arch of the aorta. Further search confirmed the conjecture.

The coagulated blood was carefully removed and the sac exposed. Its coats were very thin, and the layers of coagulable lymph which were deposited on its sides, adhered very slightly to each other. Within the sac there was likewise found a ball of coagulable lymph. It was of the size and consistence of the yolk of a hen's egg; in colour it resembled albumen.

Upon the under and anterior part of the sac, two tendinous bands were stretched and inserted into the upper part of the arch of the aorta. They resembled chordæ tendineæ but were destitute of muscular fibres. The under part of the sac was resting upon the bronchiæ. The trachea was full of blood. The aneurismal sac was somewhat larger than a Turkey's egg. The arch of the aorta had undergone an enormous distention, its diameter was greater than that of the sac. Between its

coats there were large flakes of ossific matter, some of them nearly half an inch in diameter.

The pulmonary artery did not appear to have undergone any change. The pericardium contained about three ounces of serum. The heart itself was not unusually large, but very fat. Its cavities were not opened.

The right lung was perfectly healthy, and free from adhesions with the costal portion of the pleura. It was beautifully streaked with depositions of carbon.

The structure of the left lung seemed to have undergone some alteration; it was disproportionately smaller than the right, and adhered very closely at its root to the dorsal vertebræ. The pleura was much thickened, and broke down easily. There was scarcely any fluid in the cavity of the chest.

Many of the bronchial glands were very large; and loaded with the same black deposit, which had so beautifully marked the lungs.

Observations.

The subjects of aneurisms will, for the most part, be found to be intemperate or irregular in their habits, and I am inclined to suspect that they are produced more frequently by the excessive use of spirituous liquors than any other cause.*

Diseased or increased action cannot exist *for any length of time*, without inducing an alteration in the healthy structure of parts. It is scarcely possible that the heart and arterial system can be stimulated into excessive action, by the repeated use of large quantities of spirit without exciting at least a *disposition* to disease.

Perhaps the frequent introduction of alcohol into the system impairs the structure of the coats of the arteries.

* Gout is frequently produced by excessive indulgence in spirituous liquors. Are gouty concretions, and the depositions of ossific matter within the coats of arteries constituted of the same materials?

Its pernicious influence upon the stomach, liver, &c. is now generally admitted.

When speaking of the appearances of the lungs and bronchial glands, I stated that they were loaded with what seemed to be carbonaceous matter. Dr. Bostock has ascertained by direct experiment, that this matter is carbon, but I do not think he has accounted very satisfactorily for the manner in which it is deposited. He conceives that it is taken up from the surface of the air vessels by the absorbents, and carried to these parts. He seems either to have forgotten, or not to be aware of the incapability of these vessels to take up carbon. Carbon, or any other body which will not undergo solution in the animal fluids, cannot be acted upon by the absorbent vessels, but will remain unchanged for many years; even from infancy to old age. Marks inflicted by tattooing, &c. can never be removed but by the entire destruction of the parts in which they are situated. It seems to me much more reasonable to suppose, that these particles of carbon are the product of arterial action. The vessels distributed to the glands and surface of the lungs, convert a portion of the blood which is sent to them into carbon. By a similar process it is that the pulmonary artery decarbonizes the blood.

When an unusual disposition of the abdominal viscera is met with, it is extremely difficult to convey by verbal description only, a distinct idea of their relative situation. I trust, however, that I have rendered myself intelligible.

This is the only case in which I have heard of the liver in the human subject, being constituted of only one lobe. This peculiarity might, perhaps, prove indirectly one of the exciting causes of aneurism in this case; for the blood not having so large a space to be distributed through, would be returned from the intestines to the heart sooner than it is under ordinary circumstances;

by which, accumulation, consequent distention, and increase of muscular force in that organ would be produced. Of this I shall, however, speak more at large when I offer some conjectures relative to the functions of the liver.

CHAPTER VII.

The Functions of the Pulmonary Artery.

THAT blood is formed from chyle is universally admitted, but as to the peculiar mode in which the change is effected, or by what organ, has hitherto been imperfectly explained.

It may appear presumptuous in me to attempt at an explanation of a subject of such difficult solution, a subject which the researches and experiments of the most distinguished physiologists have been found insufficient to elucidate. Its immense importance, with the unsatisfactory manner in which it has been hitherto accounted for will I hope plead my excuse.

I am of opinion that the power of converting chyle into blood is resident in the pulmonary artery.

The chyle, conveyed by the thoracic duct to the angle formed by the union of the jugular and subclavian veins, passes with the reflux blood almost immediately into the pulmonary artery: it returns by the pulmonary veins, not in the state of chyle, but in the form of pure arterial blood. By what agent can such a change be effected? The answer must be by means of an artery; for a change in the sensible properties of the fluids of the body can be effected only through the medium of an artery. The mere admixture of chyle with reflux blood cannot possibly convert it into blood, neither can it be effected by the muscular action of the right side of the heart. As therefore no instrument exists by which a

conversion of chyle into blood can be accomplished previously to its reaching the pulmonary artery, and as it issues from the minute branches of that vessel in the form of pure arterial blood, it is self-evident that it must have been converted into blood by the peculiar action of that vessel. How this circumstance could have been so long overlooked appears extraordinary; perhaps the oversight was occasioned by physiologists having assigned to the pulmonary artery, the *exclusive* property of oxygenating or decarbonizing the blood. The aorta, with its branches, performs many functions; can any physiological reason be assigned why the pulmonary artery with its branches should not perform three or four? or why that vessel should not be as capable of converting chyle into blood, as the spermatic arteries are of converting blood into semen?

It has been often said that the whitish fluid which is sometimes seen floating in the serum of blood, is chyle; I must confess myself of an opposite opinion. My reasons for thinking otherwise, are the following.

If it were chyle, we should *uniformly* meet with it an hour or two after food had been taken, or probably in a much shorter space of time; the reverse however happens.

We sometimes meet with the appearance which has been attributed to the presence of chyle after an animal has been deprived of sustenance for many hours.

If it were chyle we should as frequently meet with turbid serum in arterial as in venous blood, and in arterial blood, it would first be seen; this however is far from being the case. I do not recollect ever to have seen it in arterial blood more than six times. In these cases the appearance was probably depending upon some other cause; a cause to which I shall presently advert.

The chyle of geese is perfectly transparent; whereas

the serum of their blood is said, by Hewson, to be more milky than that of almost any other animal.

If it were necessary, many other arguments might be advanced to shew how improbable it is that chyle should pass through the lungs unaltered, and be distributed by the aorta to every part of the body. How unfit this fluid is for an extensive circulation, must be apparent to every one.

If then it be admitted that the arteries perform the function of secretion, and if it be allowed that a fluid called chyle passes into the pulmonary artery, and issues from it, not in the form of chyle, but in that of blood, it is evident that chyle is converted into blood by an action peculiar to that artery.

Every part of the body, whether solid or fluid, is the product of secretion. Is it probable that so important a fluid as blood should be without an appropriate organ for its secretion ?

The central situation of the pulmonary artery ; its proximity to the thoracic duct and to the aorta ; renders it peculiarly eligible for the purpose of secreting blood. It almost immediately receives its heterogeneous contents, and converts them into a fluid proper for the aorta to distribute to every part of the body.

That the pulmonary artery performs other important functions I am ready to admit. As I before observed, the aorta, with its ramifications, serves many purposes ; the pulmonary artery may, and does answer several. Some of its branches decarbonize* the refluent blood ; others secrete a fluid upon the surfaces of the bronchiæ, by means of which they are preserved in an open state ; a third set terminates at the commencement of the pulmonary veins ; a fourth, converts the chyle into blood, and terminates in the same manner.

* Carbon in a palpable form, during profound sleep, is sometimes deposited upon the lining membrane of the bronchiæ, and is coughed up in combination with a very viscid mucus. The mucus is literally rendered by it, "as black as a crow."

One circumstance remains to which I promised to direct the attention.

To me it seems probable, that the white appearance of the serum depends upon an action of the sanguiferous system, somewhat similar to that by which the buffy coat is produced upon inflamed blood.

It is stated, that this white serum is frequently met with soon after eating; in other words, when the circulation of the blood has been rendered more rapid by the stimulus of food.

We seldom meet with buff except when there is an increase of vascular action. When the buff is perfectly formed, we generally have a very transparent serum. We now and then meet with a little buff upon arterial blood. We sometimes, but more rarely, see the serum of arterial blood a little white. I therefore am inclined to attribute the white appearance of the serum, and the buffy state of the crassamentum to an increase of vascular action; the difference of the appearance depending upon a modification of that action. In other words, if the stimulus of food were sufficient to produce inflammatory action, instead of a white serum, we should have a buffy crassamentum. Whenever, therefore, I observe a white serum, I infer that more or less of increased vascular action exists. Perhaps I shall be better understood if I state, that under a moderate increase of action a turbid serum will be formed; under an excess of that action a buffy crassamentum, with a transparent serum.

Buff, or coagulable lymph, and the particles which render the serum turbid, are probably formed at the extremest points of the arterial ramifications.

Should these conjectures receive support or confirmation from the experiments, or the observations of others, some important improvements in the practice of medicine may be founded upon them.

SECTION IV.

ON THE DISEASES OF THE STOMACH, &c.

CHAPTER I.

Dyspepsia.

Anorexia, nausea, vomitus, inflatio, ructus, ruminatio, cardialgia, gastrodynia, pauciora saltem vel plura horum simul concurrentia, plerumque cum alvo adstricta, et sine alio vel ventriculi ipsius, vel aliarum partium, morbo.—Cl. ii. O. ii. G. xlv. CULLENI.

So UNIVERSAL is the sympathy between the stomach and the other parts of the body, that it is almost impossible for disease to exist in any part, without the stomach being more or less affected by it.

Dyspepsia is generally described as a distinct disease, and many symptoms characteristic of it, such as heart-burn, flatulent and acid eructations, constipation, &c. are enumerated; these symptoms are however more frequently sympathetically excited by disease in some other organ, and ought rather to be considered as symptoms of that disease, than regarded as constituting a disease of the stomach itself.

For the removal therefore of what are called symptoms of dyspepsia, instead of wasting our time and disgusting our patients, by the administration of palliative remedies, we must direct our whole attention to their exciting causes.

Dyspeptic symptoms will be found for the most part to arise from a derangement in the structure or functions of the brain, liver, pancreas, uterus, and kidneys; in the uterus and pancreas more particularly.

An enlargement of the duodenal extremity of the pancreas is a very frequent exciting cause.

Unless we can remove these affections, we shall in

vain ransack the *materia medica* for remedies calculated to give tone to or allay irritation in the stomach.

I have been thus particular in enumerating the sources from whence dyspeptic symptoms arise, because they are so frequently disregarded in practice, and effervescing draughts by the gallon and magnesia by the pound are consumed, not only without benefit, but with evident prejudice.

I do not intend however to deny that dyspeptic symptoms are sometimes excited by a diseased state of the stomach itself. From the admission of improper substances, or from the immoderate use of proper food, its coats become impaired and its functions disordered.

Dyspepsia, depending upon such causes, may be most effectually remedied by a rigid adherence to an abstemious diet; an entire abstinence from every thing which the patient from repeated experience has found to disagree with him, or to be difficult of digestion; occasionally an emetic; from forty drops to a drachm of the volatile spirits of ammonia three times a day in a glass of water, or moderately bitter infusion of gentian; and every alternate evening five grains of the blue mercurial mass. Against a constipated state of the bowels we must likewise carefully guard.

The following most obstinate case of dyspepsia, submitted to the continued use of the mercurial pill after every other remedy which could be devised had been tried in vain.

CASE XXIII.

Thomas Bush, aged twenty-nine years, by trade a painter, was admitted in the month of November, 1810, labouring under all the symptoms of *colica pictonum*, with paralysis of the muscles of the fore-arms, and an excessive irritability of stomach.

After constipation was removed, his hands were ex-

tended upon splints, and opium, rhubarb, ipecacuanha, bitter infusions, magnesia, fixed and volatile alkalies, in large as well as in small doses, were exhibited, but they all appeared to aggravate rather than relieve the cardialgia, nausea, and sickness, with which he was perpetually tormented.

The stomach was incapable of digesting any thing. Whatever was received into it was ejected from it in the course of one or two hours, without having undergone any sensible alteration.

Under these circumstances, five grains of the blue pill, combined with half a grain of opium, were taken every night. Within a week after its exhibition, he retained food upon his stomach without much difficulty; in a fortnight his gums became affected; the dyspeptic symptoms were nearly removed, and the wrists were evidently stronger. At the end of three weeks, the dyspeptic symptoms had entirely subsided; the extensor muscles of the fore-arms became perfectly obedient to the will, but their action was feeble; it was sufficiently powerful however, to enable him to extend the hands and keep them in a straight line with the arms.

He was discharged in a state of convalescence and recommended to use the Bath waters, under an impression that they would confirm a cure so happily brought about by the use of the mercurial mass.

This case not only shews the advantages which may be derived from the exhibition of mercury in some affections of the stomach; but it proves that that metal is eminently powerful in counteracting the baneful influence of lead.

Pyrosis.

Epigastrii dolor urens, cum copia humoris aquei, plerumque insipidi, aliquando acris eructata.—Cl. ii. O. iii. G. lviii.—CULLEN.

PYROSIS will be most effectually relieved by the practice recommended when treating of dyspepsia.

CHAPTER II.

Hæmatemesis.

EXCEPT where hæmatemesis was occasioned by external violence, or took place in consequence of a partial destruction of the stomach itself by ulceration, I have never known it to terminate fatally. It is for the most part induced by the suppression of some natural or long accustomed evacuation, and we must direct our curative intentions to the re-establishment of this evacuation, or the introduction of some substitute for it.

I have known women labouring under suppression of the menses lose blood every month with great regularity, from the stomach, lungs, nose, and open ulcers.

Under these circumstances it will be useless for us to attempt to restrain the hemorrhage from the parts themselves; it can only be affected by restoring to the uterus its natural healthy action. The most powerful means we possess to attain this object are, periodical venesection, and active purgatives: upon the former however we must chiefly rely.

Hæmatemesis frequently occurs in consequence of an over-distended state of the blood-vessels of the mesentery or liver. When originating from such a cause, active purgatives will be found of most avail. Bloodletting will likewise be sometimes demanded.

When the disease is brought on by the sudden suppression of a hæmorrhoidal defluction, leeches should be from time to time applied about the verge of the rectum; aloetic purges administered, and such other means employed as are calculated to restore the discharge, which is afterwards to be diminished gradually and with great caution.

Although blood may be, and frequently is, thrown from the stomach in immense quantities and for a great length of time, without materially injuring the patient,

hæmatemesis must not be regarded as an insignificant disease.

CHAPTER III.

Ulceration of the Stomach.

WITH the exception of the female breast, there is no part of the body more frequently the seat of scirrhus induration and subsequent ulceration, than the pyloric extremity of the stomach. It is one of the most deplorable diseases to which the human frame is liable. Its wretched victim is doomed to drag out a protracted and miserable existence without a prospect of cure, or even a suspension of suffering for any length of time.

A clear conception of its irremediable nature will be most readily acquired by a description of the destruction which it sometimes occasions.

CASE XXIV.

A poor emaciated creature, aged fifty-two years, was admitted, after having for more than two years suffered excruciating pain in the stomach, attended sometimes with a total inability to retain food.

The disease commenced with all the symptoms usually termed dyspeptic. I could not learn that at any time she had vomited pure blood.

After remaining in the Hospital six weeks she died. During this period, she complained of excessive pain in the epigastric region, and threw up almost every thing she swallowed mixed with a sanious fluid. The only thing she could keep upon the stomach was oil of cinnamon given upon pieces of refined sugar.

Examination.

A firm, thickened, inflamed ridge, extending along the upper surface of the stomach, and pursuing the direction of the edge of the left lobe of the liver, was the first diseased appearance which attracted attention.

It was found that the stomach had formed adhesions with this edge. But for this circumstance its contents would have escaped into the abdomen; for upon making use of slight force to separate the liver from the stomach, the fingers passed directly into the cavity of the latter. The liver, stomach, spleen, and pancreas were removed together from the body, that they might be examined more at leisure.

