The surgeon's vade-mecum : containing the symptoms, causes, diagnosis, prognosis, and treatment of surgical diseases ; accompanied by the modern and approved methods of operating, select formulae of prescriptions, and a glossary of terms.

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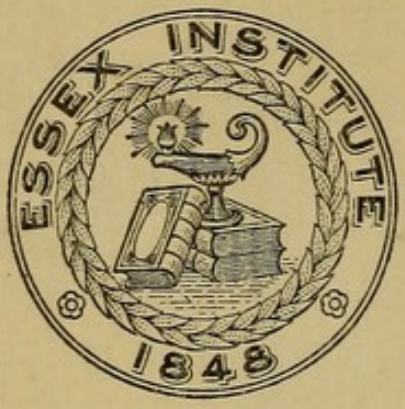

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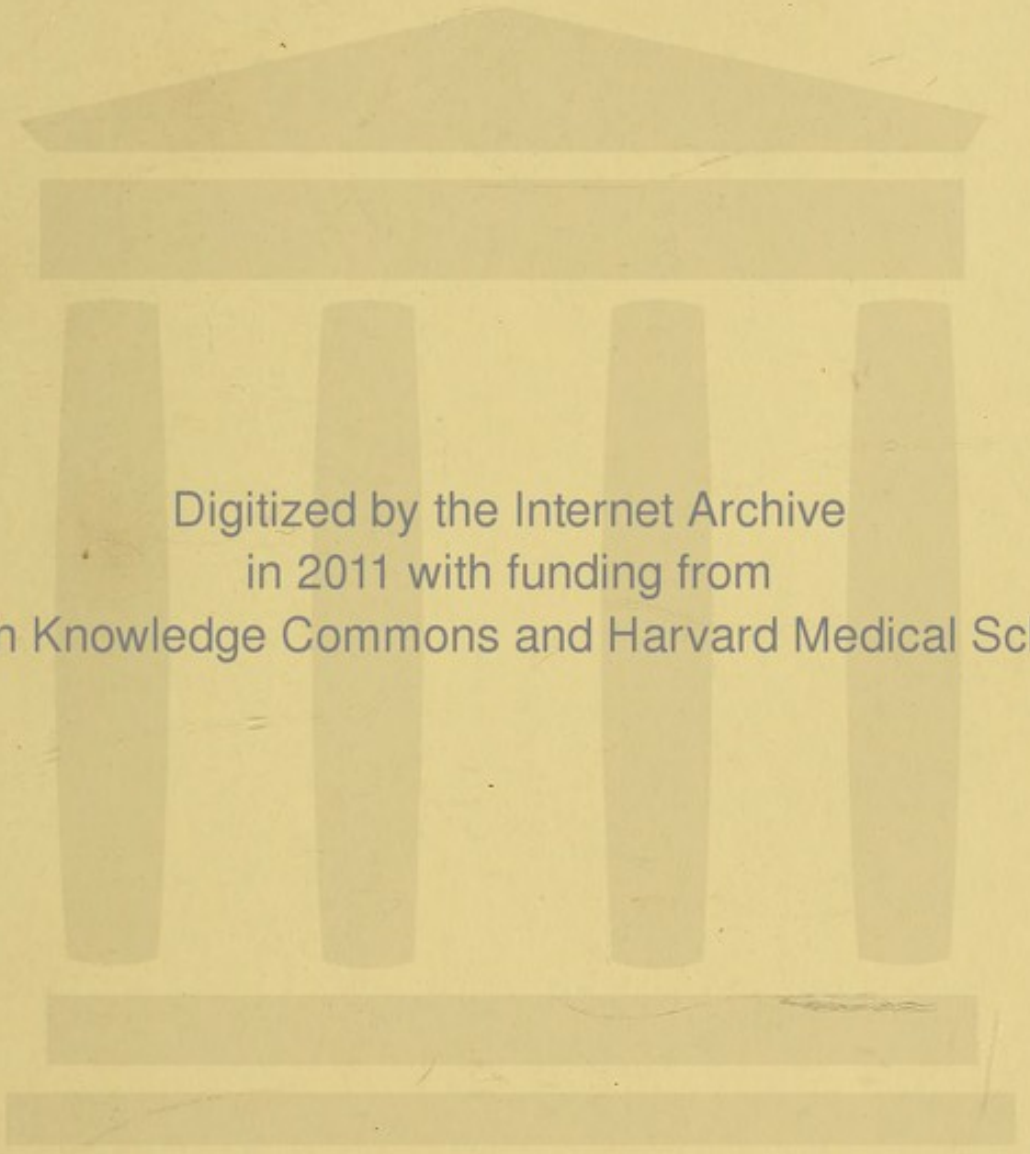
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THE

SURGEON'S

VADE-MECUM.

S. Gosnell, Printer,
Little Queen Street.

THE

SURGEON'S

VADE-MECUM:

CONTAINING THE

Symptoms, Causes, Diagnosis, Prognosis, and Treatment

OF

Surgical Diseases.

ACCOMPANIED BY

THE MODERN AND APPROVED METHODS OF OPERATING,

Select Formulæ of Prescriptions,

AND A

GLOSSARY OF TERMS.

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TO

HENRY CLINE, ESQ. F.R.S.

SENIOR SURGEON TO ST. THOMAS'S HOSPITAL;
LECTURER ON ANATOMY AND SURGERY,
&c. &c.

THIS WORK

IS RESPECTFULLY INSCRIBED,

AS A TESTIMONY OF GREAT RESPECT

AND ESTEEM,

BY

HIS OBEDIENT SERVANT,

THE AUTHOR.

TO

HENRY CLINE, ESQ. F.R.S.

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THE AUTHOR.

PREFACE.

THE writer of this small volume, containing a compendium of Surgery, has been induced to present it to the public, as a companion to the ANATOMIST'S and PHYSICIAN'S VADE-MECUM, and it is accordingly conducted on the same plan.

The arrangement of the diseases is such as is most generally adopted in works on Surgery. The definition of every disease is first given. The various causes by which it is produced immediately follow. The diagnostic and prognostic symptoms precede the cure, which contains the modern and most approved methods of operating, and the best remedies.

Throughout the whole, the author has aimed at brevity and perspicuity; and he trusts the student and

young practitioner, for whom it is principally intended, will find he has not been inattentive in selecting the opinions of the most eminent surgeons in Europe.

The work concludes with a short explanation of terms.

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THE

SURGEON'S VADE MECUM.

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OF INFLAMMATION.

CHARACTER.

PAIN;—increased redness and heat;—swelling;—tension.

Species.
1. Phlegmonous.
11. Erythematous, or Erysipelatous.

OF PHLEGMONOUS INFLAMMATION.

SYMPTOMS.

Phlegmonous inflammation usually comes on with itching and dryness in the affected part; which symptoms are shortly succeeded by increased heat and circulation;—circumscribed tumefaction;—shooting and throbbing pains.

If the inflammation run high, and be of considerable extent, an increased action of the heart and arteries takes place; the pulse becomes full, hard, and quick; the skin dry and hot; great thirst arises, and a feverish disposition ensues; the tongue is white; the urine high coloured; and the blood, when drawn from a vein, exhibits a glutinous separation upon its surface.

CAUSES.

Stimuli, either mechanical, chemical, or nervous; as external injuries by bruises, wounds, compression, &c.—irritation produced by the presence of extraneous bodies, of whatever kind;—the application of cold;—any cause that determines an increased or irregular impetus of blood to the part; as violent exercise, certain diseases, an inordinate influx of nervous energy.

PROGNOSIS.

The prognosis in inflammation will be drawn from the violence of the symptoms; and from the seat of the inflammation.

Favourable.—The pain, heat, redness, and other inflammatory symptoms, gradually diminishing, and at length altogether ceasing (see the Terminations of Inflammation);—or the swelling becoming more circumscribed; prominent in the centre; soft and fluctuating (see Suppuration); the constitution at the same time being little affected.

Unfavourable.—Violent fever with delirium;—the inflammatory appearances suddenly ceasing; followed by the formation of blisters, discharging a thin ichorous matter; the part becoming of a livid colour, and losing its sensibility. See Mortification.

TREATMENT.

Indications.

I. To remove causes that are obvious and continue to operate.

II. To reduce the morbid action of the vessels of the part.

III. To mitigate the concomitant fever, should the system have become affected.

I.

The first indication will be fulfilled by attending to the manner in which the inflammation was excited.—To effect the removal of some causes, an incision will, under certain circumstances, become necessary; as when the inflammation has proceeded from the presence of any extraneous body.

II.

The second indication will be answered:

1. By local bleeding.

The application of leeches, cupping, and scarification of the part.

2. By sedative and refrigerant lotions, kept constantly on the part; as,

Aqua lithargyri acetati composita.

℞. Aquæ ammoniæ acetatæ,
Spiritus camphoræ, āā p. æ.

℞. Ammoniæ muriatæ ʒj.
Aceti communis ʒiv.
Aquæ distillatæ ʒxj. M.

LOTIO SPIRITUOSA

Pharm. Chir.

℞. Spiritus vinosi rectificati ʒiv.
Aquæ calcis ʒviij. Misce.

3. By æther cautiously applied so as to produce cold by evaporation.

4. By cold and sedative cataplasms.

℞. Aquæ lithargyri acetati compositæ ℔j.
Spiritus vini rectificati ʒij.
Micæ panis q. s.

CATAPLASMA LINI

Pharm. Chir.

This is made by stirring a sufficient quantity of the meal into boiling water.

CREMOR LITHARGYRI ACETATI

Pharm. Chir.

℞. Cremoris lactis ℥j.

Aquæ lithargyri acetati ℥j. M.

To be applied as a liniment, or spread upon linen.

III.

The third indication requires:—

1. General bleeding.

2. Purging with the saline purges, as magnesia vitriolata, natron vitriolatum, kali tartarisatum, kali vitriolatum, natron tartarisatum.

3. Diaphoretics, more especially pulvis antimonialis with opium, and the saline sudorifics that are recommended by medical authors against inflammatory fever.

If the pain be very severe, opium must be administered after evacuations have been premised.

OF ERYSIPELATOUS INFLAMMATION.

SYMPTOMS.

Roughness, heat, and pain, succeeded by an irregular, but circumscribed, redness of the skin; at first vivid, afterwards assuming a more dull or dusky hue upon pressure, and again returning to its former colour, when the cause of compression is removed; extending over a large surface, and as it extends often leaving, or abating in, the parts it first occupied.—The

part affected swells, but the swelling differs from that in the former species, in being general, diffused, and uniformly smooth; not consisting in a sudden and marked elevation of the integuments.—The heat is peculiarly acrid and mordent.—If the inflammation be extensive, the patient becomes affected with fever; the pulse is usually small, hard, and frequent; the tongue at first white, afterwards becoming brown.—After a shorter or longer continuance of the inflammatory symptoms, the redness diminishes, the part becomes yellow, the cuticle falls off in scales; or vesicles are formed containing a limpid, in some cases a yellowish, fluid.

CAUSES.

Erysipelatous inflammation may arise from the same causes as the phlegmonous;—it is more liable to attack women and children, and those of an irritable habit, than the plethoric and robust.—Some people are so peculiarly predisposed, that no accident, however slight, fails to induce it; and every inflammatory affection puts on the erysipelatous form.

PROGNOSIS.

Favourable.—The inflammation of a vivid red colour, and not extending over a large surface;—the fever, when the constitution has become affected, assuming the inflammatory form; the pulse being full, and not rapid; the tongue white; the strength little impaired.

Unfavourable.—The inflamed parts becoming of a dark red or rose colour, brown, or livid;—the inflammation rapidly extending;—the fever assuming the typhoid form, the pulse small, hard, and rapid; the tongue covered with a brown fur;—coma;—delirium;—great prostration of strength;—sudden depression of the swelling, succeeded by livid vesications.

TREATMENT.

Indications.

I. To reduce the inordinate action of the vessels, and to diminish the heat and other local inflammatory symptoms.

II. To moderate the feverish affection of the constitution by means appropriated to the particular form it may assume; and to obviate the tendency to gangrene, if there be great prostration of strength, by increasing the tone of the system in general.

I.

The following are the local applications most frequently employed to fulfil the first indication.

Spiritus camphoratus alone, or united with the aqua lithargyri acetati:

℞. Aquæ lithargyri acetati ʒj.
Spiritus vini rectificati ʒiv.
Aquæ distillatæ ʒvj.
Fiat lotio.

A dilute solution of zincum vitriolatum:

℞. Zinci vitriolati ʒij.
Aquæ distillatæ ʒxij.
Solve.

Lime-water, with the addition of spirit:

℞. Aquæ calcis ʒxij.
Spiritus vini rectificati ʒij.
Fiat lotio.

The steam of warm water impregnated with camphor.

Emollient fomentations and cataplasms are by some much used; by others they are thought prejudicial.

Unctuous applications are seldom of service; yet the ceratum

lithargyri acetati, and the unguentum cerusæ acetatæ, of the London Pharmacopœia, may be used with advantage.

When an effusion of lymph has taken place, absorbent powders are commonly employed as topical applications; such as starch, wheat flour, oatmeal, chalk, or litharge: of these the oatmeal is perhaps preferable.

II.

The means for fulfilling the second indication are detailed by authors on medical diseases. See Inflammatory Fever, Typhus Fever, and Erysipelatous Fever, or Erysipelas.

Of the Terminations or Consequences of Inflammation.

The terminations of inflammation are—*resolution*,—*adhesion*,—*effusion*,—*scirrhus*,—*suppuration*,—*gangrene*.

OF RESOLUTION.

By resolution is meant a gradual subsidence, or going off, of all the inflammatory symptoms; the state and texture of the part remaining entire.

OF ADHESION.

Adhesion is when coagulable lymph has been thrown out from the orifices of the inflamed vessels; and by its agglutinating qualities has cemented as it were membranes, or other contiguous parts, together.

When adhesion is completed, vessels shoot from the opposite surfaces, through the coagulable lymph, and anastomose, so as to completely organize the lymph, and form it into cellular membrane.

OF EFFUSION.

This termination is peculiar to cavities lined with smooth diaphanous membranes.—The fluid effused is various, and de-

pends upon the nature of the inflammation, the strength of the inflamed vessels, and the structure of the part.—It may possess all the intermediate degrees or properties between serum, coagulable lymph, and pus.

OF SCIRRHUS.

Scirrhus or induration is when the inflammation leaves the part hard and swollen. It is a termination of inflammation more peculiar to glandular parts.

OF SUPPURATION AND ABSCESS.

SYMPTOMS.

Suppuration is the process of the formation of pus.—Its accession is marked by rigors, if the inflammation be considerable;—dull heavy weight of the affected part;—by the pain becoming more lancinating, and accompanied with a peculiar throbbing of the neighbouring arteries;—fluctuation;—by the swelling becoming gradually more elevated above the surface of the surrounding cuticle; acquiring a softness to the feel, and showing a tendency to point in one particular place.—If the process be suffered to go on without interruption, the integuments become more and more thin, and change to a whitish or yellowish colour;—they at length lose their firmness, give way, and pus is discharged at the opening.

TREATMENT.

Indications.

I. To expedite the process of suppuration.
II. To evacuate the contained matter.

I.

By fomentations and emollient cataplasms.

Fomentations of chamomile-flowers.

Cataplasms of linseed-meal, or the common white bread poultice, with a small addition of oil.

Should there be great pain and irritation, opium internally; the external application of sedatives.

The decoctum pro fomento Ph. Lond. or the poppy fomentation:

FOMENTUM PAPAVERIS ALBI
Ph. Chir.

℞. Papaveris albi exsiccati ℥iv.
Aquæ puræ ℔vj.

The poppies are to be bruised, and then boiled till there only remains a quart after straining.

The hemlock fomentation of Guy's hospital:

FOMENTUM CICUTÆ
Ph. Guy.

℞. Cicutæ excisæ ℥iv.
Chamæmeli excisi ℥ij.
Aquæ ferventis ℔iv. Macera.

If the progress of suppuration be extremely slow, and there are marks of local or constitutional debility, the topical use of stimuli.

The common cataplasm, with the addition of a small portion of strained galbanum.

OLEUM PALMÆ CAMPHORATUM
Ph. Chir.

℞. Camphoræ ℥ij.
Olei palmæ ℔j.

Fomentations, as warm as the patient can bear, often repeated.

The emplastrum cumini of the London Pharmacopœia.

The emplastrum ladani compositum *Ph. Lond.*

Dry cupping; *Mr. Hunter.*

Electricity.

The internal administration of Peruvian bark, with a moderate use of wine, and a nutritive diet.

II.

The means of effecting the second indication, now almost solely employed by modern surgeons, is an incision made with a common or abscess lancet. If the tumor be small the opening may be free, and the contained matter may at once be evacuated; but if it be of large size, and the constitutional irritation be consi-

derable, the opening should be small, and the matter evacuated very gradually, or at several successive times.—The proper period for performing the operation is, as soon as a fluctuation can be distinctly perceived, and the tumor shows a tendency to point to a particular place.—The place most advantageous for the incision, is the depending part of the swelling.

OF MORTIFICATION.

SYMPTOMS.

Excessive, acute, and constant pain; great anxiety; often delirium, followed by a sudden cessation of every inflammatory symptom.—The part before tense now becomes flaccid, of a livid colour, and loses its heat and sensibility.—Vesications are formed, under which are perceived spots of a brownish hue.—The parts acquire a fetid smell, and become black.—If the event prove favourable, the mortified portion becomes completely circumscribed; a process of ulceration is set up in the contiguous living substance, by which the dead matter is separated, and at length cast off in sloughs.—If, on the contrary, the termination be fatal, the mortification rapidly extends, great constitutional irritation arises, the pulse becomes small, rapid, and irregular, there is a fixed flush upon the countenance, with great anxiety and prostration of strength, and death soon ensues.

CAUSES.

Predisposing.—Whatever weakens the powers of the system in general, and of the part in particular; as the debility induced by disease,—great losses of blood,—old age, &c.

Exciting.—Inflammation induced by whatever cause;—external injury, as contusion, pressure, &c.;—whatever diminishes the vital energy, lodged in the part, to a degree incompatible with the performance of its functions; as the sedative operation of cold, certain fevers.

PROGNOSIS.

Mortification is always to be esteemed the worst termination of inflammation.—The circumstances which lead to a prognosis of a favourable event, are—youth and strength of constitution,—the general system little affected by the local disease,—the pulse continuing full,—there being little irritation;—a disposition to a separation of the sound from the diseased parts; marked by a white line, somewhat elevated, distinctly bounding the latter, about which an oozing of a serous fluid is observed.

TREATMENT.

Indications. { To prevent the extension of the mortification, and to promote a separation of the dead parts from the living.

1. By a liberal use of the Peruvian bark, with nutritive diet, and a sufficient quantity of wine to keep up the tone of the system, and of the part, and to excite the necessary degree of slight inflammation.

2. By opium; especially in mortifications from debility, and in gangrene of the toes and feet of old people. *Pott.*

3. In cases of gangrene from local injury, the combination of musk with ammonia.

℞. Moschi,
Ammoniæ preparatæ, āā ℈ss.
Mucilaginis Arabici q. s.

Fiat pilulæ quatuor tertia quaque hora sumendæ.—*Mr. White of Manchester.*

4. The local application of tonics and stimulants.

Fomentations of oak bark.

Lotions of very dilute nitric acid, or ammonia muriata, or nitre.

℞. Acidi nitrici ʒij.
Aquæ distillatæ ℥xvj. M.

℞. Ammoniæ muriatæ ℥j.
Aceti communis ℥v.
Aquæ distillatæ ℥x. M.

℞. Nitri purificati ℥j.
Aceti communis ℥v.
Aquæ distillatæ ℥x. M.

The camphorared spirit.—Spirit of turpentine.

Fermenting poultices:—

CATAPLASMA EFFERVESCENS

Pharm. Chir.

This poultice is prepared by stirring into an infusion of malt (such as may be readily obtained from the ale or porter brewer) as much oatmeal as is required to make it of a proper thickness, and afterwards adding about a spoonful of yeast.

CATAPLASMA CARBONIS

Pharm. Chir.

To about half a pound of the common farinaceous cataplasm, two ounces of wood charcoal, in very fine powder, are to be added, and the whole mixed well together.

Carbonic acid gas in every form.

The gastric juice of graminivorous animals.—*Dr. Harness, Transactions of the Society for the Improvement of medical and surgical Knowledge.*

Slight scarifications of the diseased parts are recommended by some.

The most proper form of ointment is the unguentum resinæ flavæ, with the addition of spirit of turpentine, or the warm dressing of the hospitals.

OF WOUNDS.

By a wound is meant a recent solution of the continuity of the animal solid, from external violence.

Species.

i. Incised.
ii. Lacerated.
iii. Contused.
iv. Punctured.
v. Poisoned.
vi. Gun-shot.

OF THE INCISED WOUND.

A wound inflicted by a cutting instrument; and in which there is a simple division of the part, without any, or any considerable, loss of substance.—The usual and immediate consequences are,—a greater or less retraction of the divided parts, according to the texture of the particular portion of the body which is the seat of the accident; and a discharge of blood proportioned in quantity to the size of the injured vessels.

PROGRESS OF SPONTANEOUS UNION.

By the first intention.—When the edges have separated only to a certain distance, or still remain in apposition, a portion of blood is thrown out from the incised orifices of the arteries, by which the chasm is filled.—The lips of the wound become tumid and painful, a slight inflammation ensues, under which vessels shoot into the inor anized coagulum.—This soon becomes endued with life, and thus a complete union is effected.

By granulations.—When, however, from the nature of the part, or from other causes, the edges have retracted to a considerable extent, this species of union is prevented from taking place, suppuration supervenes; pus is formed; granulations arise, and, increasing, fill up the cavity; and, having attained the surface, cicatrization commences, processes of skin shoot from the surrounding edges, and extending, at length completely enclose the newly-formed parts.

PROGNOSIS.

The prognosis will chiefly depend upon the situation (see wounds of the different parts of the body), and the extent of the wound.

Unfavourable circumstances are—great irritability of constitution;—the constitution of the patient impaired by age, or inebriety;—debility, however induced;—the division of large arteries, or of numerous absorbent vessels;—the firm texture of the part favouring a considerable retraction of the edges;—the presence of certain extraneous bodies, which cannot be readily removed;—too great inflammation, when sphacelus is likely to ensue;—deficient inflammation, when the progress of union is retarded, or entirely suspended.

TREATMENT.

Indications.

I. To put a stop to the hæmorrhage.
II. To remove any extraneous bodies that may happen to be present.
III. To effect an union by the first intention, or, if that be impracticable, to promote the formation of pus.

I.

An hæmorrhage may be stopped by simple pressure with the finger, compress, or bandage, if the wound be slight, or the hæmorrhage trifling; but when a considerable artery has been divided, and the effusion of blood is copious, by the application of the tourniquet, in situations where its use is admissible, and by afterwards securing the divided vessel with a ligature.

In the *application of the tourniquet*, a small linen compress or cushion is to be placed over the course of the bleeding vessel, in the most eligible situation above the wound (see Amputation, where the proper positions for its application are pointed out), and secured by means of a roller passed two or three times around the limb.—The instrument is now to be applied with its handle in a position opposite to the compress upon the vessel, and rendered firm by the strap to which it is affixed; after which, by turning the handle, and thereby tightening the compress, the hæmorrhage will be restrained.

The next object is to secure the bleeding vessel; for which purpose two modes are practised: 1. by means of the tenaculum; 2. by means of the crooked needle. The former is now generally preferred.

The *tenaculum* is a curved hook, the point of which is to be passed through the coats of the divided vessel, which being pulled out beyond the surface of the wound, a ligature, composed of threads proportioned in number to the size of the artery, previously waxed, and loosely slipped over the instrument in the manner of a ring, is to be drawn by an assistant over its point, until it encircle the extremity of the vessel; when its ends are to be gradually, yet firmly, drawn, so that the sides of the latter may be effectually compressed. It is then

to be secured by a second knot, and the ends being cut off at a proper distance, are to be suffered to hang from the wound.

When, however, from the depth of the wound, or from the artery having retracted beyond the reach of the tenaculum, there is a necessity for using the *crooked needle*; this armed with a proportionate ligature is to be introduced at about a quarter of an inch from the situation of the vessel, to be carried under it, and brought out at the same distance on the opposite side; and this being repeated, a knot is to be made as above directed.

A constant oozing sometimes takes place from the surface of a wound, either owing to a relaxed state of the part, as indicated by a general relaxation and debility of habit, or from too plethoric a state of constitution.—In the former case astringents and balsamics have been successfully employed; such as terebinthina,—alkohol,—myrrh,—tinctura benzoes composita,—powdered myrrh,—galbanum,—gum Arabic.—In the latter—bleeding,—purging, &c.

II.

The second indication is effected either by the forceps or probe, according to the size or situation of the extraneous bodies; or more effectually by careful ablution with a sponge and warm water, or by the use of the syringe.

III.

Union by the first intention is to be effected by drawing the divided parts closely into contact; and retaining them in that situation by means adapted to the extent and situation of the wound.

If the wound be small, or however extensive it may be, provided it be superficial only,—*adhesive straps* are the most proper application for this purpose.—Their number should be

in proportion to the extent of the wound; their breadth about an inch and an half; and in applying them, one end is to be fastened at a moderate distance from the edge on one side, and while the union of the parts is preserved by an assistant, the other is to be conducted over to the opposite, and being drawn tight, is to be affixed to the integuments by pressure with the warm hand.—A small aperture should be left between the straps, in the most depending part of the wound, for the evacuation of any matter which may happen to form.

Where the wound is of considerable depth, or where the edges have much retracted, as also more especially in wounds into cavities,—into the joints,—in wounds of the face and neck,—in all triangular wounds,—and in transverse wounds of muscles,—the use of the interrupted suture becomes necessary.—In making this, the fewer the number of stitches in general, the more speedy and effectual the union.—Each needle, with an appropriate ligature attached to it, is to be introduced at a distance from the edge, equal to half the depth of the wound; and being carried to near the bottom, should be drawn out at a corresponding point on the opposite side.—The threads of each needle are to be cut successively of an equal and moderate length; but not secured until the whole have been passed.—Adhesive straps should now be applied between the stitches, in the manner above described; and the whole covered with a compress of lint, and a loose roller.

Should pain, tension, and inflammation, succeed the application of ligatures, recourse must be had to emollient poultices and fomentations,—topical bleeding, or refrigerant applications, as the compound water of acetated litharge;—and if these be ineffectual, the ligatures should be removed.

Few wounds, in the improved practice of surgery, require to

be united by suture; the adhesive straps are generally found equally effectual, and have the advantage of not creating irritation.

When union by the first intention is impracticable, suppuration must be promoted by appropriate means.—See Contused Wounds, and Abscess.

OF WOUNDS OF THE CHEST.

Some authors divide wounds of the chest into four species:—a division into two will, however, be quite sufficient.

Species.
1. Where the wound penetrates the cavity without injuring the viscera.
2. Where the viscera are wounded.

DIAGNOSTIC SYMPTOMS.

Of the first species.—Extreme anxiety and difficulty of breathing;—at each inspiration the lung protrudes through the wounded part;—great irritation at the larynx;—cough;—and the patient, upon attempting to lie down, feels a sense of suffocation.

Of the second species.—Blood is coughed up of a florid red colour, frothy and mixed with air;—great difficulty of breathing;—in inspiration, air is heard to issue from the external wound with a hissing noise, and to rush in with a similar sound during expiration;—emphysema very generally takes place, first beginning in the cellular membrane of the thorax, and often spreading to a great extent.

PROGNOSIS.

In all wounds of the chest the prognosis will be unfavourable. —The first species, however, is not to be esteemed a very dangerous wound, as numerous instances have occurred in which recovery was speedy and perfect.—The great sources of danger are, inflammation attacking contiguous vital parts, and matter or blood collecting in the cavity of the thorax.

In the second species it will be extremely unfavourable; and generally fatal.—Circumstances especially indicating danger are—supervening inflammation;—abscess and hectic fever; marked by rigors, colliquative sweats, diarrhœa, &c.—Wounds inflicted in the pericardium, the large vessels, or the heart itself, will always be fatal.—Excessive hæmorrhage;—the patient being the subject of visceral disease, more especially of the organ wounded.—The habit otherwise depraved.

TREATMENT.

Of the first species.—Should the hæmorrhage be considerable, it is most likely to proceed from a divided intercostal artery; to secure which Mr. Latta recommends a free dilatation of the wound, and the application of a ligature.—Long-continued pressure with the finger upon the bleeding orifice has often been sufficient.

The wound is afterwards to be united by suture; in making which care is to be taken that the ligatures pass through the integuments and muscular substance only, without penetrating the pleura.

Should inflammation supervene, or blood be accumulated in the cavity of the chest, the treatment will be that applicable to the second species.

Of the second species.—After the suppression of the hæmorrhage, the chief object is to prevent inflammation supervening,

—by copious and repeated bleedings,—purging,—a strict antiphlogistic regimen, and other means recommended for the treatment of inflammation.—See Inflammation.

The union of the wound should not at first be attempted; but being simply covered with a compress of lint, the patient should be laid in such a position that it may be in the most dependent part of the thorax.—Any blood which would otherwise be collected in the cavity of the chest will thus be evacuated at the external wound.—After the expiration of twelve hours it may be closed as above directed.

Should an accumulation of blood or matter take place in a few days after the healing of the external wound, which is not an unfrequent circumstance, and is marked by—extreme difficulty of breathing,—sense of weight and immense oppression at the chest,—purple flush of the countenance,—difficulty of lying upon the opposite side,—the operation for empyema should be performed, and the collected fluid evacuated.—See Empyema.

If emphysema be present, small punctures should be made at different places in the tumefied part.

OF SUPERFICIAL WOUNDS OF THE ABDOMEN.

Wounds in which the integuments of the abdomen have been divided without injury to the contained viscera.

They are dangerous, or not, in proportion to their extent;—small ones are seldom fatal, unless certain adverse circumstances of constitution be present.—See Incised Wounds.

TREATMENT.

After suppression of the hæmorrhage by the usual means, union is to be effected by the suture; and in wounds into large cavities the *quilted suture* is to be preferred to all others.