The pancreas was very much enlarged and indurated at its duodenal portion; and by its pressure must have retarded, or even almost prevented the passage of food along the first intestine.

The spleen was free from disease. The liver had externally a healthy appearance. The stomach was very much distended with fluids. Upon cutting it open in the course of its greater curvature, more than one third of its inner surface was discovered to be in a state of ulceration. At its upper part its coats had been entirely removed and an extensive cavity made in the substance of the liver. The excavated liver truly formed at this place a substitute for the stomach. The pyloric extremity of this organ was much thickened, and its opening into the duodenum nearly closed. The cardiac extremity was perfectly healthy. A few patches of a dusky hue were here and there scattered upon such parts of the inner surface as had escaped the ulcerative process.

CHAPTER IV.

Gastritis.

Pyrexia typhodes; anxietas; in epigastrio ardor et dolor, ingestis quibuslibet auctus; vomendi cupiditas, et ingesta protinus rejecta; singultus. Cl. i. O. ii. G. xv.—CULLEN.

Gastritis is for the most part attended with symptoms which clearly point out the nature of the affection; sometimes however, in its attack and progress, it is but imperfectly marked. I have seen it destroy life without a single circumstance occurring by which its existence could be known, or even suspected, till within a few hours of dissolution. The following case illustrates this statement.

CASE XXV.

Henry Hancock, aged twenty years, was admitted on Monday, the 28th of August, 1815, labouring under symptoms of slight pyrexia. His pulse was moderately full and frequent; his skin rather dry; and his tongue white at its centre, and red at its edges. He complained of no particular pain; the epigastric and abdominal regions were destitute of tenderness; he felt neither nausea nor sickness. A cathartic powder, and some saline medicines were directed.

During Tuesday and Wednesday he continued nearly in the same state. On Thursday the limbs became swollen and extremely painful; in short all the symptoms of acute rheumatism manifested themselves.

He was directed another cathartic powder, and sixteen ounces of blood were taken from the arm. The blood speedily exhibited the buffy coat; the crassamentum was in full proportion; the serum very transparent.

On Friday morning he appeared much relieved; his joints were less painful and inflamed; but the pulse con-

tinued full and frequent. Sixteen ounces of blood were again drawn away, which were likewise much buffed and cupped.

On Saturday morning a most extraordinary, unexpected, and inexplicable alteration had taken place. His features had assumed the complete Hippocratic aspect; his tongue was dry and brown; his skin covered with a cold clammy perspiration; and his pulse scarcely perceptible. It was evident that he had only a few hours to live.

Had a person unacquainted with his previous history been asked his opinion of him, he would have unhesitatingly pronounced that he was in the last stage of typhus gravior. I knew not what to think; I suspected however that some blood vessel had suddenly given way, and that he was dying from internal hæmorrhage.

Examination.

The whole surface of the peritonæum exhibited traces of inflammation. In some parts this increase of action had been excessive and the coats of the intestines were involved in it. The pelvis was full of serum and flakes of coagulable lymph; and the small intestines were almost inseparably united by the adhesive process. Some lymph and serum was likewise met with in the abdomen.

The stomach was remarkably small, but externally presented no diseased appearance. Nearly one half of its inner surface however was found to be in the highest possible state of inflammation. At the pyloric extremity it was of a deep red colour, which became gradually brighter as it diffused itself upon the coats. The duodenum for a short distance partook of the disease.

Queries. Did inflammation of the stomach and intestines exist at the time this patient was admitted, and increase so gradually as not to excite the symptoms by

which its existence may for the most part be certainly known? or did it attack these organs suddenly, and acquire its fatal height in the course of fourteen or sixteen hours.

I am inclined to think that its increase was gradual. I have seen cases of long continued peritonitis, in which the symptoms were at first so mild, that, till within a few hours of dissolution, no apprehension of danger was excited by them.

Treatment.

We must have recourse to the most prompt and energetic measures. Blood must be taken largely from the arm: and twenty or thirty leeches, and afterwards a blister, applied to the epigastrium.

Enemas may be thrown up frequently with advantage, but, before the inflammatory symptoms have been removed, and the irritability of the stomach allayed, neither food nor medicine ought to be swallowed. They will only add to the sufferings of the patient and aggravate the disease.

CHAPTER V.

On the Effects of Ardent Spirit upon the Stomach.

UPON the first arrival of the fleets from the West-Indies men are frequently brought into this Hospital, in a state of total insensibility produced by drinking rum. The precise quantity swallowed can seldom be ascertained, as it is procured by boring holes into the casks, and sucking the liquor through straws or small reeds.

The degree of danger arising from intoxication, may be best estimated by the irritability of the iris. If the iris retain its contractile power, the patient will generally

recover, however overpowered his senses may be ; if, on the contrary, it remain in a state of extreme dilatation when a strong light is directed upon it, but a feeble hope of recovery must be entertained.

The paralysis, or immovable dilatation of the iris, is, for the most part attended with apoplectic stertor ; laboured and imperfect respiration ; and a slow, oppressed pulse. The power of the stomach is also lost, the strongest emetics being insufficient to excite it into action. Next to the insensibility of the iris, want of energy in the stomach indicates the greatest danger.

Treatment.

We must use all our efforts to excite vomiting. Ipecacuanha and sulphate of zinc or copper, in large doses, should be given, and the patient compelled to swallow as much warm water as possible. The expulsive force of the stomach should likewise be solicited by irritating the fauces with a feather.

If we can make the stomach eject its contents, the patient may be considered out of danger.

As soon as re-action in the system takes place, he should be put under a copious shower-bath. The application of cold water will often restore him instantaneously. On the following day, if any preternatural fulness of the vascular system be present, blood should be abstracted from the arm, and an active purgative administered.

Venesection, in the early stages of the affection, seems to be especially indicated, as there is always a considerable determination of blood to the brain ; I have however seen it employed to a great extent without any manifest advantage ; more frequently it has proved injurious. From all that I have observed, I am arrived at the following conclusions. If we can excite full vomiting, we shall save our patient ; if we cannot, he will have a bet-

ter chance of recovery, if we leave him to the operations of nature, than if we bleed him, agitate him, endeavour to make him walk, or in any other way disturb him.

I have had several opportunities afforded me of examining the brains and stomachs of persons who died intoxicated. The appearances I have met with have been uniformly the the same. The vessels of the brain were gorged with blood, and a quantity of serum deposited in the lateral ventricles. In the stomach I have never been able to discover any deviations from a healthy state, but a quantity of the pernicious spirit is generally to be detected.

The brain of a person who was destroyed by a large dose of laudanum exhibited the same marks of increased vascularity; some serum was effused within the ventricles; and some of the narcotic was likewise found in the stomach.

The practice which has been here recommended and successfully adopted for the relief of persons under the influence of ardent spirit, I conceive to be equally applicable to those who have taken opium, but my actual experience in this respect has been very limited.

CHAPTER VI.

On the Effects of Arsenic upon the Stomach.

ONLY one person who had taken an undue quantity of arsenic has fallen under my observation.

The swallowing of the poison in this case, was succeeded by symptoms so peculiar, that I do not think a concise narration of them will be found uninteresting.

CASE XXVI.

Mary Pearce, a healthy young woman, was admitted in the month of January, 1812, in consequence of having accidentally taken a quantity of arsenic upon bread and butter. A powerful emetic was immediately administered, and after its operation a combination of sulphur and oil.

When pressure was made upon the epigastric region, she complained of pain, but for ten days experienced no other inconvenience. At the expiration of this time, her appetite became impaired; her skin hot and remarkably dry; her pulse frequent and feeble; and her tongue covered with a thick white fur.

At the end of five weeks she was universally emaciated, and lost the use of her lower extremities. From this time a progressive amendment was perceptible; the febrile symptoms gradually subsided; her appetite and strength returned; but her lower extremities remained paralysed.

In October the paralysis was only partial; she was able to move her thighs and legs, but her feet were in a state very similar to that so frequently produced by lead upon the muscles of the fore-arm. During her stay here, antimonials, mercury, bark, friction, electricity, galvanism, warm-bathing, &c. were successively employed.

From this Hospital she went to Bath. I have been informed that she was materially benefited by the use of the waters of that city. With her medical treatment I am unacquainted.

CHAPTER VII.

On the Structure of the Pylorus.

THERE is a peculiarity in the structure of the pyloric extremity of the stomach, which I do not recollect to have seen any where noticed. It consists in the interposition of a valve between the pylorus and duodenum. This valve cannot be satisfactorily seen either upon the recent subject, or on a wet preparation of the stomach. The best mode of shewing it, is to inflate the stomach with a portion of the duodenum, and allow them to become perfectly dry. In this state, if an opening be made into the stomach or duodenum, a valve attached at its basis to the whole circumference of the pyloric extremity of the stomach, with an almost circular opening in its centre will be seen. The diameter of the opening bears about the proportion of one-third to the whole valve.

By a similar preparation of a portion of the ilium and cæcum, the manner in which the former intestine terminates in the latter, will be best elucidated.

The ilium will be found to end in two crescent-shaped valves. The elliptical space left between the horns of the valves is very considerable. The opening is sufficiently ample to allow of the ready passage of fluids from the colon and cæcum into the ilium. With a well-constructed apparatus, I feel persuaded that enough warm water might be injected into the intestines to effect the reduction of strangulated herniæ. A small equable force applied behind the stricture, would act much more advantageously than pressure, made upon the protrusion itself, however judiciously directed.

A difference in the form of the cæcum of the adult and the infant will sometimes, if not universally, be found to exist. The cæcum of the adult generally forms an irregular bag. To this bag the appendix vermiformis is

attached, but has no definite point of connexion. The cæcum of the infant tapers towards a point, and from this point the appendix vermiformis is depending. The cæcum, with its appendix, bears a very strong resemblance to the posterior and tail of a very young sucking pig. From the appendix vermiformis a secretion of fluid takes place, which is probably intended to facilitate the passage and to prevent the accumulation of feculent matter in the cæcum.

CHAPTER VIII.

Splenitis.

Pyrexia; hypochondrii sinistri tensio, calor, tumor et dolor pressu auctus absque signis nephritidis.—Cl. i. O. ii. G. xviii.—CULLEN.

ACUTE inflammation of the spleen is of comparatively rare occurrence. When it does arise, it requires for its removal the depleting and antiphlogistic system so often recommended in this volume.

Indurated or enlarged spleens must, when productive of inconvenience, be reduced by mercurial frictions carried to a considerable extent. Brisk cathartics will be found useful adjuncts.

The entire removal of the spleen from the body without its being succeeded by any perceptible derangement in the animal economy, satisfactorily demonstrates that its function (whatever its function may be) is not of primary importance. To me, it seems probable that it is intended to regulate the quantity of blood, and the force of its circulation through the coats of the stomach. The communication which the stomach has with the spleen through the medium of the *vasa brevia*, must materially contribute to prevent an accumulation of blood within its coats. But for such a provision, hæmatemesis would, perhaps, more frequently occur.

CHAPTER IX.

Induration of the Pancreas.

SEVERAL cases of extraordinary enlargement and induration of the pancreas have been admitted since my residence at this hospital. They commenced with all the symptoms of dyspepsia. As they advanced a most distressing sense of weight was felt in the epigastric region; food was with difficulty retained; was sometimes ejected from the stomach; and the bowels were obstinately constipated.

When the disease had made further progress, the skin and tunica conjunctiva became deeply and permanently tinged with bile, and a large quantity of the same secretion was seen in the urine. Great irritability in the stomach was next experienced; bile was frequently cast from it, but it rarely happened that any passed into the intestines. A pain similar to, but less violent than that occasioned by gall-stones in the biliary ducts, was likewise felt. Upon pressure being made in the epigastrium a hard tumor could be distinguished.

The disease is often of many years duration, but the patient seldom survives its last, and what may be called its acute stage, more than three or four months.

Dissection.

Dissection shows the Pancreas enormously enlarged and extremely hard: it sometimes acquires six times its natural bulk. By its pressure upon the duodenum and biliary ducts, it prevents the passage of food and bile along the intestinal canal. The retention of the bile appears to me to give rise to derangement in the structure of the liver. That viscus becomes both internally and externally studded with circular tubercles with depressed surfaces, some rather larger, others somewhat smaller than a six-pence. The curd-like matter they contain is deeply coloured with bile, which gives to them a singu-

larly beautiful appearance. I have several times endeavoured to preserve specimens of the disease, but the liver was so completely saturated with bile, that the spirit, however frequently renewed, was discoloured by it.

The gall-bladder is always greatly distended. I have seen it contain from four to six ounces of dark inspissated bile. To this over-distention of the bladder, is to be attributed that pain felt and described by the patient as similar to that produced by the passage of gall-stones.

Treatment.

The treatment can be merely palliative. The disease is, and perhaps ever will remain without a remedy. I cannot learn that a scirrhus pancreas ever undergoes the ulcerative process.

CHAPTER X.

Biliary Calculi.

I HAVE seen many cases in which biliary calculi were supposed to exist; dissection however almost uniformly detected the inaccuracy of the diagnosis. I have examined nearly two hundred subjects,* and never but once

* A circumstance, disgraceful to the age in which it happened, occurred a few weeks ago.

A Mr. Cassan, of Hull, was fined one hundred pounds, and imprisoned (with his apprentices) one month, for having disinterred a human body. Since the Legislature has thought proper to constitute the removal of a body which in the course of a few weeks would otherwise become

————— “A nauseous mass
“Of all obscene, corrupt, offensive things;”

into an act of felony, it will not surprise me to hear of the embarkation for Botany Bay, of our Coopers, Abernethys, Clines, in short, of every individual who is desirous of benefiting mankind by anatomical investigations. Surely an act which strikes at the very root of medical science, and presents so formidable a barrier to its advancement, ought to be petitioned against by Physicians, Surgeons, Apothecaries, by enlightened men of every denomination, by every real friend of humanity.

found concretions in the gall-bladder. In this person their presence was not suspected. The symptoms which have given rise to the opinion of their being present, have been almost uniformly found to be excited by an enlargement of the duodenal extremity of the pancreas.

However frequent these calculi may be in other places, I think my extensive opportunities of making examinations after death, will warrant the conclusion, that, in this city, they are of rare formation.

Treatment.

For the expulsion of biliary calculi, we must principally depend upon the friendly efforts of nature. So dreadfully acute are the sufferings of the patient during the paroxysms, that large doses of opium, preceded by venesection, are sometimes imperiously demanded.

CHAPTER XI.

Icterus.

Flavredo cutis et oculorum; fæces albidæ; urina obscure rubra, immisa colore luteo tingens. Cl. iii. O. iii. G. xci.—CULLEN.

JAUNDICE is generally occasioned by pressure upon, or an obstruction in the hepatic duct; sometimes however bile is carried into the circulation without any assignable cause. In these cases the health is not materially affected; the symptom of which the patient principally complains, is an irresistible disposition to sleep.

Treatment.

This last named affection may be speedily removed and the bile restored to its natural channel by administering an emetic, and afterwards brisk cathartics for two or three mornings in succession. Should these medicines fail in producing the desired effect, five grains of

the mercurial mass, or what will be sometimes found to answer better, one grain of calomel with two grains of powdered squils, should be given every night and morning.

CHAPTER XII.*Hepatitis.*

Pyrexia; hypochondrii dextri tensio et dolor; sæpe pungens pleuritici instar, sæpius obtusus; dolor ad claviculam et summum humeri dextri; decubitus in sinistrum latus difficilis; dyspnœa; tussis sicca; vomitus; singultus.—Cl. i. O. ii. G. xvii. CULLEN.

IF copious venesection be employed in the early stages of this disease, it may in this climate, (and I am strongly inclined to believe in any other) be for the most part conducted to a favourable termination. Where this is neglected, abscesses will form, and often sooner or later destroy life.

These abscesses point and burst in various directions; I believe, however, that they most frequently make their way through the diaphragm into the thorax. I have met with several cases in which they thus terminated.

CASE XXVII.