The *quilted suture* is simply the interrupted suture with a double ligature, and supported by small cylindrical bodies (pieces of quilt or bougie) placed on each side of the wound, by which its edges are more effectually compressed.—The double of the ligature is made to enclose the one, and the knot to press directly upon the other, and by this means the sides of the wound are made closely to approximate.

OF WOUNDS OF THE STOMACH.

DIAGNOSTIC SYMPTOMS.

Almost instant fainting;—the pulse becomes extremely small, and so rapid as with difficulty to be counted;—a cold sweat breaks out over the surface of the body;—vomiting comes on, by which blood is brought up;—hiccup;—delirium.—Alimentary matter, mixed with blood, escapes at the external wound.

PROGNOSIS.

The prognosis will ever be unfavourable.—The wound generally proves fatal, either from the sympathetic effect of an injury done to so important an organ; or from the escape of blood or food into the cavity of the peritoneum.

TREATMENT.

The wound, like all others into large cavities, should not be closed until all hæmorrhage has ceased, until which time the

patient should be laid in a situation, in which any blood, already collected, may be evacuated.—It is afterwards to be united by the interrupted suture, as above described.—Inflammation should be obviated by a strict antiphlogistic regimen,—repeated bleeding,—warm fomentations,—and emollient enemas.—The patient should entirely abstain from food, and all nutrition should be conveyed by clysters of broth, milk, and other nutritive ingredients;—the thirst should be allayed by a small portion of jelly, or other substance, held in the mouth.

Provided the event be favourable, in eight days food may be taken by the mouth.

OF WOUNDS OF THE INTESTINES.

DIAGNOSTIC SYMPTOMS.

Sudden and great prostration of strength;—loss of pulse;—fainting;—bilious or feculent matter issuing from the wound;—bloody stools;—most violent colic pains;—nausea;—vomiting;—cold sweats.

PROGNOSIS.

These, like wounds of the stomach, generally, though not universally, terminate fatally.—The event will, in great measure, depend upon the possibility of uniting the opening in the intestine.

TREATMENT.

When the intestine has receded into the abdomen beyond the reach of the surgeon, the same observations will apply to this as to a wound of the stomach.

But when the divided portion protrudes through the external wound, as is not unfrequently the case, attempts should be made to procure an union of the parts by suture.

If the wound be longitudinal, the *uninterrupted suture* will be preferable.—The mode of making this consists in inserting stitches, with a common needle, at a moderate distance from each other, in an oblique spiral direction, along the course of the wound, without however dividing the thread, as in other species. The intestine is then to be returned into the abdomen, and being confined close to the external wound by the ligatures, suffered to hang out, an adhesion generally takes place to the peritoneum; and when an union has been effected, the threads may be withdrawn.

To unite circular or transverse wounds of the intestines, various plans have been recommended.—Mr. J. Bell proposes a suture to be made entirely round.—Cylinders of isinglass, or of pasteboard,—rolls of tallow, &c.—have been advised to be inserted within the divided portion.—The insertion of one extremity of the wounded intestine within the other, and various other modes of attempting union, have also been suggested.—The interrupted suture appears most likely to be attended with success.—Four stitches will be necessary; one of which should be made near to the mesentery, the others at equal distances round the intestine.—The ligatures should be suffered to hang from the external wound, or should be cut close, and returned with the intestine into the abdomen; when the external wound should be united as above directed.—See a Treatise on Hernia, by Mr. Astley Cooper, wherein some experiments are related, which were made upon animals by Mr. Thomson at Edinburgh, and likewise by himself, which prove the success of this mode of practice.

OF WOUNDS OF THE LIVER.

DIAGNOSIS.

A wound of the liver is ascertained to have taken place by the peculiarly dark or black blood evacuated at the opening;—by the most depressing sickness;—frequently by concomitant jaundice;—by the sympathetic pain at the top of the shoulder.

PROGNOSIS.

Small wounds of the liver have been recovered from; large ones are generally fatal.

TREATMENT.

As in wounds of the other viscera of the abdomen, the external wound should be suffered to remain open, until the hæmorrhage from the internal shall have ceased; and the patient should be placed in a position similar to that recommended in wounds of the stomach.

The accession of inflammation should be guarded against, and moderated when present, by a strict antiphlogistic regimen, and by other appropriate means.

The sympathetic affection of the stomach should be obviated by keeping that organ in a state of perfect quiet;—avoiding every thing which might excite irritation;—and by the use of anodyne and emollient clysters.

OF WOUNDS OF THE GALL-BLADDER.

DIAGNOSIS.

Most excruciating pain;—an evacuation of bile from the wound, by vomiting, and by stool.

PROGNOSIS.

It is universally considered fatal.

TREATMENT.

The same treatment is applicable to this as to a wound of the liver; which see.

OF WOUNDS OF THE SPLEEN, KIDNEY, AND RECEPTACULUM CHILI.

The first is distinguished by the evacuation of blood of a remarkably red colour:—it is esteemed fatal.—A wound of the kidney is ascertained to have taken place by the passage of blood with urine; and afterwards of pus.—It does not in general terminate fatally.—When the receptaculum chili is wounded, chyle is said to flow from the external wound.—It proves mortal, by destroying the organs by which nourishment is conveyed to the system.

TREATMENT

Will be similar in every respect to that already laid down for wounds of the abdominal viscera.

OF WOUNDS OF THE URINARY BLADDER.

DIAGNOSIS.

Suppression of urine, followed by excessive pain and great distention of the abdomen;—urine mixed with blood flowing from the external wound;—cystitis.

PROGNOSIS.

It generally proves fatal, from the urine escaping into the cavity of the abdomen.—It will be more or less dangerous as the wound happens to be above or below the peritoneal covering of the upper part of the bladder.

TREATMENT.

It has been proposed to inject water by the wound, to obviate the irritating effect of the extravasated urine.—It has likewise been advised to sew up wounds of the bladder; but any such attempt must be unsuccessful, from the great retraction of the organ.

The wound, if small, is directed to be dilated, and the pelvis to be elevated, so that the wound may be in the most depending situation.—Inflammation is to be obviated or diminished by bleeding,—fomentations,—copious emollient clysters,—opium, &c. as recommended for the cure of cystitis;—whilst an accumulation of urine should be assiduously guarded against by letting the patient constantly wear a silver, or Smith's flexible, catheter, occasionally withdrawing it to be cleansed.

OF WOUNDS OF JOINTS.

DIAGNOSIS.

When a wound has penetrated the cavity of a joint, there is an escape of synovia;—the joint soon becomes swelled and extremely painful;—the edges inflame, and put on a sloughy appearance;—there is great constitutional irritation;—frequently abscesses form, and anchylosis ultimately ensues.

PROGNOSIS.

This will be determined by the size of the joint.—Wounds into large joints sometimes terminate fatally, from the extreme constitutional irritation which they create.

TREATMENT.

Union is to be effected by the quilled or interrupted suture, according to the situation of the wound.—In making this, it is advisable to guard against the needle penetrating the cavity of the joint:—it should pass only through the integuments.

Inflammation is to be obviated by topical bleeding with leeches;—fomentations;—the application of the steam of warm water, and a strict antiphlogistic regimen.

OF WOUNDS OF THE NECK.

DIAGNOSTIC SYMPTOMS.

When the trachea or larynx has been wounded, air rushes copiously through the wound, and in general there is a loss of the powers of speech.—If the œsophagus be wounded, food escapes at the external opening.

PROGNOSIS.

A wound is in general more alarming when happening in the trachea than in the larynx, owing to the profuse hæmorrhage with which it is usually attended.—In many instances death has been produced by the blood getting into the bronchia, and producing suffocation.—Wounds of the œsophagus have been almost uniformly fatal.

TREATMENT.

The wound should be united by suture superficially inserted, as directed for wounds of the abdomen, &c.; and care should be taken, in afterwards applying adhesive straps, to leave small openings between each for the escape of air, otherwise general emphysema will ensue.

Where there is great hæmorrhage, immediate union by suture becomes improper.—The receding vessel should, if possible, be secured: if that be impossible, the same treatment should be adopted as to keeping open the wound, and to the posture of the patient, as in wounds of the abdomen.

OF WOUNDS OF TENDONS.

DIAGNOSTIC SYMPTOMS.

The immediate effect of a wounded or ruptured tendon, is a retraction of the divided ends to a very considerable distance from each other; which, when the tendon is superficial, is generally discoverable to the touch.—The rupture of a tendon is accompanied with a sudden pain or shock, similar to that produced by external violence.—This is more remarkably the case in ruptures of the tendo Achillis.

PROGNOSIS.

When a tendon has been completely divided, the injury is seldom productive of serious consequences; when partially so, the contrary is sometimes the case.—See Punctured Wounds, and the Consequences of Bleeding.

TREATMENT.

The external wound is to be united by suture; and the divided portions of the tendon afterwards made to approximate.

The latter is to be effected by applying compression upon the body of the muscle, to prevent further retraction, and by so adjusting the position of the limb, that the divided ends may as nearly as possible approach each other, or effectually come in contact.—In accidents of this kind happening to the tendo Achillis, this may be easily done, by means of an instrument invented by the late Dr. Monro, consisting of a high-heeled shoe, with a stiff substance running up behind the leg, and confined by a strap encircling the calf.

OF CONTUSED AND LACERATED WOUNDS.

In wounds from contusion and laceration, there is little attendant hæmorrhage; but the injury which the part sustains is in general so great, that a sloughing is the frequent consequence:—swelling, inflammation, and suppuration, are their constant attendants.

PROGNOSIS.

The danger chiefly arises from a severe inflammation, and consequent extensive sphacelus.—Tetanus also is sometimes induced by laceration of tendons.—In other cases the wound is to be regarded only as a simple suppurating sore.

TREATMENT.

The chief indications are, to moderate inflammation, and accelerate the process of suppuration, by leeches; scarifications;—warm fomentations, and cataplasms.—Should slough-

ing ensue, the same treatment is to be employed as recommended for mortification:—opium is however the most effectual remedy.

Where the laceration is only slight, an union by the first intention may frequently be effected :—if, upon trial, it should be found impracticable, suppuration should be promoted by fomentations, &c. &c. See Abscess.

OF PUNCTURED WOUNDS.

Punctured wounds differ from others, in their having been inflicted with a pointed instrument.—They often produce alarming and even fatal consequences; sometimes inducing an inflammation of the internal surface of an absorbent vessel, and sometimes by inducing tetanus by partially dividing a nerve or tendon. See Tetanus.

The symptoms produced by the inflammation of an absorbent vessel are—unusual pain, coming on a short time after the infliction of the wound, followed by a red inflamed line, hard to the feel, and extremely painful, extending upwards, often both upwards and downwards, along the member, which soon begins to swell, and an extensive inflammation takes place; numerous abscesses often form in the course of the absorbents, and in general the nearest gland becomes enlarged, great constitutional irritation ensues, the pulse is extremely quick and hard; delirium, and in some instances death, has followed.

TREATMENT.

The most effectual way of preventing ill consequences from wounds of this nature, is to enlarge the opening with a lancet

or scalpel, and thus convert the puncture into an incision, which may be united by the first intention.

When this has been omitted, compression by bandage should be had recourse to, in order to facilitate an union between the sides of the wound.

Punctured wounds often become indolent and indisposed to heal: in this case stimulant injections,—setons,—dilatation, &c. should be employed, and the wound treated in every respect as a fistulous ulcer.

Should inflammation of the absorbents be the consequence of a punctured wound, numerous leeches should be applied along its course; cathartics, refrigerants, the saline medicine, and other remedies proper for inflammation, should be administered;—refrigerant lotions should first be applied to the part, and if these are unsuccessful, emollient poultices and hot fomentations. See the Treatment of Inflammation.

OF POISONED WOUNDS.

These are wounds inflicted by poisoned instruments; by the bites of rabid animals; or by the bite or sting of certain reptiles and insects.

The effects of wounds of this kind are various: some produce almost immediate death; some dissolve the crasis of the fluids, and induce passive hæmorrhagy, petechiæ, and putrescency of the whole system; others are said to operate by producing a serene and fatal sleep; but the most frequent are those inducing inflammation.

SYMPTOMS.

Of the bites of rabid animals.—After the expiration of a shorter or longer time, sometimes not until many months after

the accident, the part becomes painful,—wandering pains are felt over the body,—great restlessness,—heaviness,—disturbed sleep and frightful dreams;—sudden startings or spasms,—sighing,—anxiety,—and love for solitude.—These symptoms daily increase, pains begin to shoot from the wounded part up to the throat, occasioning a straitness and sensation of choaking; an aversion is felt to the swallowing of water or other liquids, which at length arises to such a degree, that the moment any thing in a fluid form is brought in contact with the patient's lips, it occasions him to start back with dread and horror; and the attempt at deglutition is accompanied with a convulsive paroxysm.—A vomiting of bilious matter is an early symptom; an intense hot fever ensues, with dryness and roughness of the tongue, hoarseness of the voice, and the discharge of a viscid saliva from the mouth, which the patient is constantly spitting out; together with spasms of the genital and urinary organs, in consequence of which the evacuations are forcibly ejected.—There is extreme anxiety, and irritability sometimes so excessive that the smallest impression made upon the body, by the perching of a fly or other cause, fails not to induce the most terrible convulsions.—In some instances delirium arises, and closes the tragic scene; but generally the judgment is retained until the pulse becomes tremulous and irregular, convulsions then arise, and nature is, at length, totally exhausted.

Of the bite of the viper.—Acute pain and considerable swelling of the part, which soon becomes red, and afterwards livid;—disposition to fainting;—or actual syncope;—small rapid, sometimes interrupted, pulse;—great nausea;—bilious convulsive vomitings;—cold sweats;—the skin becomes yellow;—convulsions,—death.

Of the bite of the rattle-snake.—Nausea,—a full, strong, agitated pulse,—swelling of the whole body,—the eyes much diffused with blood,—sometimes copious bloody sweats,—and often hæmorrhages from the eyes, nose, and ears.—The teeth chatter, and the pains and groans of the sufferer indicate his approaching dissolution.

The bite of the adder is attended with symptoms of a similar nature, but they are much less violent; neither does it often prove fatal.

Of smaller reptiles, and of insects.—These in general produce local inflammation only; which, however, is often very severe: in some instances the bite is productive of the same consequences as punctured wounds: inducing inflammation of the absorbents, and convulsions from their effect upon the nerves.

The effects of the bite of musquittos, are small tumors, attended with so high a degree of itching and inflammation, that the patient cannot refrain from scratching; by a frequent repetition of which he not uncommonly occasions them to ulcerate.

TREATMENT.

Indications.
I. To prevent the absorption of the poison.
II. To counteract its destructive effects when already introduced into the system.

I.

After the bites of rabid animals.—In order to effect this indication, the first step should be the application of a tight ligature above the wound; secondly, the speedy and complete excision of the wounded part, in situations where such practice is admissible; and thirdly, the long continued affusion of an alkaline solution over the excised parts.—The wound should afterwards be

dressed with the unguentum cantharidis, or other stimulating ointment, in order that a discharge may be kept up for a considerable length of time.—When, from the timidity of the patient, or from the wounded part being so situated as to render extirpation inadmissible, other means are obliged to be adopted; ablution with a solution of caustic alkali, or the application of lunar caustic, or kali purum, are most likely to be attended with success.

After the bite of serpents, &c.—The most effectual means of securing the patient from future consequences, is the excision of the part, as above recommended. Where this is not practised, a ligature should be instantly applied above the wounded part, and retained there while the latter is washed with the aqua kali præparati, volatile alkali, or the spiritus ammoniæ succinatus;—kali purum is perhaps the best topical application.

The long-continued affusion of cold water has been recommended,—as also the fat of vipers;—the warm liver of a fowl is now applied in the East Indies;—oily and unctuous applications;—the firing of gunpowder upon the wounded part.

The application of a poultice of vinegar and vine-ashes has been successfully used. *Phil. Trans.*

Dr. Mead recommends long-continued suction with the mouth defended by oil.

A poultice of quick-lime, with oil and honey, is said to have been effectually employed.

The fresh juice of the plantain is also by some considered an excellent antidote.

II.

After the bites of rabid animals.—Various are the modes of treatment recommended by different writers to fulfil this indication.

Some advise the use of stimuli;—wine,—ardent spirits,—aromatics,—the nitrous and other mineral acids united with wine, and administered both by the mouth, and likewise injected up the rectum, upon the first appearance of the disease;—afterwards, the concrete acids, as the essential salt of tartar, of lemons, &c. or flores benzoes joined with capsicum, to be given in the form of bolus.

℞. Salis tartari essentialis ℈j.
Piperis Indici gr. viij.
Conservæ rosæ q. s.
Fiat bolus secunda vel tertia vel quarta quaque hora sumendus.

By Dr. Rush, the antiphlogistic plan is recommended; as copious venesection,—large laxative clysters,—diaphoretics.

Mercury has been often used in hydrophobia; and many cases are related of its efficacy. *Houlston on Poisons*, &c. *Reid, Observ. on warm and cold Sea-bathing. Rush.*

Musk with opium are said to have been successfully employed. *Dr. Rush.*

Also wine and bark in large quantities;—warm and cold bathing;—the copious use of oil internally and externally;—exciting profuse sweating by means of ipecacuanha in small and frequent doses, or the pulvis ipecacuanhæ compositus;—camphor;—arsenic;—the liberal use of vinegar.

Opium has been administered in extremely large doses, to allay the excessive irritability, without effect.

The Ormskirk medicine,—the Tonquin medicine, composed chiefly of musk and cinnabar.

The Carnatic, Tanjore, or snake pills, composed of arsenic and mercury, have been much employed.

Dr. Powel believes the argentum nitratum to be a most powerful antispasmodic, and recommends its internal exhibition in

the dose of one grain every hour, increasing it according to circumstances.

After the bites of serpents, &c.—Emetics;—powerful sudorifics. *Dr. Mead.*

In the East Indies the following are universally had recourse to:

THE CARNATIC SNAKE PILLS.

Take of White arsenic,
Roots of velli-navi,
——— neri-visham,
Kernels of nervalam,
Pepper,
Quicksilver; of each an equal quantity.

The quicksilver is to be rubbed with the juice of the wild cotton till the globules become invisible. The arsenic being first levigated, and the other ingredients reduced to powder, are then to be added, and the whole beaten up together, with the juice of the wild cotton, to a consistence fit to be divided into pills of six grains.

Dr. Russel gives the following directions for using these pills: If a person be bitten by a cobra de capello, mix one of the pills with a little warm water, and give it to the patient. After waiting a quarter of an hour, should the symptoms of infection increase, give two pills more; should these not sufficiently counteract the poison, another pill must be given an hour after. This is generally found sufficient.

For the bite of all kinds of vipers give two pills; and if the poison be not counteracted within half an hour give two pills more: but if the life of the patient be in great danger, four pills may be given.

For the bite of all other less poisonous snakes one pill, every morning for three days, is sufficient.

The juice of the garden rue. *Barton, Trans. Amer. Phil. Soc.*

Spiritus ammoniæ compositus ; — vitriolic æther,—Venice treacle.

Dr. Temple recommends the caustic volatile alkali, or spiritus ammoniæ succinatus, to be administered every five minutes.

Wine given in large quantities. *Dr. Russel.*

The aristolochia, garlic, and various other remedies, are occasionally used.—The habilla carthago is in Spain esteemed a specific for the bite of the scorpion.

The local effects of the bites or stings of smaller reptiles and of insects, are relieved by the application of a solution of opium,—the aqua lithargyri acetati composita,—the cremor lithargyri *Ph. Chir.*,—vinegar,—an alkaline solution.

OF GUN-SHOT WOUNDS.

According to Mr. Hunter, these differ in no respect from contused wounds; their peculiar appearance being caused by the velocity of the substance with which they are inflicted.

CHARACTER.

The appearance of the wound is peculiar; its edges are black, as if burnt by gunpowder, although in reality the effect of contusion. There is seldom any hæmorrhage; the inflammation which constantly attends contused wounds comes on in this species much later than usual.—About the second day the parts commonly become tumid, and the wound pours forth a gelatinous lymph, when symptoms of constitutional irritation arise, which are generally severe; in extensive wounds not unfrequently inducing spasm, convulsions, and even death.—A discharge truly purulent seldom comes on before the fifth or sixth day; when sloughs begin to separate, and the wound assumes a healthy appearance.

PROGNOSIS.

This will depend upon the extent of the injury, the importance of the part in which it has been inflicted, and the degree of constitutional irritation supervening.—It will also be drawn from the disposition to gangrene;—from the peculiarity of constitution by which consequent symptoms are likely to be aggravated; as the patient being the subject of organic disease, or having led an inebrious, dissipated life: in this case the prognosis will ever be unfavourable. In general the danger cannot at first be ascertained; parts will afterwards often slough away and produce a fatal hæmorrhage, or other consequences, which were not at first suspected to be injured.

TREATMENT.

Indications.

I. To remove any extraneous bodies which may still remain in the wound.

II. To obviate inflammation, and expedite the formation of pus.

I.

If the situation of the ball, or other extraneous body, can be ascertained by examination with the probe, or with the finger, recourse may be had to the forceps in order to extract it; and if these prove ineffectual, the wound should be dilated. Should the ball have run superficially beneath the integuments, its course may generally be detected by a red line in the cuticle extending from the external wound, and in this situation a simple incision will often be sufficient for its extraction. If its situation cannot be readily ascertained, little trouble need be taken upon the occasion, as numerous instances prove that balls may remain imbedded in the animal solid without producing injurious consequences.

It has been customary to dilate all gun-shot wounds in which

extraneous bodies are still lodged. Mr. Hunter objects to this indiscriminate dilatation, and lays down the following rules concerning the propriety of dilating, and the period at which the dilatation ought to be made.—If the wound be slight, and extraneous bodies are lodged in it that may increase consequent irritation, it should be immediately dilated; as also where an artery is to be secured; where there has been a fracture, and it becomes necessary to remove detached pieces of bone, or where a protruded part is to be replaced;—but if the injury be severe, the dilatation should be deferred until after the first inflammation is over, as by adding an incised to the contused wound, two sources of irritation would exist instead of one.

II.

By a strict antiphlogistic regimen;—repeated venesection;—cooling purgatives of neutral salts, with the addition of antimonium tartarisatum;—the saline medicine;—opium joined with antimony, and other remedies proper for inflammation: which see.

Locally.—The application of leeches.—The old practice of scarifying the contused edges of the wound has lately been renewed on the continent with success.—Turpentine,—dilute solution of nitric acid,—have also been advantageously employed.—Hot fomentations; and, if the inflammation be great, fomentations of poppies and cicuta.—Warm cataplasms often repeated.

After suppuration has taken place, Peruvian bark and other tonics;—opium in large doses;—the local use of a dilute solution of nitric acid.

Where the injury has been so extensive as to require amputation, much dispute has taken place concerning the period proper for performing it.

The circumstances rendering it necessary, are,—injury done to

large joints,—fractures of the bones of the extremities,—contusion and destruction of the soft parts to such a degree as to destroy the circulation of the blood.—When it is determined upon to amputate immediately after the accident, it will be advisable to draw a considerable portion of blood from the stump during the operation, or from the arm soon afterwards.

OF GENERAL BLEEDING.

The operation of blood-letting, so as to take blood from the system generally, is performed either by opening a vein or an artery: the former is termed *Phlebotomy*, the latter *Arteriotomy*.

The *situations* usually chosen for a general discharge of blood from the system are four:—the fore-arm,—the neck,—the temple,—and the foot or ancle.

I. IN THE FORE-ARM.

The operator and patient being placed in proper relative situations, which it will be needless to describe, a ligature is to be made to encircle the arm just above the elbow, so as to compress the vein about two inches above the part from which the blood is to be drawn; and having been suffered to remain some minutes, in order that a distention may take place from the accumulated blood; the thumb of the left hand should be pressed upon the vein made choice of (the basilic or cephalic median are preferable), about two inches below the point where the orifice is to be made. The surgeon is now to take the lancet, previously bent nearly to a right angle, between the finger and thumb of his right hand, leaving at least half of the blade uncovered. He is then to rest his hand on the

three remaining fingers, while he pushes the point of the instrument cautiously through the integuments into the vein; when, having thus pierced its coats, he is to carry it forwards in a direction rather oblique until an orifice of sufficient size be made, and then to withdraw it in the same cautious manner in which it entered.

When a sufficient quantity of blood has been drawn, the ligature is to be untied, and the lips of the wound being carefully brought together, a small compress of linen is to be applied upon the orifice, and secured in that situation by a roller, passed alternately above and below the elbow, so that when applied it may describe the figure 8 by crossing at the bend of the arm.

II. IN THE NECK.

The external jugular is the vein to be selected for the purpose, and the most eligible place for performing the operation is about midway between the clavicle and the angle of the jaw.—In order to produce an accumulation of blood, it is necessary to compress the vessel on each side of the neck; and this is more conveniently done by the thumb and finger of the left hand, than by ligature and compress.—The pressure should be made about two inches below the part fixed upon for the incision.—The remaining steps in the operation are precisely similar to those above described, which need not be repeated.

III. IN THE TEMPORAL ARTERY.

The first step in the operation is to expose the vessel clearly to the view of the operator, by an incision made through the integuments in the direction of its course. A partial division of the artery is then to be made transversely, or rather obliquely, when the blood will begin to flow with great rapidity; and after a sufficient quantity has been drawn, the hæ-

morrhage is to be stopped, either by means of a compress, secured by a bandage passed around the head, or, as is a more effectual mode, by a complete division of the vessel; the hæmorrhage ceasing upon the consequent retraction of its extremities.

IV. IN THE FOOT.

The operation is seldom required to be performed in this situation. When it becomes necessary, the saphæna vein is to be chosen, and the same compression of the veins is requisite as above directed. To promote an accumulation and consequent flow of blood, it is usual to immerse the foot in warm water before and after the opening has been made. Adhesive plaster will in general be sufficient to put a stop to the hæmorrhage.

Of the morbid Consequences of Blood-letting.

I. OF INFLAMMATION OF THE INTEGUMENTS.

This will be either phlegmonous or erysipelatous, according as certain local or constitutional circumstances may happen to be present.—The symptoms and treatment have been already described when treating of inflammation in general.

II. OF INFLAMMATION OF THE VEIN.

SYMPTOMS.

The vein swells, and becomes capable of being distinctly traced in its course along the limb, by an unusual hardness to the feel, and by an erysipelatous inflammation which runs over it.—Much pain and stiffness of the arm is occasioned.—Sup-

puration often shortly takes place; most violent rigors come on, accompanied with much fever and irritation.—It has proved fatal, from the admixture of pus with the circulating fluids.

TREATMENT.

In order to prevent the extension of the inflammation along the course of the vessel, a compress should be tightly applied upon the vein, at some distance above the punctured part, in order to effect an union between its sides.—Should this be ineffectual, a complete division of the tube is recommended.—Fomentations and other local remedies should be assiduously employed. See *Inflammation.*

III. INFLAMMATION OF THE ABSORBENTS.

For the symptoms and treatment, see Punctured Wounds.

IV. INFLAMMATION OF THE SUBJACENT FASCIA.

SYMPTOMS.

Great pain referred to the part, extending downwards along the arm, upwards to the acromion of the scapula, and into the axilla; stiffness and difficulty of extending the arm.—At first there is little tumor; a considerable swelling afterwards takes place with erysipelatous inflammation, and sometimes large collections of matter form beneath the fascia.

TREATMENT.

Refrigerant lotions;—fomentations;—emollient cataplasms, and other local remedies adapted to the species and the stage of the inflammation. See *Inflammation.*

If suppuration ensue, and matter collect beneath the fascia, this should be immediately divided by an incision.—After the

violence of the symptoms has subsided, frequent motion of the arm to prevent consequent rigidity.

V. WOUNDED NERVE.

SYMPTOMS.

Excruciating pain is sometimes felt immediately upon the introduction of the instrument, and this soon followed by the most extreme constitutional irritation,—delirium,—convulsions,—tetanus.—At others, a considerable time elapses before the accession of the symptoms.

TREATMENT.

It is recommended to divide the nerve a short distance above the wound, and thereby interrupt the communication with the sensorium.—If bleeding has been performed in the median basilic vein, a division of the internal cutaneal nerve will be required: if in the median cephalic, the external.—They lie immediately above the fascia of the fore-arm, and by a careful dissection are readily discovered. Vide *Abernethy's Essays.*

VI. VARICOSE ANEURISM.

See Aneurism.

OF TOPICAL BLEEDING.

The means employed for drawing blood more immediately from particular parts consist either in the application of leeches,—in slight incisions with a lancet,—or in the use of the scarificator.

OF THE APPLICATION OF LEECHES.

The manner in which leeches are usually applied, is so well known as not to require description.—Success is rendered more certain by previously drying them, or allowing them to creep over a dry cloth ; the part also, to attract them, may be moistened with cream, sugar, or blood ; and if still not fastening, it may be cooled with a cloth dipped in cold water.—Their escape should be prevented by covering them with a small glass.

OF SCARIFICATION AND CUPPING.

This is performed, where the part will admit, by means of an instrument called the scarificator, in which a number of lancets are placed in such a manner, that when it is applied upon the affected part, the whole are, by means of a spring, pushed suddenly into it, to a depth at which the instrument has been previously regulated.

After scarification has been performed in the above manner, bleeding is promoted by means of glasses, from which the air has been exhausted by heat, or by an exhausting syringe.—The usual mode of applying heat is by holding the glass over the flame of a lamp.—An equally or more effectual method is, to moisten a small piece of tow with spirit of wine, to set it on fire in the bottom of the glass, and on the flame being nearly extinguished, instantly to apply it over the scarified part.—The glasses are to be occasionally removed, and again applied, until a sufficient quantity of blood has been drawn.

OF ISSUES.

Issues are artificial ulcers, made with the design of producing a permanent discharge of purulent matter —Three different kinds are now in common use; the blister-issue,—the pea-issue,—and the seton.

The *situations* chosen for their formation will depend upon the particular morbid state of the system for which they are employed.—The most frequent are, the nape of the neck; the middle of the humerus, or hollow of the deltoid muscle; between the shoulders, or ribs, and in the inside above or below the knee.

Objectionable parts are, wherever there is not a sufficiency of cellular substance for the protection of the parts beneath;—immediately over the belly of a muscle;—over a tendon, or thinly covered bone;—near any large blood-vessel.

OF THE BLISTER-ISSUE.

This is formed by the continued application of a small blister, or vesicant, to the part, until the scarf-skin is destroyed; when being removed, the discharge is to be promoted by milder applications of the same nature with the vesicant, alternately with some mild liniment, according to the degree of the discharge required.

THE PEA-ISSUE

Is formed by making an incision with a lancet, or by the application of caustic.

When the *lancet* is chosen, the parts are to be previously pinched up with the finger and thumb, and then cut through until an opening of sufficient size has been formed.

The following is the best mode of applying *caustic:* The part is first to be covered with a piece of adhesive plaster, in the centre of which a circular hole has been cut of the size of the intended issue;—in this hole the caustic, *kali purum*, made into a paste with soap, is to be placed: the whole is then to be covered with another plaster, secured by a bandage, and suffered to remain for ten or twelve hours. Generally in two or three days an escar begins to separate, when the opening should be filled with the substance made choice of; this may either be a pea, a bean, small pieces of orris or gentian root, orange-peas, &c.

THE SETON.

The seton is made by means of a needle invented for that purpose with an attached skein of cotton or silk: in inserting it, the parts at which it is to enter and pass out are to be previously marked, and a small part of the skein smeared with some mild unguent. After which the needle is to be passed completely through, and then separated from the cord, which should be suffered to remain within the wound, its ends hanging from the edges.—It is daily to be dressed with a mild unguent; and if the discharge should cease, it may be stimulated with the ceratum cantharidis,—unguentum hydrargyri nitrati rubri,—or unguentum sabinæ.

OF ULCERS.

By an ulcer is meant a chronic solution of continuity of the animal solid; accompanied with a purulent or other discharge.

Ulcers are considered as *healthy* or *vitiated*.—The former state is where the healing process goes gradually on, without interruption, until a cure is effected;—the latter, where some circumstance, either local or constitutional, forms an impediment to the healing of the sore; and hence, according to the nature of the cause, such ulcers have obtained various denominations; as, the indolent, the inflamed, the sinuous, the scrofulous, &c.

OF THE BENIGN OR HEALTHY ULCER.

CHARACTER.

Granulations, or little eminences, arising from the surface, of a florid red colour; small in size, and pointed at top;—the discharge bland, white, opake;—the edges thin and even with the sore; being neither inverted nor retorted.

TREATMENT.

Indications.

I. To preserve the healthy state of the granulations.

II. To promote cicatrization, when they have attained the level of the adjacent cutis.

I.

By avoiding all sources of irritation;—by perfect rest;—an horizontal posture;—and by the use of mild and simple ointments, as unguentum ceræ—ceratum lithargyri acetati—or the like.

II.

By compression with straps of adhesive plaster (see *the Habitual Ulcer)*;—by the application of dry lint to the surface of the sore;—by mild astringent ointments and lotions—the unguentum cerussæ acetatæ,—ceratum lapidis calaminaris,—lime-water,—weak solution of vitriolated zinc.

I. OF LOCAL VITIATED ULCERS.

These are certain deviations from the benign or healthy state above described. The causes inducing the morbid change, or the impediments to healing, are numerous, and require separate consideration.—Although greatly influenced, and often induced, by the general state of the body, as to vigour, debility, irritability, &c. they are totally unconnected with any specific constitutional taint.

The intentions in the treatment of each will be to obviate the particular cause that has induced the vitiated state; and to restore the ulcer to its original healthy disposition.

1. *Of the inflamed state.*

CHARACTER.

The ulcer appears of a dark colour;—it is surrounded by an extensive, inflamed, areola,—the surface is covered with a brown transparent ichor.

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TREATMENT.

Fomentations and cataplasms used until it shall have lost its brown appearance;—narcotic fomentations of cicuta,—belladonna,—poppies,—digitalis, &c.—If the inflammation be severe,—leeches to the neighbourhood of the sore;—cooling purges of magnesia vitriolata, or of natron vitriolatum.

11. *Of the irritable and painful state.*

CHARACTER.

The margin of the surrounding skin, jagged, and terminating in a sharp and undefined edge.—The bottom made up of concavities of different sizes, without any appearance of granulations;—the surface covered with a thin, ichorous discharge.—It is exquisitely painful upon the slightest touch.

CAUSE.

As it is usually accompanied with a debilitated state of the part, and is relieved by tonics, it most probably is that irritability which is often the consequence of weakness.

TREATMENT.

In some instances cold applications succeed best in relieving the pain; in others, warm;—fomentations, therefore, or infusions, previously allowed to cool, may be successively used; of cicuta,—belladonna,—the heads of the white poppy.

Opium externally applied, and joined with camphor and cicuta and administered internally.

℞. Tincturæ opii ʒij.
Aquæ distillatæ ʒxij.

Fiat lotio sæpe applicanda.

℞. Opii purificati gr. ½.
Camphoræ gr. v.
Succi cicutæ spissati gr. iij.
Fiat bolus octavis horis sumendus.

Tonic lotions of zinc vitriolated,—of argentum nitratum, applied with a camel-hair pencil,—or a solution of natron vitriolatum.

℞. Zinci vitriolati ʒj.
Aquæ distillatæ ℥xij.
Solve.

SOLUTIO ARGENTI NITRATI
Ph. Chir.

℞. Argenti nitrati ϑj.
Aquæ distillatæ ℥ſs.
Solve.

℞. Natron vitriolati ʒj.
Aquæ distillatæ ℥vij.
Fiat lotio.

The unguentum picis. *Kirkland.*

Balsamum Peruvianum, applied on lint, has been attended with good effect.

Hydrogenous and carbonic acid gasses. *Dr. Rollo.*

Carbon joined with opium. *Mr. Home.*

III. *The sloughing state.*

This is a mortification of the granulations, and may be the effect, either of a preceding state of high inflammation, or of a debility of the part.—For the treatment, see *Mortification.*

IV. *The phagedænic state.* See *Phadegænic Ulcer*, page 61.

v. *The indolent state.*

In this state the part does not possess sufficient vigour for the formation of granulations; and consequently for the healing of the sore.

CHARACTER.

The ulcer has a peculiar pallid appearance, and is covered with a transparent, glairy fluid, or with a lymph, which is with difficulty separated, and which gives to it a white appearance. The edges are thick, prominent, smooth, and rounded; there is no appearance of granulations, or, if any are perceived, they are morbidly pale;—it sometimes becomes livid, and not unfrequently degenerates into gangrene.

TREATMENT.

The internal administration of tonics and stimulants: cinchona,—angustura,—preparations of steel, &c.

The inhalation of oxygen gas. *Dr. Beddoes.*

Locally.—The unguentum oxidi hydrargyri rubri *Ph. Ed.*, or the hydrargyrus nitratus ruber, applied in form of powder;—the unguentum hydrargyri nitrati.

Lotions, composed of solutions of vitriolated zinc, solution of argentum nitratum, or of hydrargyrus muriatus in lime-water;—the camphorated water of vitriolated copper.

AQUA CUPRI VITRIOLATI CAMPHORATA

Ph. Chir.

℞. Cupri vitriolati,
Boli Gallici, singulorum ℥ss.
Camphoræ ʒj.
Aquæ fervɛntis ℔iv.

The boiling water is to be added to the other ingredients, and the liquor filtered when cold.

A weak solution of nitrous acid.

Extract of chamomile in solution, externally and internally. *Collensbusch in Hufeland's Journal.*

Fomentations, formed from angustura,—Swietenia febrifuga,—oak bark.

From walnut-leaves. *Mr. Home.*

Electricity.

Arsenic administered both internally and externally. *Mr Home.*

Powders of rhubarb,—colombo,—gentian. *Mr. Home.*

Compression, by the use of the laced stocking, and by straps of adhesive plaster. *Baynton.*—See *Habitual Ulcer.*

VI. *The fungous state.*

Fungi, arising from the surface of ulcers, may be of two kinds: the true fungus, of irregular spongy growth; or the healthy granulations suffered by neglect to attain too great a height.

TREATMENT.

The application of strong stimuli, as, solutions of argentum nitratum.

Of ammonia muriata in spirit.

The pulvis sabinæ, or an ointment formed from it;—the unguentum hydrargyri nitrati rubri.

Escharotics, of which the best are, the argentum nitratum, and the cuprum vitriolatum —During the use of these, dry lint should be kept applied to the surface of the sore.—When by some of these means the fungus has been reduced in size, adhesive straps and bandage.

VII. *The callous state*

Consists in a morbid induration, and thickening of the edges of the sore.

TREATMENT.

Escharotics: the argentum nitratum.

Sheet lead, so applied as to press upon the edges only.

Adhesive straps and tight bandage.

Scarification of the callous parts.

The unguentum cantharidis confined to the edges of the ulcer.

VIII. *The sinuous and fistulous states.*

These are longitudinal excavations, formed by matter insinuating itself in an improper direction; having no opening by which it could issue externally.—They are distinguished from each other by the edges of the latter being callous; of the former, not.

TREATMENT.

Of the sinuous ulcer.—A counter opening where practicable; after which continued pressure by bandage, or other means.—Should this be impracticable or unsuccessful, stimulating injections; as, tincture of cantharides;—a solution of hydrargyrus muriatus, or of the nitric or muriatic acids;—a solution of argentum nitratum applied by means of a feather, or the hydargyrus nitratus ruber applied on lint.—The introduction of a seton;—a free dilatation of the sinus, and consequent conversion into an incised wound.

Of the fistulous ulcer.—Added to the above, the means of treatment before recommended for the callous ulcer.

IX. *The varicose state.*

An indolent ulcer, accompanied with a varicose distention of the brims around the ulcer, and frequently of the whole leg. It is generally concomitant with the callous state above described, and not unfrequently induced by it.—It more espe-

cially occurs in tall men, to soldiers, to those accustomed to much fatigue, and after a change of climate.

TREATMENT.

If the edges of the ulcer be callous, these should first be removed by appropriate means. See *Callous Ulcer*.—Should the varix afterwards continue, recourse may be had to the use of the linimentum ammoniæ;—to covering the part with oilskin;—electricity;—mercurial friction or plaster.—If these prove unsuccessful, it is advised by Mr. Home to obliterate the saphæna vein above the knee.

This *operation* may be performed in either of the following modes: Having exposed the vein clearly to the view by an incision through the integuments, a ligature is to be passed around it by means of a blunt crooked silver needle; it is then to be tied with a moderate degree of firmness, and suffered to remain for the space of five or six days, when it may be removed: an artificial valve will thus be formed. Or the vessel may be completely divided, and compression afterwards made upon the part with a compress and tight bandage passed around the thigh.

x. *The menstruous state.*

During a suppression of the menses, a discharge is often observed to take place periodically from ulcers; bearing an exact resemblance to the customary uterine hæmorrhage, and which becomes an obstacle to their healing.

TREATMENT.

The object will be to remove those causes which obstruct the menstrual discharge.

xi. *The carious state.*

This is a state of ulceration with which there is a concomitant disease of a contiguous bone.

CHARACTER.

There appear various granular irregularities, and considerable prominences, from the interstitial deposit which takes place in the bone.—The fungi are loose, soft, and of a dark colour;—the discharge is a brown sanies of very offensive fetor;—the edges of the sore are generally livid.—It has been preceded, and is generally accompanied, by the peculiar deep-seated pain, and other symptoms, which characterize inflammation and mortification of bone. See *Diseases of the Bones.*

TREATMENT.

Added to the general treatment of common ulcer, that proper for exfoliation and necrosis will be requisite. Vide *Diseases of the Bones.*

II. CONSTITUTIONAL VITIATED ULCERS.

Ulcers which have their origin in, or are connected with, a specific affection of the constitution.

I. THE SCORBUTIC ULCER.

CHARACTER.

The scorbutic ulcer strikingly differs in appearance from the benign or healthy one first described.—It is of a brown colour, and covered with a sanious ichor;—the surface is irregular;—the texture of the granulations loose and unconnected, often shooting forth fungous excrescences, which bleed upon the slightest touch.—It is surrounded by a livid areola, in which petechiæ and maculæ are frequently observed.—The discharge is thin and sanious.—It is accompanied by those circumstances which mark the existence of scurvy in the system. See *Medical Writers on Scurvy.*

TREATMENT.

Constitutionally.—The treatment laid down by medical writers for the cure of scurvy.

Locally.—Vegetable and fermenting cataplasms, of which various species are recommended.

The yeast poultice, or cataplasma effervescens *Ph. Chir.* See *Mortification.*

The carrot poultice:—

CATAPLASMA DAUCI
Pharm. Chir.

Boil carrots a sufficient length of time, and mash them into a pulp.

Cataplasm of the bruised leaves of sorrel. *Mr. Sandford, Worcester.*

Poultices of the pulp of apples have been successfully employed on the continent.

Pulverized carbon: the cataplasma carbonis. See *Mortification.*

Carbonic acid gas has been used, by means of an apparatus constructed for this purpose.

Oxygen gas.

Fomentations of angustura.

The admixture of mel æruginis, mel rosæ, with a small quantity of vitriolic acid. *Lind.*

A solution of nitre in vinegar. *Patterson on the Scurvy.*

The gastric juice of graminivorous animals. *Dr. Harness.*

At the Liverpool Infirmary, hops are employed as an external application.

A dilute solution of muriatic and nitric acid in the form of lotion, or formed into a liniment with honey.

The topical use of various powders;—bark,—myrrh,—rubigo ferri,—colombo,—rhubarb. *Mr. Home.*

Unctuous applications have been found prejudicial.

Pressure with adhesive straps.

II. THE SCROFULOUS ULCER.

CHARACTER.

Its appearance is that of a pallid and indolent ulcer, the surface of which is covered with a transparent shining fluid, giving it the appearance which has been termed glassy.—The discharge is generally that whitish curdled matter, which characterizes scrofulous suppuration. The surrounding skin is often of a deep brown or livid colour;—the edges are thick, retorted, and insensible; often, however, they are inverted, and exquisitely painful.—It has been preceded by other scrofulous appearances in the system.

TREATMENT.

Constitutionally.—Vide *Medical Treatment of Scrofula.*

Locally.—Lotions of natural or artificial salt water;—a solution of natron muriatum applied on linen cloths.

Keeping the parts immersed in tepid sea-water for the space of ten or fifteen minutes.

The camphorated fomentation of muriated ammonia.

FOMENTUM AMMONIÆ MURIATÆ CAMPHORATUM
Ph. Chir.

℞. Fomenti communis ℔ij.
Ammoniæ muriatæ ʒj.
Spiritus camphorati ʒij.

Whilst the fomentation is hot, the muriated ammonia is to be dissolved in it, and the camphorated spirit added at the instant of its being employed.

A cataplasm of the quercus marinus, simply bruised, as a substitute for sea-water. *Mr. Hunter.*

The topical application of solutions of nitric acid:

℞. Acidi nitrici gutt. l.
Aquæ font. ℔ij.

F. lotio.

Or of argentum nitratum:

℞. Argenti nitrati ℈j.
Aquæ distil. ℥viij.

Solve.

Of vitriolated zinc.—Lotions of lime-water;—of Fowler's arsenical solution.

The myrrh lotion of the Chirurgical Pharmacopœia.

LOTIO MYRRHÆ
Ph. Chir.

℞. Tincturæ myrrhæ,
Aquæ calcis, āā ℥ij. M.

Finely levigated burnt sponge;—rubigo ferri.

Muriate of barytes. *Dr. A. Crawford.*

Rhubarb. *Mr. Home.*

Tinctura cantharidis applied by means of a camel-hair pencil, or the ceratum cantharidis.

The ceratum salis cornu cervi:

CERATUM SALIS CORNU CERVI
Ph. Chir.

℞. Salis cornu cervi ʒſs.
Unguenti ceræ ℥ſs. M.

III. THE CANCEROUS ULCER.

CHARACTER.

The cancerous sore is extremely irregular;—on its surface are seen various prominences and excavations, from one or more of which a hæmorrhage is frequently observed to proceed.

—It is attended with a peculiarly burning and lancinating pain, which is generally intermittent.—The edges are thick, indurated, and often exquisitely painful; they are sometimes retorted, most frequently inverted.—The surface is often rendered still more irregular by a cicatrix running across it.—The discharge is a fœtid ichor.

TREATMENT.

The chief intentions in the treatment of ulcerated cancer are—to correct the fetor of the discharge,—to allay pain and lessen irritability.

By ablution with a dilute solution of the oxygenated muriatic acid. *Dr. Crawford.*

The carrot poultice.

The fermenting poultice.

Carbonic acid gas. *Dr. Ewart.*

Pulverized carbon, or the cataplasma carbonis *Ph. Chir.*

Arsenic: the arsenicum antimoniatum, with the addition of opium, is preferable to Plunket's powder, or any other arsenical remedy.

ARSENICUM ANTIMONIATUM
Pharm. Chir.

℞. Antimonii pulverisati ℥ij.
Arsenici pulverisati ℥j.

These are to be fluxed in a crucible, and afterwards reduced to powder.

Fowler's arsenical solution applied as a lotion, or mixed with meal in the form of poultice.

An infusion of the lauro-cerasus. *Prof. Richter, Gottingen.—Dr. Cheston, Gloucester.*

Cataplasm with kali acetatum. *Mr. Naylor, Gloucester Infirmary.*

Diluted tinctura ferri muriati. *Mr. Justamond.*

Argentum nitratum joined with opium.

Oleum lini is said to have been successfully used.

In order to allay pain, fomentations of poppies,—fomentations and ointments of cicuta,—of digitalis,—of belladonna,—of hyoscyamus, or of nicotiana.—The application of meal to the surface.—A blister applied near to the ulcerated part.

IV. THE VENEREAL ULCER.

Vide *Syphilis.*

V. THE PHAGEDÆNIC ULCER.

Of this there are two species:—I. "A sloughing with ulceration, and each in succession"—II. Ulceration kept up by the irritation of secreted pus, causing extension of the ulcer without sloughing. Vide Adams, Observations on Morbid Poisons.

TREATMENT.

Internally.—For remedies appropriated to the first species, see *Mortification.*

The second species requires hydrargyrus muriatus, with decoctions of mezereon, of sarsaparilla, cinchona, and guaiacum. — Cicuta, — hyoscyamus, — ferrum ammoniacale, — tinctura ferri muriati,—arsenic.

Locally.—The topical applications recommended for mortification are equally useful to the sloughing phagedænic ulcer.

In the second species, fomentations of cicuta and belladonna; —the cataplasma effervescens;—a solution of opium, or opium in the form of ointment.

℞. Tincturæ opii ʒij.

Aquæ distillatæ ℥ij. M.

℞. Opii purificati pulverisati ʒj.
Unguenti ceræ ℥j.
Fiat unguentum.

A dilute solution of muriated tincture of iron, or ammoniacal iron.

℞. Tincturæ ferri muriati ʒj.
Aquæ distillatæ ℥viij. M.

℞. Ferri ammoniacalis gr. xij.
Aquæ distillatæ ℥viij. Solve.

Of arsenic, or Fowler's solution made into a cataplasm with meal.

Of argentum nitratum;—of nitric acid;—pulverized carbon, or the cataplasma carbonis.

VI. THE CONTAGIOUS ULCER.

Accounts are given of this species of ulcer by Henderson, Ballard, and Edwards, in the Medical Journal.

CHARACTER.

It is peculiar to seamen and soldiers.—It generates a poison capable of converting other healthy ulcers into its own nature.—It generally appears in the inner side of the leg near the ancle.—It discharges a thin acrimonious matter, which excoriates the neighbouring parts.—It exhales a putrid fetor, and frequently shoots forth fungous excrescences;—the leg becomes œdematous and painful,—the sore bleeds upon the slightest touch,—putrid sloughs are frequently cast off, and often a caries takes place.—If suffered to go on, hectic fever ensues, with colliquative sweats, diarrhœa, &c., and the termination is sometimes fatal.

TREATMENT.

The following remedies are found most efficacious: The carrot and yeast poultice;—the local use of tonics and stimu-

lants, as lotions of tincture of myrrh with bark,—of argentum nitratum,—of cuprum vitriolatum;—camphorated spirit;—camphorated vinegar;—hydrargyrus nitratus ruber;—the cold salt bath;—the application of the juice of limes.—If irritable and painful, the cicuta and poppy fomentations.—The internal administration of bark with steel, and vegetable fermenting substances.

THE HABITUAL ULCER.

An ulcer chiefly in the lower extremities, which has been of so long standing that the constitution has become habituated to it, and none of those processes spontaneously take place by which the cure of ulcers is effected.

TREATMENT.

The edges of the wound are to be made as nearly as possible to approximate by means of adhesive straps.—Mr. Baynton has published on this method of cure: he directs the limb to be encircled with straps of adhesive plaster for the space of an inch both above and below the sore; the straps should be about an inch and an half in breadth, and made of the emplastrum adhesivum spread on calico. After their application, the whole of the affected parts should be defended with pieces of soft calico; a calico bandage is then to be applied from the foot to the knee, with as much firmness as the patient can bear; and lastly, that part of the limb which is the seat of the ulcer, is to be well moistened with cold spring water poured from a large teapot.—The cure is assisted by moderate mechanical motion, and electricity.—During and after the healing of the ulcers, the patient should use frequent mercurial purges.—Issues are also recommended.—In persons who are the subjects of chronic visceral disease, the suppression of such long-accustomed evacuations will be improper.

OF BURNS AND SCALDS.

The injury produced by the application of intense degrees of heat to the surface of the body may be in three different states:—First, wherein a state of simple inflammation is produced without a destruction of the cuticle;—secondly, where the cuticle is either elevated in the form of vesicles containing a serous fluid, or totally destroyed;—and thirdly, where the injury has been so great as to destroy the subjacent cellular or muscular substance.

There is generally excessive pain, and if the burn or scald be extensive, a fever is induced, with an extremely rapid pulse,—dry foul tongue,—flushed countenance,—sometimes extreme irritability and restlessness, at others torpor and often coma.—It not unfrequently proves fatal.

TREATMENT.

Two different and opposite modes have of late been proposed for the treatment of burns, each of which has numerous advocates.

Sir James Earle recommends the use of cold applications, and the antiphlogistic treatment: he directs the parts to be immediately immersed in cold water, in water cooled by ice, or that ice or snow, if either can be procured, should be applied to them.

Mr. Kentish, on the contrary, advises the topical and internal administration of powerful stimuli.—His plan of treatment is as follows: The parts are first to be bathed two or three times with spirit of wine, with camphorated spirit, or spirit of turpentine made warm by standing in hot water;—after which a liniment is to be applied, composed of the unguentum

resinæ flavæ softened with turpentine. At the second dressing ablution with proof spirit, and thus successively milder applications, till the cure is effected.

Internally; æther, brandy, opium; afterwards, wine, ale, &c. until suppuration takes place, when the most bland applications are to be substituted for the stimulating.

Mr. Cleghorn, a brewer at Edinburgh (see Medical Facts and Observations, vol. ii.), has treated burns with success, by applying, in the first place, vinegar, until the pain abates;—secondly, an emollient poultice;—and thirdly, as soon as any secretion appears, by covering the sore with powdered chalk.

Lime-water, with linseed oil, has been often used:—

LINIMENTUM OLEOSUM
Ph. Guy.

℞. Olei seminis lini ℥jſs.
Aquæ calcis ℥iij. M.

Fiat linimentum partibus affectis applicandum.

Dr. Underwood advises the application of liquefied soap.

The CATAPLASMA RADICIS SOLANI TUBEROSI of the Pharmacopœia Chirurgica, which is raw potatoes pounded to a proper degree of fineness, may be advantageously employed.

Perhaps the best application, immediately after the accident, is spirit of wine, united with the aqua lithargyri acetati composita, or aqua calcis.

℞. Aquæ lithargyri acetati compositæ ℥xiij.
Spiritus vini tenuioris ℥iij.

Fiat lotio.

If much febrile heat ensue, gentle laxatives, and the saline medicines.

To alleviate pain, when excessive, the internal and external use of opium.

If the injury have been very severe, suppuration, and the separation of sloughs, should be promoted by applying fomentations and emollient cataplasms.

A dilute solution of nitric acid is also in this state an excellent application. See page 59.

OF THE PARONYCHIA, OR WHITLOW.

The paronychia is a phlegmonous tumor, occupying the extremity of the finger.—From its different seat, it has been classed into four species.

The first species is situated around the nail, immediately under the cuticle.—It appears in the form of a small swelling, attended with a degree of redness and some pain, at the root or at one corner of the nail;—the skin is very little discoloured;—it quickly advances to suppuration, when the cuticle appears almost transparent.—After the contents of this little abscess have been evacuated, the ulcer soon spontaneously heals.—The loss of the nail is however in some instances, through improper treatment, the consequence of the disease.

TREATMENT.

Lotions of camphorated spirit, or a solution of ammonia muriata, to resolve the inflammation.

℞. Ammoniæ muriatæ ℥j.
Aceti communis ℥ij.
Spiritus vini tenuioris ℥j.
Aquæ distillatæ ℥xij.

Fiat lotio.

If suppuration ensue, marked by one white, prominent spot,

the cuticle should be immediately removed, and an exit given to the contained fluid.

The second species is in the cellular membrane, at the extremity of the finger.—Its attack and progress are more severe than in the cutaneous, and attended with more acute and throbbing pain; the swelling is more uniform, and there is a considerable elevation of the skin; the suppuration is more slow, and matter often insinuates itself beneath the nail.

TREATMENT.

Long-continued immersion in warm water;—the application of spirituous and saturnine lotions, and the lotion of ammonia muriata, page 66.—If these fail in effecting a resolution of the tumor, an early and free incision should be made through the integuments, and carried to the bottom of the diseased part; after which the blood may be suffered to flow for some time, and the opening treated as a common wound.

The third species is seated underneath the sheath of the flexor tendons of the fingers.—It is infinitely more violent, and dangerous, than the two preceding.—The matter meeting with greater difficulty in finding its way outwards, often insinuates itself among the tendons, and gets into the hand, where a fluctuation is generally felt under the aponeurotic expansion of the palmaris muscle.—The pain is generally most excruciating, and extends along the internal condyle of the humerus up to the axilla, often occasioning a painful tumefaction of the whole arm: there is great inflammation of the parts; much restlessness; a considerable degree of fever, and more or less delirium, according to the greater or less violence of the complaint.

TREATMENT.

An early incision through the strong ligamentous bands

which confine the tendons.—Should the collection of matter have already extended into the palm of the hand, the aponeurosis of the palmaris should be cautiously, yet freely, divided; —opium should be administered to allay pain and irritation, and the fever, if considerable, treated as an idiopathic complaint.

The fourth species is where the matter is formed beneath the periosteum, or where the bone itself is diseased.—In this, the pain is much more deeply seated, and, though not so acute, is more distressing than in the former species; in some cases so much so, as early to induce fever and delirium.—The disease is more local than the preceding; the arm and hand being little affected, and the swelling of the part much less considerable; —the finger frequently becomes livid, is covered with little blisters containing a bloody serum, and threatens mortification.

TREATMENT.

When the above-described violent pain occurs at the extremity of the finger, and proceeds to induce fever and delirium, it will be advisable, although no external marks of disease may be present, to make an incision at the extremity, or a little to the side of the finger, and carry it down to the bone; by this means sometimes a small portion of dark-coloured sanies will be evacuated, at others blood alone.—If this prove unsuccessful, it has been advised to amputate the finger: this will, however, in the early stage seldom be necessary.—When the bone is carious, recourse must be had to the treatment recommended for necrosis. It will in general soon become loose, and with a forceps may be withdrawn from the sore parts; after which, lint may be interposed between the edges of the wound, that granulations may arise and fill up the cavity.

OF THE FURUNCULUS, OR BOIL.

CHARACTER.

A hard, circumscribed, exquisitely painful phlegmonous tumor, generally appearing under the figure of a cone, the base of which is considerably below the surface of the surrounding skin.—Upon the most prominent part of the boil, there is commonly a whitish or livid pustule, exquisitely sensible to the touch, and immediately beneath this is the seat of the abscess.—The matter is generally slow in forming, and is seldom found to exist in considerable quantity.—Its seat is the cellular membrane of any part of the body: its size seldom exceeds that of a pigeon's egg.

TREATMENT.

Suppuration should be promoted by cataplasms, fomentations, the long exposure of the part to the vapour of hot water;—by stimulant plasters, and other means laid down for the treatment of slow suppuration; see *Abscess*.

Where there is a disposition in the body to the formation of boils, Peruvian bark, preparations of steel, acids, and sea-bathing, have been found serviceable; as also the use of diuretics, as cream of tartar, nitre, Rochelle salt, vegetable and mineral alkalies.—*Pearson's Principles of Surgery*.

OF THE PERNIO, OR CHILBLAIN.

CHARACTER.

A painful inflammatory swelling, sometimes of a florid, more frequently of a deep purple, or leaden colour, appearing in the

fingers, toes, heels, and other extreme parts of the body.—The pain is not constant, but rather pungent and intermitting; accompanied with an insupportable itching and sense of tingling; especially when exposed to heat.—The part often becomes œdematous, and ulceration not unfrequently supervenes; in which case a vesication, or simple separation of the cuticle, is first observed, and below this there appears a foul, irregular, painful ulcer, which, by neglect, will increase to a considerable magnitude.—It sometimes terminates in gangrene.

CAUSE.

Exposure to severe degrees of cold.

TREATMENT.

Preventive.—Carefully defending the parts from external cold by warm clothing, or the application of adhesive plasters;—giving tone and action to the parts subject to the disease, by exercise or friction;—hardening the cuticle, and promoting the circulation, by stimulants; as alkohol,—spirit of turpentine,—lotions of a saturated solution of natron muriaticum,—of ammonia muriata,—or of alum.

In the inflamed state.—The topical application of camphorated spirit, joined with vinegar;—a solution of alum, or cataplasm with the addition of pulverized alum;—spirit of rosemary, to which a small portion of spirit of turpentine has been added.

In the ulcerated state.—The treatment recommended for indolent ulcer; which see.

OF THE ANTHRAX, OR CARBUNCLE.

CHARACTER AND SYMPTOMS.