Francisco Fernandes, a Spaniard, aged twenty-nine years was admitted on the 20th of December, 1810. He coughed up every day blood blended with pus. All the symptoms of phthisis pulmonalis came on in rapid succession and put an end to a miserable existence at the expiration of three months.

Examination.

The liver was enlarged and of a whitish colour. Within its substance were many tubercles, and several small abscesses. These small abscesses had communi-

cation with a large one situated on its convex surface. This abscess extended through the diaphragm and poured its contents into the cavity of the thorax. About two quarts of pus, mixed with blood, were found in the chest. The under surface of the lungs was abraded, and there can be no doubt of pus having been taken up by them and carried out by the trachea. The texture of the diaphragm was universally altered, and its muscular fibres had lost their redness. The lungs adhered to the pleura, and the heart to the pericardium.

Remarks.

During the illness of this patient, he was never suspected to have any disease of the liver, as that organ performed all its functions with regularity; neither was he at any time heard to complain of the sympathetic pain in the shoulder, which so frequently occurs in a diseased state of that viscus. I am inclined to think that an abscess, seated in the liver and extending itself through the diaphragm into the thoracic cavity, much more frequently occurs than is suspected; and that many of the cases, which have been considered truly pulmonic, originated in the liver. I have since met with a case in its progress and termination very much resembling the case above related. Its precise nature however was clearly pointed out by the additional circumstance of a large quantity of bile being mixed with the expectorated blood and pus.

Upon examination after death, it was found that the right lung had an immediate communication with a large abscess situated in the liver, the interposing diaphragm having been removed by the absorbents. Upon pressing the gall-bladder, bile flowed freely and copiously into the cavity of the abscess.

Bile was likewise ejected from the stomach in immense quantity, distressing the patient exceedingly; it

was also universally diffused through the circulating system.

In cases where disease of the liver has extended itself into the lungs, the expectorated matter has often assumed a reddish fleshy aspect. This appearance of the discharged fluid may sometimes enable us to distinguish the disease from true phthisis pulmonalis.

Chronic Hepatitis.

CHRONIC HEPATITIS requires a judicious administration of mercury for its removal. Blood may likewise be from time to time advantageously taken away from the hypochondria by means of leeches or cupping-glasses.

Where an indurated or enlarged state of the liver can be distinguished mercurial frictions over it must be directed.

CHAPTER XIII.

On the Function of the Liver.

THE anatomical researches of Mr. Abernethy and Mr. Laurance, have confirmed an opinion I have for a great length of time entertained. These Gentlemen found two children, in whom the *vena portæ* instead of ramifying through the substance of the liver, terminated immediately in the *vena cava*. In these subjects, bile was met with in the gall-bladder; and there was reason to believe that it had been regularly secreted during life. These cases indisputably prove that the hepatic artery is destined for the secretion of bile, as well as for the nourishment of the liver.

To affirm that bile is formed by a vein, is so directly in opposition to the general and known laws of the ani-

mal economy, that it is a matter of surprise how such an assertion should have gained almost universal credence.

It appears to me that the vena portæ is intended to preserve an equilibrium in the circulation of the blood. If the blood which is sent to the abdominal viscera were returned immediately to the heart, instead of passing through the liver, the same inconveniences would result from it as arise from a too rapid circulation; whereas by being compelled to pass through the liver, about the same space of time is occupied as is taken up for the return of blood from the extremities. In this manner I conceive an equilibrium in the circulation to be preserved.

The idea of a balance in the circulation has been treated with levity by some authors, by others it has been seriously entertained. My own opinion is, that upon its preservation health depends; that from its general or partial destruction many diseases originate; and that our curative intentions must be directed to its re-establishment. The occurrences of every day confirm this opinion, and until I discover something in the great volume of nature in opposition to it, I shall cherish it.



CHAPTER XIV.

Peritonitis.

Pyrexia; dolor abdominis, corpore erecto auctus; absque propriis aliarum phlegmasiarum abdominalium signis.—Cl. i. O. ii. G. xiv. CULLEN.

THE most vigorous and decisive practice ought to be adopted in the early stages of this disease. We must use the lancet with an unsparing hand, and cover the abdomen with leeches. These remedies must be per-

sisted in as long as the patient complains of excessive pain or tenderness in the abdomen.

The superiority of this practice over the inert, half measures but too frequently relied upon, was strikingly exemplified a short time since.

CASE XXVIII.

A young woman, eighteen years of age, was suddenly attacked with the symptoms of acute peritonitis. She complained of extreme pain over the whole abdomen, which was greatly aggravated by pressure. Her pulse was hard, small, and frequent; her countenance anxious; her tongue white, her skin hot and dry. From thirty to forty ounces of blood were taken away for five days in succession, and afterwards a few ounces occasionally, when a febrile disposition was perceptible. The total quantity of blood abstracted was two hundred and forty ounces.

She remained in a debilitated state for some weeks, but ultimately perfectly recovered.

CASE XXIX.

A boy aged seventeen years, labouring under precisely similar symptoms, had fallen under my observation a short time previously. I never saw two cases bear a more striking resemblance to each other.

Sixteen ounces of blood were taken from his arm; some leeches applied to the abdomen, and half an ounce of the infusion of digitalis was directed every six hours. The boy died at the end of three days from his first seizure. The digitalis produced no effect either upon the head, pulse, or stomach.

The peritonæum and intestines exhibited traces of the most active inflammation. The intestines were glued together; flakes of coagulable lymph were deposited upon

their surfaces; and nearly a gallon of serum had been poured into the cavity of the abdomen, in which globular transparent pieces of lymph were also floating.

Remarks.

The violence of the pain, tenderness, &c. form the best criteria for estimating the danger of the patient; and our practice must be regulated by their intensity. If we pay any regard to the pulse, we shall be more frequently deceived than assisted by it. I have seen cases of peritonitis, in which it remained perfectly natural; others, in which it was as strong and full as in pneumonia, acute rheumatism, or any active inflammatory disease; others in which it was small, feeble, fluttering, and almost imperceptible.

A remarkable instance of the insidious nature of the disease happened about two years ago.

CASE XXX.

A young woman, for five days after a natural labour, appeared to be getting well without the occurrence of one unpleasant symptom.*

On the evening of the fifth day, she complained of a little tenderness above the pubes, slight nausea, and the abdomen felt rather tense. The pulse was soft and equal; the tongue clean; the skin moist; the bowels confined. She was directed to take an aperient. For three succeeding days she remained in nearly the same state; her pulse then sunk so low as to be scarcely perceptible; the surface of the body became cold, and covered with a clammy perspiration; the abdomen tense and inflated; and the stomach rejected every thing.

* After delivery, the uterus did not contract upon the placenta with sufficient force to effect its expulsion; and the funis was so very slender that it would have given way, had efforts for the extraction of the placenta been made with it; I was therefore under the necessity of detaching it with my fingers from the uterus.

Cordials were directed for her, but she died in thirty-six hours.

Examination.

The left appendages of the uterus were found in a sphacelated state; sphacelated spots were seen upon various parts of the intestines, the peritonæum was almost universally inflamed, coagulable lymph thrown out, and several quarts of serum were in the cavity of the abdomen. No disease of the uterus existed; it had not, however returned to its natural dimensions in the unimpregnated state.

Observations.

This unfortunate case ought to teach us to give our utmost heed to any tenderness or pain complained of in the abdomen after delivery, however slight it may be. As a precautionary measure, we shall do well to make use of frequent gentle pressure, to ascertain whether or not there be any tendency towards inflammation. This woman, previously to her confinement, had been much debilitated by excessive discharges from the vagina, and from the ulcerated surface of a large warty excrescence upon the pudenda. This consideration, together with the total absence of inflammatory symptoms, forbade the use of the lancet; or perhaps I ought rather to say, deterred her attendants from having recourse to it, or from supposing that any necessity for it existed.

Treatment of acute Peritonitis.

When by the practice already recommended in the early stages of the disease, the inflammatory symptoms are subdued, a large blister over the abdomen will be serviceable. There is, however, one inconvenience attending the application of a blister: it prevents us from accurately ascertaining, by pressure, the degree of tenderness which exists; consequently we cannot so well

determine how far it may be necessary to employ further venesection.

Much medicine ought not to be exhibited in this complaint; the frequent injection of enemata will be found more serviceable. It is to be regretted that the apparatus in general use for throwing up injections is so defective.

If there be not great irritability of stomach, and the injections are insufficient to overcome the constipation, calomel by itself, or conjoined with extract of colocynth must be given.

When peritonitis is induced by colica pictonum, mercury either internally or externally is absolutely required. It will sometimes be necessary to combine it with opium. Copious venesection must, however, always precede the use of these remedies.



CHAPTER XV.

Peritonitis Chronica.

ACTIVE PERITONITIS frequently becomes chronic. This is particularly liable to occur when the depleting and antiphlogistic systems have not, been early and vigorously adopted.

Treatment.

A few ounces of blood must be taken from the arm whenever a febrile or inflammatory diathesis prevails; leeches and blisters must be frequently applied to the abdomen, and small doses of calomel given. An active cathartic administered once or twice a week, will be found of the utmost service. I have generally found five grains of calomel, and five grains of antimonial powder at bedtime, and on the following morning some castor

oil, or sulphate of magnesia largely diluted, the most efficacious remedies.

Chronic Peritonitis sometimes arises from, or depends upon a diseased state of the mesenteric glands. If not removed by the remedies above directed, after continuing for many months, it sometimes assumes an active form, and must then be treated accordingly.

CHAPTER XVI.

Enteritis.

Pyrexia typhodes; dolor abdominis pungens, tendens, circa umbilicum torquens, vomitus; alvus pertinaciter adstricta.—Cl. i. O. ii. G. xvi. CULLEN.

IN *Enteritis* the remedies proposed for acute peritonitis must be employed. In this disease the pulse is generally from the very beginning exceedingly feeble and hurried; and sinks more suddenly; the anxiety of countenance is greater; the bowels are more obstinately constipated; the stomach more irritable; and stercoraceous vomiting often superadded. It is in reality, a more dangerous disease, and demands proportional energy on the part of the practitioner.

CHAPTER XVII.

Ascites.

Abdominis intumescencia tensa, vix elastica, sed fluctuosa.—Cl. iii. O. ii. G. lxxix. CULLEN.

AN immense number of ascitic patients have been admitted into this Hospital within the last five years, and various measures have been resorted to for their relief. In a great majority of these cases, more advantage was

gained from mercurial friction, and an occasional drastic purgative, than from any other remedies. From a scruple to half a drachm of mercurial ointment was directed to be rubbed over the abdomen every night till the mouth became slightly affected. In such cases as it was found difficult to excite the mercurial action when the friction was confined to the abdomen, it was applied to the thighs. Mercury when thus introduced into the system will almost uniformly be more beneficial in ascites than when taken into the stomach. The purgative employed was elaterium. From two to five grains of that most powerful and most efficacious of all purgatives were given once or twice a week. The frequency of its exhibition was of course regulated by the strength of the patient, and by the effect it produced. When the patient is much debilitated, instead of large doses, the quantity ordered must be very small; not more than a quarter of a grain daily, combined with five grains of the squill pill.

For the more robust, the same quantity may be taken night and morning on the days when the larger doses are not administered, and will be eminently useful. They may likewise be allowed to drink freely of a solution of supertartrate of potash. If these remedies are firmly and judiciously persevered in, they will often remove ascites; provided it has not been of such long continuance as to have destroyed the vigour of the constitution, or that no irreducible enlargement, or incurable disease in the liver exists.

The distention produced by the accumulated fluid is sometimes very great, and the pain and inconvenience so considerable, that it becomes necessary to resort to paracentesis. No permanent advantage is to be expected from the operation, and when it can be avoided, it ought not to be performed. It must be likewise recollected that it is not altogether unattended with danger for a fatal peritonitis sometimes succeeds it.

When the operation is determined upon, I am inclined to think that the most favourable period for performing it is when the system is under slight mercurial influence; an influence, however, which has been found insufficient to effect the removal of the fluid by the absorbents. Although the absorbents may not be able to take up all the fluid, they are unquestionably at this time in a state of increased excitement, and if the fluid then present be evacuated, they probably possess enough activity to prevent its quick re-accumulation. In their endeavours they will derive material assistance from the kidneys, for if I mistake not, the function of those organs is impeded, if not almost entirely stopped by the pressure of the fluid in the abdomen. Every one must have observed, that after the operation a large quantity of urine is formed, and continues to be formed until the fluid again accumulates. This is more particularly to be noticed in dropsy of the ovaria.

The injection of some fluid into the abdomen with a view of producing such a degree of inflammation upon the peritonæum, as should be sufficient to excite universal adhesion between its opposed surfaces has been proposed, and in one or two instances successfully practised. I must confess, however, that it appears a process so fraught with hazard, that I could not conscientiously carry it into execution. To make use of a very common, but an apposite expression, peritonæal inflammation once excited, spreads like wildfire. We cannot say to it, "Thus far shalt thou go, and no farther." I feel persuaded, that in nine hundred and ninety-nine cases out of a thousand, the degree of inflammation necessary to effect the requisite adhesions, would destroy life. I have seen water, and wine and water, injected without success. It is, however, proper to state, that the cases were extremely unfavourable for the operation; the patients would, in all probability, have died in a few days, under any treatment.

Another reason why the injection of fluids cannot succeed, is, that ascites very rarely arises from a diseased state of the peritonæum, but more commonly is the consequence of an enlarged liver ; mechanical pressure, from some other cause, upon the absorbent vessels ; or some defect in the absorbent system itself.

The following case will be found to possess some interest.

CASE XXXI.

A man, aged thirty-three years, came into the Infirmary on the 31st of March, 1814. He had been affected with dropsy nearly two years. His countenance was sallow, and indicative of much visceral disease. The abdomen was not very large, but tense, and evident fluctuation could be perceived. Great pain was felt on pressure being made in the region of the liver, and that organ, as far as could be ascertained by external examination, was considerably enlarged. He was directed to take the squill pill, with calomel, night and morning, and the saline antimonial mixture, every six hours. He also applied a scruple of mercurial ointment to the right side every night.

The mouth became speedily, and in so high a degree affected by the mercury, that it was suspected he had been taking some preparation of it before his admission. He discontinued it on the third day, and had prescribed for him an infusion of gentian.

He persisted in the use of this medicine till the 13th of April when the operation of paracentesis abdominis was performed, and about two gallons of a straw-coloured fluid drawn off. It was desired that the canula should be allowed to remain in the wound. A flannel bandage was applied to secure it, through which, fluid continued to exude in considerable quantity. He passed the night comfortably.

14th. He complained of pain in the abdomen; pulse thready and accelerated; countenance expressed much anxiety. In the evening, these symptoms became aggravated. He was directed to take an anodyne draught.

15th. Passed a restless night; the whole surface of the abdomen extremely tense and tender; the pulse so feeble as scarcely to be perceptible. The canula produced such excruciating pain, that it was deemed advisable to remove it.

He died at seven o'clock this evening. No opportunity of examining the abdominal viscera was afforded.

CHAPTER XVIII.

Tabes Mesenterica.

Marcor; asthena; pyrexia hectica.—Cl. iii. O. i. G. lxix. CULLEN.

WHEN treating of hydrocephalus internus, I offered an explanation of the manner in which I conceived tabes mesenterica to be produced,

Treatment.

The patient should be suffered to partake of only light nutritive food, and the digestive powers of the stomach must be improved, by exhibiting the decoction of bark made gratefully acid, and by giving small doses of mercury. For children, the hydrarg. cum creta, given nightly, in doses of from three to fifteen grains, is the best preparation.

If these remedies be employed in the early stages of the disease, we may anticipate a favourable termination with some degree of confidence. In adults, the disease is more formidable and fatal than in children, fortunately, however, they are rarely the subjects of its attack.

CHAPTER XIX.

Diarrhœa.

Dejectio frequens; morbus non contagiosus; pyrexia nulla primaria.—Cl. ii. O. iii. G. lxi. CULLENI.

Treatment.

FOR one, two, or three nights in succession, as circumstances may indicate, from three to five grains of calomel, with one grain of opium, should be given. On the following morning it may sometimes be proper to direct half an ounce of castor oil.