A deeply seated, hard, immoveable, and distinctly circumscribed tumor; generally appearing in the posterior parts of

the body, and most frequently attacking people above the middle age, and luxurious livers.—About its centre it is of a dusky red, purple, or livid colour, but is much paler, and often variegated, towards its circumference.—There is often an extensive areola of a brownish hue.—It is accompanied with an intensely painful sense of burning;—small purulent vesications or pustules appear, which, when ruptured, evacuate a dark-coloured sanies, and often discover a sphacelated base.

It usually commences with a small pimple, which runs deeper and deeper into the cellular membrane, until the base becomes extremely broad.—In the beginning, it is sometimes accompanied with symptoms of general inflammation, but more commonly with rigors,—sickness,—faintings, succeeded by great prostration of strength,—languid pulse,—and symptoms of typhus.—It not unfrequently degenerates into a sloughing ulcer.—It is sometimes accompanied with a miliary eruption, or with petechiæ dispersed in different parts of the body.—It not unfrequently degenerates into a sloughing ulcer.

TREATMENT.

Internally.—Nutritive generous diet,—wine,—Peruvian bark,—preparations of steel, and other tonics,—opium,—aromatics, &c.

Locally.—Lotions of vitriolated zinc, or of a solution of tinctura ferri muriati.—Fomentations of oak bark,—or the camphorated fomentation of muriated ammonia, page 58.—Should sloughing supervene, recourse will be had to the appropriate treatment. See *Mortification.*

OF CONTUSIONS AND SPRAINS.

A contusion is an injury to the soft parts of the body, occasioned by a fall, blow, or by violent pressure, without wound or loss of substance.—It is usually accompanied with an effusion of blood, or other fluids, from the rupture of some of the small vessels; by which the parts acquire a deep red, leaden, or livid colour.—When the injury has been severe, a sphacelus is not an unfrequent consequence.

A sprain is a painful and inflammatory local affection, owing to the over-distention of a tendon or ligament.—It most frequently happens in the wrists, knees, and ancles.—It is generally accompanied with an extravasation of blood; giving to the integuments the discoloured appearance above described.—Injuries of this kind are sometimes accompanied with loss of motion for many weeks; and often a thickening of the parts takes place, which continues for the remainder of life, and produces, at particular times, and upon any exertion, a recurrence of severe pain.

TREATMENT.

Immediately after the accident, long-continued immersion of the part in water heated to 112°.—The application of leeches;—restringent applications; such as vinegar, in the form of cataplasm, made by mixing oatmeal and vinegar;—camphorated spirit;—lees of red wine;—the embrocation of ammonia:—

EMBROCATIO AMMONIÆ
Pharm. Chir.

℞. Saponis mollis ʒij.
Spiritus vini tenuioris ℥j.
Digere, dein adde—
Aquæ ammoniæ acetatæ ℥j.
Aquæ ammoniæ puræ ʒij.

Where a weakness remains behind in consequence of a sprain, pumping cold water every morning upon the part, and wearing a calico bandage to support it, will be the most effectual means of invigorating it.

OF TUMORS.

OF SARCOMATOUS TUMORS.

These are vascular tumors arising from a morbid growth of skin.—They generally begin with a small warty projection, which soon becomes pendulous, and sometimes, though not often, enlarges to a considerable size.—As the tumor increases, and becomes weighty, it draws the skin from the neighbouring parts, and a pedicle is thus formed.—In advanced life it becomes smooth, livid, and in some instances has degenerated into cancer.

Of this species are *nævi materni*, or *original marks*, which are small excrescences, sometimes hardly arising above the cuticle, at others considerably protuberant;—they are firm, fleshy, and very vascular, consisting solely of a congeries of vessels.

Smaller tumors of the sarcomatous kind are denominated *warts:* these are usually confined to the hands and fingers, and pudenda, where they are often situated in great number, and follow as a consequence of the venereal disease, though not themselves partaking of the venereal taint.

Corns are small tumors of a horny nature, situated on the feet and toes: they consist in a diseased state of the cuticle produced by pressure.

DIAGNOSIS.

Sarcomatous tumors are distinguished from all others by the hardness of their texture;—by their great vascularity;—by the absence of pain and inflammation.

TREATMENT.

When small in size, they are to be removed, either by strong stimuli, or by escharotics, as they happen to be more or less firm in texture: previous to the application of these, the cuticle may, if indurated, be softened by immersion of the part in warm water, or by fomentations or emollient cataplasms.

The stimulants commonly employed for this purpose are—savine powder, or the compound powder of savine or of rhubarb.

PULVIS RHABARBARI COMPOSITUS
Ph. Chir.

℞. Pulveris rhabarbari,
——— ipecacuanhæ, singulorum partes æquales.
Fiat pulvis.

PULVIS SABINÆ COMPOSITUS
Ph. Chir.

℞. Pulveris sabinæ,
——— æruginis, singulorum partes æquales.
Fiat pulvis.

The tinctura ferri muriati is sometimes successful.

A solution of hydrargyrus muriatus in alcohol:

℞. Hydrargyri muriati ʒj.
Spiritus vini rectificati ℥ij.
Fiat solutio.

The solution of argentum nitratum, page 51.

A solution of ammonia muriata:

℞. Ammoniæ muriatæ ʒj.
Spiritus vini rectificati q. s.
ad solutionem ejus.

As escharotics, argentum nitratum,—antimonium muriatum, —arsenic.

When they have attained a large size, removal by ligature, or by excision, will be advisable;—if pendulous, and hanging by a small base, the former mode is preferable;—if, on the contrary, the base be broad, *excision* will be the only mode of extirpation: this consists simply in a cautious dissection of the tumor from the surrounding parts.

Corns should be secured from pressure by means of a piece of thick adhesive plaster; in the centre of which a hole has been made for the reception of the projecting part. This, with frequent immersion in warm water, and occasional paring, has often been found to remove them.—An effectual mode of extirpation is by the application of a small blister; the effect of which will generally be to raise them with the cuticle.

OF STEATOMATOUS TUMORS.

These consist in a morbid growth of the adipose membrane: their first appearance is usually a small excrescence, soft and œdematous; this gradually increasing, often attains an enormous size.—They are free from pain and inflammation and discolouration of the cuticle, and occasion inconvenience to the patient only by their bulk; sometimes, however, after they have become extremely large, inflammation and ulceration take place.—They are soft to the touch; feeling not unlike the omentum contained within a hernial sac.

DIAGNOSIS.

The characteristic marks are—the softness of their texture; —their great bulk;—the absence of pain and inflammation.

TREATMENT.

Removal, either by ligature, or by excision: the latter mode is preferable, except the tumor is extremely pendulous, and hangs by a small pedicle.—The operation of excision is in general a simple one, except in certain situations, as in the neck, where great delicacy and caution are required, to prevent doing injury to contiguous important parts.—In performing it, sufficient integument should be saved to effect a consequent union by the first intention.

OF ENCYSTED TUMORS.

The true encysted tumor is a collection of matter contained within a cyst formed by adhesions in the cellular membrane.—From the nature of its contents, it has obtained different appellations, as atheromatous, meliceratous, &c.—Its seat is the cellular membrane of any part of the body: its size usually that of an egg; and it seldom or never increases to a great bulk.—It begins with a distinctly circumscribed swelling, hard to the feel, and unattended by pain.—It gradually gets larger and larger, until some slight inflammation comes on, when it becomes in a small degree painful, and a fluctuation is soon afterwards distinctly perceived.—As it slowly enlarges, the vessels of the integuments become varicose, and in some instances, though not often, slightly livid.

DIAGNOSIS.

It is distinguished from common abscess by the extreme slowness of its progress to maturation, and by the absence of pain and inflammation.

TREATMENT.

Various stimulating applications have been recommended in order to induce suppuration; the chief of which are—

EMPLASTRUM EUPHORBII
Pharm. Chir.

℞. Picis Burgundicæ ℥iv.
Euphorbii ʒſs.
Terebinthinæ vulgaris q. s.

The emplastrum cumini;—the emplastrum ladani compositum, and lithargyri compositum.

Electricity;—drycupping;—salt brine;—diluted volatile spirit.

It has also been customary to evacuate the matter by seton; but the most effectual mode of removal, and that now usually practised, is extirpation with the knife.—In performing this, the cyst, still containing the matter, is to be carefully dissected from the surrounding muscular and cellular substance, and sufficient integument is to be saved to effect an union by the first intention.

OF THE GANGLION.

A ganglion is a tumor formed by a preternatural collection of fluid within the vagina of a tendon or a bursa mucosa.—It is situated under or between tendons, and generally near to a joint.—It begins with a small, moveable, elastic swelling, attended with little or no pain or discolouration of the cuticle.—It seldom attains a large size, and in general shows no sign of inflammation; yet sometimes an inflammation supervenes, when adhesions not unfrequently take place among the tendons, by which their motions are often impeded, and the joint rendered useless.

TREATMENT.

The removal of the tumor may first be attempted by means of pressure; for this purpose the application of sheet-lead has most frequently proved effectual.—Stimulant applications also sometimes produce an absorption of the fluid; of these the

best are—mercury, applied by friction,—blisters,—a solution of ammonia muriata,—electricity.—If these prove unsuccessful, the collected fluid may be evacuated by a small opening made with the point of a lancet.—After the contents have been thus let out, the orifice should be immediately closed, and pressure applied to produce an adhesion between the sides of the sac.—In some instances, the cyst may be detached and drawn out with the tenaculum; but in attempting this, great caution is required, especially if the tumor be situated very near a joint.—Collections of this kind have often been removed by the same cause that induced them; i. e. a blow, or other accidental injury: hence it has been proposed to employ these artificially, as a mode of cure.

OF BRONCHOCELE.

A tumor on the fore part of the neck, formed by an enlargement of the thyroid gland.—The progress of the swelling is extremely gradual, and in general the skin long retains its natural appearance.—It is at first soft, but as it advances in size it acquires a great degree of hardness; the skin becomes of a brownish or copper colour, and the veins of the integuments are varicose.—The face is subject to frequent flushing;—the patient complains of frequent headaches; and likewise of pains shooting through the body of the tumor.—It is often accompanied with hysteric affections.

CAUSES.

The inhabitants of Derbyshire, and other mountainous parts of our own country; and those of the Alps, and adjacent mountains on the continent; are peculiarly subject to this disorder.—Among the latter it is known by the name of goitre,

and its origin is ascribed to the use of snow-water.—It is considered a scrofulous affection of the gland.

TREATMENT.

Locally.—A solution of soap and saponaceous liniments;—the emplastrum hydrargyri;—the emplastrum ammoniæ, and emplastrum ammoniaci cum hydrargyro;—mercurial friction upon the part.

Internally.—The medicine almost universally employed for the cure of this disease is burnt sponge.—The mode of administering this remedy employed by Dr. Bate of Coventry, as given by Mr. Wilmar, is as follows:

The day after the moon hath been at the full, the patient is to take a vomit, and on the succeeding day a purge; on the third night, a bolus, composed of ten grains of calcined sponge; and the like quantity of calcined cork, and burnt pumice-stone, is to be placed under the tongue, and being allowed to dissolve very gradually, is to be swallowed. This is to be repeated for seven successive nights, and in the forenoon of each day a powder is to be given, consisting of flowers of chamomile, gentian-root, and seeds of lesser centaury, each in powder five grains. On the eighth day the purge is to be repeated; and on the wane of the succeeding moon the same process is directed to be recommenced, unless the disease is cured before. The vomit is only to precede the first course of the medicine.

Dr. Cheston has found the following plan, which is an improvement upon the Coventry receipt, successful in numerous cases before the structure of the part has been too morbidly deranged.—A dose of calomel, one or two grains, must be given for three successive nights; and on the following morning a purge. Every night afterwards, for three weeks, half a drachm of calcined sponge, formed into a troche with mucilage

of gum Arabic, is to be put under the tongue, and allowed to dissolve gradually; when the solution is to be swallowed. At the expiration of this time the whole is to be repeated.

By Mr. Prosser the following powder is recommended to be taken an hour before breakfast, for a fortnight or three weeks; and to be repeated every alternate fortnight; together with the use of the pilula hydrargyri administered at night:

℞. Hydrargyri sulphurati rubri,
Millepedis in pulveris triti,
Spongiæ ustæ, singulorum gr. xv. Misce.

Sulphurated potash dissolved in water has been employed with success, by Dr. Richer, in cases where calcined sponge had failed.

℞. Kali sulphurati ʒſs.
Aquæ distillatæ ℔ij.
Fiat solutio in dies sumenda.

OF CANCER.

Vide Diseases of the Breast,—of the Testicle,—Cancerous Ulcer, &c.—where the symptoms and treatment of cancer, as appearing in glands, are amply enumerated.

OF ENLARGEMENTS OF THE ABSORBENT GLANDS.

As the absorbent glands of the neck are those which most frequently become diseased, a description of these in their diseased state will serve as an example of the rest.

SYMPTOMS.

The tumor is commonly preceded by catarrh from exposure to cold; during the continuance of which the glands

behind the ear become sore and painful; from these an irritation is communicated to the lymphatics at the side of the neck, when a tumor commences, which, in constitutions so predisposed, often paves the way for one of the most formidable diseases of which the human body is susceptible; by proving the exciting cause to a long train of scrofulous affections.—The gland continues to enlarge, but its progress to maturation is extremely slow; there is seldom any considerable pain, neither is that degree of inflammation present which is common to abscess in general; and it often increases to a large size before fluctuation is perceptible;—the skin acquires a brown or livid colour.—At length, and if preventive means are not duly taken, ulceration of the integuments ensues, and a thick curd-like matter, or white coagula floating in a thin fluid, is discharged.

An inflammation of the absorbent glands of the neck, by causing an irritation of the surrounding cellular substance, sometimes gives rise to the formation of a steatomatous or sarcomatous tumor, which often enlarges to a considerable size. This generally becomes pendulous, and sometimes so large as to extend to the shoulder.—It is more vascular than the common steatoma, and from the constitution of the patient does not appear to originate in a scrofulous affection.

CAUSES.

When the tumor assumes the above character, it may be universally deemed a scrofulous affection.—Enlargements of the glands from other causes almost universally terminate by resolution; or, if suppuration supervene, the progress is rapid, as in the common phlegmon.

TREATMENT.

Locally.—In the incipient state, discussion should be attempted by the application of leeches and cold lotions; as, the

solution of vitriolated zinc, page 51,—a solution of alum,—or the aqua lithargyri acetati composita, with the addition of about a quarter part of vinegar or camphorated spirit.—If the inflammation be trifling, a weak solution of hydrargyrus muriatus in lime-water:

℞. Hydrargyri muriati gr. x.
Aquæ calcis ℔ss.

The solution of ammonia muriata, page 66.

A mixture of fresh bile with saponaceous liniment.

Plasters of soap, ammoniacum, and mercury.

Cold poultices, with salt-water, or sea-water, and bread.

Hemlock, bruised and applied to the part.

Mercurial ointment.

The quercus marinus, or sea tang, bruised and formed into a cataplasm.

Dr. Underwood recommends an epithem composed of flour, honey, the yolk of an egg, and yeast.

All warm and emollient applications should be avoided, until the attempts at resolution have failed, and the fluctuation of a fluid becomes distinctly perceptible; when the process of suppuration is to be expedited by these means.

Most surgeons agree in the propriety of permitting the bubo to rupture after the ineffectual use of some of the above remedies; whilst others strongly recommend the evacuation of the matter through a small valvular opening, and a consequent application of the lotio aluminis:

℞. Aluminis ʒss.
Aquæ distillatæ ℔j.

The earlier the incision is made the better, as it prevents the deformity which so often succeeds swellings of this nature, when allowed to ulcerate through the integuments.

OF ANEURISM.

Aneurism is a tumor formed by the yielding of the coats of an artery; containing blood, and having a pulsatory motion.—It may occur in any part of the arterial system; but the parts where it is most frequently met with are the ham, the thigh, about half way between the bifurcation of the aorta and the renal vessels, at the curvature of the same vessel in the chest, in the neck, sometimes in the arm, and in the groin.

SYMPTOMS.

The popliteal aneurism, being that which occurs most frequently, may be taken as an example.—A small tumor is first perceived, firm, and little affected by the pulsation of the artery;—it is attended with little or no pain, and is disregarded by the patient.—It increases in size, becomes softer to the feel, and has now a very strong pulsatory motion; and upon pressure entirely disappears, but returns again as soon as the cause of compression is removed.—Lancinating pains arise, and there is an unaccountable sensation of heaviness, pain, and numbness, through all the limb, often accompanied with severe cramps.—As the swelling enlarges, it acquires great hardness, and the throbbing, before violent and alarming, is now diminished; neither is the blood capable of being removed, by pressure, from its situation.—The leg becomes œdematous, heavy, cold, and pulseless.—At length the integuments, in some cases, acquire a livid hue, the skin becomes thinner from day to day, it cracks and scabs, and blood issues through the crevices; but the first hæmorrhage seldom proves fatal: the patient immediately faints, and a coagulum is formed and closes the orifice; ulceration,

however, soon extends, and the patient at last expires after a large effusion, though often not until the lapse of many months, or even years, from the first accession of the disease.

CAUSES.

Predisposing. — A constitutional predisposition; appearing mostly about the middle period of life.

Exciting.—Debility, however induced;—accidental injury, of whatever kind;—the removal or destruction of neighbouring parts; by which the artery is deprived of its usual support.

DIAGNOSIS.

The violent pulsation of the tumor, together with its being situated over an artery, will in general be sure characteristics of the disease.—It may be distinguished from tumors of another nature, which may happen to obtain a pulsatory motion from their contiguity to a large artery, by compressing the vessel above the swelling; when, if the latter be aneurismal, it will be very considerably diminished, or will totally disappear.

TREATMENT.

In the early stages, and while the blood can be yet pressed entirely out of the sac, compression by means of a bandage, composed of soft and somewhat elastic materials, and properly adapted to the part.—If this prove of no effect, the operation will become necessary.

THE OPERATIONS FOR ANEURISM.

For aneurism in general.—The necessary preparations being made, and the patient placed in a commodious position, the first step ought to be to obtain a perfect command over the cir-

culation of the inferior part of the member, by means of the tourniquet.—After this has been adjusted, the operator is, with a common scalpel, to make an incision through the skin and cellular substance, along the whole course of the tumor. On the latter being thus exposed to view, a small opening is to be made into it with a lancet, of sufficient size for the admission of the finger; when the whole cavity is to be fairly laid open, from one extremity to the other, by running a blunt-pointed bistoury from below upwards, and afterwards from above downwards. The next step is to clear the cavity of its contents, by means of the finger, assisted by a sponge. This being done, the tourniquet is to be slackened in order to discover the opening into the artery; when this is perceived, after renewing the compression, a probe is to be introduced so as to raise the vessel, or it may be taken hold of by a pair of small forceps, and being thus exposed, it is to be secured by a strong ligature passed around it, by means of a blunt curved needle, about half an inch above the opening into the tumor.—The inferior portion of the artery is next to be tied in like manner, and the ends of the ligatures being brought over the edges of the wound, the latter is to be covered with soft lint, and a pledget of emollient ointment. A compress of linen is then to be applied over the whole, and secured by a roller *lightly* passed around the limb; after which the patient is to be conveyed to bed, the limb supported by a soft pillow, laid in a relaxed posture, and covered with warm flannel.—As in all other operations of a similar nature, it will be prudent to allow the tourniquet to remain upon the limb, without any degree of pressure, till the danger of hæmorrhage is over.

It is recommended by surgeons of the present day, in every case where such a mode of practice can be admissible, to

expose the artery in a convenient situation above the tumor, and to secure it by ligature, in the manner we shall now direct for aneurism of the popliteal artery.

For popliteal aneurism.—Mr. Home gives the following directions for the improved mode of operating for popliteal aneurism, in Transactions of the Society for the Improvement of Medicine and Surgery.

An incision is to be made, about three inches in length, on the anterior and inner part of the thigh, at or below its middle, in a direction obliquely across the inner edge of the sartorius muscle.—This, after being exposed, is to be drawn to the outside of the thigh, when the fascia covering the femoral vessels will immediately be seen.—A slight incision is then to be made with extreme caution through this fascia, and the artery, thus laid open to view, is to be separated from its lateral connexions with the knife, or by the help of a thin spatula. A double ligature is now to be passed behind it, by means of an eyed probe properly curved, taking care not to include the contiguous femoral vein, which is situated on the inside, and the nerve which is situated to the outside of the artery.—The doubling of the ligature is then to be divided, and the two thus formed are to be separated, and securely tied at about the distance of half an inch from each other. After which the intermediate portion of artery is to be cautiously divided, and the ends of the ligatures brought out of the wound, the sides of which are to be kept in apposition by straps of adhesive plaster, in order to effect an union by the first intention.—The subsequent treatment will be, in every respect, similar to that above described.—The ligatures may be removed with safety in about twelve days.

OF THE FALSE OR DIFFUSED ANEURISM.

This is a tumor produced by an effusion of blood, from a wounded or ruptured artery, into the cellular membrane.

DIAGNOSTIC SYMPTOMS.

It appears in the form of a small compressible swelling, having a strong pulsatory motion.—The progress of its increase varies in different cases; sometimes the enlargement proceeds very rapidly, at others it is months or years in arriving at any considerable size.—It is much more diffused than the true aneurism, and cannot, like that, be made to disappear upon pressure.—The integuments, sooner or later, lose their natural appearance, ulcerate, and allow a rupture of the internal sac; though sometimes not until the tumor has attained an enormous size. False or diffused aneurisms acquire a livid or marbled appearance, the veins become varicose, ulceration ensues, and blood is evacuated.

CAUSES.

An opening made into an artery, by whatever cause;—rupture from external violence;—puncture in venesection;—erosion from ulcers.

TREATMENT.

In the incipient state, compression.—In the more advanced periods of the disease, the operation just described. Vide *Aneurism.*

A case is related in the Medical and Physical Journal, by Dr. Adams, of an aneurism of this nature cured by pressure upon the artery above the injured part.

OF THE VARICOSE ANEURISM.

The varicose or venous aneurism may be considered as a combination of the two former species; being a tumor consisting in an effusion of blood from an artery into an adjacent vein; arising from a wound of the former inflicted through the latter vessel.—After having attained a certain size, it frequently remains stationary, without alteration or increase, for years; sometimes for the remainder of life.

DIAGNOSTIC SYMPTOMS.

It is marked by a sort of tremulous motion in the vein, and by a peculiar hissing sound, occasioned by the passage of blood through a small opening;—by the tumor being unaffected by compression of the vein below;—by its diminution or disappearance upon compressing the artery;—by a more feeble pulsation in the under part of that, than in the under part of the member of the opposite side.

TREATMENT.

Compression, as recommended for the incipient state of true aneurism.—Should an operation become unavoidable, it is to be performed in the manner already described.

OF HERNIA.

Hernia is the protrusion of any viscus from its proper cavity.—It has obtained various denominations, from its situation, as, the inguinal, the scrotal, the femoral, the umbilical or

exomphalos, the ventral, the obturator, the ischiatic, the labial, the cystic, and the diaphragmatic hernia.—From its contents, as, the enterocele, containing intestine only;—the epiplocele, containing omentum only; and the entero-epiplocele, containing both omentum and intestine.—From its different states, as, the reducible, the irreducible, and the strangulated hernia.

OF FEMORAL HERNIA *.

1. *In the reducible state.*

SYMPTOMS.

Its first appearance is that of a small tumor, situated about an inch and an half, on the outer side of the abdominal ring, in a line extending from the pubis to the anterior superior spinous process of the ilium. (The hernial sac first emerges from the abdomen at an opening formed in a fascia given off upwards from Poupart's ligament. This aperture is bounded on its upper part by the tendon of the transversalis muscle; and is situated between the spinous process of the ilium and pubis; about an inch and an half to the outer and upper side of the abdominal ring. Thus the mouth of the sac, in common cases of hernia, is always on the outside of the epigastric artery.)—It gradually protrudes obliquely downwards, and descending through the abdominal ring, proceeds into the scrotum, and forms a distinct swelling, which often increases to a large size.—It may be either enterocele, distinguished by the

* The reader is referred to the elegant and practical Treatise on Hernia by Mr. Astley Cooper, from which the following account of Inguinal Hernia is wholly taken.

regularity of its appearance, its elasticity and uniformity to the touch, and upon being returned into the abdomen by its receding with a guggling noise;—epiplocele, marked by its want of elasticity, by the inequality of its appearance, by its being œdematous or slippery to the feel, and by its not receding with a guggling noise;—or entero-epiplocele, when the tumor is more equal than in the preceding state; yet it possesses the œdematous feel, and, upon being returned, the intestine first goes up with the sound above mentioned, the more solid omentum slowly follows.

CAUSES.

Predisposing.—Debility, however induced; diminishing the resistance of muscles and their tendons;—malconformation of parts.

Exciting.—Accidental blows;—great muscular exertion;—pressure from obesity, or the wearing of tight clothes;—pregnancy;—any forcible agitation of the body; as the riding of rough horses, or in rough carriages, jumping, &c. &c.

DIAGNOSIS.

The distinctive marks which characterize a hernial tumor are—distention upon coughing;—the capability, when in an horizontal posture, of being returned into the abdomen;—its again appearing upon resuming an erect position;—its first appearing in the groin, and thence descending into the scrotum.

From hydrocele.—By the latter beginning to form at the lower part of the scrotum, and thence gradually ascending to the abdominal ring;—by its fluctuation and transparency in the one; by the absence of these symptoms in the other disease. —In hernia the testicle may generally be distinctly felt below

the tumor; in hydrocele it is involved in the substance of the swelling, and can with difficulty be felt.—Hydrocele, until it has increased to a great size, is not dilated upon coughing.

From enlarged testicle.—Vide *Diseases of the Testicle.*

From hæmatocele.—Vide *Hæmatocele.*

From varicocele.—All the marks of reducible hernia are present in varicocele.—The two diseases may thus be distinguished: When in a recumbent position, after having returned the tumor into the abdomen, firm pressure is to be made upon the abdominal ring, and carefully preserved while the patient rises to an erect position, when, if the tumor be hernia, it cannot reappear until the compressing cause is removed.—On the contrary, if it be variocele, it soon returns with increased size.—The tumor in the latter disease has also an irregular ropy feel, which is not observed in hernia.

TREATMENT.

After a reduction of the tumor (which in this state can readily be effected by the patient himself), the universal mode of preventing its return, is the application of a *truss*.—This is, usually, formed of steel properly covered with soft leather, and so tempered as with facility to adapt itself to the lower part of the body, which it embraces like a belt.—At its extremity is a pad of a conical form, which, when applied to the mouth of the hernial sac, occasions, by constant pressure, an adhesion to take place between its sides, in consequence of which the patient is cured.—In common hernia, the proper spot for the application of the pad is midway between the symphysis pubis and spine of the ilium.—In very large hernia, it should be brought nearer to the abdominal ring, but never completely upon the pubis.—It should be worn for two years, and during that time left off on no occasion.

II. *Of the irreducible state.*

This is a state of hernia in which the tumor is incapable of being returned into the abdomen by outward pressure. It often in these cases increases to an enormous size.

CAUSES OF THE IRREDUCIBLE STATE.

1. The protruded tumor being long suffered to remain down, after having attained a considerable bulk; in which case the abdomen accommodates itself to its contents, and is no longer able to receive the protruded, and now extraneous parts.

2. Membranous bands, the consequence of inflammation, forming across the tumor, and thus entangling its contents.

3. An adhesion of the protruded parts to the sides of the sac.

4. Contractions of the sac at its middle.

5. A scirrhous state of the omentum.

TREATMENT.

Support is to be afforded to the tumor, by means of an apparatus called a *bag-truss*.—This consists in a simple bag, made of calico, connected by attached tapes to a girdle of the same materials, made to encircle the hips. A steady pressure is thus made upon the part, which not only prevents a further protrusion, but has in some instances produced an absorption of the adipose substance, and ultimately a reduction of the tumor.—In some cases supposed to be irreducible, the application of ice—vide *Treatment of Strangulated Hernia*—by contracting the scrotum, has caused a return of the protruded parts.

In the strangulated state.

In the strangulated state of hernia there is such a compression of the blood-vessels, as to excite inflammation, and interrupt the passage of the fæces through the descended portion.

SYMPTOMS.

Sense of stricture at the upper part of the abdomen, or at the navel;—frequent eructations;—vomiting of a bilious, and sometimes of a feculent matter;—obstinate constipation;—quick, hard pulse.—The tumor is red, painful, and œdematous;—the abdomen becomes sore, and painful to the touch;—a profuse perspiration breaks out over the body;—the pulse becomes small and thready;—troublesome hiccup;—remarkable expression of anxiety in the countenance.—These symptoms often suffer a remission, but return again with increased violence.

If reduction be not speedily effected, a mortification of the intestine takes place, when the patient, after suffering intolerable pain, becomes suddenly easy;—the tumor assumes a purple, or leaden colour, and, from being tense and elastic, becomes soft and doughy, and has an emphysematous feel;—the abdomen becomes more tense, the hiccup more severe;—the body is covered with a cold clammy sweat,—the eyes have a glassy appearance,—the pulse is irregular, though softer and fuller;—the patient is tranquil and sensible to the last, and often expires with the delusive hope of recovery.

CAUSES OF STRANGULATION.

The *exciting* cause—may be any of the causes which originally produced the tumor. Vide *Causes of Irreducible Hernia.*

The *proximate*—a stricture caused by the unyielding nature of the parts, operating like a tight cord upon the protruded intestine. Vide *the Operation for Strangulated Hernia.*

TREATMENT.

The first object will be to endeavour to return the displaced parts, by the manual operation called *taxis*. For this purpose the patient (previously directed to void his urine) is to be laid upon his back; the pelvis elevated by a pillow above the level of the abdomen, the thighs raised to a right angle with the body, and brought so closely together, as only to admit the surgeon's hand between them. By this means all the muscles and apertures of the abdomen will be relaxed.—The surgeon, situated to the right side of the patient, should now embrace the lower part of the tumor with his right hand, and the upper part, where it enters the abdomen, with the finger and thumb of his left.—The compression of the former should be firm and constant; that of the latter moveable, inclining it alternately to each side, and endeavouring to insinuate a small portion at a time of the displaced parts into the abdomen.

Should the above operation, after a quarter of an hour's perseverance, prove unsuccessful, it must be assisted by other means:—by copious bleeding;—by the warm bath, continued until faintness is induced, when the taxis should be immediately repeated;—by a clyster of tobacco—one drachm of tobacco to be infused in twelve ounces of water for ten minutes—of this only half is at first to be administered, the remainder at the expiration of half an hour if necessary;—by the application of cold—pounded ice contained in a bladder, or a solution of ammonia muriata with vinegar, or of common salt and sal ammoniac.—Opium may be given to allay the violence of the vomiting;—purging is, in general, prejudicial; it is only admissible where the symptoms are slight, and where no vomiting is present.—Fomentations are inferior to cold applications; yet where the tumor is extremely tense, and the

scrotum much inflamed, together with leeches, they have been successfully employed.

If these means fail, the only resource is in an operation for the liberation of the confined parts.

THE OPERATION.

The patient being commodiously laid, the hair removed from the parts, and other necessary preparations made, the tumor is to be firmly grasped with the left hand, while an incision is made (if it be not extremely large) through the integuments, along its whole extent. By this the skin and cellular substance will be divided, and *a thin fascia* exposed, which is given off by the external oblique muscle.—Through the middle of this a small opening is then to be made, for the introduction of a director, by the assistance of which it is to be dilated upward to within one inch of the abdominal ring, and in a similar manner downwards to the bottom of the tumor.—The second covering of the sac, or the *cremaster muscle*, next comes in sight, and this being divided precisely as the preceding fascia, the sac itself is exposed to view.—The anterior and inferior portion of the sac is now to be pinched up between the fingers, and being thereby separated from its contents, a small hole is to be made into it, in an horizontal direction; after which it is to be carefully dilated in the same manner as the preceding tunics.

The next step is to remove the stricture;—in order to ascertain the seat of which, the finger is to be insinuated between the intestine and the sac, and carried up to the mouth of the tumor.—It will be found in one of these situations; either at the opening into the abdomen, an inch and a half to the outer and upper side of the abdominal ring,—at the external or

abdominal ring,—or in the sac itself, rendered preternaturally thick by the previous pressure of a truss, or constricting the contained parts by means of a septum which has been formed across it in consequence of inflammation.—In order to dilate the strictured part, the finger must now be made the guide to a blunt-pointed bistoury, which is to be carefully passed up on the outside of the sac, if the stricture be in either of the two first-mentioned situations, but on the inside if in the last; and having reached the desired part, an incision is to be made through the tendon, or other resisting substance, in a line *directly upwards*, of sufficient extent to admit of the return of the protruded parts.

Having thus removed the stricture, the state of the lacerated parts is to be carefully examined.—When the intestine remains sound, it is sound to the touch; the brown colour, invariably acquired under strangulation, soon lessens, or entirely disappears; and the blood, when pressed from a vein, speedily returns. If thus free from injury, it should be immediately returned into the abdomen, carefully dissecting any adhesions that may have formed between it and the sac. If, on the contrary, the injury it has sustained by strangulation has been so great as to have induced mortification, it will be found of a deep brown or chocolate colour, covered with a layer of brown coagulable lymph, fetid, and interspersed with purple or leaden-coloured spots, which readily break down under the impression of the finger. In such cases the following treatment is recommended: If a small portion only of the cylinder be diseased, a ligature is to be passed through the attached mesentery, at right angles with the intestine, and then through the mouth of the hernial sac, when by this means the intestine becomes confined to the aperture, adhesions form, and an artificial

anus is produced. The opening has, however, in some instances, after a time, closed; and the fæces have resumed their natural course: but when the whole cylinder is mortified, the diseased part should be cut away; the divided ends brought together, and united by means of four ligatures, inserted around the intestine. Vide *Wounds of the Intestines.*

The omentum is now to be inspected. This, even in a diseased state, retains its natural appearance; the presence of mortification is ascertained by its fetid smell, and upon cutting into it, by the blood, instead of flowing from the vessels, being found coagulated.—If in a healthy state it may, if not very large, be returned into the abdomen;—if it be diseased, or if its bulk be very considerable, it is directed to be removed with a knife, and the vessels secured by very fine ligatures, which should be suffered to hang from the edges of the wound.

The external wound should be closed by suture, the patient laid in bed, and rest procured by opiates.

HERNIA CONGENITA.

Hernia congenita is a protrusion of some of the contents of the abdomen into the cavity of the tunica vaginalis of the testis; owing to the want of the customary adhesion between its sides, after the descent of the testicle in early life.—It is more frequently seen in children, soon after birth.—It is distinguished from bubonocele by the testicle not being distinctly felt at the bottom of this tumor;—and from hydrocele of the spermatic cord, for which it is often mistaken, by pressure made upon the abdominal ring, after the swelling has receded in the

recumbent posture, preventing its return, upon rising to the erect position. Vide *Diagnosis of Bubonocele.*

In hernia congenita, previous to the application of a truss, it will be expedient carefully to ascertain, by examination, if the testis have already descended into the scrotum.—Should this not be the case, a truss ought never to be applied, as it would entirely prevent the descent of the testicle, which yet remains in the abdomen.

FEMORAL OR CRURAL HERNIA.

The seat of femoral hernia is the upper and fore part of the thigh, the protruded bowels passing out at the same opening through which the large blood-vessels are transmitted to the thigh; and consequently under the crural arch, or Fallopius's ligament.

The tumor, though sometimes situated immediately over the femoral vessels, is very generally on their inner side; for in the internal and lateral parts of the sheath in which they are enclosed, and close to the branch of the os pubis, "precisely where the insertion of the duplicature of the arch ends (vide *New Method of operating for Femoral Hernia, translated from the Spanish of Don Antonio de Gimbernat*), and on the inside of the great secondary iliac vein, there is left a foramen sufficiently distinct and almost round, at which many lymphatics enter.—A lymphatic gland is sometimes fitted into this foramen, and the parts which form the crural hernia always pass through it; consequently we may properly call it the crural ring."—"A single gland, placed in this ring, would prevent the issue

of the parts contained in the abdomen; but if a portion of the intestine should slide behind, so as to get out of the cavity, it would be very difficult to distinguish the hernia at first."

DIAGNOSIS.

It is distinguished from bubonocele by the tumor being seated deeper and more laterally; and the ring of the abdominal muscles, which lies entirely above the tumor, in femoral hernia, completely surrounding the parts in the inguinal kind;—from bubo, in the reducible state, by the capability of reduction; in the strangulated state, by the symptoms of strangulation;—from psoas abscess, by the fluctuation of the tumor in the latter disease; and by the preceding long-continued and deep-seated pain in the loins.

TREATMENT.

The treatment laid down for inguinal hernia will, for the most part, be applicable to the species now under consideration.

In the manual attempts at reduction, the tumor should be pressed in a direction upwards, and inwards towards the abdomen; and at the same time, downwards towards the pubis.

The operation for dividing the part which occasions strangulation, is directed by Gimbernat to be performed as follows:

After the preparatory steps have been taken, and the hernial sac divided, a canulated or grooved sound is to be introduced along the internal side of the intestine, until it enter the crural ring, when it is to be held with the left hand, firmly resting on the branch of the pubis, so that its back shall be turned towards the intestine, and its canal towards the symphysis pubis.—A bistoury, with a narrow blade and blunt end, is then to be passed along the groove, until it enter the ring; afte

which both instruments are to be cautiously carried inwards, along the branch, to the body of the pubis, drawing them out at the same time.—The internal edge of the crural arch being thus divided, the parts will be reduced with the greatest ease; and the danger of wounding the Fallopian ligament, and the spermatic and gastric vessels, will by this mode of operating be avoided.

Under certain circumstances, however, the above means may be inadequate to the liberation of the displaced parts; in which case the following seems the preferable mode of proceeding. Vide *Borrett in Medical and Physical Journal.*

"Make a small incision between the fibres of the external oblique muscle, about half an inch above the ligament; and a director being passed carefully, and immediately under the ligament, and over the artery (which adheres to the ligament), cut into the groove of the director."—If, when this is done, the stricture be found at the mouth of the sac, it must be divided inwards to the pubes, inclining Pott's knife a little obliquely downwards.

EXOMPHALOS.

In the exomphalos, or umbilical hernia, some of the viscera of the abdomen, more frequently the omentum, pass out at the umbilicus; and, as in the other species of hernia, are included in a sac formed by the peritonæum.—It occurs most frequently in infancy, soon after birth:—in the adult state corpulent people are more frequently its subjects; and pregnant women are particularly liable to it, on account of the enlarged size of the uterus.

TREATMENT.

The early and proper application of a bandage, or strong slips of adhesive plaster, will often be sufficient to effect a cure;—should they not, recourse must be had to the elastic truss, invented for this purpose.—If the operation become requisite, an incision should be made in the most depending part of the tumor; and the sac being exposed, the finger should be introduced under its contents, and made a guide to Pott's bistoury, with which the tendon forming the stricture is to be dilated: thus will be obviated the danger of exciting inflammation, by too free an exposure of the cavity.

The *other species of Hernia*, viz. the ventral, the obturator, the ischiatic, the labial, the cystic, and the diaphragmatic, are extremely rare in their occurrence.—Their treatment may be deduced from what has been already said of Inguinal and Femoral Hernia.

OF INJURIES TO THE BRAIN FROM EXTERNAL VIOLENCE.

All injuries to the brain from external violence have been divided into two distinct states:—1. The state of concussion;—2. The state of compression. *Abernethy's Surgical and Physical Essays*, Part III.

OF THE GENERAL EFFECTS OR SYMPTOMS OF INJURY TO THE BRAIN.

Drowsiness;—giddiness;—dimness of sight;—partial or complete loss of sense;—dilatation of the pupil;—irregular oppressed pulse;—snoring or apoplectic stertor in breathing;—

nausea and vomiting. If the injury have been severe, a discharge of blood from the eyes, nose, and ears;—involuntary discharges of fæces and urine;—consequent paralysis.

OF CONCUSSION OF THE BRAIN.

SYMPTOMS.

The effect of concussion of the brain, when slight, is what has commonly been called stunning; which consists in—giddiness;—noise in the ears;—loss of memory;—stupefaction. These are of a temporary nature only, and soon leave the subject of the accident in the entire possession of his intellects.

When more severe, there is an instant and total loss of sense and voluntary motion,—sickness,—the breathing is natural yet slower than usual, unaccompanied with apoplectic stertor, and the patient appears as in a sound sleep.—The pulse is sometimes slow, and irregular or intermitting; at others weak, soft, and equal;—the pupil of the eye is immovable;—the extremities are cold; but the muscles of the limbs retain their natural state of tone, and are not relaxed as in the state of compression. —These symptoms continue for a longer or shorter space of time; in some instances for a few hours only, in others for weeks and even months; and either terminate in inflammation of the brain; or the respiration gradually becomes more free, a genial warmth is diffused over the body, the patient becomes sensible to impressions, and slowly recovers.—Hemiplegia, strabismus, and fatuity, are however not unfrequent consequences.

TREATMENT.

In accidents of this nature, the use of diffusive stimuli, and of powerful cordials, has been usually recommended; as, wine,—volatile alkali,—ardent spirits,—blisters, and sinapisms to the feet, &c.

Mr. Abernethy disapproves of this mode of treatment, and advises bleeding from the arm, or from the jugular vein or temporal artery;—drastic purgatives;—antimonials;—the saline medicine with antimonial wine.

Mr. Bromfield recommends the union of antimony with opium.

℞. Tincturæ opii ʒij.
Vini antimonii tartarisati ʒvj.
M. cujus capiat guttas x. sexta quaque hora.

Blisters to the scalp have been also successful in determining the fluids to the external part.

An incision made in the injured part, and an emollient poultice applied over it, is a mode of treatment employed with success on the continent.

An operation will, in common cases, only serve to aggravate the affection; but where concussion is combined with fracture, after the above plan has been fairly practised without affording success, recourse may be had to the use of the trephine, as a possible mode of relief.

OF COMPRESSION OF THE BRAIN.

CHARACTERISTIC SYMPTOMS.

Loss of sense and voluntary motion, coming on gradually, not instantly, as in the preceding state of injury;—the

stertorous breathing, which marks the presence of apoplexy;—the pulse extremely slow, oppressed, and irregular, but less intermitting than in concussion;—the muscles of the limbs relaxed;—the pupils of the eyes much dilated.

CAUSES.

Depression of bone with fracture;—fracture with extravasation of blood;—extravasation of blood without fracture;—an effusion of matter succeeding inflammation.

TREATMENT.

The first object is to ascertain the situation, nature, and extent of the injury.—When this cannot be done by a superficial examination, the whole head should be shaved; after which, upon inspection, the part which has sustained the injury will often be detected by an inflammatory spot or small tumor,—or by the uneasiness expressed by the patient upon pressure,—or by his frequently lifting his hand, and applying it to a particular part of the head.

When at length this has been discovered, an incision must be made through the integuments down to the bone.—The further treatment will depend upon the state in which the parts are found.

If there be fracture or depression of bone, the operation should instantly be performed.—If there be no fracture nor depression, after a careful examination has ascertained no other seat of injury to exist, it may be concluded that the symptoms arise from an extravasation of blood; the almost certain criterion of which is, no blood issuing from the bone upon the removal of the pericranium *(Mr. Abernethy, Surgical Essays)*;—or the bone having lost its natural appearance, and become of a

whitish or dusky yellow hue.—In such case the antiphlogistic treatment recommended for concussion may first be practised; and if, after a fair trial, the symptoms still continue, recourse should be had to the operation without further delay.

THE OPERATION.

The first step to be taken (the incision being previously made), is to remove as much of the pericranium as will be sufficient to admit the application of the trephine. This is performed by means of an instrument called the engine. The trephine, with its annexed perforator, is then to be applied, including within its circle a larger portion of the depressed than of the sound bone, and, after having made a few turns to secure it in its situation, the central pin or perforator * should be removed, as no longer useful, and the operator is to proceed, with great caution, to saw through the bone; using a semi-rotary motion with the instrument backwards and forwards, occasionally brushing the accumulated particles of bone from its teeth, and often, with a probe, examining the sulcus which has been made, to ascertain if any part be already perforated. As soon as this is the case, redoubled caution must be used, and the instrument should be made to bear upon the unperforated parts, until the bone becomes sufficiently loose to be removed with the forceps or elevator.

The parts beneath the cranium being now exposed to view, if the replacement of a depressed piece of bone be the object of the operation, it is to be effected by means of an instrument called the elevator. This acts as a lever, the fulcrum to which

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* The instrument is here described in its improved state, as now actually constructed.

should be either the sound portion of bone, or the finger laid over it.—Should an accumulation of blood have given rise to the symptoms, the fluid will now, if situated between the dura mater and the bone, have a free exit; if it be collected beneath the dura mater, that membrane will be found tense, dark-coloured, or even livid. In this case an opening becomes necessary. This should be performed by making gentle scratches or incisions with a scalpel, until a director can be introduced; upon which the membrane should be sufficiently divided to afford an outlet to the fluid.

If, after the operation, any points of bone remain attached to the sides of the orifice, these should be carefully separated by the forceps or the elevator.

For the treatment of the wound, the following rules are necessary: If the operation has been performed for fracture or depression, unless pieces of bone are expected still to come away, union should be effected by the first intention;—if for the evacuation of blood or matter (see *Inflammation of the Brain*), the sore is to be dressed in the lightest and easiest manner, and a speedy suppuration invited by emollient cataplasms.

Certain objectionable parts of the head are usually pointed out, and considered as improper to become the subjects of the above operation.—These are—the course of longitudinal sinuses,—the crucial ridge of the occipital bone,—the anterior and inferior angle of each parietal bone,—and the part immediately covering the frontal sinuses; but in cases of extreme danger these rules should be disregarded.—Perhaps there is no part really objectionable but the last mentioned.

A saw has been invented by Mr. Hey (see his *Observations in Surgery*), with which protruding points may be removed, so as

to admit the elevator; with the loss of a very small portion of uninjured bone.—This, wherever it may be admissible, should be substituted for the trephine.

Of the Consequences of Injuries to the Brain.

OF FUNGUS AND HERNIA CEREBRI.

The fungus is simply an exuberant protrusion of granulations beyond the level of the cranium, arising usually from the surface of the dura mater, or from the cut edges of the bone granulating luxuriantly.

Hernia cerebri is a tumor formed by the pressure of blood, which has been extravasated into the substance of the brain, owing to a diseased state of its vessels induced by one of the foregoing causes.—The effused fluid, if the skull were entire, would, in all probability, induce apoplexy; but when a deficiency of bone exists, so as to allow it to expand, it presses the surface of the brain and its meninges, through the vacant space, and there forms a tumor, which continues to increase in size, until the superficial stratum of brain becomes so distended as to give way; when blood oozes out, and forms a coagulum.

TREATMENT.

Of the fungus.—Moderate pressure;—the constant application of dry lint;—sprinkling the excrescence with pulverized myrrh, or lapis calaminaris.

Of the hernia.—All pressure should be carefully avoided, and nothing in general need be done but daily to apply simple

dressings; when the coagulum will soon drop off, and the tumor waste away.

Mr. Hill has treated several cases of tumor of this nature, which have obtained a large size, by occasional paring.

Ligatures and styptics are dangerous, and should be avoided.

Should the hæmorrhage be so great as to threaten danger, the coagulum should be removed, the bleeding vessel exposed, and some diluted vegetable astringent, as infusion of galls, may probably be applied with success to stop the bleeding. *Mr. Abernethy.*

OF INFLAMMATION OF THE BRAIN.

The time of the accession of inflammation of the brain, when the consequence of external violence, is generally about the seventh or tenth day; sometimes, however, not until after the expiration of several weeks after the injury has been received.

SYMPTOMS.

Giddiness, nausea, and vomiting, or a severe rigor after some previous pain;—the skin becomes hot;—the pulse hard and rapid, giving the sensation of a small vibrating cord;—the face is flushed;—the tunica conjunctiva distended with blood, and there is morbid sensibility to the slightest impressions;—the pupil is contracted;—the countenance wild;—raving delirium.

Upon examining the injured part, it is usually found œdematous and painful to the touch;—an erysipelatous inflammation sometimes occupies the whole scalp, and if there be a wound, this assumes a brown colour, is covered with a trans-

parent lymph, and attended with a pulsating pain, shooting to the extremities.—The pericranium is often found detached, and the bone white, or covered with a bloody ichor.

The patient is usually either destroyed during this, the inflammatory stage; or the former symptoms in a great measure disappear, and those of suppuration succeed;—severe rigors come on;—stupor or coma takes the place of constant vigilance, and is followed by hemiplegia;—the pupil becomes dilated;—the urine and fæces are passed involuntarily;—subsultus tendinum, convulsions, and death, are the infallible consequences, if speedy relief be not afforded.

TREATMENT.

Indications.

I. In the first stage, to endeavour to procure a resolution of the inflammation.

II. After suppuration has taken place, to give a free vent to the collected matter.

I.

By copious venesection, and the antiphlogistic treatment, recommended in medical works for phrenitis;—by the topical use of emollient poultices, and of fomentations.

II.

By the operation; performed as above described, page 105.

After the removal of the bone, if the matter be between that and the dura mater, it immediately finds an exit;—if it be collected under the dura mater, ascertained by the tension of that membrane, and by the evident fluctuation of a fluid beneath, a valvular opening should be cautiously made, and of sufficient extent to allow of the evacuation of the matter.

OF THE DISEASES OF THE EYE.

OF OPHTHALMIA, OR INFLAMMATION OF THE EYE.

Species. { Ophthalmia membranarum. / Ophthalmia tarsi.

SYMPTOMS.

Of the ophthalmia membranarum.—Piercing pain confined to a point, as if occasioned by the presence of extraneous matter; —great heat and redness;—the parts swell, and the vessels of the eye not only increase in size and become turgid, but appear more numerous than in the natural state.—Great pain upon the least motion of the eyeball;—morbid sensibility to light;—effusion of tears from the lachrymal gland, of an excoriating quality.—If the inflammation run high, a febrile disposition attends.

After a longer or shorter continuance, these appearances gradually abate, or entirely cease; but in some cases, although the patient is left free from pain, tumor, and symptomatic fever, yet the suffused redness of the eye, and the external marks of inflammation, still remain, and long continue to exist after every other symptom has subsided.

During the continuance of the inflammation, small ulcers are often formed upon the cornea, and little collections of matter are sometimes deposited between its laminæ, which frequently harden into white opake specks, and either partially or totally obstruct the entrance of light.—Matter is also sometimes effused into the chambers of the eye, and either remains in a fluid state, or becomes inspissated, and produces a per-

manent adhesion of the iris; or assumes the shape of a membrane dividing the chamber into two distinct cavities.

In some cases, the disease has been observed to assume an intermittent form, renewing its attacks after distinct intervals; or to have regular exacerbations at a particular time of the day.

The ophthalmia tarsi—consists in a chronic inflammation (frequently with ulceration) of the sebacious glands, which are situated in the tarsus, or edges of the eyelids.—It is often productive of much irritation, and, when severe, occasions the destruction of the cilia or eyelashes.—It is universally esteemed a scrofulous affection.

CAUSES.

External injuries; such as blows, contusions, wounds of the eyes.—Extraneous bodies of an irritating nature, introduced under the eyelids;—exposure to bleak winds, and cold;—too free a use of vinous and spirituous liquors;—suppression of accustomed discharges;—long exposure to strong light;—a fixed attention to some minute object;—trichiasis, or inversion of the eyelids.—It is symptomatic of certain other diseases, as measles, small-pox, scurvy, scrofula, and syphilis.—Contagion?

TREATMENT.

1. *Of the ophthalmia membranarum.*

Indications.

I. To remove causes that continue to operate.
II. To reduce the inordinate action of the vessels in the first stage of the disease.
III. To restore their tone, to increase their action, and thereby remove the congestion of the fluids, if the inflammation be protracted, and assume a chronic form.

I.

Vide Causes of Ophthalmia for their removal.

Foreign bodies entangled in the eye, may be removed by a piece of wet lint attached to the end of a probe, or by a stream of water injected by means of a syringe; while the inside of the lid is turned outward, by the pressure of the fore-finger and thumb of one hand, applied to its lower edge.

Particles of iron, forcibly projected, often stick in the cornea: the most effectual means of removing them is the application of the magnet.

For the cure of trichiasis, when a cause of ophthalmia, see *Trichiasis.*

II.

By evacuations of blood from the temporal artery,—from the angular vein, *Mr. Ware*,—by the application of leeches to the temples,—or by scarifications of the inflamed vessel;—brisk purgatives;—small blisters applied to the temple;—sedative, refrigerant, and slightly astringent collyria.

℞. Aquæ lithargyri acetati gutt. x.
——— distillatæ ℥iv.
Fiat collyrium.

COLLYRIUM LITHARGYRI ACETATI CAMPHORATUM
Ph. Chir.

℞. Spiritus camphorati gutt. xx.
Aquæ lithargyri acetati gutt. x.
——— distillatæ ℥iv.
Fiat collyrium.

A weak solution of cerussa acetata; or a lotion of aqua ammoniæ acetatæ with rose-water;—the cremor lithargyri acetati *Ph. Chir.* (vide *Inflammation*, page 4);—a cataplasm composed of the soft pulp of roasted apples.

℞. Cerussæ acetatæ gr. viij.
Aquæ rosæ distillatæ ℥viij.
Fiat collyrium.

℞. Aquæ ammoniæ acetatæ ℥j.
——— rosæ distillatæ ℥vij.
Fiat collyrium.

Where the secretions are deficient, the cataplasm of vitriolated soda is a good application.

CATAPLASMA NATRI VITRIOLATI
Pharm. Chir.

℞. Natri vitriolati ℥j.
Aquæ ferventis ℔ss.
Micæ panis q. s.
Fiat cataplasma.

Should the pain and irritation be very severe and distressing, a drop of the vinous tincture of opium, conveyed twice daily into the eye, is an effectual means of relief. *Mr. Ware.*

The opiate collyrium is also an excellent remedy.

COLLYRIUM OPIATUM
Pharm. Chir.

℞. Opii in pulverem triti gr. j.
Camphoræ gr. ij.
Aquæ ferventis ℥iv.
The opium and camphire are to be rubbed together, the hot water then added, and the liquor lastly strained through a fine cloth.

The poppy fomentation may also be used.

Should the pain assume the intermittent form, hydrargyrus muriatus with Peruvian bark, and opium administered in large doses, a short time before the expected accession of the pain, are recommended.

III.

By astringents and stimulants.—Collyria of vitriolated zinc, of alum, of decoction of bark with lime-water, of hydrargyrus muriatus.

The alum and rose poultices.

CATAPLASMA ALUMINIS.

A lump of alum briskly stirred with the whites of two eggs until they form a coagulum; to be applied to the eye between two pieces of thin rag.

CATAPLASMA ROSÆ.

℞. Conservæ rosæ ℥ij.
Aluminis ʒfs.
Fiat cataplasma.

The internal use of hydrargyrus muriatus as an alterative.

The application of oleum terebinthinæ in an extremely diluted state. See *Memoirs of the Medical Society*, vol. v.

Or the vapour arising from the spirit of turpentine. See *a Paper by Dr. Guthrie, in Duncan's Annals of Medicine.*

Errhines have been successfully employed; as, the pulvis asari compositus,—or hydrargyrus vitriolatus, *Mr. Ware.*

℞. Hydrargyri vitriolati gr. j.
Pulveris glycyrrhizæ gr. viij.
Misce optime pro pulvere errhino.

Electricity, in the form of gentle sparks from near the eye.

When weakness of the eye alone remains, frequent ablution with cold water by means of an eye-cup.

Of the ophthalmia tarsi.

The internal use of hydrargyrus muriatus with cinchona;—the topical application of the unguentum hydrargyri nitrati,—of zincum vitriolatum, made into the form of an ointment.

Should there be much pain, or great irritability, the poppy fomentation, or the unguentum cicutæ.

UNGUENTUM CICUTÆ
Pharm. Chir.

℞. Foliorum cicutæ recentium,
Adipis suillæ preparatæ, āā ℥iv.

The cicuta is to be bruised in a marble mortar, after which the

lard is to be added, and the two ingredients thoroughly incorporated by beating: they are then to be gently melted over the fire, and after being strained through a cloth, and the fibrous part of the hemlock well pressed, the ointment to be stirred till quite cold.

OF GUTTA SERENA, OR AMAUROSIS.

The disease consists in a dimness of sight, whether the object be near or at a distance, together with the representation of flies, dust, &c. floating before the eyes.—No derangement of structure is evident to the sight;—the pupil is usually dilated and immovable.

CAUSES.

Paralysis of the optic nerves, or pressure upon them in their course, either by encysted tumors, diseases of contiguous bones, a dilatation of the circulus arteriosus surrounding the sella turcica *(Mr. Ware)*, or a dilatation of the artery in the centre of the optic nerve;—a malconformation of the optic nerves themselves.

TREATMENT.

The general and local use of stimuli;—blisters and issues behind the ears, or at the back of the neck.

Errhines. Vide *Treatment of Ophthalmia*, page 114.

Electricity, both sparks and gentle shocks.

An infusion of dried capsicums in water, in the proportion of two grains to two drachms of water; a few drops to be dropped into the eye night and morning.

When accompanied with a contracted state of the pupil, and probably produced by internal ophthalmy, the internal use of hydrargyrus muriatus. *Mr. Ware.*

If the disease be supposed to arise from compression, the

opposite of the above treatment should be practised: as bleeding, purging, &c.

OF THE CATARACT.

The cataract is an opake state of the crystalline humour, or of its capsule, by which the rays of light are obstructed in their passage to the retina.

SYMPTOMS.

Imperfect sight or mistiness in vision;—the sensation of motes, particles of dust, flies, or other imaginary objects, floating in the air, or attached to the eye; the patient seeing better in a weak than in a strong light;—an opacity becomes sensible, and gradually increases, until nearly a total loss of vision is produced;—the crystalline lens gradually changes from a state of transparency to a perfectly white or grey colour; in some rare instances it has been black, and also red; and in appearance resembles a pearl, or other extraneous body of a like colour, situated immediately behind the pupil.—The cataract varies in its consistence, being sometimes hard, at others entirely dissolved.

Dr. Bere enumerates the following distinctive appearances:

The hard cataract is equally opake, has no specks nor spots, is partially detached from the iris, so as frequently to admit of objects being seen laterally;—the opacity begins in the centre, and slowly spreads; its colour is grey, or more or less inclining to green.—In the operation, when opening the cornea, the pupil strongly contracts.

The soft cataract appears streaked or radiated, the opacity begins uniformly over the whole surface, the loss of vision is more complete;—it is of a shining white colour, approaches nearer to the iris, and even presses forward into the pupil; the

spots often change their position, and upon opening the cornea the pupil does not contract.

The connate cataract is almost universally in a dissolved state.

The cataract produced by an opacity of the capsule of the lens, is distinguished by its peculiar shining surface, and by the appearance of silver-like lines, forming radii or stars.

In fluid cataracts the capsule is also usually opake.

TREATMENT.

In the incipient state—mercury, particularly calomel, or hydrargyrus muriatus, in small doses.

Electricity, in the form of aura, or weak sparks.

Hyoscyamus has been highly extolled.

When any degree of inflammation is present, local bleeding, and the antiphlogistic regimen.

After these remedies have been employed without success, the cure must depend upon a surgical operation.—For performing this, two methods are in general use, each of which has its advocates. The first of these is called couching;—the second is termed extraction.

OF THE OPERATION OF COUCHING.