If it were necessary, I could safely state that at least fifty violent cases of diarrhœa have been speedily relieved by this practice at this Hospital.

Preparations of chalk, kino, catechu, &c. must only be used after the alimentary canal has been freed from offending matters. If exhibited in the early stages of the disease they almost invariably prove hurtful.



CHAPTER XX.

Tympanites.

Abdominis intumescencia tensa, elastica, sonora; alvus adstricta; cæterarum partium macies.—Cl. iii. O. ii. G. lxxiii. CULLENI.

ACTIVE purgatives and mercurial frictions, either upon the surface of the abdomen or thighs, will more frequently remove this affection than any other remedies which I have seen prescribed.

The facility with which the absorbents take up air is every day evidenced. If air, accumulated within the large intestines, be forcibly retained by the sphincter muscles attached to the extremity of the rectum, instead of being allowed to escape, the absorbents quickly remove it; and thus the necessity for a breach of good

manners is obviated. By subjecting the absorbent system to mercurial stimulus, its activity is increased; and thus the removal of accumulated air, either within the intestines, or between the duplicatures of the peritonæum, may be sometimes accomplished.

Query. When the air is confined within the general cavity of the abdomen, and the absorbents have been found insufficient to effect its removal, would there be any impropriety in discharging it by means of a trocar and canula?

CHAPTER XXI.

On Worms.

TÆNIA.

RECTIFIED oil of turpentine is certainly the best remedy which has hitherto been discovered for the expulsion of the tape-worm. It has been administered at this Hospital with almost uniform success. In some few cases in which it has not succeeded, its failure was probably attributable to its not being given in sufficient doses. Less than an ounce of it will seldom have the desired effect. The proper doses will be found to be, for a delicate female, an ounce; for a robust female or a small man, an ounce and a half; for a robust man, two ounces. The best vehicle for it, is milk. It should be taken early in a morning, upon an empty stomach.

Independently of the inefficacy of small doses they excite more nausea, vertigo, and other disagreeable feelings, than large ones. The greater distress occasioned by small than by large doses is not confined to the action of oil of turpentine. Three grains of calomel will often act as a violent purgative, whereas a scruple of it (particularly a second dose) is one of the mildest aperients that can be given.

Lumbrici.

Fifteen grains of jalap, the same quantity of rhubarb, and five grains of calomel, given for three or four mornings in succession, will generally expel lumbrici.

The same ingredients will be found serviceable for the destruction of *ascarides*. For the rhubarb, tin-filings may be sometimes substituted. As the seat of *ascarides* is generally the lower part of the intestinal canal, it is probable, that these worms might be more speedily removed by the frequent injection of purgative or terebinthinate enemata.

Where the powers of the digestive organs are perfect, worms of any description cannot exist; we must not therefore confine ourselves to the mere expulsion of the worms, but endeavour to give tone to the stomach and chylo-poietic viscera by the exhibition of cinchona, gentian, and small doses of mercury.

 CHAPTER XXII.
Aortæ Descendentis Ulceratio.

MARY STRANGE, aged twenty-nine years, in the month of December, 1810, in consequence of a fall, miscarried; she lost at the time, about three pints of blood.

She never, afterwards, menstruated regularly. The menses would disappear for two or three months in succession, and then flow profusely for two or three weeks. The discharge was viscid, and of a dark mahogany colour. She experienced occasional difficulty in discharging her urine, which sometimes resembled curdled milk; at other times it was very highly coloured, and appeared to contain blood.

About five months after her miscarriage, she complain-

ed of violent pain in the back and loins, which was greatly exasperated during the periods of menstruation. This pain was accompanied with violent palpitation of the heart, which continued from twenty-four to forty-eight hours after the pain had abated. With the palpitation, the patient experienced great nausea and sickness, the stomach rejecting every thing received into it; and sometimes she threw up a quantity of viscid mucus.

She was frequently bled and blistered; but seldom derived, from the use of these remedies, any mitigation of suffering.

In the month of January, 1811, she had a very violent attack. From this time, to the beginning of September, she gradually recovered, and was able to go about her ordinary business.

In the last named month she was seized with violent pain in the left hip; which extended across the bowels to the back, and from thence to the pit of the stomach. The heart palpitated with increased power, and induced fainting for three or four hours; her breathing was sometimes loud and laboured; at other times it was scarcely perceptible; the superficial veins of the head, neck, and upper extremities, became greatly distended. These paroxysms occurred four or five days in the week; they subsided very gradually, and with hysterical sobbing and crying; the urine still continuing turbid.

In the month of November she had a return of the uterine discharge, which continued for ten or twelve days; it was very profuse, and of a dark colour. She felt great tenderness in the hypogastric region. She continued nearly in this state till July the 12th, 1812; at which time she was admitted into this Hospital.

The above is a compressed narrative of her sufferings, as they were related by her husband. The patient was too ill and too exhausted to be able to afford much information. She appeared to be labouring under

inflammation of the peritonæum. There was considerable tumefaction of the abdomen; pressure upon it occasioned great pain; her pulse was thready and rapid; her tongue dry; her countenance expressive of anxiety; her respiration hurried. At the pit of the stomach a remarkable depression was evident.

A few ounces of blood were abstracted from the arm, which speedily became buffed. A blister was applied to the chest, and some saline medicines prescribed.

On the following morning, she reported that she experienced relief from the bleeding; it was therefore ordered to be repeated: it was evident, however, that nothing could be of permanent service. A few days preceding her dissolution, which took place on the 29th of August, a pulsatory motion was felt upon the application of the hand to the abdomen.

Examination.

When the abdominal muscles were turned back, an immense tumor was exposed. It occupied almost entirely the left side of the cavity of the abdomen. Through the peritonæum which invested it, it looked very much like the uterine surface of a placenta. Upon dividing the peritonæum, the tumor was found to consist of coagulated blood. After six or seven handfuls of this coagulum were removed, the left kidney presented itself. It occupied nearly the centre of the tumor; as much blood was behind it, as had been taken from its upper surface. The emulgent vessels were much elongated. Probably they had been rendered so by the mechanical force applied to them. The fore-finger, passed upon them to their origins, and then directed a little upwards, went immediately into the cavity of the descending aorta. It appeared that a circular piece of the artery had been removed by the absorbents. Upon the inner surface of the peritonæum, no layers of coagulable lymph had been de-

posited; there was not, in fact, any thing which resembled an aneurismal sac.

The other abdominal, as well as the thoracic viscera, were inspected, but no disease was detected in them.

Remarks.

This case differs from any other with which I am acquainted, in as much as no aneurismal sac existed, the peritonæum investing the aorta forming the only obstacle to the effusion of the blood into the general cavity of the abdomen.

That a diseased action, capable of destroying the coats of the aorta, should take place without inclosing the peritonæum is truly extraordinary; and it is no less surprising that the peritonæum should be subjected to so much distention, and yet be capable of resisting the impetus with which the blood must have been from time to time driven against it.

The symptoms, attendant upon this peculiar state of the artery, probably do not differ materially from those excited by a perfectly formed aneurism of the vessel in a similar situation. The constant pain in the back, produced by the distended state of the peritonæum; the derangement in the uterine and urinary secretions; the syncope and palpitation, which we must conclude were produced by the escape of blood from the aorta; the tumor of the abdomen; and lastly, the pulsating motion felt a few days before the death of the patient; I think, point out the nature of the disease with a sufficient degree of precision to enable us to distinguish analogous cases. I have much to regret, that an opportunity was not afforded me of minutely inspecting the coats of the aorta.

CHAPTER XXIII.

Nephritis.

Pyrexia ; dolor in regione renis, sæpe ureteris iter sequens ; mictio frequens urinæ, vel tenuis decoloris, vel ruberrimæ ; vomitus ; cruris stupor ; testiculi ejusdem lateris retractio aut dolor.—Cl. i. O. ii. G. xix. CULLENI.

THE remedies which will be found the most efficacious in this disease are, venesection from a small orifice, *ad deliquium* ; cupping ; leeches and blisters about the lumbar regions ; and warm bathing.

Warm bathing will produce a powerful determination of blood to the surface of the body, and greatly increase the action of the cutaneous exhalant vessels ; two purposes which it is peculiarly desirable to effect in this affection.

Blisters are not so liable to excite strangury, when applied in the immediate vicinity of the urinary organs, as when they are placed upon parts remote from them.

A constipated state of the intestinal canal is to be guarded against ; but before the inflammatory symptoms have been subdued, any other class of medicines than aperients will be not only useless, but prejudicial ; particularly if they possess diuretic properties. Diuretics, by determining a larger quantity of blood to the kidneys, must, of necessity, aggravate the disease.

 CHAPTER XXIV.
Diabetes.

Urinæ plerumque præternaturalis, copia immodica, profusio chronica.
Cl. ii. O. iii. G. lxii. CULLENI.

IN this disease, more benefit has resulted from the treatment recommended by Dr. Watt, of Glasgow, than from any other which I have seen employed. In one

case, it promised to be attended with complete success, when an untoward accident disappointed well founded and sanguine expectations.

CASE XXXII.

Mary Phipps, aged fifty-two years, a small woman, and much emaciated at the time of her admission, made daily from six to seven pints of nearly colourless urine, strongly flavoured with saccharine matter.

For some weeks she was confined to animal food, and restricted as much as possible in the use of fluids. No advantage resulting from this regimen, she was directed to lose from ten to twelve ounces of blood three times a week. The blood presented all the appearances so accurately described by Dr. Watt; the crassamentum was at first almost destitute of tenacity, and of a dark colour; after the fourth bleeding, it became firmer, and soon afterwards exhibited a layer of deeply cupped coagulable lymph upon its surface.

This plan was persisted in for three weeks; the urine gradually diminished in quantity; it was reduced to three pints in twenty-four hours, and reacquired its proper odour and taste. When things were brought to this favourable state, she unfortunately purloined nearly a pint of rectified spirit of wine, which she drank in an undiluted state. Almost immediate intoxication came on, which, in less than an hour, was succeeded by a state of apoplexy, and she died in four hours. Powerful emetics were administered very soon after she had taken the spirit, but vomiting was not excited by them.

Examination.

The vessels of the dura and pia mater were gorged with blood, and a small quantity of serum was found in the lateral ventricles, and at the basis of the brain.

The kidneys were large and rather flaccid. In the right kidney there was a hydatid, of the size of a hazel nut.

As the general evacuation of blood is found so beneficial in this disease, it is extremely probable that its frequent topical abstraction, by means of leeches and cupping-glasses, from the lumbar region, would be also eminently advantageous.

The excessive thirst of which diabetic patients often complain, is much ameliorated, and the patients themselves are benefited, by drinking freely of sulphuric acid, copiously diluted with water.

Query. How far might the hydatid, in the right kidney, prove an exciting cause of the disease? Dogs make a very large quantity of urine. The kidneys of a dog I examined a short time since, were full of hydatids. Are these animals particularly subject to this species of animalculæ?

CHAPTER XXV.

On the Function of the Kidneys.

THE urine is generally regarded as an excrementitious fluid. If it be so, it is the only animal fluid which can be considered as such. All the other secretions answer some purpose after their deposition. The tears lubricate the eye-balls; the synovia facilitates the motions of the joints; the saliva assists digestion, &c. it is difficult therefore to conceive that the secretion of the kidneys can form an exception to this general law of the animal economy.

In the month of October, 1815, I injected rather more than a pint of warm milk and water into the bladder of a patient who had been for some years suffering from an ulceration of the inner membrane of that reservoir. The fluid for a few minutes occasioned uneasiness; an uneasiness which the patient imputed entirely to over-distention. This unpleasant feeling gradually subsided, and

at the expiration of half an hour, he said that he was certain his bladder was perfectly empty. Upon desiring him to allow any fluid that might be in the bladder to pass through the catheter, about two ounces of highly fetid pus mixed with a very small quantity of the milk and water came away.

The removal of the injected fluid could only have been effected by the absorbents. This circumstance gave rise to a suspicion, that the absorbents upon the inner surface of the bladder were destined to reconvey the purer portion of the urine into the system, leaving only the more acrid part to be expelled. What purposes the fluid taken up may answer, it is difficult to determine; it is possible, however, that it may contribute towards the formation of the tears, the saliva, the perspiration; and several other secretions. Of this I feel persuaded, that an infinitely larger quantity of fluid is deposited in the bladder than is expelled from it; and a strong analogy justifies the conclusion, that urine is not purely excrementitious.

I have the kidney and ureter of a patient who died of phthisis. The kidney is free from disease; the ureter is distended with urine to about three times its natural size. The urine it contains is prevented from escaping by an impervious stricture in the ureter. The stricture is placed at the inferior part of the ureter, just before it terminates in the coats of the bladder.

The patient, from whom this preparation was taken, was never known to be labouring under any disease of, or derangement in, the functions of the urinary organs. Had not the absorbents possessed the power of removing the urine from the ureter, as it was secreted from the kidney, the tube must have been ruptured by its excessive accumulation. This case comes strongly in support of the theory I have advanced. Dr. Darwin has insisted upon the existence of what he calls the retrograde motion of the absorbents of the bladder.

SECTION V.

ON DISEASES OF THE PELVIC VISCERA.

CHAPTER I.

Affections of the Bladder.

I AM inclined to think that almost all the diseases to which the bladder is liable arise from suffering it to be frequently in a state of extreme distention. Females from motives of false delicacy, often entail upon themselves loathsome, painful, and incurable affections of this organ. Inflammation of the bladder; an extreme irritability, and subsequent ulceration of its inner membrane; an incontinence of urine, and an inability to evacuate it; may be generally traced to the foolish habit of retaining it for hours after it ought to have been expelled.

If the urine were discharged whenever it, either by its accumulation or acrimony, excited uneasiness, nuclei for calculous concretions would have no opportunity of forming.

Treatment.

For the removal of inflammation of the bladder we must resort to copious general, and topical blood-letting; fomentations to the hypogastric region; and warm bathing. Distention must be carefully guarded against by the occasional introduction of the catheter.

An irritable state of the inner membrane of the bladder will be much alleviated, and sometimes removed, by the frequent application of leeches to the perinæum and pubes, and by the warm bath. Alkaline preparations, exhibited internally, afford great relief. The most efficacious medicine of this class is the aqua kali

puri (liquor potassæ) in doses of from six to twenty drops, three times a day. The same preparation will be found useful in ulceration of the inner membrane. Much benefit is also to be derived from the injection of tepid milk and water into the bladder.

Incontinence of urine, when depending upon a paralysis of the sphincter muscles of the neck of the bladder, may be sometimes remedied by the application of blisters to the perinæum, pubes, and sacrum, and by the internal exhibition of the tincture of cantharides.

An inability to expel the urine (which appears to depend upon a paralysis of the muscular coat of the bladder, while the sphincter muscles retain their contractile power) requires the same treatment. In addition to these, it will be absolutely necessary to keep the bladder empty by introducing the catheter three or four times every day. A great number of females have been admitted into this Hospital, labouring under this affection of the bladder; and they all attributed it to the practice of improperly retaining its contents.

When calculi form in the bladder of a male, they can only be removed by the operation of lithotomy; in the female, however, before the operation is resorted to, a gradual dilation of the urethra, by means of bougies, ought to be attempted, particularly if it can be ascertained that the stone is of small dimensions. The urethra of the female is capable of very considerable dilation; and if by the means above recommended the removal of the stone can be effected, there will be less danger of a permanent and incurable incontinence of urine, than is incurred by the ordinary operation.

As an inability to retain the urine so generally results from the usual operation upon females, would it not be advisable to operate upon them above the pubes? I am one of the few who still think that the higher operation, as it has been denominated, whether for the male or fe-

male, is the best. If the bladder be allowed to become completely distended before the incision is made, there will be but little danger of wounding the peritonæm, and all risk of effusion of urine into the cellular membrane may be effectually guarded against, by keeping an elastic gum-catheter (introduced by the *urethra*) constantly in the bladder, for a few days after the operation.

As a proof of the practicability of this measure, I shall make an extract from page 121, of the "Sketches of the Medical Schools of Paris," by Mr. John Cross.