To guard as much as possible against the effects of inflammation, the patient should be confined for several days previous to the operation to a low regimen;—if plethoric, he should be bled, and two or three doses of some cooling laxative should be administered after proper intervals.—These and other necessary preparations being made, the patient should be so placed that light may fall upon the eye in one direction only;—he should be seated in a low chair; the operator should also be in a sitting position, but more elevated, his elbow resting upon

his knee properly raised, his ring and little fingers supported upon the cheek or temple of the patient.—The upper eyelid is to be elevated by an assistant, and the lower depressed by the right hand of the surgeon; or the eye is to be fixed by means of a speculum invented for the purpose.—The couching-needle (the best construction of this instrument is that recommended by Mr. Hey—see his *Observations in Surgery*) is now to be entered, in an horizontal direction, through the sclerotic coat, a little below the axis of the eye, and about a quarter of a line beyond the transparent cornea, so as to get entirely behind the iris; taking care not to wound this, by opposing to it the flat side of the instrument, if a needle of this form has been made choice of. Its point is then to be pushed forward, in a direction towards the centre of the eye *(Mr. Hey)*; and, when discernible through the pupil, it is to be fixed in the body of the lens, when, by elevating the handle, and thereby depressing the point, the lens, if solid, is to be pushed down by one, if fluid, by several movements, to the bottom of the vitreous humour.—The needle is then to be withdrawn, the eyelids closed, and covered with a soft compress moistened with a saturnine solution, or (as is recommended by Mr. Pellier) covered with a linen bag, half filled with fine wool, applied dry, and fixed to a circular bandage passed around the forehead. This should not be removed before the eighth day, during which time the antiphlogistic regimen should be strictly enforced.

Should the lens, before absorption takes place, regain its former situation, a repetition of the operation may become necessary; and may even be performed many times successively, not only with impunity, but with ultimate success.—Vide *Hey's Observations in Surgery*.

THE OPERATION OF EXTRACTION.

The patient and operator being placed, and the eye fixed as for couching, the point of the cornea knife (the blade of this is formed like a spear-pointed lancet,—on one edge it is sharp throughout its whole extent, on the other only for a short space from its point), with the cutting edge downwards, is to be passed into the transparent cornea, at about one twelfth of an inch from the opake, and as high as the centre of the pupil; it is then to be carried forwards to the point opposite to that at which it entered; this being pierced, it should be again pushed on, until, by its increasing breadth, the outer angle of the transparent cornea has been completely divided, and a semi-lunar flap has been consequently formed. A small needle, invented for the purpose, with a hook at its extremity, is now to be introduced beneath the flap, to be passed cautiously through the pupil, and with it an opening is to be formed in the capsule of the lens, by gentle and repeated scratches, with its curved point. This being done, the eye is to be shaded, to allow the pupil to dilate as much as possible; after which, upon gentle pressure being made upon the eyeball, at either the upper or under edge of the orbit, the crystalline lens will pass out through the opening made in the cornea.

When the cataract does not come out entire, or where it is found to adhere to contiguous parts, the small scoop should be introduced, to remove any detached pieces, or adhesions, that may be present.

When the opacity is solely in the capsule, some practitioners attempt to extract first the lens, and then the capsule, by the forceps or tenaculum; others *(Bere)* the lens and capsule entire; detaching them from their connexions by lateral motion with the needle.—In many instances it has become totally absorbed

after the extraction of its lens.—The subsequent treatment will be precisely as above described.

WOUNDS OF THE EYELIDS, OR EYEBALL.

Superficial wounds of the eyelids may, in general, be united by slips of adhesive plaster.—When deep, particularly where the tarsus has been divided, the interrupted suture will be required. In making this, care should be taken that the stitches do not penetrate the inner membrane, otherwise much irritation and inflammation will be induced.—Inflammation should be guarded against, or, if already present, removed by the means recommended under the article Ophthalmia.

Wounds of the cornea are most commonly followed by partial or total loss of sight.—In any other part of the eyeball the danger will be in proportion to the extent of the wound.—Pain may be allayed by opium, and a strict antiphlogistic regimen is to be enjoined.

SPECKS AND FILMS.

These occur in two different states.—The one arises from an effusion immediately under the external layer of the cornea; in which case the cornea does not appear to be raised.—The other takes place in consequence of one or more little ulcers, which breaking, leave as many opake spots in the centre, considerably more elevated than the rest of the cornea.

CAUSE.

Almost universally preceding inflammation.

TREATMENT.

In the first species, local applications are attended with little or no advantage.—A long course of mercurial alteratives, espe-

cially the hydrargyrus muriatus,—brisk purgatives,—errhines (vide *Ophthalmia)*,—blisters, and issues in the neck, are the means which have been found most effectual in removing them.

In the second species.—Dividing the vessels running into the prominent part, by means of a circular incision;—finely levigated powders; as alum joined with sugar, ærugo, hydrargyrus nitratus ruber, calomel, ossepiæ, tutia preparata, powdered glass;—a collyrium of a weak solution of hydrargyrus muriatus;—the ophthalmic ointment.

UNGUENTUM OPHTHALMICUM
Pharm. Chir.

℞. Hydrargyri nitrati rubri,
Lapidis calaminaris preparati, āā ʒjſs.
Lithargyri lævigati ʒj.
Tutiæ preparatæ ʒſs.
Hydrargyri sulphurati rubri ℈j.
Balsami Peruviani gutt. xv.
Adipis suillæ preparatæ ℥ij.

The powders being well rubbed together and mixed with the lard, the balsam of Peru is lastly to be added.

Vel

℞. Calcis hydrargyri albæ,
Tutiæ preparatæ,
Lapidis calaminaris preparatæ, singulorum ʒij.
Tincturæ benzoës compositæ ʒj.
Adipis suillæ preparatæ ʒiij.

The white calx of quicksilver, tutty, and calamine, being rubbed separately, and afterwards well mixed together, the lard is next to be joined, and, lastly, the tincture of benzoës.

The aqua cupri ammoniati;—caustic lightly applied until some degree of pain is created; and afterwards long-continued ablution with water.—In films or opacities of the cornea, animal gall has been applied with success.

PTERGYRIUM, OR EXCRESCENCE.

This is a membranous excrescence, often found upon the white part of the eye, which frequently spreads over the cornea, so as entirely to destroy vision.—It is sometimes attended with great pain, and has terminated in cancer.

CAUSES.

External injury ;—inflammation;—scrofula ;—lues venerea.

TREATMENT.

The careful application of caustic, as directed against specks in the eye ;—excision,—a division of the vessels which supply it with nourishment, by means of a scarification made completely round its circumference.

ABSCESS.

A collection of matter in the eye in consequence of ophthalmic inflammation.—This must necessarily take place betwixt one or other of the coats of the eye, varying in its quantity and extent in different cases.—Often, when deep seated, a purulent matter is apt to be formed in some of the chambers of the eye, which kind of abscess is called *Hypopion*, when the ball becomes enlarged, the humours disturbed, and neither the iris, pupil, nor lens, can be distinguished.—The external appearance of the ball becomes altered, irregular, and full of protuberances.—While the disease is forming, besides the loss of sight, the patient feels great distress in the eye and head, and the usual symptoms of fever.—The deposition is discharged, either naturally, or by the assistance of art.

An abscess lodged in the substance of the coats of the eye is not an unfrequent consequence of variola : it is also sometimes produced by external injury.

TREATMENT.

The collected matter should be evacuated by an incision made into the eye, in the most prominent part of the tumor.—Inflammation is afterwards to be obviated by the most rigid antiphlogistic regimen, and by the means recommended for the treatment of ophthalmia.

ULCER.

Ulcers on the eye arise from the same causes which produce ulcers on other parts of the body, as accidental injury, wounds, burns, &c.—They may also be the consequence of a general affection of the constitution; as, lues venerea, scrofula, &c.—They are more immediately produced by inflammation.

TREATMENT.

If inflammation be present, this should first be removed by appropriate means; after which their management must be nearly the same as that of similar affections in other parts; —the cremor lithargyri acetati *Ph. Chir.* is a good application. See *Inflammation.*

If cicatrization proceed slowly:—

Astringents and tonics, in the form of solution or ointment; as, zincum vitriolatum,—hydrargyrus muriatus,—a solution of alum,—an infusion of galls, or oak bark.—The application of absorbent powders; as, lapis calaminaris.

If there be great attendant pain, opium, or the poppy fomentation.

FUNGUS.

Fungous excrescences, sometimes considered as a cancer of the eye, are apt to form as a consequence of both the preceding diseases.—In some rare instances, also, excrescences of a fun-

gous nature are found to be connected with the interior parts of the eye, and to become so prominent as even to rest upon the cheek.

TREATMENT.

When small in size, gentle escharotics—alumen ustum ;—the lunar caustic, with subsequent ablution.

When large, excision, or ligature.

HORDEOLUM, OR STYE.

This is a small abscess, seated in the edge of the eyelid, and produced by an obstruction in one of its sebacious glands. —It is attended with heat, stiffness, pain, and considerable irritability.

TREATMENT.

A small emollient poultice ;—an opening made with the point of a lancet, and afterwards the application of the unguentum hydrargyri nitrati.

STEATOMATOUS TUMORS AND WARTS.

Small encysted tumors and warts are apt to form about the eyelids, and occasion much inconvenience and deformity.

TREATMENT.

Of the first.—A careful extirpation, as directed for tumors of this kind situated in other parts (see *Encysted Tumors)* ;—and if the situation will admit, adhesive plaster may be applied to effect an union, otherwise the part should be daily covered with some bland liniment.

Warts may be removed by ligature, or excision, guarding against subsequent inflammation by refrigerant lotions, or small emollient cataplasms.

TRICHIASIS, OR INVERSION OF THE CILIA.

In this disease the eyelashes are so much inverted as to rub upon the eye, and produce much pain and inflammation.

CAUSES.

The hairs themselves taking a wrong direction;—inversion of the tarsus; cicatrix of this part in consequence of a wound, or ulcer;—tumors pressing the hairs in upon the eye;—a relaxation of the external integuments.

TREATMENT.

Extraction of the eyelashes.—If inflammation be present, the local applications recommended for ophthalmia.—When arising from the presence of tumors, the removal of these.—When from cicatrix on the inside of the eyelid, this should be divided by an incision.—If from an inversion of the lower lid, produced by relaxation, excision of a transverse fold of the integuments, and consequent union by the first intention (by the interrupted suture); strong astringents; or the part may be drawn back, and long retained in that situation, by means of adhesive plaster.—If from an inversion of the upper lid, from the same cause (a relaxation of the levator palpebræ), the most powerful astringents.

A case is related by Mr. Ware, in which an operation, performed as follows, was attended with success:—An incision having been made through the integuments, from the inner to the outer angle of the eye, the fibres of the orbicularis muscle were separated, and the expansion of the elevator exposed; after which a small cauterizing iron, adapted to the convexity of the globe of the eye, was made pretty warm, and passed two or three times over the tendino-carneous fibres.

When the disease proceeds from a contraction of the orbicularis, enlarging the circumference of the ciliary edges, by means of an incision made at the outer angle of the eye.

RETORTION OF THE EYELIDS, OR GAPING EYE.

This consists in a large portion of the eyelid being turned outwards; by which too much of the eye is exposed.

CAUSES.

Dropsical swellings of the eye;—cicatrix from sores, produced by inflammation, variola, syphilis, scrofula, &c.;—laxity of the part in old age.

TREATMENT.

If the disease proceed from the first of the causes above enumerated, recourse is to be had to the treatment afterwards to be mentioned.—If from cicatrix, division of the contracted part by an incision.—If from debility or laxity, cold and astringent applications.

CONCRETION OF THE EYELIDS.

This is mostly the consequence of a high degree of ophthalmia.—A cohesion may either take place betwixt the lids themselves, or the lids may form adhesions to the surface of the eyeball.

TREATMENT.

When slight, the adhesion may be removed by the end of a blunt probe, passed between the lids.—When more considerable, a cautious dissection will be necessary.—A few drops of bland oil should afterwards be applied to the eye, and every precaution taken to prevent the accession of inflammation and irritation.

DROPSY OF THE EYE

Consists in a preternatural accumulation of the aqueous humour.—It is attended by a sense of fulness in the eyeball;—the motions of the eyelids, by degrees, become impeded;—vision gradually becomes more and more imperfect, till at last the patient can only distinguish light from darkness.—The ball of the eye becomes gradually enlarged;—the cornea begins to protrude, and, if suffered to proceed, at length bursts, and the fluid is discharged.

TREATMENT.

A puncture or incision made at the under edge of the cornea, into the anterior chamber of the eye, or through the sclerotic coat, into the posterior; of sufficient extent to admit of the evacuation of the fluid.

PROTRUSION OF THE EYE.

A protrusion of the eyeball beyond its socket is not an unfrequent effect of external violence;—it may also be produced by tumors forming behind it, by a dropsical affection of the eye itself, or by an enlargement of the lachrymal gland.

TREATMENT.

When the consequence of external injury, if the eyeball be not entirely separated from the neighbouring parts, it should be carefully freed from extraneous matter, and returned to its situation; when the faculty of sight will often be recovered, should the optic nerve remain uninjured.—When it arises from collections within the eye itself, these are to be evacuated. See *Dropsy* and *Abscess*.—Other causes are to be removed by the means proper for each.

CANCER.

SYMPTOMS.

Enlargement, hardness, and protrusion of the eyeball;—lancinating intermitting pain, extending to the side of the head;—sensation of burning heat in the part;—a red fungus soon makes its appearance, which often increases until it attains a large size, and discharges a thin excoriating ichor.

TREATMENT.

In the early stage, inflammation and pain should be moderated by blood-letting, emollient applications, opium, poultices of cicuta, lotions composed of a solution of opium in lime-water.

In the advanced stage, the safety of the patient can only be ensured by an operation.

THE OPERATION.

The diseased eyeball is to be firmly secured in a proper situation, by means of a tenaculum, or double hook, held in the left hand of the operator; while with the other he separates the whole of the diseased from the sound parts, and completely extirpates the eye by means of a knife, so bent as to correspond with the sides of the orbit; at the same time carefully guarding against wounding the periosteum, or doing injury to the bones.—The eye being thus removed, the hæmorrhage, if there be any, should be suppressed by means of compresses of lint, or sponge; covering the whole with soft dressing, and moderating the consequent inflammation by the most rigid observance of the antiphlogistic regimen.

The deformity unavoidably produced may in some measure be obviated by wearing an artificial eye.

FISTULA LACHRYMALIS.

Fistula lachrymalis is a sinuous or fistulous ulcer of the lachrymal sac or duct.—Its progress to this state may be divided into three stages.

SYMPTOMS.

Of the first stage.—A small tumor between the inner corner of the eye and side of the nose, which disappears upon pressure, but soon returns after the compressing cause is removed.—The eye is constantly moistened with tears mixed with mucus, which also frequently flow over the cheek.—Sometimes a slight ophthalmia, or inflammation of the eyelids, succeeds, and the latter are often found glued together upon awaking from sleep.—The disease in this state has been called the watery eye, or dropsy of the lachrymal sac.

Of the second stage.—The swelling enlarges in size, inflames, and suppurates;—there is considerable pain and discolouration, and, upon pressure, pus is discharged from the puncta lachrymalia.

Of the third stage.—At length the abscess bursts;—if the aperture be small, it frequently heals and bursts alternately, until the opening becomes sufficiently large to prevent any further collection.—The disease in this state exhibits the appearance of a sinuous ulcer, with callous, sometimes with retorted, edges, and now forms what is properly the fistula lachrymalis.—The passage from the sac into the nose is completely obstructed, and tears, mucus, and purulent matter, are abundantly discharged, and flow down the cheek.—In some instances the contiguous bone becomes carious.

CAUSES.

Remote.—Scrofulous inflammation of the membrane lining the nose;—pustules arising in the duct, in consequence of exanthematous diseases;—syphilitic ozæna,—or ulceration of the mucous membrane of the nose from whatever cause.

Proximate.—An obstruction of the lachrymal duct, from contraction and thickening of its membrane.

TREATMENT.

In the early stage of the disease, attempts should be made to remove the obstruction—by means of a small probe introduced at one of the puncta lachrymalia, and passed through the sac and duct into the nose;—by syringing aqueous fluids through the puncta—it has been proposed to inject quicksilver by the same manner;—by repeated and frequent, or constant pressure on the sac; the latter either by means of an instrument invented for the purpose, or by simple compress or bandage.

In the inflamed state, local bleeding by leeches;—laxatives,—sedative and refrigerant lotions. See *Ophthalmia.*—An incision into the tumor; and after the inflammation arising from it has subsided, the nasal duct should be searched for with a probe, and, when found, a piece of catgut bougie should be introduced and kept there, its edge being bent a little downwards, till the sides of the duct are skinned over and healed.

Mr. Ware recommends the following mode of treatment:—If an aperture into the lachrymal sac has not already been spontaneously formed, or if it be formed in an improper situation, a puncture should be made into it, with a common spear-pointed lancet, at a small distance from the internal juncture of the palpebræ, just under the tendon of the orbicularis

muscle, and about one fourth of an inch within the ridge of the orbit. The blunt end of a small silver probe is then to be introduced through the wound, and gently but steadily pushed on in the direction of the nasal duct, with a force sufficient to overcome the obstruction in this canal; it is then to be withdrawn, when a small silver stile, with a flat head like that of a nail, is to be introduced into the place it occupied, and to be left constantly in it; withdrawing it at first daily for about a week, afterwards every second or third day.—Some warm water should each time be injected through the duct into the nose, and after this the instrument should be replaced in the same manner as before, and its head covered with a piece of diachylon or court plaster.—The length of time required for the cure of the disease will be various; after the expiration of a month or six weeks, the instrument may occasionally be discontinued, and again employed should the cure not have been effected.—Where the disease has been of long standing, and the duct and contiguous parts have become so diseased as not to admit the introduction of the probe or stilette, an artificial opening should be made through the os unguis into the nose, by means of a curved trochar, introduced in the direction above recommended for the puncture; after which the stile or bougie should be passed into the opening thus formed, and worn as already described.

Other modes of treatment have been recommended, as the introduction of a canula into the nasal duct, &c. but they have been found liable to objections, from which the above seems exempt.

OF DISEASES OF THE EAR.

The diseases of this organ are numerous, and their effect is generally a partial or total destruction of the function of hearing.

INFLAMMATION AND SUPPURATION.

SYMPTOMS.

Considerable pain darting through the ear,—redness, and heat;—these either gradually diminish, and at length entirely cease; or matter is formed and discharged at the meatus.

Chronic ulceration is not unfrequently the consequence of the disease; when a discharge of an acrid fetid matter from the ear becomes habitual.

TREATMENT.

In the inflammatory state.—Water as warm as the patient can bear, frequently poured into the meatus auditorius; or the introduction of soft wool dipped in the common decoction for fomentations.—Blisters behind the ear.

In the chronic state.—Injections of a solution of vitriolated zinc, p. 51;—of hydrargyrus muriatus dissolved in aqua calcis:

℞. Hydrargyri muriati gr. x.
Aquæ calcis ℔j.
Fiat injectio.

The union of balsamum Peruvianum with gall:

℞. Fellis bovini ʒiij.
Balsami Peruviani ʒj. M.
A drop or two to be put into the ear with a little cotton.

Setons or perpetual blisters as near as possible to the ear.

Amber. *Etmuller.*

A grain of musk introduced into the ear with cotton-wool. *Brookes.*

ACCUMULATION OF WAX.

An accumulation of indurated wax in the ear is one of the most frequent causes of deafness.

TREATMENT.

The introduction of a small portion of oil of almonds, dropped upon cotton, and after suffering it to remain for a day or two, syringing the ear with warm milk and water, or solution of soap;—or common salt, which is used by Dr. Haygarth as the best solvent of the accumulated wax.

℞. Natron muriati ʒj.
Aquæ distillatæ q. s.
Fiat injectio.

℞. Saponis Hispanici ʒfs.
Aquæ distillatæ ℔j.
Fiat injectio.

DEFICIENCY OF WAX.

Deafness is sometimes the consequence of a morbidly dry state of the ear, arising from a defective action in the glandulæ cerumineæ.

TREATMENT.

The application of volatile and stimulating substances to the membrane lining the ears, by means of cotton, wool, &c.;—the linimentum ammoniæ.—Oleum terebinthinæ diluted with oil of almonds. *Mr. Maule.*

CLOSING OF THE EUSTACHIAN TUBE.

DIAGNOSTIC SYMPTOMS.

It is preceded by some disease of the nose or throat; as, coryza, aphthæ, enlargement of the tonsils, want of secretion in the parts, &c.—Upon an effort to expire, at the same time retaining the breath by stopping the mouth and nose, there is no sense of distention of the tympanum.—The sound of the patient's voice appearing more dull to himself than the voice of other people;—constant noises referred to the affected ear; these are described as sometimes resembling the hissing of a teakettle, at others like the running of water, high wind blowing through trees, or even like thunder.—Persons deaf from this cause hear better in a carriage, or in any considerable noise. *Dr. Sims, Memoirs of the Medical Society.*

CAUSES.

Obstruction of the Eustachian tube, in consequence of venereal affections of the throat;—ulcerations of the fauces or nose from other causes;—common cold affecting parts contiguous to the orifices of the tube;—the pressure of tumors;—the presence of inspissated mucus;—extravasation of blood in the cavity of the tympanum. *Cooper.*

TREATMENT.

When the tube is only slightly infarcted with glutinous matter, repeated swallowing, gaping, yawning, or gurgling, have in some instances removed it.—Whatever forces a current of air into the tube; as, speaking loudly,—coughing,—sneezing,—retention of the breath, at the same time making an effort to expire.

If inflammation be present, cupping,—the application of blisters,—the insertion of issues in the neighbourhood of the part.

Syringing the Eustachian tube from the nose or mouth. *Dr. Sims.*

Perforation of the mastoid process, and thereby restoring the communication between the external air and the cavity of the Eustachian tube. *Haighton in Memoirs of the Medical Society.*

A puncture made through the membrana tympani, by means of a sharp probe. *Astley Cooper, Philosophical Transactions.*

POLYPUS.

The polypi appearing in the ear are of the same species, and require precisely the same treatment, as those of the nose. See *Diseases of the Nose.*

ATONY OF THE MUSCLES OR NERVES OF THE EAR.

A loss of tone in the muscles and nerves concerned in the function of hearing, may be induced by previous debilitating diseases, as fever, &c.; or by paralysis of these parts consequent on cold.

TREATMENT.

Electricity—the electric aura;—powerful stimuli, as oleum terebinthinæ, or aqua ammoniæ, properly diluted.

THE DEAFNESS OF OLD PEOPLE.

Is most commonly owing to a relaxation of the tympanum; is usually accompanied with confused sounds, and noises of various kinds, referred to the ear.

TREATMENT.

Hot stimulating oils applied by means of wool;—the spiritus ammoniæ compositus united with tinctura lavendulæ;—the use of an instrument invented for the purpose of collecting sound.

EXTRANEOUS BODIES IN THE EAR.

These may often be extracted by means of a small forceps, or by syringing the ear with tepid water.—Should these means be unsuccessful, they may be suffered to remain with impunity if they do not produce pain, as in a short time they will be forced out with the accumulating wax.

Insects may be killed by filling the ear with oil, or any other fluid, and afterwards be removed by injections of warm water.

IMPERFORATE MEATUS AUDITORIUS.

The external passage to the ear is sometimes covered with a thin membrane;—at others the cavity is filled up by a fleshy substance, occasioning perfect deafness.

TREATMENT.

An incision continued until a resistance is no longer felt to the passage of the knife or lancet;—the wound afterwards kept open by the introduction of dossils of lint.

OF DISEASES OF THE NOSE AND ITS APPENDAGES.

OF HÆMORRHAGE FROM THE NOSE.

TREATMENT.

The local means employed for the suppression of hæmorrhage from the nose, are—dossils of lint introduced by means of a probe, and moistened with a strong solution of alum,—of zincum vitriolatum,—or cuprum vitriolatum;—the gut of a small animal, tied at one end, pushed to the further part of the nostril, and filled with vinegar and water, or an astringent solution, and afterwards secured by ligature.

A small pledget of lint covered with pulverized alum, or moistened with one of the astringent solutions above mentioned, conveyed to the posterior aperture of the nostril, by attaching it to a waxed thread or piece of catgut, the other extremity of which has previously been passed through the nose into the throat, and thence drawn with a forceps into the mouth.

For the medical treatment of Epistaxis, consult writers on the practice of physic.

POLYPI.

These are tumors formed from the membrane lining the nose.—Of these there are two species; the common, and the cancerous.

CHARACTER.

Of the common polypus.—It is pendulous, and hangs by a small pedicle;—it is movable within the nose;—its size is influenced by the state of the weather, the protrusion being greatest when hazy and damp;—it is of the natural colour of the skin, or of a faint red, in some degree transparent, and free from pain;—it sometimes projects from the anterior, sometimes from the posterior, aperture into the nose.

Of the cancerous polypus.—This is much harder in its texture than the preceding;—it is of a livid colour;—its surface is irregular;—it is attended with a peculiarly pungent and lancinating pain;—it ulcerates, discharges a fetid matter, and if not extirpated, goes on to the destruction of the nose and contiguous parts, and ultimately the life of the patient.

TREATMENT.

Of the first species.—The topical use of astringents; as alum, oak-bark, vinegar, ardent spirits.—If these prove ineffectual, removal by excision, by means of scissars; or ligature, applied by means of the tonsil instrument.—It may be sometimes successfully drawn forcibly away with the forceps.

Of the second species.—Excision, or forcible extraction, if practicable;—the internal and external use of opium and cicuta;—an injection of tinctura ferri muriati, and the oxygenated muriatic acid diluted.

℞. Tincturæ ferri muriati ℥j.
Aquæ distillatæ ℥vij.
Fiat injectio.

℞. Acidi oxy-muriatici ℥j.
Aquæ distillatæ ℥vij.
Fiat injectio.

OZŒNA.

A discharge of purulent mucus from the nose, produced by an inflammation and ulceration of its mucous membrane.

CAUSE.

Cold;—any thing producing an irritation of the part;—all the causes of catarrh;—external violence;—syphilis.

TREATMENT.

Astringent injections; as, a decoction of bark with alum, a solution of hydrargyrus muriatus, or of zincum vitriolatum.—Blisters to the temple.—The water-dock taken internally is said to have removed the complaint.

℞. Aluminis purificati ʒfs.
Decocti quercus ʒxij.
Solve pro injectione.

℞. Hydrargyri muriati gr. vj.
Aquæ distillatæ ʒviij.
Solve pro injectione.

IMPERFORATE NOSTRIL.

The passage into the nose may be either originally imperforate, or it may be closed by accidental injury or disease, as burns, small-pox, venereal or other ulcers.

TREATMENT.

An incision made with a lancet or common scalpel; and the opening prevented from closing, by the introduction of dossils of lint, or a metallic tube, into the nose.

COLLECTIONS OF MATTER IN THE ANTRUM OF HIGHMORE.

SYMPTOMS.

Pain extending upwards to the eyes, nose, and ears;—swelling and redness of the integuments over the part;—frequently on a sudden, and especially upon rising from bed, a discharge of matter issues from the nose, which affords a relief to the symptoms until the cavity becomes again distended.

TREATMENT.

The extraction of the first molar tooth is recommended, and evacuating the matter by means of a puncture made, through the alveolus, with a stilette or sharp-pointed instrument; and after the contents of the cavity have thus been emptied, preventing the sides of the opening from closing, by means of a plug or bougie; and occasionally injecting tincture of myrrh, or some astringent fluid.

OF CANCER OF THE ANTRUM.

This is supposed to originate in a polypus of a nature similar to that already described as occurring in the nose.

It may be expected to exist, by the chronic enlargement of the part, and by the peculiar and characteristic cancerous pain;—the true nature of the disease is, however, seldom ascertained, until it has extended its ravages to the nose and neighbouring parts, and produced the most horrid deformity.—It at length terminates fatally.

COLLECTIONS OF MATTER IN THE FRONTAL AND SPHÆNOIDAL SINUSES.

SYMPTOMS.

Pain and considerable swelling of the brow,—tenderness to

the touch,—alteration of voice,—frequent flow of tears;—after some continuance of these symptoms, a sudden gush of matter issues from the nose, and the symptoms are relieved.

TREATMENT.

Little can be done; the disease being out of the reach of the usual remedies.—A blister applied to the temple or forehead, and kept open with the ceratum cantharidis, has been employed with success.—The pain may be relieved by opium.

DISEASES OF THE LIPS.

THE HARE LIP.

A fissure generally in the upper lip, and sometimes extending to the bony palate, which, by causing a preternatural projection, creates some resemblance to the lip of a hare.

THE OPERATION.

The deformity may in great measure be removed by an operation.—In performing it, the first step is the separation of the adhesions to the gum which usually exist at the fissured part; after which, by means of a cataract-knife or common lancet, the edges of the opening are to be successively pierced at the upper part, and by carrying the instrument forwards along their whole extent, a thin portion of the edge is to be cut off, so that an entirely raw surface may remain, to be united by the first intention. The sides of the wound are to be accurately brought together, and retained in their situation by means of small pins made of silver with steel points, which, when inserted, with their attached ligatures, have obtained the name

of the twisted suture.—In the adult three pins will be required; the first should be inserted as near as possible to the red part of the lip,—the second should be passed near to the upper angle of the fissure,—the third should occupy a middle space between the two. In passing them from one side of the fissure to the other, care should be taken that they do not completely penetrate the substance of the lip.—In children two will be sufficient.—After the insertion of the pins, a waxed ligature is to be applied upon each, by being passed repeatedly under and over from side to side, so as to describe the figure 8. By these means the edges will be retained in contact, and the wound will be closed, with little deformity.

In children the operation should be deferred until they have been weaned.—Should there be a fissure on both sides, the second operation should not be performed until the first cure has been effected.—In cases where the bony palate is also defective, the dentists have invented an artificial one of silver.

CANCER.

SYMPTOMS.

This disease, when occurring in the lip, generally commences with a small crack, which becomes exquisitely painful, and, upon examination, is found to be formed in a small, hard, deep-seated tumor.—The pain soon becomes more intense, and is pungent and lancinating;—ulceration ensues, and if its progress be not timely suspended, the life of the patient is endangered by an extension of the disease, first to the glands of the neck, afterwards to other parts of the body.

TREATMENT.

The most certain mode of obtaining a cure is the excision of the part.—This, when the disease is not far advanced, may be readily done by an incision on each side of the diseased portion, made in a direction sufficiently oblique, as that the union of the two may form an angle at the inferior part of the tumor; and after the extirpation of which, that the sides of the wound may be brought together, and united either by the twisted or by the interrupted suture.

After the disease has become more extensive, such mode of treatment will be impracticable: a free and perfect excision of the part should be made, and the wound suffered to fill up by granulations.

Arsenical caustics have been used with success in the early stage of the disease.—Various other applications are also reported to have effected cures; as the constant application of the root of a large common onion, &c.

Professor Hufeland relates a case in which the aqua ammoniæ, with a decoction of the sprigs of the pine, were effectually employed.

SARCOMATOUS TUMOR.

An accretion of the skin and integuments of the lip not unfrequently takes place, which so much resemble cancer, as to have been often mistaken for it.—It is distinguished from that disease, by the absence of pain and ulceration.

TREATMENT.

It may, when small, be readily removed by escharotics; and, when large, by excision performed as above recommended for cancer.

DISEASES OF THE INTERIOR OF THE MOUTH.

APHTHA.

Vide *Exanthematous Diseases*, and *the Diseases of Children*, in medical works.

SIBBENIC ULCERS.

These are small superficial ulcerations on the tonsils, uvula, and sides of the tongue, that accompany the sibbens, a cutaneous disease which attacks the inhabitants of the northern part of this island.—Their edges are thick and swelled, their surface covered with a white slough, which gives them much the appearance of venereal sores.

TREATMENT.

The topical use of a solution of hydrargyrus muriatus, page 139; and of argentum nitratum, page 51;—the pilula hydrargyri internally. *Ferguson in Medical Journal.*

MERCURIAL ULCERS

Are ulcerations in the mouth, produced by mercury; superficial, and having a dark-coloured surface.—They are accompanied with fetid breath, with a taste in the mouth resembling that of copper; the gums are separated from the teeth, and the tongue is covered with a glairy fluid.

TREATMENT.

The use of mercury should be discontinued, and the mouth frequently washed with emollient and slightly astringent gargles of infusion of roses with alum, or decoction of oak-bark, while sulphur and alkalies are administered internally.

TONGUE-TIED.

It very frequently happens that the tongue of infants is tied, that is, that the frænum linguæ is so short as to prevent the tongue from being protruded to, or beyond, the gums; in which case an operation becomes necessary for dividing the frænum by which it is confined.

CUTTING THE TONGUE.

In performing this, some little care and steadiness are required, or the sublingual veins and arteries may be wounded, and the infant die of hæmorrhage. To avoid the danger, a small curved bistoury may be used instead of scissars usually employed. The handle and blade, when open, need not exceed two inches in length; and the point should be a little curved, and the back made broad, whereby the point may be easily forced through the frænum, in the most troublesome case, while the back of the instrument will sufficiently press down the vessels, so that they will be entirely out of the way of being injured.

RANULA

Is a little inflammatory or indolent tumor, situated under the tongue, by the side of the ranular artery, on either side of the frænum.—It is of greater or less size; sometimes acquiring such magnitude as to impede the motions of the

tongue, obstruct the speech, and in children, who are equally subject to the affection as adults, prevent the action of sucking.—Its contents are various: generally a fluid resembling saliva; at others a glairy matter like that found in the cells of swelled joints; and now and then a fatty or carious substance. —Its cause is supposed to be an obstruction of the salivary ducts, arising from either cold, inflammation, calculary concretions, &c.—It is attended with little or no pain.—In some cases it long remains in an indolent state; in others, it soon acquires a considerable size, spontaneously bursts, and leaves an ulcer extremely difficult to heal.

TREATMENT.

The usual applications to this disease are powerful astringents; as, the mixture of mel rosæ with vitriolic acid, or a solution of alum, and with these the tumor should be rubbed by means of a piece of lint, attached to a probe or skewer.

℞. Mellis rosæ ʒxiv.
Acidi sulphurici diluti ʒij. M.

When these are ineffectual, incision or extirpation has usually been resorted to;—but when the cause of obstruction proves to be of a more permanent nature, the ulcer consequent upon the bursting, or cutting into the tumor, is often not to be healed by any of the customary astringent or escharotic applications, until its complete removal.

VENEREAL ULCERS.

Vide *Syphilis*.

SCORBUTIC ULCERS.

Vide *Scorbutic Ulcer*, page 56; and medical works on *Scurvy*.

CANCER OF THE TONGUE.

Cancer of the tongue usually makes its appearance, with a small fissured tumor in its side, exactly similar in appearance to the same disease when occurring in the lip.—Its progress and termination are also similar.

TREATMENT.

Arsenical caustics may first be employed; and if no success results from their use, excision of the cancerous part will become necessary.

CALCULUS OF THE SALIVARY GLANDS.

All the salivary glands are subject to the formation of calculi. —They produce much inflammation and pain, and are generally attended with spasms of the neighbouring muscles, especially after eating.

A curious case is related by Mr. Hewitt, surgeon at Hull, of a lady who discharged a calculus from the tonsil gland at every period of pregnancy.

TREATMENT.

An incision over the seat of the calculus, in the gland or its duct; after which it may be extracted by means of a tenaculum or crooked probe.

DIVISION OF THE PAROTID DUCT.

When the parotid duct has been divided, either in consequence of accidental injury, or in the performance of an ope-

ration, the saliva which it transmits, instead of going into the cavity of the mouth, passes over the cheek, and thereby becomes an obstacle to the healing of the wound.

TREATMENT.

The following mode of treatment is recommended:

When recent, adhesive plaster alone will sometimes effect an union of the divided sides —When of longer standing, and the inferior extremity of the duct has become obliterated, an artificial canal should be effected, by means of a perforation made obliquely into the mouth, with a small curved trochar, beginning from the side of the wound contiguous to the divided extremity of the duct; after which one end of a bit of catgut should be introduced at the artificial opening, and brought out at the mouth, while the other is passed a little way into the extremity of the natural duct, and retained by adhesive plaster until the wound is healed; during which time the patient should live upon spoon-meat, and make as little motion as possible with his lips and jaws. *Latta's System of Surgery.*

ENLARGEMENT OF THE TONSILS.

Enlargements of the tonsils may be of two kinds:

1. The common abscess occurring in cynanche tonsillaris.

2. A chronic swelling, generally the consequence of previous inflammation of the gland in a scrofulous habit.

They often become so large as to impede both respiration and deglutition.

TREATMENT.

Of the first species.—See *Cynanche Tonsillaris.*

Of the second species.—Extirpation by ligature.—If the base of the tumor be smaller than its apex, a single ligature is to be conveyed around it, by means of a forked probe, or an instrument invented for the purpose, with a ring at its extremity. —When the form of the tonsil happens to be conical, the needle invented by Mr. Chesselden will become necessary.— A double ligature being put into the eye near its point, it is to be pushed through the centre of the base of the tumor; after which the ligature should be laid hold of by a hook, pulled forwards, and divided.—The instrument is then to be withdrawn, and the ligatures so tied, that each part may surround one half of the tumor.—To render the operation more distinct, one half of the thread may be coloured, the other suffered to remain white.—When both tonsils are affected, in general one only need be extirpated.—Should it become necessary to extirpate both, the inflammatory symptoms ensuing from the first operation should be allowed to subside, before an attempt is made to remove the remaining one.

ENLARGEMENT OF THE UVULA.

An enlargement of the uvula sometimes takes place, and becomes so considerable as to give great uneasiness, by impeding deglutition, irritating the throat, and thereby causing cough, retching, and vomiting.

TREATMENT.

When the enlargement is considerable, strong astringent gargles; as, a solution of alum in decoction of bark, p. 139.

If it continue to increase in size, and become troublesome, extirpation by ligature, applied as above mentioned; or by excision, performed by means of a curved bistoury, while the tumor is held by the tenaculum.

DISEASES OF THE ALIMENTARY CANAL.

CONTRACTION OF THE ŒSOPHAGUS.

SYMPTOMS.

The disease usually commences with a slight difficulty of deglutition, especially in swallowing solid food;—this continues to increase for some months, during which the patient is obliged to mince the solid food which he takes.—At length the passage becomes so narrow, that not the smallest particle can pass; but after being for a short time detained at the contracted part, it is rejected with a peculiar hollow noise, and with the appearance of convulsion.—If preventive means are not taken, the stricture becomes more and more contracted, and at length so much so, as not even to admit the passage of fluids.—Emaciation ensues, and the patient is eventually starved.—Ulceration sometimes takes place, attended with severe lancinating pain and hectic fever.

CAUSES.

A morbid thickening of the mucous membrane of the œsophagus, induced by a previous state of inflammation, or abrasion, from whatever cause;—from the swallowing of hot fluids, or from a wound inflicted by an extraneous body accidentally lodged in the part.

Two cases are related by Dr. Helsham, in the Medical Journal, of a contracted state of the œsophagus from a protrusion of the spine.

TREATMENT.

Dr. Munckley recommends the use of mercury, first in small doses, and prevented by purges from affecting the mouth;—in the more advanced stage of the disease, so administered as to produce a gentle salivation.

In the early stage, and before ulceration commences, Mr. Wathen advises the daily introduction of a bougie into the œsophagus, the size of which is to be gradually increased, and the patient at the same time directed to swallow pills, and at last boluses, of butter, boiled fat, &c.

This disease is treated successfully by Mr. Home by the use of caustic, introduced in the same manner as in strictures of the urethra. Vide *Strictures of the Urethra.*

SCIRRHUS OF THE PYLORUS.

SYMPTOMS.

Long-continued symptoms of dyspepsia;—sickness;—constant pain;—hard circumscribed tumor in the epigastric region, at first insensible, afterwards painful upon pressure;—rejection of food after it has remained in the stomach for the space of an hour—Dr. Rahn, of Zurich, where the disease is very frequent, describes it as often unattended by this symptom;—obstinate costiveness;—ulceration at length takes place, when the pain becomes more intense, and is accompanied with a sense of heat, referred to the throat;—the rejected food is mixed with blood,—hectic fever ensues,—in some instances dropsy,—great emaciation,—death.

DIAGNOSIS.

From dyspepsia.—By the tumor in the region of the pylorus;—by the vomiting of blood;—by the peculiar, constant, and pungent pain;—by the remarkable emaciation.

TREATMENT.

Before ulceration commences.—Mercury, to excite a slight salivation;—blisters to the region of the part;—fomentations of cicuta;—cicuta administered internally;—the yolk of eggs;—the daily use of purges.

In the ulcerated state.—Opium, administered both externally by friction to the abdomen, and internally for the purpose of allaying pain;—cicuta.

ULCERATION OF THE INTESTINES.

This produces symptoms of dysentery, and is treated by physicians.

SCIRRHOUS CONTRACTION OF THE RECTUM.

This is a disease similar in its nature to the contraction of the œsophagus already described.

SYMPTOMS.

Sense of pain in the part;—obstinate costiveness;—the fæces much contracted in size;—the anus constantly in a moistened state, from the presence of a slimy mucus;—frequent tenesmus;—constant irritation and uneasiness down the thighs;—if ulceration takes place, the pain becomes peculiarly pungent and lancinating,—blood or a sanious fluid is often discharged by stool,—great emaciation ensues,—hectic fever,—death.

TREATMENT.

In the early stage, mercury, to excite a slight salivation;—if the stricture be within reach, recourse must be had to the frequent introduction of a bougie of a large size into the

rectum, or retaining it there constantly, by means of tapes connected with a bandage passed around the loins;—frequent dilatation by the use of the speculum;—the repeated use of copious emollient clysters.

In the ulcerated state, the internal and topical use of hyoscyamus, aconite, cicuta, and opium.

IMPERFORATE ANUS.

The anus is not unfrequently found imperforate at birth; and in some instances it is closed simply by a thin membrane, in which case the meconium may be distinctly felt a day or two after birth, and in a manner seen shining through it.

TREATMENT.

A slight puncture with a lancet, and the subsequent introduction of a bougie, will in every case be proper. But more commonly the imperforate anus is a melancholy occurrence, and seldom admits of a remedy, the gut often terminating in a cul de sac, so high up as not to be reached. In other instances, however, it may be relieved by an operation. This consists in first making a longitudinal incision in the natural situation of the anus (the operation being postponed as long as it safely can, that the depending part of the bowel may be distended, and pushed as low down as possible); and afterwards passing up a small trochar, in the usual direction of the bowel, until it shall have entered the extremity of the gut, and the meconium flow from the canula. A piece of bougie is afterwards to be introduced daily, until the edges of the sore become sufficiently callous to prevent a reunion taking place.

DISEASES OF THE RESPIRATORY ORGANS.

ULCER IN THE LARYNX.

SYMPTOMS.

Remarkable hoarseness;—perpetual irritation at the top of the windpipe, which nothing will relieve;—there is no pain nor soreness in the lungs.—It commences in some who are otherwise in perfect health, and often continues for years before it brings them to extremities;—the cough at length expels real pus, which increases more and more;—a destruction of the powers of voice ensues,—the patient becomes hectic, and dies. *Wathen, Memoirs of the Medical Society.*

CAUSES.

Unknown.—It has occurred as a consequence of the venereal poison, and may probably be induced by inflammation or irritation, of whatever kind.

TREATMENT.

Blisters, issues, or setons, in the neighbourhood of the part;—frequently inhaling the steam of hot water impregnated with cicuta;—opium administered in the form of linctus.—If the disease arise from a syphilitic affection, mercury;—inhaling the steam of hot water impregnated with nitric acid;—decoction of the woods, &c. Vide *Syphilis.*

OF SUSPENDED ANIMATION.

No subject has given rise to a greater diversity of opinion than the nature of the immediate cause of death produced by drowning, hanging, &c.—From the late discoveries in chemistry it appears, that the cessation of the powers of life arises from the suspension of respiration merely; and thereby the interruption of that process, by which the blood is meliorated, or undergoes a certain change in its passage through the lungs. Vide *Goodwin on the Connexion of Life with Respiration*; *Curry, Observations on apparent Death, &c.*; *Coleman on suspended Animation.*

TREATMENT.

The patient is as soon as possible to be conveyed into a warm room, and, if it can be speedily procured, immersed in a warm bath;—immediate and copious evacuation of blood from the arm;—after which extensive and continued friction should be practised with salt or warm flannels;—stimulating fluids, as brandy, or spiritus ammoniæ compositus, diluted, are to be poured into the stomach,—and attempts to inflate the lungs are to be made, either by means of the tube passed into the larynx as directed by the Humane Society, or by the common bellows introduced at the mouth; while this, together with the aperture into the nose, is securely closed.—Should these means prove unsuccessful, recourse must be had to the operation of—

BRONCHOTOMY.

The patient should be in the sitting posture, the body bent a little forwards, the head turned back.

The first incision should be through the integuments, midway between the sternum and the cricoid cartilage: the arteries of the thyroid gland will by this means be avoided.—The trachea being thus exposed, an opening must be made with the point of a lancet, of sufficient extent to admit of the introduction of the canula.—This is now to be passed into the artificial opening, and to be secured in its situation by means of a bandage, previously connected with it, passed around the neck.—Its mouth should be covered with a piece of thin gauze, to prevent the admission of extraneous matter; and when the causes which endangered suffocation have been removed, it is to be withdrawn, and the wound healed as an accidental wound of the part.

DISEASES OF THE CHEST.

VOMICA, OR ABSCESS OF THE LUNGS.

SYMPTOMS.

After preceding inflammation of the lungs, severe rigors, —the pain, before diffused, now becoming confined to a circumscribed spot; — great heat and restlessness; — sensation of heat in the throat,— cough,— quick pulse,— fiery red tongue,—debility of the lower extremities.—The abscess thus formed, either opens into the bronchia, or into the cavity of the pleura.—In the first case the matter is expectorated, and thereby the symptoms are greatly relieved, but the cough and expectoration long remain, and the disease either terminates in

phthisis, or the cavity is gradually filled up by granulations.—Of the latter, empyema, or sudden suffocation, are the consequences.

TREATMENT.

Consult medical works on *Pneumonia*, and *Phthisis Pulmonalis*.

EMPYEMA.

SYMPTOMS.

Sudden cessation of the symptoms of vomica above mentioned, or of pneumonia, followed by vast oppression and sense of weight in the chest;—an inability to lie on the affected side;—frequent and severe rigors;—cold clammy sweats;—small oppressed pulse;—dark flush upon the countenance;—an enlargement, or soft œdematous fulness, of the affected side;—the undulation of a fluid sometimes becomes sensible;—when the effusion happens to be on the left side of the chest, the palpitation of the heart becomes lost or imperceptible.

TREATMENT.

The operation of *Paracentesis of the Thorax*. See page 159.

COLLECTIONS OF BLOOD IN THE CHEST.

CAUSES.

Erosion of vessels in consequence of ulcerations of the lungs;—inflammatory congestion of the vessels of the lungs;—external injury;—violent exertion of the organs of respiration;—immoderate exercise in running, leaping, &c.

DIAGNOSTIC SYMPTOMS.

When consequent upon a previous disease of the lungs, the symptoms so exactly resemble those produced by effusion of matter, that it will be difficult or impossible to distinguish the one disease from the other, until an opening has been made into the thorax, for the purpose of evacuating the collected fluid.—In general the effusion of blood takes place at the height of the disease, and, if considerable, is instantly followed by syncope, or sense of suffocation.—The symptoms produced by the effusion of matter are more gradual, and less severe.

When the consequence of active hæmorrhagy from the vessels of the lungs, the nature of the disease may in general be ascertained by a previous sense of heat in the chest, confined to a particular spot;—by the pulse having a peculiar jerk or salient feel;—by the countenance of the patient.

If the above symptoms, of empyema, are the immediate effect of external violence, or over-exertion, &c. no further diagnostic mark is required.

TREATMENT.

The *Paracentesis of the Thorax.* See page 159.

COLLECTIONS OF AIR.

DIAGNOSTIC SYMPTOMS.

Sudden anxiety and difficulty of breathing, sometimes amounting to so high a degree as to threaten instant suffocation.—It is distinguished from the two preceding diseases by the absence of fever,—by being unattended with rigors,—by the anxiety and oppression, arising rather from a sense of constriction than from the dull weight above described,—by the emphysematous swelling of the integuments, which in general follows an effusion of air into the chest.

HYDROTHORAX.

The symptoms and treatment of this disease are laid down by writers on medicine. The surgeon is occasionally consulted to evacuate the water. The operation is called

PARACENTESIS OF THE THORAX.

The patient being laid in a recumbent posture, with the shoulders rather elevated, and the body inclined to the affected side, an incision is to be made between the sixth and seventh rib, near to the inferior of the two, and almost midway between the spine and sternum; previously, however, to which, the integuments should be so drawn up with the left hand, that, when returned to their original situation, they may form a valve over the opening afterwards made.—The pleura being exposed, a small aperture is to be cautiously made into the chest, through which a silver canula of a proper size is to be introduced, and by this means the fluid gradually evacuated; not all at once, but at several successive times; in the intervals between which the orifice of the canula should be closed with a compress of lint or small cork, and secured in its situation by means of tapes or strings connected with a napkin and scapulary bandage.

After the collected matter, or other fluid, has been wholly evacuated, the canula is to be withdrawn, and the wound covered with the flap of integument previously formed.—Union by the first intention should be prevented, lest the fluid again accumulate, and a repetition of the operation become necessary. —If coagulated blood be contained in the chest, it has been recommended to employ injections of tepid water.

PARACENTESIS OF THE ABDOMEN.

The operation becomes necessary when the pressure of the water contained within the cavity of the peritoneum is so great as to impede the function of respiration.

During the operation, the patient should be in a sitting posture, with a vessel for the reception of the fluid placed between his legs, and his body encircled with a long bandage or towel, the ends of which are to be held by two assistants.—These preparations being adjusted, and the patient having been directed to void his urine, or a catheter having been introduced for the purpose of drawing it off, a small incision is to be made, with a common lancet, about an inch below the umbilicus; after which a lancet-pointed trochar is to be pushed forwards, till, from no longer meeting with resistance to its passage, it is ascertained to be within the cavity of the abdomen;—the stilette is then to be withdrawn, and as the fluid is evacuated, the bandage, previously fixed around the abdomen, is to be drawn tighter and tighter, to prevent the effects of a sudden removal of the accustomed pressure.

After the whole of the water has thus escaped, the wound is to be closed by adhesive plaster, and the body to be encircled with a roller of flannel, which should be suffered to remain for some days after the operation.

It is recommended by Dr. Sims, in the Memoirs of the London Medical Society, to introduce the trochar at the umbilicus. In this case the first incision will be unnecessary.

DISEASES OF THE BREAST.

INFLAMMATION.

The breast is subject to common inflammation, which is called MASTODYNIA. This, as well as its terminations, are to be treated as directed under the head of inflammation.

CANCER.

SYMPTOMS.

The disease makes its appearance with a small, hard, circumscribed knot, distinctly moveable, beneath the integuments of the breast.—As it increases in size, it is attended with lancinating pain, the veins of the skin become varicose, and adhesions between the integuments and the tumor often take place, creating the resemblance of cicatrices, arising from previous wound or ulceration.—The tumor now ceases to be moveable, becomes completely fixed in the substance of the breast, and a hard line is often felt, extending into the axilla, where a small gland at the edge of the pectoral muscle is found enlarged.—At length a part of the tumor becomes soft, the presence of a fluid is perceptible, ulceration takes place, and an excoriating ichorous matter is discharged at the opening.—The pain now is excruciating, and of a pungent nature.—The ulcer puts on the appearance already described (vide *Cancerous Ulcer)*, and often shoots forth a dark-coloured fetid fungus of considerable size.—A fatal hectic puts a period to the sufferings of the patient.

CAUSES.

The usual exciting causes are, injury of the part from external violence,—inflammation, however induced.

PROGNOSIS.

The circumstances which lead to a prediction of the favourable event of an operation are, unimpaired constitution of the patient;—the tumor still remaining moveable beneath the integuments;—the glands of the axilla as yet unaffected;—there being no cicatrices on the skin.

TREATMENT.

It is recommended by Mr. Fearon, upon the supposition of cancer being induced by a previous state of inflammation, to have immediate recourse to local bleeding, gentle laxatives, and the antiphlogistic regimen, upon the first appearance of a disease of the breast after a suppression of the menses.

The use of cicuta, as a remedy for cancer, has been perhaps too highly extolled.—The extract is usually employed, beginning with two grains three times a day, and gradually increasing the dose until it arrive at ten grains or more, unless it disagree.

Mercury, in the early stage of the disease, has in some instances been successful—Plummer's pill, or hydrargyrus muriatus united with decoctum sarsaparillæ compositum.

Arsenic;—from the concurrent testimony of many respectable authorities, no doubt can be entertained of its having been, in some instances, successful. Vide *Justamond on Cancer*; *Rush, in American Transactions*; *Simmons, Medical Journal.*—Fowler's arsenical solution will be the most proper form for its administration; the dose is from four to six drops three times a day.

Dr. Crawford recommends the use of a saturated solution of muriated barytes, from four to ten drops twice a day.

The internal use of the plant called galium aperine, or goose-grass, is proposed by Dr. Saunders, and some cases of apparent cancer have given way to its use.

The ferrum ammoniacale was successfully employed by Mr. Justamond; as also the external use of a lotion, in which the tinctura ferri muriati, and spirit of wine, were the chief ingredients.—From three to ten grains of the ferrum ammoniacale are to be given twice or three times a day.

After a short continuance of the use of internal remedies without success, it will always be advisable to have recourse to the only effectual mode of cure; i. e. extirpation of the tumor. —For this purpose, corrosive plasters of different kinds have been sometimes employed with the desired effect.

Mr. Justamond used a plaster formed from yellow orpiment, previously causing ulceration of the integuments by the application of lunar caustic; and by Dr. Moseley, an adhesive plaster, strewed with corrosive sublimate, was employed with success in several cases.

From the injurious effects of such applications upon the constitution, it will be prudent to avoid such mode of treatment, and, while the disease is yet in its early state, to perform the following operation:

THE OPERATION.

The necessary preparations being adjusted, a semicircular incision is to be made across the upper portion of the breast, above the nipple; after which the integuments are to be cautiously dissected away from the diseased mamma, beginning at the upper side of the wound, and proceeding to detach the tumor until the mammary artery has been divided; when this should be secured by ligature, before any further progress is made in the operation.—The integuments of the lower portion

of the breast are now in like manner to be separated from their connexions, as is afterwards the gland itself from the subjacent pectoral muscle.—When the whole glandular part has been thus completely removed, the arteries are to be secured by ligature, the integuments brought together, and their divided edges retained in contact by means of the interrupted suture, or by straps of adhesive plaster; the part covered with a compress of soft linen or lint, and the dressings secured in their situation by the napkin and scapulary bandage; with which a moderate pressure should be made.—Should there be any cicatrices of the skin, that part of the integument in which they are seated should, during the operation, be removed. If a gland on the axilla has become enlarged, this, together with all the intermediate substance, ought to be extirpated.

DISEASES OF JOINTS.

HYDARTHRUS.

A dropsical accumulation within the capsular ligament of a joint; generally of the knee-joint.

DIAGNOSIS.

Preternatural swelling of the joint, without discolouration; —the hand placed on one side of the joint, while a slight percussion is made against the opposite, will receive an impression similar to that experienced, when making the same experiment, to ascertain the presence of a dropsy of the abdomen. —Continued pressure upon one side will, by depressing that,

occasion a considerable and obvious elevation of the other.—The fluid, in passing from side to side under the patella, raises this above its usual level.

CAUSES.

The hydropic diathesis;—debility, however induced;—the debility consequent upon low fevers;—rheumatism;—scrofula;—syphilis.

TREATMENT.

The repeated application of blisters, kept open by the use of unguentum cantharidis;—friction;—electricity;—mercury, applied locally to the joint, and likewise administered internally;—cold affusion; a convenient mode of applying cold water in this way is, to pour it, in a continued stream, from the spout of a teakettle, held at a considerable distance above the knee of the patient;—the discutient applications recommended for the early stage of white swelling; which see at page 168.

GANGLION.

Vide *Tumors*.

COLLECTIONS OF BLOOD.

DIAGNOSIS.

A collection of blood is known to have taken place within the joint, by the swelling which is produced coming on suddenly, and being the immediate consequence of an injury which the part has sustained; and by the colour of the tumor, which, when the capsular ligament has been broken, is dark and livid.

CAUSE.

Injury done to the part from external violence.

TREATMENT.

The means above recommended for procuring absorption are first to be employed; and if these prove ineffectual, recourse must be had to an operation for evacuating the effused fluid.

The best mode of performing this is as follows:—The integuments are first to be tightly drawn up above the part chosen for the incision, so that after the evacuation of the fluid, they may, upon being let down, form a valve, and effectually prevent the admission of air, while a small opening is cautiously made through the capsular ligament.—The blood being evacuated, adhesive straps are to be applied to procure union by the first intention; and the patient should be put upon a strict antiphlogistic regimen, to obviate the effects of the inflammation, which so generally succeeds openings into large joints.

COLLECTIONS OF MATTER.

DIAGNOSIS.

Tumors of joints, formed by collections of matter, are distinguished from the two former diseases, by having been preceded by much pain and inflammation, of which they are the consequence.—The matter is sometimes external to the capsular ligament; sometimes it is contained within it.—The former case is a more frequent sequel of rheumatic inflammation than has been generally supposed.

TREATMENT.

A simple incision, if the fluid be above the ligament;—the operation above described, if beneath it.

WHITE SWELLING.

SYMPTOMS.

In the knee-joint.—Pain in the inside of the patella, which is often deep seated in the joint, unattended with external swelling or inflammation, and is not exasperated by pressure.—Sometimes it comes on gradually; at others it becomes suddenly violent, and is confined to a limited spot, apparently in the capsular ligament of the joint.—The swelling, at first inconsiderable, gradually increases in size, and the pain becomes more acute;—a fluctuation is perceptible, and frequently there is an enlargement of one or both of the bursæ mucosæ.—Ulceration at length takes place, though sometimes not until after many months have expired, and matter is discharged; most frequently at several different openings, the principal of which is at the lower part of the joint.—A hectic fever arises, which often destroys the patient, if the sense of irritation be not removed by an operation.—Either this or anchylosis will be the termination of the disease, after suppuration has taken place.

CAUSES.

Remote.—Scrofula.

Exciting.—Injury of any kind, or an attack of inflammation.

TREATMENT.

Indications.

I. To remove those circumstances of constitution which predispose to the disease.

II. To prevent suppuration in the early stage.

III. When suppuration has taken place, to obviate its fatal effects.

Internally.

The means recommended for the cure of scrofula in medical works.

Locally.

In the early stage.—The application of leeches, fomentations, and poultices;—cataplasm of the quercus marinus. See *Scrofulous Ulcer.*

Repeated blisters, or blisters kept open by the application of the ceratum cantharidis, or sabinæ.

Caustic issues have been attended with great benefit.

Refrigerant and astringent lotions; of ammonia muriata, of alum, of zincum vitriolatum.

The application of stimuli, to excite superficial irritation; as, mercurial friction, the linimentum ammoniæ.

Mr. Russel recommends a paste made of gummi ammoniacum and acetum scillæ; or a liniment of oleum terebinthinæ, with hog's lard.

℞. Gummi ammoniaci ℥ij.
Aceti scillæ q. s.

The ammoniacum is to be reduced to a fine powder, and enough vinegar of squills to be added to form it into a consistency to be easily spread on leather.

This was often used with success by the late Mr. Cruickshank.

The ammoniacal plaster with cicuta is also beneficial.

EMPLASTRUM AMMONIACI CUM CICUTA

Pharm. Chir.

℞. Ammoniaci gummi-resinæ ℥iij.
Succi cicutæ spissati ʒij.
Aquæ lithargyri acetatæ ʒj.

The ammoniac is to be dissolved in a sufficient quantity of

vinegar of squill; after which the remaining ingredients are to be added, and the whole boiled slowly to the consistence of a plaster.

Lime, formed into a cataplasm with meal and lard. *Bath Infirmary.*

The volatile plaster of Dr. Kirkland:

℞. Saponis ℥ij.
Emplastri lithargyri ℥ſs.
Ammoniæ muriatæ ʒj.

The two former to be melted together, and, when nearly cold, the ammonia muriata, in fine powder, to be stirred in.

Friction with brine.

An ointment of emetic tartar.

℞. Antimonii tartarisati ʒj.
Unguenti adipis suillæ ℥j.

These are to be rubbed well together, so as to form a smooth liniment, of which one drachm or more is to be rubbed on the knee for ten minutes.

Oxygen gas;—a successful case related by Dr. Beddoes.

In the ulcerated state.—Nutritive diet;—by tonics, and by all the means adapted to the treatment of hectic fever from other causes; and if these prove ineffectual, recourse must be had to an operation for the removal of the limb.