"It is astonishing with how little inconvenience patients kept in bed submit to the presence of this instrument (the gum-catheter) in the canal, which is changed every four or six days, for the sake of introducing a larger one; and but for this reason, it might be left in a fortnight or three weeks without being renewed, the only thing requiring attention being the incrustation upon the extremity of the instrument, which sometimes forms in seven or eight days, and at others, not in as many weeks."

If then, in a diseased urethra, an elastic gum-catheter can be retained for many weeks, with how much ease might it be kept in a healthy canal.

CHAPTER II.

On Affections of the Rectum.

To the improper practice of retaining the contents of the rectum, after they have, by accumulation, excited uneasiness, many of the diseases of that intestine may be referred.

The absorbent vessels opening upon the inner surface of the rectum are numerous, and extremely active. If the feculent matter protruded into it by the peristaltic

motion of the intestinal canal be not speedily expelled, the absorbents remove its watery particles, and consequently render its exit very difficult. For the removal of hardened fæces, the action of the muscles affixed to the rectum is insufficient; the abdominal muscles must therefore be put in requisition. These muscles, by their pressure upon the abdominal viscera, propel an undue quantity of blood into the rectum, and other pelvic viscera. The coats of the vessels thus over-distended, by degrees become weakened and varicose. Hence arise hæmorrhoidal tumors, and effusions of blood.

Hardened fæces are not only productive of mischief, by requiring an improper degree of muscular force for their expulsion, but in their passage along the rectum, they frequently abrade its lining membrane. These abrasions lay the foundation of fistulous openings and strictures.

Indurated fæces irritate the rectum, and excite a spasmodic contraction of the sphincter muscles, thereby producing another serious impediment to their expulsion.

Prolapsus of the rectum is another consequence of the improper retention of the feculent matter.

Treatment.

The cure of all diseases of the rectum will be facilitated, by expelling its contents as soon as they excite disagreeable feelings. If these feelings were carefully attended to, the muscles belonging to the rectum, and intended by nature for the expulsion of the fæces, would be found perfectly sufficient for that purpose.

Hæmorrhoids of recent formation, may be generally cured by the regular administration of some mild aperient. The confection of senna, combined with a portion of sulphur, will be found as convenient and efficacious a medicine as can be employed. The *pasta piperis composita* is also a useful medicine.

When the tumors have been formed for a length of time, and are exceedingly painful, nothing will afford so much relief as the frequent application of leeches. Much ease is also often experienced from the use of henbane ointment. Sometimes (but not very frequently) it may be proper to remove some of the tumors, either by ligature, or with the knife.

Strictures of the rectum, and spasmodic contractions of its sphincter muscles, are best treated by the frequent introduction of bougies.* When fistulous communications between the rectum and an external part have been established, I know of no other remedy than an operation.

I have met with several cases of diseased rectum, in which an opening into the cavity of the pelvis existed. Through this opening I have withdrawn some lumbrici. A fistulous opening of this description, as well as the more common forms of fistula in ano, will often be met with in phthisical patients. Fools, madmen, or bad men only, will operate upon such patients.

Whenever a prolapsus of the rectum occurs, the intestine should be washed with a solution of sulphate of alumine, with a decoction of bark, or some other astringent, and immediately replaced,

CHAPTER III.

On Affections of the Uterus.

HYSTERIA.

Ventris murmura; sensus globi in abdomine se volventis, ad ventriculū et fauces ascendētis, ibique strangulantis; sopor; convulsiones; urinæ limpidæ copia profusa; animus, nec sponte, varius et mutabilis.—Cl. ii. O. iii. G. lxiii. CULLEN.

As hysterical symptoms are generally supposed to be excited by a peculiar state of the uterus, I have plac-

* See Mr. Coupland's excellent Work on diseases of the Rectum.

and the disease under affections of that organ ; I am inclined to believe, however, that the brain is the real seat of the disease, and that the uterus is only sympathetically affected.

The laws of well-regulated society (as applied to unmarried persons,) and the laws of Nature, are opposed to each other. The former are, for the most part, sufficiently powerful to prevent a compliance with the dictates of the latter ; but in the conflict, both mind and body sometimes suffer.

A natural desire to possess that which the laws of society forbid, produces an irritability of mind, and a consequent determination of blood to the brain ; the sympathy between the brain and the generative system, although inexplicable, is well known to be direct.

Treatment.

We shall find nothing so effectual for the *relief* of hysteria, as venesection. In plethoric habits, it is absolutely demanded ; in the most delicate, its occasional employment is highly necessary. The quantity of blood taken away must of course be proportioned to the strength of the patient.

When, with hysteria, there is a deficiency of the catamenial discharge, blood should be regularly taken away every month at the time, or shortly before the menses make their appearance. A spare diet and exercise must be directed, and a proper attention paid to the state of the intestinal canal. The whole class of stimulants, so generally employed, must be studiously avoided. A great majority of the cases of hysteria, which have presented themselves at this Hospital, have been combined with increased action of the heart, inordinate throbbing of the carotid arteries, and not unfrequently with strong pulsations of the descending aorta, or cæliac artery.

Emansio Mensium.

When the menses do not make their appearance at the proper ago; venesection employed monthly; electric shocks applied to the pubic, hypogastric, and lumbar regions, and the administration of aloetics, will often succeed in exciting the uterus into the desired action.

 CHAPTER IV.
Amenorrhœa.

Menses tempore quo fluere solent, vel solito pareiores, vel non omino fluentes, citra graviditatem.—Cl. iv. O. v. G. cxxvi. CULLEN.

THE treatment recommended for retention is equally applicable to suppression of the catamenial discharge. It will frequently happen that the menses will flow at the same time that the blood is making its escape from the arm, or immediately after the application of the electric shock.

Chorea, emansio mensium, and amenorrhœa, are the only affections in which I have ever found electricity of the slightest service.

 CHAPTER V.
Leucorrhœa.

It will be necessary to have recourse to occasional blood-letting in plethoric habits for the cure of Leucorrhœa. In such habits it will not always be proper to put an entire stop to the discharge, but only to moderate it.

Debilitated patients will require an opposite line of treatment. Bark, steel, or some other tonic, must be

given, and some astringent lotion injected into the vagina. The application of cold water every morning, to the loins, will be attended with great advantage. When the discharge is thin or acrid, benefit will be obtained from giving nightly a grain of opium. Violent exertion should be avoided, and a recumbent posture inculcated, particularly if proidentia or prolapsus uteri be at the same time present.

CHAPTER VI.

Menorrhagia.

Dorsi, lumborum, ventris, parturientium instar, dolores; menstruorum copiosior, vel sanguinis e vagina præter ordinem fluxus.—Cl. i. O. iv. G. xxxix. CULLEN.

MENORRHAGIA must be treated in the same manner as leucorrhœa, except that during the presence of the discharge, injections, and the application of cold, must be abstained from.

Ulceration of the Uterus.

Ulceration of the cervix uteri, and consequent hemorrhage, is sometimes mistaken for menorrhagia. The error will be easily detected, by an examination per vaginam: not only the os uteri will be wanting, but the entire neck of the uterus will be found to be removed. The body of the uterus itself undergoes no change, either in size, form, or structure.

The disease most commonly occurs between the ages of forty-five and fifty-five; it uniformly proves, sooner or later fatal. Upon examination of the uterus, it looks rather as if its neck had been eaten by mice, than as if it had been taken away by the absorbents.

It has been my good fortune, never to meet with a cancer of the uterus.

SECTION VI.

ON AFFECTIONS OF THE SPINE, &c.

CHAPTER I.

Diseased Spine.

DISEASE of the spine is said to be of very frequent occurrence. It may be so; but I feel persuaded that it does not occur half so frequently as is imagined. A delicate female cannot now complain of pain in the back, but a Surgeon is immediately sent for, to examine the spine. If after thumbing it, and striking it with his knuckles from occiput to coccyx for half an hour, one part is discovered to be, or has been rendered by the examination more tender than the rest, it is very gravely pronounced to be diseased. Incarceration, for three months, or sometimes for three years, is immediately directed, and setons or issues made in the back. If by this *judicious* treatment, aided by confinement, the health of the patient be not destroyed, in a reasonable time she is declared to be cured of the disease, and allowed to get up. I have known cases of this description kept "in durance vile" three years, and ultimately recover; the recovery, however, did not take place till after they had escaped from under the hands of the Surgeon. Imposition, under any disguise, I detest; wherever I see it, I will expose it.

Treatment.

When the spine is actually diseased, absolute rest is requisite. Leeches should be frequently applied in the vicinity of the diseased vertebræ, and every possible means employed to improve the constitution. Bark, with carbonate of ammonia, or muriate of lime, will be eminently useful.

Psoas Abscess.

I have never examined psoas abscess, without finding it connected with disease of the vertebræ; and I am inclined to think that it ought to be treated as such.

For an account of the appearances usually met with on dissection, see CASE V.

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CHAPTER II.*Fracture of the Spine.*

CASE XXXIII.

JAMES PALMER, aged sixty-three years, was admitted into the Infirmary, on Wednesday, June 19th, 1812, at ten o'clock at night. He stated, that about seven o'clock, he fell from a load of hay, backwards, and that he struck the back of his neck violently against the ground.

When the head was elevated, he complained of excruciating pain. There appeared to be a slight depression in the integuments above the spinous process of the fifth cervical vertebra; but whether it was the natural conformation of the part, or the consequence of the injury, could not at that time be determined. His mental faculties were not at all impaired, but his speech was rather indistinct. His upper and lower extremities were completely paralysed and destitute of sensation. Various parts of his body were pinched, without his being at all conscious of the violence committed upon them. His pulse was full and slow; it did not beat more than fifty times in the minute. Twelve ounces of blood were directed to be taken from his arm, and afterwards a cathartic powder was given him.

20th. He appeared somewhat better; his articulation was more distinct; his pulse eighty, and regular; he slept a little during the night. As he was incapable of

expelling his urine, a catheter was directed to be passed twice a day. The cathartic powder produced no faecal evacuation. Half an ounce of castor oil was directed every four hours.

21st. In the same state as yesterday. He once felt an inclination to go to the closet ; but, when there, was unable to expel any thing from the intestinal canal.

22. Pulse diminished in frequency, not more than forty-eight in the minute, and was weaker than upon his first admission. Voice feeble and indistinct. He died about nine o'clock at night.

Examination.

Upon making an incision along the spinous processes of the cervical vertebræ, blood, in considerable quantities, was observed to have been extravasated. The spinous process of the fourth cervical vertebra, reckoning from the atlas, with that portion of the vertebra constituting the back part of the medullary canal, was broken off from the body of the vertebra. It was quite loose, and only required to be dissected from the surrounding muscular substance to be removed. Its inferior edge was advantageously situated for making compression upon the medulla spinalis, and probably was driven upon it at the time the blow was inflicted. The medulla was not at all lacerated, nor did it exhibit any mark of long-continued compression. Upon puncturing its investing membrane, a quantity of serous fluid escaped. It could not be discovered that the body of the vertebra was injured.

Observations.

The most remarkable circumstance in this case is the length of time the patient lived after the accident. It has been stated that a fracture of the cervical vertebræ, for the most part, proved instantly fatal ; whereas this man lived seventy-one hours. The case warrants the

conclusion, that an operation would have saved the patient. Where the medulla spinalis is simply compressed, and without having sustained any laceration or other injury, I can see no reason why the removal of the compression should not relieve as effectually as elevating a portion of depressed bone from the cerebrum.

It may, perhaps, be urged against an operation, that it is impossible to determine whether the medulla be torn or not. It is a common practice, to destroy animals, by dividing the medulla. They die almost instantaneously after the operation. Almost as sudden will be the death of a patient, where the medulla (as it is passing along the cervical vertebræ) is wounded; but where it is simply compressed, the patient may survive hours, or even days, as in the case above related.

A force sufficient to fracture the body of one of the superior cervical vertebræ, would inevitably destroy life at the same time; but a less degree of force would be capable of breaking off the processes of the vertebræ, and driving them upon the medulla. If they be suffered to remain there, the patient will inevitably die; if they be elevated, he may live. Whenever, therefore, a superior dorsal or cervical vertebra is fractured, an examination of the parts should be made, if the patient survives a few hours. It cannot possibly do harm, and affords a prospect of success. The immense mass of muscular fibre which must be cut through, to expose the vertebræ completely, ought not to deter us from making an incision through it. No part of importance can be wounded, even though the incision were to be carried through the whole length of the spine. Generally, an incision of five inches in extent will be sufficient.

In a work professedly medical, perhaps I have erred, by introducing a surgical case. I have, however, so frequently seen patients with injuries of the spine suffered to perish, without a single effort being made for their relief, that I trust the irregularity will be forgiven.

SECTION VII.

CHAPTER I.

Theory of Fever.

IN what fever essentially consists, has baffled the powers of the most distinguished medical philosophers to explain. If it were possible to discover it, perhaps it would not enable us to treat it more successfully. It is of greater importance that we should be aware of its exciting causes, and that we should be able to moderate their baneful influence.

Mental anxiety, the exposure of the body to a great increase or diminution of temperature; and vegetable and animal effluvia, are the most frequent exciting causes of fever. Mental anxiety produces a great determination of blood to the brain. The exposure of the head to the rays of an intense sun, has the same effect. If a great abstraction of caloric take place from the surface of the body, an undue quantity of blood will be propelled upon the brain, lungs, liver, or some other viscus. The application of effluvia is productive of the same effect; more powerfully, and to a greater certainty, however, when the animal powers have been previously impaired by mental anxiety, or violent and long-continued exertions, and a subsequent exposure to a great increase or diminution of temperature.

I have never observed fever of any description, without being able to trace a determination of blood to some particular organ. Examination after death, whenever it has been resorted to, has confirmed the observation. The uniformity of the occurrence has taught me to think, with some other men, that fever is an effort of the *vis medicatrix naturæ*, to free the oppressed organ from the superabundant blood. In other words, by the ap-

plication of some direct or indirect stimulus, or sedative, to the human body, the equilibrium of the circulation of the blood is destroyed; and that which we call fever, is an effort of the *vis medicatrix naturæ*, to re-establish this equilibrium. If Nature be assisted in her earliest endeavours, she will often succeed; if left entirely to herself, the contest will be long and doubtful; and the destruction of the structure of the organ in which the accumulation has taken place, and the death of the patient will be the consequence.

During this reaction of the system, a something capable of exciting a similar disease when applied to a person in health, is sometimes formed. What this something is, or upon what peculiarity of action its elimination depends, I will not pretend to explain: its presence, however, appears to constitute the principal difference between fevers which have been considered purely symptomatic or inflammatory, and contagious or typhus fever. I have never known a fever prove contagious, where the brain has not been the organ *primarily* affected.

All fevers are inflammatory; the division of them into inflammatory and typhoid is prejudicial; it deters many from employing the proper remedies. A better, more useful, and a more natural division of them, is into contagious and non-contagious inflammatory affections.

CHAPTER II.

Typhus.

Morbus contagiosus; calor parum auctus; pulsus parvus, debilis, plerumque frequens; urina parum mutata; sensorii functiones plurimum turbatae; vires multum imminutæ.—Cl. i. O. i. G. v. CULLEN.

ALTHOUGH the theory of Fever, advanced in the last chapter, does not explain all its phenomena, a success-

ful practice may be founded upon it. During the last five years not more than twelve patients have died of Typhus at this Infirmary; the number admitted cannot have been less than two hundred.*

I am of opinion, with my kind friend and preceptor, Dr. Clutterbuck, that the seat of genuine Typhus (a fever distinguished by being contagious) is the brain. It is true that I have seen fever, arising from inflammation of the lungs, liver, and internal coats of the stomach,† bear a very strong resemblance to genuine Typhus. So marked has the resemblance been in the last stages, that it would have been impossible for any one, unacquainted with the previous history of the cases, to have distinguished them from Typhus. In these cases, however, the brain was secondarily affected; and I do not remember a single instance in which they proved contagious. How often is the dissolution of phthisical patients preceded by all the symptoms usually considered typhoid: delirium; indistinct articulation; parched brown or black furred tongue; hot, dry skin; feeble, fluttering, rapid pulse; subsultus tendinum, &c. ! but who thinks of calling the disease TYPHUS?

Treatment.

In the first approaches of Typhus we shall frequently be able to prevent the disease from establishing itself, by administering an emetic. Should this be found insufficient to prevent the formation of a febrile paroxysm, as soon as the hot stage of it is fully formed, we must

* The precise number of cases cannot be ascertained, as many patients, admitted with other diseases, were attacked with fever after their admission; no memoranda of which are kept in the Registers of the Hospital.

The cases reported as typhus, were certainly characterized by the symptoms of that disease; the brain, however, was only secondarily affected; and it was easy to distinguish a determination of blood to some other organ. Strictly speaking, therefore, perhaps not more than one hundred genuine cases of typhus have been admitted within the period mentioned.

† See CASE XXV.

take away some blood from the arm, regulating the quantity by the strength of the patient, and the violence of the symptoms. As a general rule, we must be guided in the quantity according to the force with which the blood is driven towards the brain, and the consequent disturbance of its functions. The pulsations of the carotid artery will enable us to determine this point better than if we trust to an examination of the pulse at the wrist.

In the treatment of typhus fever we must be careful not to mistake indirect for direct debility. This we shall be very liable to do, if we form our opinion by the state of the pulse. In the early stages of the disease, it will be often found soft, slow, and feeble. This state of the pulse is not a mark of direct debility, but is the consequence of an accumulation of blood within the brain; by which the energy of that organ is impaired.

When treating of the functions of the brain, it was stated that the nervous fluid, in which the living principle resides, is formed by it. If an interruption from any cause be given to the due performance of the functions of the brain, debility, or a diminution of the powers of life, must be the result.

Instead therefore of inducing debility by the abstraction of blood in the early stages of typhus fever, we shall, by its removal, enable the brain to reassume its functions.

Emetics and venesection will, if employed very early in the disease, generally put a stop to its progress. If these remedies be omitted, and several febrile paroxysms allowed to form, all our endeavours to shorten the disease will prove abortive. A palliative treatment is all we can employ with any advantage. We must prevent an accumulation of fæces, by giving every night, or every other night, five grains of antimonial powder, and five grains of calomel. This combination will generally procure two or three dark, fetid stools; by their evacu-

ation, the patient will be much relieved. The patient must be supplied freely with cool acidulated liquors; cool air must be admitted into the apartment, and whenever the skin is hot or dry, it must be sponged with either cold or tepid water. I generally direct a small quantity of vinegar to be added to the water, to quiet the apprehensions of the patient, or of the attendants. I have never seen cold affusion applied in the manner recommended by the late Dr. Currie, of Liverpool. Its efficacy in the early stages of the disease is well attested; in its second, or more advanced stage, simple ablution appears to me preferable. Relief will likewise be obtained by the frequent application of leeches to the temples. In this, as well as in the first stage of the disease, stimulants are to be abstained from.

In the third, or last stage of Typhus, I scarcely know what line of treatment to recommend. There is a point at which stimulants either do good, or accelerate the death of the patient. I think, however, that they will be more frequently found useful than prejudicial. The best stimulant is port wine. A table-spoonful of it may be given every hour; nutritive broths, from time to time administered, and a blister applied to the nape of the neck, or between the shoulders. In the early stages of the disease, blisters have appeared to me somewhat injurious, particularly when applied to the scalp. In irritable habits, they will sometimes accelerate the pulse, and give to it a peculiarly thready feel.

Recapitulation.

It will be seen that I have divided the treatment of typhus fever into three stages. In the first stage, we are to administer emetics, and employ venesection. In the second stage, we are to moderate the reaction of the system, by the admission of cool air, sponging the body, &c.; and by emptying the bowels, by administering calomel, in combination with antimonial powder. In

third and last stage, we shall more frequently benefit than injure the patient, by giving him wine, broths, &c.

CHAPTER III.*Febres Intermittentes.*

Febres, miasmata paludum ortæ, paroxysmis pluribus, apyrexia, saltem remissione evidente interposita, cum exacerbatione notabili, et plerumque cum horrore redeuntibus, constantes: Paroxysmo quovis die unico tantum.

Tertiana.

Paroxysmi similes intervallo quadraginta octo circiter horarum: Accessionibus pomeridiannis.—Cl. i. O. i. G. i. CULLEN.

Quartana.

Paroxysmi similes intervallo septuaginta duarum circiter horarum: Accessionibus pomeridianis.—Cl. i. O. i. G. ii. CULLEN.

Quotidiana.

Paroxysmi similes intervallo viginti quatuor circiter horarum: Paroxysmis matutinis.—Cl. i. O. i. G. iii. CULLEN.

INTERMITTENTS, whether tertian, quartan, or quotidian, require nearly the same treatment. The accession of the paroxysms may be, for the most part, prevented, by exhibiting an emetic about half an hour before its cold stage is expected. In delicate habits, when the emetic fails to produce its intended effect, twenty drops of the tincture of opium will sometimes succeed.

In plethoric habits, much advantage will be gained by bleeding the patient in the hot stage. We may succeed in breaking the diseased chain of action, in obstinate quartans, by resorting to this practice, after every other means have proved insufficient. In several cases of extreme obstinacy, the patients were put under a copious

cold shower-bath, in the same stage of the paroxysm with the best effect.

Having succeeded in preventing the accession of the paroxysm, the usual practice is to employ cinchona. Bark will cure the disease, but it will be found more tardy in its operation than the arsenical solution. I have succeeded with arsenic in cases where bark had been given in large quantities, for a great length of time, without producing the slightest good effect. I have never known arsenic to fail.

Whether bark or arsenic be made use of, it will be advisable to give nightly, one or two grains of calomel with five grains of the squill pill; more especially if any induration, or enlargement of the spleen or liver can be distinguished.

It will be found economical to make an addition of some aromatic to the cinchona, and its powers are improved by the addition. Fifteen grains of bark, with five grains of powdered ginger, will be found equivalent to half a drachm of bark by itself.

During the hot or sweating stages of the paroxysm, the bark must of course be laid aside.

CHAPTER IV.

Scarlatina.

Synocha contagiosa.

Quarto morbi die, facies aliquantum tumens; simul in cute passim rubor floridus, maculis amplis, tandem coalescentibus, post tres dies in squamulas furfuraceas abiens; super veniente dein sæpe anasarca—Cl. i. O. iii. G. XXIX. CULLEN.

The treatment recommended for Typhus must be employed in Scarlatina. Emetics will be found useful by clearing the *primæ viæ*. Venesection, employed at the commencement of the disease, in cases where the symp-

toms of reaction are violent, will secure to the patient a comparatively mild disease; neither of these remedies, however, possesses the power of preventing its attack. Sponging the skin, whenever it is hot and dry, is very beneficial, and will be found particularly grateful to the feelings of the patient.

If the throat be inflamed, it must be treated in the manner recommended in the former part of this volume, when writing on Cynanche. If sloughs form upon the velum palati, tonsils, or back part of the fauces, they may be advantageously stimulated with an infusion of capsicum.

It will generally be found most advisable to leave the anasarca, by which the disease is sometimes followed, to itself. A very malignant case of Scarlatina, attended with some peculiarities which it may be proper to record, was admitted into this Hospital on the 30th of November, 1815.

CASE XXXIV.

Ann Young, a very corpulent woman, twenty years of age, at the time of her application had the face and neck covered with a deep scarlet eruption. The same kind of eruption was to be seen in patches upon the arms and legs, and various other parts of the body. The face was very much swoln; the lips of a dark blue; the vessels upon the conjunctive coats of the eyes were likewise injected with blood of a purple colour. The cutis covering the alæ nasi was in a sphacelated state. The tongue was thickly incrustated upon its upper surface with a dark brown fur; upon its sides, and on various parts of the lining membrane of the fauces, aphthæ were situated. She complained of great soreness of the throat; but she experienced so much difficulty in opening the mouth, that it could not be properly inspected. Swallowing gave much pain. Her breathing was ex-

tremely laborious ; she coughed incessantly, and expectorated pus blended with frothy mucus. Her voice was exceedingly hoarse, indistinct, and disagreeable. The pulse was soft and natural, and did not beat more than ninety times in a minute. She had been unwell for a fortnight, and seriously ill a week. The eruption had been upon the skin three days. She was directed to take five grains of calomel and five grains of antimonial powder at bed-time, and to make use of some honey, acidulated with muriatic acid, for the throat and aphthæ.

Dec. 1st. Delirium during the night. The legs, arms, neck, and different parts of the body, were covered with petechiæ of an unusual size. The breathing was more laborious ; pulse less distinct. A blister was directed to be put upon the chest, but she died in the evening.

Examination.

The abdominal viscera were all found perfectly healthy. The lungs were gorged with blood, and some serum had been deposited in the cavity of the thorax. The lining membrane of the larynx was of a dark-brown colour ; it looked rather as if it were lined with a piece of wetted brown paper than with a mucous membrane. The same appearance was seen for a short distance upon the membrane of the œsophagus. The membrane of the trachea was in the highest possible state of inflammation ; which inflammation extended into the bronchiæ as far as they could be traced. The membrane of the trachea was of a deep brick-dust red, approaching to brown. This redness gradually assumed a brighter hue, as it extended itself upon the bronchiæ. The brain was not examined.

This patient evidently fell a victim to inflammation of the larynx, trachea, and bronchiæ, not to scarlatina.

CHAPTER V.

Rubeola.

Synocha contagiosa cum sternutatione, epiphora et tussi sicca, rauca.

Quarto die, vel paulo serius, erumpunt papulæ exiguæ, confertæ, vix eminentes, et post tres dies in squamulas furfuraceas minimas abeuntes.—Cl. i. O. iii. G. xxviii. CULLEN.

AN immense number of persons die annually of Measles. This will continue to be the case as long as it is regarded by the parents of children as so slight a disease as not to require medical attendance. If a preparation for the reception of small-pox be necessary and beneficial, it is, if possible, more imperiously required for Measles.

Whenever it is known to be prevailing, children, who have never had it, should be instantly prohibited animal food, and a considerable reduction should be made in the quantity of their other aliments. In addition to this they should be obliged to take, two or three times a week, some mild aperient. If the disease attack persons thus prepared for it, they will have it in the mildest possible manner. I can pledge myself for the utility of this plan.

Treatment.

In the first stage of the disease, it will be proper to give an emetic. The instant we discover too great a determination of blood to the lungs, we must employ venesection, and apply leeches to the chest. This is the period of the greatest danger; this is the moment in which the foundation of all the miserable sequelæ of the disease is laid: if we neglect it, evils will accrue which all our after-care can never remedy. We must take away blood from time to time, so long as difficulty of breathing, a troublesome cough, or any other symptom, indicative of inflammatory action in the lungs, exists. With very young children, leeches will be equally as

serviceable as venesection; but in adults, or children above five years of age, we must not rely upon them. They will be found useful adjuncts, but must not supersede the use of the lancet. In this disease, as well as in all other affections of the lungs, it is of the utmost importance that the cough should be kept quiet. The very effort to cough, propels an undue quantity of blood into the lungs, by which it too often happens that their structure is impaired. It is stated in some other part of this work, that syrup of poppies, swallowed very slowly, will allay irritation of the larynx and trachea, more effectually than any other remedy.

CHAPTER VI.

Pertussis.

Morbus contagiosus; tussis convulsiva, strangulans, cum inspiratione sonora, iterata; sæpe vomitus.—Cl. ii. O. iii. G. lvii. CULLENI.

ALTHOUGH no specific for this disease has yet been discovered, its violence may be much diminished, and its duration shortened: too frequently, however, it is allowed to pursue its natural course, without an effort being made for its removal; and many become its victims. It is so common a thing for children to die of small-pox, measles, and hooping cough, that it is scarcely thought of; but if a child be cut off by some extraordinary or uncommon disease, the whole kingdom is thrown into a state of alarm. Men heave the sigh of sympathy over one untimely grave, but they every day see the earth opened to receive thousands, whom they wilfully suffer to be the victims of diseases, which long experience has shewn to be highly dangerous. How long will they continue to sin against this experience! There are no diseases which more imperiously require

the aid of medicine than small-pox, hooping-cough, and measles.

Treatment.

The preparatory measures advised for measles should be resorted to. Emetics should be given twice or three times every week ; leeches and blisters frequently applied to the sternum, and along the course of the trachea ; and the cough quieted by the judicious use of syrup of poppies. When the inflammatory symptoms run high, venesection will be requisite. After the disease has subsisted for a few weeks, a change of air will be of service.

CHAPTER VII.

Variola.

Synocha contagiosa cum vomitu, et, ex epigastrio presso dolore.

Tertio die incipit, et quinto finitu eruptio papularum phlegmonodearum, quæ, spatio octo dierum, in suppurationem et in crustas demum abeunt, sæpe cicatrices depressas, sive foveolas in cute, relinquentes.

Species sunt,

1. Variola (*discreta*) pustulis paucis, discretis, circumscriptione circularibus, turgidis ; febre, eruptione facta, protinus cessante.

2. Variola (*confluens*) pustulis numerosis, confluentibus, circumscriptione irregularibus, flaccidis, parum elevatis ; febre post eruptionem perstante.

Cl. i. O. iii. G. xxvi. CULLEN.

THE treatment of small-pox must be very similar to that recommended for typhus. In the confluent species of it, when the pustules look pale and flaccid, wine or some other cordial must be freely administered. The preparation for this disease was formerly carried to an extravagant extent ; it was however an error on the right side. In the present times it is too much neglected.

The day will, I hope, arrive when this loathsome disease will be known only by name ; but this day is far distant, unless the Legislature will compel all those who

delight in the murder of their offspring, and in entailing misery upon mankind, to erect the altar of Moloch in a place remote from the habitations of Humanity.

CHAPTER VIII.

Variola Vaccina.

WHEN groundless prejudice shall cease to operate ; when private emolument shall be sacrificed to the general good ; the name of JENNER will be pronounced with rapture by a grateful world. I would rather be Dr. Jenner than any man who has been born during the last thousand years.

My observation furnishes me with nothing to add to the many valuable works upon this disease which have already appeared.

CHAPTER IX.

Syphilis.

Morbus contagiosus, post concubitum impurum et genitalium morbum, ulcera tonisillarum ; cutis, præsertim ad marginem capillitii papulæ corymbosæ, in crustas et in ulcera crustosa abeuntes ; dolores ostocopi ; exostoses.

Cl. iii. O. iii. G. lxxxv. CULLEN.

THE remedy for syphilis is well known. Mercury, judiciously administered, is an invaluable medicine, but if given improperly, or in too great quantity, it is frequently productive of greater evils than it is intended to remove.

In a work professedly a " Compendium," it cannot be expected that I should enter into the history and description of a disease, which it would require volumes properly and sufficiently to detail. I shall therefore content myself with a few general observations.

Mercury is the only certain remedy for syphilis: but I feel persuaded that ten times as much of it is frequently given as is necessary for the cure of the disease in any form. If we excite and keep up a *slight* mercurial action for a sufficient length of time, the disease will be certainly cured, without any injury to the constitution. Violent salivation is never necessary, is often prejudicial, and not unfrequently destructive. In scrophulous habits, more particularly, we ought to be very guarded in our exhibition of it. On some persons, a small quantity of this metal will produce very violent effects. As we are not in possession of a knowledge of the peculiarity of constitution upon which this susceptibility depends, after having slightly affected the mouth, we ought to lay it aside for a few days, till we have ascertained that it will not produce these powerful effects upon the person under our care, before we venture to proceed with it.

One of the most common injurious effects of too much mercury, is ulceration of the throat; with destruction of the palate, and of the bones of the nose. I believe these parts are more frequently destroyed by mercury than by the venereal virus. Unfortunately, a syphilitic ulcer in the throat, and an ulcer produced by the excessive use of mercury, bear a very strong resemblance to each other. I know of no decisive marks of distinction. As a general rule, if an ulcerated throat of long standing presents itself, where mercury has not been given in excess, we may conclude that it is of venereal origin; on the other hand, if we meet with it after mercury has been largely and repeatedly used, we shall be justified in suspending its further exhibition for a season.

I have one remark to add, with respect to the use of mercury. Children will take an immense quantity of it, without the salivary glands becoming affected; we ought

not, however, on this account to give it incautiously; for it will sometimes happen, that, without salivation, the parotid duct will be excited by it into violent inflammatory action, in which the parotid gland and the whole cheek will be speedily involved, and sphacelus, or a rapid ulceration, will be the consequence. I have seen both cheeks entirely removed by this process. Nothing with which I am acquainted has the slightest tendency to check its progress.

CHAPTER X.

Erysipelas.

Synocha duorum vel trium dierum, plerumque cum somnolentia, sæpe cum delirio. In aliqua cutis parte, sæpius in facie phlogosis *erythema*.

Species sunt.

1. Erysipelas (*vesiculosum*) erythemate. rubedine serpente, latum spatium occupante, et locis ejus quibusdam in vesiculas magnas abeunte.

2. Erysipelas (*phlyctenodes*) erythemate ex papulis pluribus, trunci corporis partes præcipue occupantibus, et protinus in phlyctænas, sive vesiculas parvas abeuntibus.—Cl. i. O. iii. G. xxxi. CULLEN.

THIS Hospital has, during nearly five years, been occasionally infested with an erysipelatous inflammation, of a very malignant description. In some cases it arises without any assignable cause, and a few patients have been admitted with the disease upon them; but by far the greater number were attacked with it in the surgical wards after admission. The patients most liable to its attack are those who have recently undergone operations: those with ulcered legs, or any open wound or ulcer, are, however, liable to it. Patients in the medical* wards are sometimes attacked with it after venesection, bleeding from the temporal artery, making of setons or issues, and the application of leeches. I believe the

* The medical and surgical patients are kept perfectly distinct from each other in this Hospital; an arrangement so judicious, that it is to be regretted it is not universally adopted.

first cause occurred in a medical ward. The subject was a young woman, by the name of Grace Hansford, who was bled in the temporal artery. This girl was removed to a surgical ward, for the purpose of being trephined*, and very soon afterwards the disease made its appearance among the surgical patients.

The course which the disease usually observed is the following. Two or three days after an operation, the edges of the wound became thickened, and slightly elevated. From these edges a dusky erythema spreads with great rapidity, and speedily covers the whole limb, or the greater part of it. This redness is accompanied by an intense degree of heat upon the surface of the body, and great swelling of the whole limb. When the disease proceeds from an incision made for the purpose of opening the temporal artery, the whole face is in less than twenty-four hours, completely disfigured by it. The parts upon which the inflammation is seated feel harsh, hard and unyielding. Together with the local inflammation, great constitutional irritation is experienced. The pulse is full, hard, and rapid; the tongue becomes brown, and thickly coated; and towards evening, and during the whole night, there is delirium. This symptom is almost uniformly present when the inflammation is upon the face, scalp, or neck.

The most common terminations of this affection are, resolution; a fever resembling typhus; gangrene and internal hydrocephalus. In a few cases it has ended in suppuration. Vesicles rarely form.

Examination after death shews that the inflammatory process is not confined to the cutis. It involves not only the cellular membrane surrounding the limbs, but passes with it between the muscles. The muscles are in fact dissected by it, and can be lifted from their nidus without the assistance of a scalpel. The brain always exhibits

* This is the case alluded to when treating of Affections of the Scalp.

traces of excessive vascular action. Its vessels are over-distended with blood; lymph and serum are deposited upon and between the arachnoid coat and dura mater, and at the basis of the brain; and sometimes the lateral ventricles are filled with serum.

Treatment.

Till the great fatality* of the disease afforded frequent opportunities of ascertaining its nature, a very erroneous treatment of it was adopted. As in its latter stages it most commonly assumed a typhoid type, it was regarded as a disease of debility, and bark, wine, and other stimulants were freely administered, under an impression that by such means debility could be obviated. Unfortunate mistake! Three cases in succession having terminated fatally, and an opportunity of ascertaining the precise state of the brain being afforded, an opposite line of treatment was resorted to. Blood was taken largely from the arm, and active purgatives freely administered. The present Matron to this institution is a living witness of the efficacy of this treatment. She is the first person upon whom it was tried. Since it has been pursued in the medical wards, we have not lost a single patient by the disease. Advantage will be derived from keeping up a constant evaporation from the inflamed parts by means of alcohol and water.

* Not less than thirty patients have fallen victims to it.

SECTION VIII.

GENERAL AFFECTIONS.

CHAPTER I.

Diseases of the Skin.

THE works of the late Dr. Willan and of the present Dr. Bateman have almost superseded the necessity for any further description of diseases of the skin. Much more has been written than is *practically* useful. The only distinction which I have found it necessary to make, is between cutaneous eruptions of an indolent nature and those which are active and irritable. The former will require stimulating applications; the latter such applications as have a tendency to allay irritation. Mercurial preparations are best adapted for the former; for the latter nothing will be found more efficacious than an ointment which has henbane for its basis. Sulphur will not only cure scabies, but an immense number of anomalous eruptions. Alteratives (as they are called) are sometimes useful, either by exciting an increase of action upon the skin, or by increasing the secretion of the liver.

CHAPTER II.

Anasarca.

Corporis totius vel partis ejus intumescencia mollis, inelastica.

Cl. iii. O. ii. G. lxxv. CULLEN.

WHEN œdematous swellings upon the extremities, are the mere consequences of debility, at the same time that we endeavour to renovate the system, advantage will be

derived from the application of rollers to the distended limbs. When it is a symptom of effusion into the abdomen, or thorax, or some visceral disease, it will be found most advisable to leave it to itself, and direct our whole attention to the cause upon which it depends. Practitioners should be particularly cautious how they make scarifications, more especially upon the scrotum. I have never seen them upon any part of the slightest service; but when made upon the scrotum, they have almost uniformly occasioned mortification, and the speedy death of the patient.

CHAPTER III.

Sphacelus.

Post gangrænam pars nigricans, flaccida facile lacerabilis, sine sensu vel calore, et cum fœtore carnis putridæ; vitio celeriter serpente.

Cl. i. O, ii. G. vii. CULLEN.

MUCH has been written with respect to sphacelus, and a great difference of opinion still exists as to the most judicious mode of treating it. The stimulating plan is that which has the greatest number of advocates. No sooner is a part threatened with mortification, than the patient is desired to take bark, wine, and a variety of other stimulants, and the diseased part is often powerfully excited by irritating applications. Dreadful are the evils which I have seen occasioned by this practice. It must be remembered that sphacelus, whether arising in vigorous or debilitated patients, is the consequence of previous excessive vascular action; we must therefore endeavour to moderate the action of the diseased part itself, whether in vigorous or debilitated persons.

The constitutional treatment of the patient must be regulated by the degree of constitutional vigor or debil-

ity. When a patient of a vigorous habit is threatened with mortification, there is always a powerful constitutional reaction. At the same time that we endeavour to diminish the action of the inflamed part, we must have recourse to blood-letting, and other means of general depletion. When persons whose habits are much debilitated are threatened with it, at the same time that we endeavour to diminish the local irritation, we must invigorate the powers of the constitution. This latter end will be best attained by giving jellies, broths, and other aliments, made *palatable* only by wine or spices. It is the introduction of a nutritious food into the system, that alone imparts real strength to it. Alcohol, instead of giving vigor, by its excessive excitement is a certain means of inducing indirect debility.

In as few words as possible, I will sum up all that I have seen it necessary to observe in the treatment of sphacelus. When any part is threatened with it, in a strong constitution, we must allay the local inflammation, and pursue a strict antiphlogistic regimen; in debilitated habits, we must endeavour to impart vigor to the system, at the same time that we allay the local irritation.

CHAPTER IV.

Scrophula.

Glandularum conglobatarum, præsertim in collo, tumores; labium superius et columna nasi tumida; facies florida, cutis levis; tumidum abdomen.

Cl. iii. O. iii. G. lxxxiv. CULLENT.

It has been stated in the early part of this volume, that a scrophulous enlargement of the glands of the mesentery is occasioned by the irritation produced by an impure or imperfectly formed chyle. If the materials of which the whole animal fabric is constituted be of a

bad quality, when, in the ordinary course of solution and absorption, they are removed by the absorbents, they will again irritate and inflame these vessels, and the glands attached to them. Scrophula may therefore be said to originate in an imperfectly formed chyle, or a chyle constituted of improper materials. The enlargement of the absorbent glands is merely a consequence of irritation.

Treatment.

The remedies recommended under the articles *Hydrocephalus Internus*, *Tabes Mesenterica*, and *Diseased Spine*, for the purpose of improving the vigor of the constitution, must be employed.

CHAPTER V.

Rheumatismus acutus.

Morbus ab externa, et ple rumque evidente causa; pyrexia; dolor circa articulos, musculorum tractum sequens, genua et reliquos majores, potius quam pedum vel manuum articulos, infestans, calore externo auctus.

Cl. i. O. ii. G. xxii. CULLENI.

A GREAT number of cases of acute rheumatism are annually admitted into this Hospital. Nothing has been found so effectual for their relief, as copious venesection. When twenty, thirty, or forty ounces of blood have been taken away for three or four days in succession, cases of the most violent description have been very speedily cured. Cases of the same description, treated with antimonials, the compound powder of ipecacuanha, and other sudorifics, have been as generally very slow of recovery; and it not unfrequently has happened, that there has been a metastasis of the disease to the heart.

Besides venesection, active purgatives have been employed. The keeping the inflamed extremities moist-

ened with a cold acetous or spiritous lotion has in some few cases been found of great service. When cold applications are made use of, care must be taken that the evaporation be uniformly kept up. If wet cloths be applied, and allowed to become frequently dry, they will be productive of much mischief. As far as my observation extends, bark has generally been injurious.

Rheumatismus Chronicus.

The arsenical solution, the warm bath, and active purgatives, have been found amongst the most powerful remedies for the removal of chronic rheumatism. When these means fail, the disease may be sometimes cured by exciting a slight mercurial action in the system.

Cases, which had long resisted every plan of treatment that could be devised, have at length been cured by giving a scruple of calomel twice a week. I never saw any ill effects follow the use of so large a dose of this preparation. The first and second doses generally operate as brisk purgatives, and will sometimes induce a little vomiting; the subsequent doses act as mild aperients. They seldom procure more than two or three evacuations; but these are extremely fetid and of a dark colour. As soon as the gums become slightly affected, they must be discontinued for a week or two. It has been before observed, that there are some habits upon which mercury acts immediately and powerfully, before we venture upon a second dose, we ought therefore to wait till we have ascertained that such a constitutional idiosyncrasy does not exist.

NOTES.

PAGE 5. *Painful Affections of the Scalp.*

THERE are no cases so insidious in their attack and progress, as those from wounds and bruises of the scalp and head. The author has been much too brief in his observations upon them and does not refer sufficiently to the causes of them. He very properly directs to the invaluable work of Abernethy on the constitutional origin and treatment of Local Injuries, for more full information respecting them. But these works are not in the hands of every practitioner. And, in a work of reference, like this, it will be expected by the readers, that some particular observation will be made, by which they will be able accurately to determine the nature and seat of the complaint, as well as the treatment of it.

A man receives a severe blow upon his head, either by an obtuse instrument or a fall. He may, at the time, be seriously affected by it, or he may not. If he is much affected the whole system may be thrown into disorder by the shock; a general state of stupefaction may follow; he may become comatose and lethargic; the pupils of his eyes may be dilated, and the iris insensible to the influx of light; his breathing may be stertorous, as in apoplexy; his pulse may be feeble, or it may be irregular, or intermittent; he may have nausea and vomiting, with all the train of symptoms attendant upon concussion or commotion of the brain.

All these symptoms may follow a severe blow upon the head, and no external mark be found upon it. After the use of stimulants, if the above symptoms are present, to restore the re-action of the blood vessels and of the nervous system, blood-letting almost *ad libitum*, should be resorted to. This sometimes restores the patient for a season, and sometimes permanently. We may add that active cathartics may, at the same time, be had re-

course to. At other times, this treatment is of no avail, and he falls a sacrifice to the injury received. When he has recovered from the shock, he feels safe, and goes about his business. Months, and sometimes one, two, or three years elapse and no disease discovers itself in the system. But future danger is to be apprehended. The patient may be suddenly taken with violent pain in the head, vertigo, nausea and vomiting, chills, and feverish flushes, and a long train of symptoms, which, if not immediately attended to will speedily terminate in death. Upon examining the head, a small puffy tumour, such as is described by the author, will be discovered, which not unfrequently contains matter. Now is the time to take the alarm, for if the operation of trephining be not immediately resorted to the patient is gone. Unfortunately it is often too late to resort to the operation with success after this puffy tumour is discovered. Upon dissecting into it, the pericranium, immediately under the scalp, is found to be destroyed; the external and internal tables of the skull are most frequently found carious; the dura mater detached, sometimes in a state of decomposition; and sometimes the brain itself immediately under the tumour, is putrid. Paw relates the case of a person, who was struck, while drinking with another, with a pewter pot, over the right parietal bone. He walked and was very well, till ten months afterwards he was taken with a vertigo, in walking, and expired in a very little time. After opening the cranium in the affected part, the bone and the dura mater was found perfectly rotten and fetid. Numerous such instances are found in the records of Surgery.

I have recently prescribed for a patient, who, two years ago received a blow with an axe, upon the frontal bone, immediately over the eyebrow. His hat, in some measure, protected his head, or he would, probably,

have been killed by the blow. He was stunned by it, but soon recovered from it. The wound was scarcely perceptible. He felt no bad effects from it, till a year and a half afterwards, when taking cold the digestive organs became affected, and soreness and pain in the wound followed. Every time he takes cold, his head is severely affected, and once or twice great febrile action has been excited, and derangement has followed. Bleeding extensively, purgatives, and the antiphlogistic regimen are the appropriate remedies.

But these affections of the scalp often produce this direful train of symptoms, even when they are at first trivial. The pericranium is often separated from the bone, or the dura mater detached, which deprives the bone of nourishment; it becomes dry and dies. But even if the pericranium be not detached, matter from bruises sometimes forms between the external integuments and the pericranium. This matter must discharge itself somewhere, or affect the pericranium, the bones, or the dura mater.

Even the slightest wounds of the external integuments may produce the most alarming symptoms. John Bell says:—"life is more frequently endangered, by a laceration of the integuments, by a mere contusion, or by an imperceptible separation of the dura mater, than by the broadest fractures. From the slightest injury of the most remote of the integuments of the brain, there often ensues, slowly, imperceptibly, and at a distant and unsuspected period, suppuration of the brain itself. A wound of the integuments, naturally slight and void of danger, may, by misconduct, cause, not merely caries of the bone, but suppuration of the brain."

From my manuscript lectures upon Medical Jurisprudence, I extract the following observations:—"Injuries of the scalp are frequently dangerous as they may affect the important nerves, blood-vessels, the pericranium, &c.

The pericranium sends vessels to the bones of the cranium, and also receives others from those bones whereby it is connected to them, so that the vital influx and afflux of the juices to and from the bones of the cranium, and especially their internal table, depends on a sound state of the pericranium. This membrane, therefore, being injured, will readily communicate its disorder to the bones of the cranium, and also to the dura mater, especially near the sutures, where there is a manifest and reciprocal intercourse of vessels betwixt those membranes." I have never seen these affections of the scalp, which the author mentions as arising spontaneously without any known cause. From the manner in which they present themselves, it is probable they are in consequence of some injury received at some distant period from the time of the attack.

From what has been said we may infer how manifestly improper it is to divide the integuments of the skull, in cases of injuries of the head, unless there is a probability that the operation of trephining will be resorted to. The time, I trust, has passed away, when a simple fracture of the skull, or even a fracture with considerable depression, will alone justify the operation. I know there are those, who resort to the operation of trephining in every case of depression and even fracture of the skull, for fear of future danger. I have seen several large and deep depressions of the skull, where the injury was received twelve or fifteen years since, when the patients had nothing more done for them than copious bleeding, and powerful evacuations at the time, and no bad effects have resulted from the wounds. The depression still remains. Numerous such instances are mentioned by surgical writers. I feel myself so perfectly shielded by their, and my own observations, that I am ready to meet any gentleman in fair debate, who chooses to take up the opposite side of the question. And here I throw the gauntlet. It is seasonably enough to

operate when alarming symptoms present themselves. As the author has referred to the writings of Abernethy, on this subject, I will take the liberty of referring to the luminous writings of John Bell, on injuries of the head, than which a more able treatise is not to be found in the English language. Even Van Sweiten on injuries of the head may be read with great advantage.

PAGE 6. *Tinea Capitis.*

It is highly probable that this complaint is many times constitutional. At least constitutional symptoms often present themselves, so that the complaint cannot be removed without a resort to internal remedies. After a thorough evacuation of the stomach and bowels, I generally resort to antimonials, and sometimes to mercury in alterative doses, which I sometimes continue till the glands are affected. Cleanliness is absolutely requisite. After shaving the head, and washing it frequently in warm soap suds. I know of no better local application than the White Ointment, prepared according to the following formula :—

R. Merc. Praec. Alb. dr. ii.
Hydragyr. Muriat. gr. x.
Axung. Porcin. oz. iii.
Essent. Burgam. dr. ii.

An ointment prepared from the root of the *Phytolacca decandra*, or poke root, is said upon the authority of Professor Smith, of New-Haven, to be very efficacious. As this disease is highly contagious, care should be taken that the heads of the uninfected should not be combed with the same comb that is used for the diseased, as the disorder is often communicated in this way.

PAGE 8. *Hydrocephalus Externus.*

I have seen one case of this complaint in an infant, aged one year. The head was monstrously enlarged,

and all the sutures of the cranium were separated, some of them to the distance of one or two inches, and the water had separated the external integuments of the head from the skull. The attending physician punctured the skin with a lancet, and suddenly drew off the water. The child, I understand, expired in 24 hours after the operation. This note is given to warn physicians of the impropriety and danger of this operation.

Quere. Although this complaint has uniformly proved fatal, may not the operation of *acupuncture*, with a very fine needle, as in *Hydrocephalus infantum*, and *spina bifida*, alleviate some of the symptoms attendant upon it, and prolong the life of the patient?

Since writing the above I have perused the following statement from the Salisbury Journal, which I think well worthy of insertion in this place. "An extraordinary case of Hydrocephalus or water of the brain is just now exciting the interest of the medical gentlemen of Salisbury. The head of an infant, before any operation was performed, at the age of six months (now only seven) was of the following extraordinary dimensions: Round the forehead and back part of the head 30 inches, and from ear to ear, across the vertex 24 inches; which measurement will be better understood by stating that the larger circumference of the adult head averages but 22 inches, and from ear to ear but 12; and of a healthy child of six months old the largest circumference averages 16, and from ear to ear 9 inches. The infant, belonging to respectable parents, is under the immediate treatment of one of our surgeons, and is submitted to a novel practice, viz. the removal of the water by degrees, through means of an operation, and at the same time the employment of pressure. The infant has undergone the operation five times, and 110 ounces of water (nearly seven pints) have been removed. The present state of the infant, and the effects of the operation

and treatment are such as afford well grounded hopes that for this disease, hitherto considered hopeless, a remedy has at length been found."

PAGE 61. *et sequentia. Digitalis in Hæmoptysis and in Phthisis Pulmonalis.*

The medical world is much divided in opinion, in regard to this powerful article of the *Materia Medica*. Many of the observations of the author on this subject are judicious and pertinent, while some of them, in my opinion, lead to an *excessive* caution in the use of this drug, and may deter some from resorting to an article, which, in many cases, will be almost, as he says of bloodletting, a sheet-anchor. I certainly have seen the digitalis given in large, and increasing doses, for a great length of time, in pulmonary phthisis, without the least possible benefit, and this too in a great variety of cases. I have no faith to believe that it will ever cure consumption, particularly the tincture of it, nor should I ever use it in this affection. It seemed to have been a favourite remedy with one of the attending physicians of the New-York Hospital in the year 1813—I saw it pushed to its greatest extent there in several patients, and for a long period, but I do not recollect to have seen it produce any effect upon the pulse, certainly not towards diminishing it in frequency, or force. Nor do I remember to have seen any benefit whatever resulting from the use of it. Neither do I recollect to have seen it produce any deleterous effect upon the system, notwithstanding the long continuance of the use of it.

It is a medicine, when the dose is properly regulated, which may be given with the greatest safety, and frequently with the best effects in asthmatic and dropsical affections; and perhaps the administration of it ought to be limited to these cases. It is certainly a most powerful diuretic, and combined with squills, and some-

times with calomel. I have seen it cause the discharge of enormous quantities of water from the abdomen, in cases of ascites, and remove every vestige of the complaint, even when the water had accumulated in sufficient quantity to warrant the operation of paracentesis. But I conceive that the best form of administration is an infusion of it, or the powder of the leaves, in substance.

The author bears testimony in favour of it in dropsy; but there is some reason to believe that all his observations upon it, are not founded in fact. The same objection may be brought against ipecacuanha, squills, and tartarized antimony, which he would substitute, and there is as much reason to believe, that these have "hurried thousands to their graves," as that digitalis has. Yet, who would abandon these most useful medicines, because they have been abused.

It is doubtful whether the observation is correct that "when the habit is once brought under its influence, it will continue an indefinite period." Many cases could be mentioned where its influence subsided, soon after ceasing from the use of it. Indeed, it is not believed, that its effects are so permanent as those from the use of mercury. The author says:—"Should the effect produced be too powerful, we are without ability to moderate it." Paris, who is the best authority to whom I can refer, says, the distressing effects of an over-dose may be counteracted by tincture of opium in brandy and water, and by the application of a blister to the pit of the stomach, and speaking of the infusion he observes, "we shall counteract its effects by endeavouring to obviate its nauseating tendency by brandy and water, &c." Blackall agrees with Paris on this subject.

Although I have been in the habit of using digitalis freely, I have never seen any of the alarming effects mentioned by him. I have one patient who has used it, combined with tincture of *Lobelia inflata* and Elixir

Paregoric, for asthma, daily, for a year, and kept about his usual employments on a farm, yet, I have not seen his life "in continual jeopardy," nor do I believe that the "incautious or accidental elevation of his body will destroy him." Neither do I fear in this case, although he has taken it so long, "its presence will be suddenly manifested, and perhaps so powerfully, as to extinguish the vital spark."

Dr. Withering, who has written an able treatise upon the digitalis, directs one drachm of the dried leaves of the digitalis, purpurea to be infused four hours in a half a pint of boiling water, adding to the strained liquor half an ounce of any spirituous water; and an ounce of this infusion to be given twice a day to an adult. If the patient be stronger than usual, or the symptoms very urgent, the dose may be given once in eight hours.

The following formula for a tincture of it, is highly recommended to the consideration of the learned College of Physicians, for insertion in their Pharmacopea, by Dr. Maclean, of Sudbury, (Eng.)

R. Folior. digital. purpur. recent. oz. iv.

Spts. Vin. rect. oz. v.

Digere dies septem leni calore, dein. cola.

This makes a beautiful dark green tincture.

OR

R. Fol. digital. purpur. recent. exsic. oz. i.

Spts. Vin. ten. oz. vii. M.

Digere leni calore per dies septem et cola.

In Dropsy, a single grain of the powder, the fibres being carefully excluded, is a medium dose for an adult to begin with; and taken morning and evening with a little confect. aromat. has frequently evacuated the water in general anasarca, in 48 hours. A grain and a half may, however in general be begun with, twice a day, increasing half a grain a dose every second day, until some effect be obvious. The leaves when dry,

should appear green, and have a flavor like sound fresh hay.

Dr. Maclean has used the digitalis in more than two hundred cases, and he never observed any fatal case, nor any very "dangerous or deleterious" effects from it; nor has he seen alarming symptoms from it, except in two instances, where from neglect it was increased after the habit was under its full dominion. He says "I will continue to affirm with confidence, that any serious consequences that have arisen, or may arise from it, have been or will be from inattention to its effects; as it invariably gives full warning of its deleterious qualities. The most valuable medicines in our possession, or even the most salutary substances will prove injurious, if administered to excess. It is unfair to argue of the use of any substance from the abuse of it. Opium, tartar emetic, the active preparations of mercury, and many other valuable remedies, are destructive poisons if administered in undue quantities.

PAGE 114. *Effects of Arsenic on the Stomach.*

Arsenic is sometimes taken in large doses, for the purpose of destroying life, and sometimes people swallow it by mistake. It is often extremely difficult to detect it, or to determine the cause of the complaint of the patient, or his death. As little can be determined in relation to this subject, from the case related by the author, I have thought it advisable to give the symptoms resulting from an overdose of this poison, the appearance of the body after death, the remedies for it, and the most certain test. These are principally taken from my lectures upon Forensic Medicine.

The symptoms from the poison of arsenic are great heat in the mouth; the teeth become affected; a pricking and burning sensation in the stomach; violent gripings in the bowels; vomiting succeeds, and the stomach

and mouth become corrugated ; an unquenchable thirst ; anxiety ; strictures in the region of the præcordia, and restlessness. In those who die, great fever, hiccup, inflammation of the stomach and intestines, terminating in mortification. The discharge from the stomach is black and fetid, and death soon closes the scene. From some cause or other the genitals in men quickly mortify from the poison of arsenic. The time which it takes for this poison to destroy life, differs in different subjects, in proportion to the quantity taken, the predisposition of the system to disease or to the fulness or emptiness of the stomach. Sometimes death is induced under all the above excruciating agonies in four hours. Oftentimes it is 48 hours, and sometimes longer in bringing on the fatal catastrophe. From some observations of Mr. Brodie, read before the Royal Society, it would seem that death from arsenic is not induced, from inflammation of the stomach, but that the symptoms to be referred to it may be ascribed to the influence it has upon the nervous system, upon the heart, and upon the alimentary canal ; and this opinion seems to be corroborated by numerous dissections.

According to Dease, the body of the person who has died from the poison of arsenic, “turns suddenly putrid, and becomes horribly inflated ; the head, tongue, and fauces, monstrously swelled and black ; the whole carcase emits the most horrid stench, and the scarf-skin peels off on touching it. The stomach appears inflated, often inflamed, with gangrenous spots, or rather suffusions, here and there spread over its surface and the blood-vessels distended. When opened, the villous coat has all the appearance of having suffered great inflammation, often an eschar is observed, encircled by an inflammatory ring. An inversion of the alimentary canal is also frequently seen.

Remedies.—Professor Stringham relates the follow-

ing anecdote, which would seem to shew that spirit is one of the best remedies for the poison of arsenic. "A person with the intention of poisoning his wife, infused arsenic in her food. Soon after eating, she complained of intolerable thirst, and begged of her husband to give her a glass of spirit, which he did, and infused more arsenic in it. She drank it and immediately her thirst abated, and she soon recovered."—I have no experience of the efficacy of this remedy. The means on which I should place the most dependence, are, an emetic of sulphate of zinc, followed by purgatives, and a solution of gum arabic or tragacanth. After this, sulphuret of potash, or liver of sulphur, scr. i. dissolved in a pint of water. Some recommend in the second stage, a milk diet, electricity, and the mineral waters.

Arsenic, although one of the lightest of the metals, is nevertheless ponderous, and the white powder, when taken in any quantity, may sometimes be found adhering to the villous coat of the stomach. It may be washed from the other substances of the stomach and bowels, by water, or by spirits. When we are called to examine the body of a person suspected to have been poisoned by arsenic, we should examine all the phials or vessels, near the body, or in the house where he is sick or where he died, as also loose pieces of paper. We may sometimes discover some remains of the poison in some of them. We should, if possible, save what was ejected from the stomach, and what was discharged from the bowels, in separate vessels. We should likewise separate the more solid contents which may be found in the stomach, from the liquid, and put them into separate vessels, and repeatedly wash them in cold water, and filter them upon blotting paper, and subject the residuum to chemical tests.

Arsenic is a poison which has so frequently been employed for the commission of suicide and murder, that

the attention of medical men and chemists has been directed for centuries, towards the discovery of a test for it; and from the great variety which have been palmed upon the world as absolutely certain, one would suppose that there would be no difficulty in immediately detecting it. The reverse, however, is the fact; and notwithstanding all that has been said upon the subject, we have not, till lately, absolutely known any infallible tests which would detect it in small quantities, and in a liquid form. I shall pass over the tests of Marat and Phillips, by means of the nitrate of silver, and several others, as according to my apprehension, they are not so delicate and certain, as the one discovered by Judge Cooper, and by him communicated to the American Philosophical Society. Here, perhaps it may be made a question, whether any thing ought to be received as positive proof, but the production of arsenic in its metallic form. The contents of the stomach must be repeatedly washed in cold water, and the water suffered to remain at rest. The arsenic, from its gravity and insolubility, will subside to the bottom in white powder. It requires 80 parts of cold water, completely to dissolve one part of arsenic. The water is carefully to be poured off, and if the powder is in very small quantity the water is to be preserved for examination.

The test of Cooper, which I consider the most perfect, delicate and proper, is:—Take a conical wine-glass, or watch-glass, or a bright piece of a pane of glass. Put on it the 16th of a grain of white arsenic, or any portion of a grain that may be visible to the naked eye; drop on it one or two drops of chromate of potash, where the excess of the alkali has been neutralized by nitric or acetic acid, according to the usual processes of the manufacturers of the chromate of lead. In three hours the arsenic will give a decided green tint. The arsenious acid, or white arsenic, attracts oxygen from the chromic

acid, which is thus converted into a green oxyd and precipitates ; the alkali combines with the acid of arsenic.

Several other topics might be enlarged upon. It is much to be regretted that the author has been so brief in his observations on many important diseases. Were he to review his work, and give us a second edition, he would undoubtedly improve upon it. So much more might be said upon most of the subjects upon which he has treated, that I hardly know where to begin, or where to stop. It would be easy to enlarge upon them, and swell our observations to the size of a volume, but perhaps it is best to stop *in limine*. We should have been pleased to have seen his physiological observations, so novel, and yet so pertinent, extended. Some farther observations on his practice, which in some cases is new, and in others bold and decisive, would have been highly satisfactory.

We admire his candour in his closing observations upon Phthisis Pulmonalis. But from this ingenuous confession, which is unquestionably true, let it not be supposed that nothing can be done to alleviate the symptoms attendant upon this most distressing disease. It is already too common to leave the unfortunate sufferer to his fate. Much may be done in this respect by the judicious application of medicines. Physicians may be deceived in the time in which the lungs become ulcerated or tuberculated, and this *opprobrium medicinæ*, may often be warded off by vigorous and active treatment at the commencement of the complaint.

We had hoped to have discovered a remedy in this work for that most horrid complaint the epilepsy. But from our author's confession we are apprehensive that we must long remain in the dark on this point. From the favourable results which have followed the use of oil of turpentine, in several cases, and the acetate of lead in others, according to the suggestion of Dr. Rush, we can-

not but hope that this complaint is disarmed of many of its terrors; and perhaps future trials will prove they will be prophylactic, especially in those cases which are not in consequence of injuries of the head, or organic affections of the brain.

We could have wished that the observations upon diabetes had been more full. The practice of blood-letting in this complaint, we believe, is of recent origin. It is much to be hoped that it will be extensively beneficial, but we have too much reason to fear that it must be ranked with the consumption, among the incurables.

Had not his observations upon menstruation been so brief, they would have been more satisfactory. The train of diseases frequently following a derangement of this salutary discharge, often baffles all the skill and discernment of the most judicious physicians. These derangements are very frequently the précurors of Phthisis Pulmonalis, and will probably explain the cause, why females are more subject to this complaint than men. How frequently do we see a suppression or retention of the menstrual flux, followed by a severe cough and hæmoptysis, and if the natural discharge is not soon restored, the lungs become permanently affected. We could dwell upon this point with pleasure, but the limits allowed us will not permit.

Let it not be thought, from the above observations, that we are fastidious and disposed only to cavil with the author. On the contrary, we consider his work the most perfect compendium of practical facts, which has recently appeared, and which have been noticed by an individual, and as such we heartily recommend it to the consideration of the faculty, as a luminous display of erudition, and profound practical knowledge.