CARTILAGINOUS AND FUNGOUS SUBSTANCES WITHIN THE CAPSULAR LIGAMENTS.

Small bodies are not unfrequently formed beneath the capsular ligaments of joints, which impede their motion, and often occasion much pain.—They are of two kinds:

1. Hard and cartilaginous, and loose in the cavity of the joint.

2. Soft, and similar to bursæ mucosæ, and generally attached to the cartilages.

They vary in size, being sometimes as large as horse-beans, and at others there are several contained in the same joint.

The first species occasion sudden and violent attacks of pain, upon any motion of the limb, or upon change of posture, which go off as suddenly upon a repetition of the same cause that induced them.—The pain arising from the second is constant, but less acute.

CAUSES.

Mr. Hunter attributed the origin of these substances to a portion of blood, effused by some injury which the joint might have sustained, and becoming organized by the action of contiguous parts.

Mr. Russel, on Diseases of the Joints, supposes them to arise from an inspissation of synovia.

TREATMENT.

Many cases are related by Mr. Hey, in his Observations in Surgery, which were successfully treated by the application of bandages, and by the constant use of a tight-laced knee-cap.

Should this mode prove ineffectual, the body, if loose, may be removed by an operation. This is directed by Mr. Home,

in the Transactions of the Society for the Improvement of Medicine and Surgery, to be performed in the knee in the following manner:

OPERATION.

The limb being extended, and in an horizontal position, the loose cartilages are to be pushed to the upper and inner side of the joint, so that the vastus internus muscle only may be divided; and being secured in that situation, the skin of the part where the incision is to be made should be so drawn up, that the wound in the parts underneath may not afterwards correspond with that through the integuments.—The loose body is now to be exposed, by cutting immediately upon it, and attempts are to be made to press it through the opening;—should these be unsuccessful, a tenaculum, or the broad end of an eyed probe, may be passed under it, and by this means it may be lifted out.—The wound should be carefully healed by the first intention; and, to prevent inflammation, the limb should be kept in the extended position, and the patient put upon the antiphlogistic regimen.

THE DISEASE OF THE HIP-JOINT.

SYMPTOMS.

A degree of lameness scarcely visible, often ascribed to indolence, or to the indulgence of awkward habits;—after the expiration of a shorter or longer time, the leg and thigh of the affected side appear lessened in circumference, and the limb is evidently elongated; so that in standing erect, while the sound limb is slowly extended, the diseased is separated from the body, or the knee is bent to a considerable angle.—The nates, upon inspection, appear flattened;—pain in the region of the

part, in some cases obtuse and deep-seated, in others more acute; pain in the knee, often so excruciating as to occasion the most agonizing screams;—the difficulty of walking increases; is particularly obvious in the morning, becomes less so as the day advances, but returns again in an increased degree towards night.—Upon any quick exertion, the patient is apt to fall.—In a recumbent posture, the diseased thigh is bent forward, and every attempt to alter its position is attended with great pain.—The joint becomes tender to the touch, and the lymphatic glands at the groin are enlarged;—the lameness becomes more and more obvious;—the pain more sensible, and the limb is considerably reduced in size;—a slow hectic fever arises, with great prostration of strength.

At length the limb, before elongated, shortens; a circumstance which announces an ensuing suppuration.—The tenderness and swelling increase, the patient is incapable of supporting himself, unless by crutches.—The abscess at length breaks, and discharges the curdly matter peculiar to scrofula.—The patient now grows languid, the symptoms of hectic fever become more violent, he loses his appetite, is gradually emaciated, colliquative discharges come on, and not unfrequently the disease terminates fatally.—When a recovery takes place after the disease has so far advanced, it is effected by an anchylosis of the joint.

CAUSE.

Scrofula.

DIAGNOSIS.

The pathognomonic symptoms are, the pain in the hip;—the elongation and subsequent shortening of the limb;—the difficulty of turning the leg inwards, when in a recumbent posture;—the flattened appearance of the nates;—the excruciating pain in the knee-joint.

TREATMENT.

Mr. Ford directs the following:

Topical bleeding, where there is much pain and inflammation;—the warm bath;—blisters;—a caustic issue inserted in the hollow behind the great trochanter; it should be about an inch in length, and half an inch in breadth, and made by rubbing on the caustic until the skin change from its natural colour to a brownish hue. Vide *Ford on the Diseases of the Hip-Joint.*

Great attention should be paid to the state of the constitution, as in all other diseases arising from the same source.

PSOAS ABSCESS.

SYMPTOMS.

Previous to the appearance of any other symptom, the patient long feels an unaccountable sense of weakness across the loins, accompanied by an obtuse, yet distressing pain; and often has recourse for relief, to the usual remedies recommended for lumbago or nephritis.—Pain at length diminishes, and appears to change its seat from the loins to the thigh and hip, becomes lancinating, and follows the course of the anterior crural, or sciatic nerves. This change is followed by an enlargement of the glands of the groin, and not unfrequently by a total loss of the use of the lower extremities.--At length a soft fluctuating tumor, unaccompanied by pain or any discolouration of the integuments, is perceived immediately beneath Poupart's ligament, or by the side of the anus, under the glutei muscles, which increases until it has attained a large size; often extending a considerable way down the thigh, under its fascial aponeurosis.—If preventive means are not taken, ulceration ensues, a severe hectic fever arises, and a fatal termination is put to the disease.

CAUSES.

Scrofula;—injury done to the back and loins by severe twists, blows, &c.;—sudden exposure to cold after severe exercise; particularly in scrofulous habits.

DIAGNOSIS.

Upon the first appearance of the tumor beneath Poupart's ligament, it possesses so many of the characteristics of hernia as to be with difficulty distinguished from it. See *Hernia.*—The pain and weakness in the loins, and the fluctuation, are distinguishing symptoms.

TREATMENT.

Repeated discharges of the matter through a valvular opening made by means of a lancet, or small lancet-pointed trochar, introduced into the tumor after having previously drawn the integuments upwards, in such manner that the orifice shall be completely closed on their returning to their natural situation; during which time the medical treatment proper for scrofula should be assiduously employed,—bark with alkalies,—nutrient diet,—preparations of iron, &c. &c. See medical writings on *Scrofula.*—Should there be much sympathetic fever,—digitalis,—cicuta.

DISLOCATION

Is the secession of a bone of a moveable articulation from its natural cavity.

CAUSE.

Accidental violence.

GENERAL TREATMENT.

Indications.

I. To reduce the protruded bone to its original place.
II. To retain it in that situation.
III. To obviate any attendant or consequent morbid symptom.

OF THE LOWER JAW.

This luxation can only take place in one direction, i. e. forwards and downwards.

DIAGNOSIS.

When both sides are luxated, the mouth is widely opened, the chin thrown forwards towards the breast, and the speech is inarticulate.—When a dislocation has happened on one side only, the mouth is distorted, and widest on the sound angle of the jaw, which is drawn a little towards the contrary side, and a small hollow may be perceived behind the displaced condyle.

TREATMENT.

The thumbs of the operator, secured with a covering of linen or leather, are to be introduced into the mouth, and pushed as far as possible between the jaws, while the fingers should at the same time be applied to each angle of the outside.

Attempts must now be made to move the bone from its situation, by bringing it first a little forwards, and then pressing it forcibly downwards; when it will generally slip into its place without further trouble.

The patient should for some time avoid much speaking, or the deglutition of hard substances.

OF THE HEAD.

DIAGNOSIS.

The head, when luxated, generally falls forwards on the breast.—There is an instant deprivation of sense and motion, and if a reduction be not speedily effected, death must ensue.

TREATMENT.

The head should gradually be drawn up, whilst the shoulders are pressed downwards by an assistant, until the bones are brought into their place; when the patient, if the injury has not been fatal, gradually recovers his senses.

The head should long be retained in an elevated position by instruments contrived for that purpose; and should symptoms of fever or irritation come on after the accident, it will be necessary to bleed, and use other appropriate means for its reduction.

OF THE SPINE.

DIAGNOSIS.

The symptoms vary as the luxation happens to be high up, or at the inferior part of the vertebral column.—There is a total paralysis of all the parts beneath the place where the accident has happened;—there is either a suppression of urine and fæces, or they are discharged involuntarily.

TREATMENT.

The attempts for reduction will vary with the direction of the dislocation.—It is recommended to lay the patient on his face over a cylindrical body of a proper size, and in this

position to endeavour to reduce the bones to their proper situation, by slowly bending the body forwards or to one side.

OF THE CLAVICLE.

The clavicle may be dislocated either at its junction with the scapula, or with the sternum.

DIAGNOSIS.

It is discerned by the unnatural tumor of the part;—by the shoulder falling forwards;—by the want of mobility, and by tracing the bone along its extent.

TREATMENT.

The arms and shoulders of the patient are to be firmly drawn backwards, by an assistant, whilst the operator replaces the protruded end of the bone;—the stellate bandage (vide *Fracture of the Clavicle)* is now to be applied, and the arm supported by a sling.

OF THE HUMERUS.

The humerus may be dislocated in three different directions:

i. Downwards into the axilla.
ii. Forwards under the clavicle.
iii. Backwards on the scapula.

DIAGNOSIS.

In a dislocation of the os humeri, the usual rounded appearance of the shoulder is lost, and the lower edge of the pectoral muscle is drawn into a straight line;—there is an

inability to raise the arm, and when forcibly raised, an angle is perceptible in the middle, having the appearance of a fracture at that part.—Upon feeling for the head of the bone, an unusual vacuity is perceived under the acromion of the scapula.

Downwards.—The arm of that side is longer than the other, and hangs close to the body;—the head of the humerus may be felt in the arm-pit.

Forwards.—The arm is separated from the body in an angle of several degrees;—it is considerably shorter, and upon rotatory motion, the head of the bone is felt lying under the middle of the clavicle.

Backwards.—The tumor is alone a sufficient diagnostic.

TREATMENT.

A bandage, or strong belt, is to be passed under the axilla of the injured side, and carried over the opposite shoulder;—by this means, when extension is made, the scapula will be prevented from moving.—A second belt is to be applied just above the elbow of the dislocated arm.—By the latter of these a gradual extension must now be made, in a direction obliquely downwards and outwards; the body being at the same time kept immoveably fixed, by assistants drawing the former belt in an opposite direction.—After this extension has been kept up for a short time, during which it should be gradually increased in force, the operator is with one hand to draw or push back the scapula, with the other to direct the bone into its cavity.

When the luxation has been of long standing, or in cases where the head of the bone is protruded far forwards under the pectoral muscle, extension can seldom be made, by the hands of assistants, with sufficient force.—In such cases it will be

necessary to employ the pullies invented for this purpose.—Reduction may also be facilitated by bleeding,—the warm bath,—by the use of opium,—and by the administration of a tobacco clyster.

OF THE RADIUS AND ULNA.

The radius, with the ulna, may be dislocated either upwards and backwards, or partially inwards and outwards.—The radius may be dislocated forwards.

DIAGNOSIS.

When the dislocation is upwards and backwards, the fracture is shortened, and the olecranon of the ulna projects beyond, and is higher than usual; the extremity of the humerus cannot be felt in the bend of the elbow.

When inward, the sight alone will be sufficient to ascertain the displacement of the bone.

When the radius is dislocated alone, it is generally thrown forwards on the external condyle of the humerus.—In this case the rotatory motion of the arm is destroyed;—the fore-arm is so bent as to form a considerable angle with the os humeri;—and the patient is incapable of extending it.

TREATMENT.

Extension is to be made by assistants upwards by the humerus, and in a contrary direction downwards by the fore-arm; while the operator guides the protruded bone into its cavity.—Reduction is sometimes more easily effected by making the knee the fulcrum of a lever, by which (in the dislocation backwards) the coronoid process of the ulna may be lifted out of the cavity formed for receiving the olecranon.

When the dislocation happens to be either inwards or outwards, simple extension in the directions above mentioned, with pressure of the extremity of the bone, will in general alone be sufficient.

OF THE WRIST.

The wrist may be dislocated either inwards, outwards, or backwards.

DIAGNOSIS.

The sight alone is sufficient to ascertain the nature of the injury.—In the dislocation backwards, where there is generally much swelling and tension, by tracing the bones of the fore-arm, the unusual projection formed by the carpus may readily be discovered.

TREATMENT.

As the preceding dislocation.

OF THE HIP.

The os femoris may be dislocated in four different directions.

1. *Downwards into the foramen ovale.*

In this case the leg is lengthened by an inch and an half;—the knees are forcibly separated from each other;—the foot is turned outwards;—a vacancy is perceived in the parts which the head of the bone and the great trochanter usually occupy.

TREATMENT.

A strong belt or roller must be passed round the pelvis, and the ends carried over the hip of the sound side, where they are

either to be firmly held by assistants, or confined to some immoveable body.—A second roller is now to be passed between the thighs, and its extremities carried in a direction contrary to the first applied; i. e. over the dislocated hip.—By the latter of these, extension is then to be made in a direction upwards and outwards; the former meanwhile being prevented from altering its position. The operator is at the same time to endeavour to elevate the head of the bone over the projecting acetabulum, by means of a sling passed over his own shoulder, and under the thigh of the patient.—Reduction will be effected with greater facility, if the knee be bent to a right angle with the body, and pushed inwards towards the opposite leg.

II. *Forwards on the pubes.*

DIAGNOSIS.

The head of the bone is distinctly felt in the groin, while the projection of the hip, and the usual fulness surrounding it, are lost.—The foot is considerably turned outwards; but the length of the leg is not altered.

TREATMENT.

Differs from that recommended for the preceding, only in the extension being required to be made in a direction directly outwards; whilst the knee is elevated to a right angle with the body.

III. *Upwards and backwards on the ileum.*

DIAGNOSIS.

The leg is considerably shortened, as may be easily discovered by comparing it with that of the sound side;—the foot is turned much inwards;—the limb will not admit of rotatory motion, and the great trochanter, on that side, is felt considerably higher than on the opposite.

TREATMENT.

The belt must be passed around the pelvis, and secured, as directed for the first dislocation.—A second is to encircle the dislocated thigh, immediately above the knee, and with this extension is to be made obliquely downwards, and towards the other leg.

IV. *Downwards and backwards into the foramen ischii.*

DIAGNOSIS.

The leg is lengthened only in a slight and imperceptible degree;—the projection of the trochanter is lost,—the foot is turned greatly inwards.

TREATMENT.

The body being secured in the usual manner, the thigh is to be drawn upwards towards the abdomen, and depressed against the other leg, when extension is to be made outwards and rather upwards, by means of a roller passed around the thigh above the knee, as before directed; but the utmost perseverance and skill will often be insufficient to effect reduction when the hip has been thus dislocated.

OF THE PATELLA.

The patella may be luxated either sideways or upwards; in which latter case, the ligament with which it is connected is torn through, and the bone is drawn up several inches among the muscles of the thigh.—The nature of the case can be distinctly ascertained, both by the sight and by manual examination.

TREATMENT.

In the dislocation sideways, the limb must be firmly extended; when pressure being made upon the protruding edge, either directly inwards, or rather downwards, it immediately regains its former situation.

The dislocation upwards is to be treated precisely as a transverse fracture of the bone; which see.

OF THE TIBIA.

The tibia may be dislocated partially, either inwards, outwards, or backwards.

DIAGNOSIS.

The situation of the dislocated bone is obvious to the sight.

TREATMENT.

Extension is to be made upwards by the femur, and downwards by the fore-leg, while the bones are replaced by pressure with the hand.

OF THE ANCLE.

A dislocation of this joint may take place either inwards, outwards, or forwards.

DIAGNOSIS.

The two former cases may be ascertained by the inclination of the foot, and by the unnatural protuberance on one side, and deficiency on the other.

When the tibia is forced forwards on the tarsus, the foot is considerably shortened;—there is a great and unusual projection of the heel.

TREATMENT.

Reduction is to be effected by extension, made in the same manner as in a dislocation of the knee.

DISEASES OF BONES.

INFLAMMATION.

SYMPTOMS.

A peculiarly obtuse, deep-seated, aching pain, extremely distressing to the patient, and soon affecting the health to so remarkable a degree as to induce a speedy emaciation of the body.—The part at length swells, and a tumor forms, possessing great hardness;—the skin becomes red and extremely sensible;—there is an increase of heat, with other symptoms of inflammation.

CAUSES.

All the common causes exciting inflammation, more especially external injury;—syphilis;—scrofula.

TREATMENT.

If arising from common causes simply, as from a blow, &c. topical bleeding by leeches;—the application of blisters;—fomentations;—pain allayed by opium;—after pain and redness have subsided, mercurial friction; hydrargyrus muriatus internally.

If from syphilis, the means laid down under that disease.

If from scrofula, evacuations are to be avoided;—blisters kept open by the use of the ceratum cantharidis;—the external use of mercury;—the emplastrum ammoniæ of the Pharmacopœia Chirurgica. Vide *White Swelling*.

ABSCESS.

SYMPTOMS.

The symptoms of inflammation before enumerated;—the preceding pain has usually been exceedingly severe and constant, and attended with great constitutional irritation, quick hard pulse, white tongue;—the integuments become swelled and inflamed, and have an emphysematous feel;—the patient is attacked with severe rigors;—an undulation becomes perceptible within the tumor;—ulceration takes place, and a thin acrid matter is discharged; when, by an examination with a probe, a cavity can be traced leading into the centre of the bone.—The progress of the formation of matter is sometimes extremely slow, at others the tumor soon becomes fluctuating.

TREATMENT.

After attempts have been made in vain to produce an absorption of the fluid by the means before recommended for the treatment of inflammation, it has been found most successful to lay the whole open by a free incision; then to remove part of the superficial covering of bone by the common trephine, and afterwards to make use of stimulant and astringent injections, as tinctura myrrhæ, to correct the fetor of the discharge, and to promote the formation of granulations.

MORTIFICATION.

Species, { Exfoliation.
Necrosis.

1. *Of exfoliation.*

Exfoliation is the casting off of a portion of the external part of a bone which has lost its life.—The process of separation is the same as among soft parts;—ulceration takes place, granulations form between the dead and living bone, and the useless portion thus becomes detached and forced away.

CAUSE.

It is most frequently the consequence of a separation of the periosteum by whatever means, or of external injury.

TREATMENT.

The process of exfoliation of the bone is to be expedited by the application of stimuli.

Tinctura myrrhæ.

The acetous acid is used in the Gloucester Infirmary.

A very diluted solution of nitrous acid in Guy's Hospital.

The alkohol caryophyllatum of the Pharmacopœia Chirurgica.

℞. Alkohol ʒij.
Olei caryophylli ʒj. M.

Perforation of the bone has been practised with success;—and also the application of the actual cautery to the dead portion.

II. *Necrosis*

Is the separation of an internal portion of a bone.—The surrounding parts become much enlarged and thickened;—inflammation at length takes place upon the external surface;—ulceration ensues; many holes are formed, and upon examination the dead portion is found detached and lying loose within the cavity formed by the absorption of the contiguous bony structure.

CAUSE.

Preceding inflammation, or accident; destroying the life of the cancelli.

TREATMENT.

After ulceration has taken place, the same means must be employed to promote a separation of the diseased bone, as are before recommended: a very weak solution of nitric acid (p. 59), or dilute vinegar, injected, by means of a syringe, through the openings formed by the ulcerative process. These applications should be so dilute as not to create pain.

When a portion of bone can be felt completely loose, the most speedy and effectual mode of proceeding is, to make a perforation with the trephine, and extract it with the forceps.

CARIES OF THE SPINE.

SYMPTOMS.

Languor and listlessness;—fatigue upon slight exertion;—aversion to motion;—the patient is observed frequently to trip and stumble without any apparent cause, and whenever attempts are made to move briskly, the legs involuntarily cross each other, and he is thrown down;—in an erect posture the knees often give way and bend forward;—an obtuse distressing pain is felt in the back, with great weakness in the loins; and, upon inspection of the spinous process of the vertebræ, one or more is found to project beyond the rest.—Soon after this the extremities lose much of their natural sensibility, and at length become quite useless, although often not until the expiration of a very considerable time from the first appearance of the disease.

CAUSE.

Scrofula;—accidental injury done to the spine.

DIAGNOSIS.

From common paralysis.—In common nervous palsy there is a peculiar flabby feel of the paralyzed parts; the joints are seemingly loose, and have a preternatural mobility; there is an incapability of resistance, which allows the limb to be twisted in any direction. In the present disease the parts are more tense to the feel; the joints, particularly the ancles, possess considerable rigidity, by which the feet are often pointed downwards;—added to these, the affection of the loins sufficiently points out the nature of the disease.

TREATMENT.

A caustic issue, such as directed, when speaking of the disease of the hip, to be made on each side of the protuberant portion of the spine, and suffered to remain open until the patient recover the use of his limbs; at the same time employing tonics, and other remedies, recommended for the cure of scrofula, and occasionally sprinkling the sore with a small quantity of finely powdered cantharides.

EXOSTOSIS

Is a morbid growth of bone, forming a circumscribed tumor of great hardness; which sometimes acquires an immense size;—it is most frequently met with upon cylindrical bones:—it is sometimes firmly osseous; at others of a cretaceous consistence, and often partly cartilaginous.

CAUSE.

A diseased action of the bone from an uncertain cause.

TREATMENT.

If formed upon a part little essential to life, and when of no very considerable size, it may be removed with perfect safety.—In performing the operation, the integuments should be saved, that they may afterwards be united by the first intention; and the tumor, if perfectly osseous, requires the use of a small saw for its removal.

RACHITIS.

Vide medical works on this disease.

MOLLITIES OSSIUM.

This disease is peculiar to the adult period.—The bones insensibly become soft, until, being incapable of withstanding the action of the muscles, they are bent in various forms; precisely as in rachitis.

Sometimes a peculiar friability takes place, which renders them susceptible of fracture from the slightest causes.

CAUSE.

The cause inducing this disease is unknown;—it consists in an absorption of the earthy parts of bone.

TREATMENT.

Nutritive aliment;—tonics, and other means of invigorating the system, recommended for the cure of scrofula.—The disease, when once established, generally, in spite of medical assistance, goes on to the destruction of the patient.

FRACTURE

Is a division of bone into two or more fragments; generally occasioned by external violence.

Species.

1. Simple;—where the bone has been divided, and the integuments remain unimpaired.
2. Compound;—where there is a corrresponding wound in the soft parts, by which the fractured extremity of the bone becomes exposed.

CAUSES.

Predisposing.—Certain diseases of the bone; as abscess, friability, or mollities.

Exciting.—External violence.

TREATMENT.

Indications.

I. To reduce the displaced parts to their original situation.
II. To retain them in that state.
III. To obviate any attendant or consequent morbid symptoms.

OF THE BONES OF THE NOSE.

Fractures of the bones of the nose, though productive of little inconvenience at the time, are not unfrequently followed by unpleasant consequences; as ozœna, polypus, &c.

TREATMENT.

The fractured portion may be easily replaced by means of a common spatula, or other instrument, introduced by the nostril, and in general it will retain its situation without any further assistance.

OF THE LOWER JAW.

DIAGNOSIS.

The nature of the injury is obvious to the sight.

TREATMENT.

The parts being accurarely replaced and kept firm by an assistant, a thick compress of lint should be placed over the seat of the fracture, and a bandage applied, by means of which the jaw may be firmly held upwards and backwards;—for this purpose the most effectual is a bag or purse, to receive the chin, with four strong tapes, or ends, attached to it; the two inferior of which are to be tied over the parietal bone, the two superior over the occiput.

During the cure the patient should be kept quiet, and fed upon spoon-meat.

OF THE CLAVICLE.

DIAGNOSIS.

The shoulder is usually drawn forward, and that portion of bone which is attached to the sternum, projects over the other fractured extremity, and may be distinctly felt by tracing the usual course of the clavicle with the finger.

TREATMENT.

The arms and shoulders of the patient are to be firmly drawn backwards by an assistant; when the fractured extremities of the bones immediately come in apposition.—The parts are now to be covered with an adhesive plaster, and a bandage is to be applied to retain them in their reduced situation;—that called the stellate is usually employed; it is a single-headed roller of moderate breadth, and is applied by making it to pass under the axilla of one side, and over the shoulder of the opposite, describing on the back the figure 8.—It should be drawn with considerable tightness, and the arm should afterwards be supported with a sling.

OF THE RIBS.

DIAGNOSIS.

The characteristic marks of a fracture of the ribs are, the crepitus or grating of the bones, which may be distinctly felt and heard upon the patient coughing, or during a deep inspiration;—the pain, which in inspiration is referred to a particular spot.

TREATMENT.

An adhesive plaster, or the ceratum saponis of the London Pharmacopœia, should be applied over the part, and the body should then be tightly encircled with a broad bandage.

Should the extremity of the fractured rib puncture the lungs, an effusion of air into the cellular membrane will take place; and sometimes will extend to the scalp, the eyes, and downwards, along the abdomen, to the lower extremities.—In such cases small scarifications with the point of a lancet are required; and if there be symptoms of fever, or inflammation, bleeding and the antiphlogistic regimen.

OF THE SCAPULA.

I. *Of the cervix.*

DIAGNOSIS.

Fractures of the scapula most frequently happen at its cervix; and in this situation it has all the characteristics of a dislocation of the shoulder, for which it is not unfrequently mistaken. —The shoulder is sunk, and a hollow is perceived under the processus acromion.—It is distinguished by rotating the arm with one hand, at the same time applying the other to the neck of the scapula; when both bones will partake of the rotatory motion, and generally a crepitus may be perceived.

TREATMENT.

The same treatment is required as for a fracture of the clavicle.

II. *Of the acromion process.*

DIAGNOSIS.

The arm is generally much drawn forwards; but the bone being so superficial, the place of the fracture is easily distinguished.

TREATMENT.

The shoulder must be firmly bound as above directed, and the fore-arm particularly well supported by a sling.

OF THE HUMERUS.

DIAGNOSIS.

The head of the bone being grasped with one hand, and the elbow with the other, upon rotating the arm, no motion will be communicated from the lower to the upper portion, and at the same time a crepitus will be distinguishable.

TREATMENT.

In order to bring the fractured extremities of the bone in apposition, extension must be made in contrary directions; at the same time relaxing the muscles by bending the elbow joint. —The arm is then to be encircled with a piece of soft flannel, and a splint applied on each side; the outer of which should be of sufficient length to reach from the shoulder to the elbow. —After which the whole is to be secured by a flannel or linen roller, applied sufficiently tight to support the parts in the situation in which they have been placed.—The fore-arm is to be supported with a sling;—confinement is not in general necessary.

OF THE RADIUS AND ULNA.

DIAGNOSIS.

The existence of a fracture of these bones may be ascertained in the same manner as directed for discovering a fracture of the humerus; or by tracing the course of the bones with the finger along their inferior surface.

TREATMENT.

The same treatment is also required as in a fracture of the humerus.—The splints should be laid, one on the inside, the other on the outside of the arm; so that both bones may be at once effectually compressed;—that on the inside should be long enough to reach the palm of the hand, by which means the wrist will be kept steady, and the radius will be prevented from rolling.—They may be confined either by the application of a bandage, or by tying them with broad tapes or riband.

OF THE OS FEMORIS.

1. *At its neck.*

DIAGNOSIS.

When the thigh-bone has been fractured at its neck, the limb is remarkably shortened, and exhibits the appearance of a dislocation of the os femoris upwards.

The two diseases are distinguished by the position of the leg and foot; by the position of the knee and foot;—which in the former are turned considerably outwards; in the latter, inclined in the contrary direction; the toe being remarkably turned inwards, and almost backwards.—By the greater or less facility with which the limb may be moved;—in dislocation it can only be bent into a small angle with the body; in fracture it admits of being drawn up to nearly a right angle.—By the accident in question most frequently happening in old people.—By the crepitus which takes place upon a forcible extension of the limb.

TREATMENT.

To retain the divided portions of bone in apposition, various means have been proposed, and many complicated instruments have been invented for the purpose; but all attempts hitherto made have been attended with nearly equally unsuccessful results.—A permanent shortening and disunion, with loss of motion in the limb, has mostly been the consequence of this deplorable accident.

Union may, however, be attempted in the following manner:—The limb being forcibly extended, large and firm compresses are to be laid upon the trochanter, and strongly bound, by means of a bandage rolled round the hip, and between the thighs of the patient.—A strong deal splint is next to be prepared, of sufficient length to reach some way up the side, and this is to be securely confined by means of bandages passed round the pelvis and above the knee.

II. *In the middle.*

DIAGNOSIS.

The presence of a fracture in this part is to be discovered by carefully feeling along the upper side of the bone, when a projecting point will generally be discovered; and if at the same time the joint be rotated, a crepitus and preternatural motion at the fractured part will be observable.

TREATMENT.

The bone being reduced to its usual position by extension of the limb, rags wetted with a cooling lotion—the aqua lithargyri acetati composita, or a plaster of the ceratum saturninum, or ceratum saponis, should be laid upon the part, and over this the many-tailed bandage.—Three broad splints should

next be applied, one on each side of the thigh, and a third on the upper part; that on the outside being sufficiently long to reach from the hip to the knee;—these being confined with tapes, the limb may now be placed either in an upright position, in a fracture-box, with the knee bent to a considerable angle, or the thigh may be laid smoothly upon a pillow on one side, a little out from, and higher than the body.

The patient should be laid on a hair mattress, rather than on a soft bed; and if symptoms of inflammation succeed the accident, the bandage previously applied should be frequently moistened with cold lotions; and should there be much tension and pain, they ought to be entirely removed, and leeches may be applied to the part.

OF THE PATELLA.

The patella may be fractured in two directions; longitudinally, and transversely.—In the latter case, the upper portion is drawn up several inches among the muscles of the thigh.

TREATMENT.

In the longitudinal fracture, continued extension of the limb, and the application of a bandage to the knee, will be sufficient to effect a speedy union.

In cases of transverse fracture of the patella, owing to the great separation of the divided portions, it is extremely difficult, and nearly impracticable, to effect an union by bone.—The fractured portions being made to approach each other as nearly as possible, the middle of a roller of considerable length is to be applied over the upper or ascending part of the patella, and being carried round the thigh just above the joint, it is to be

crossed under the ham, and again on the upper part of the tibia; and having thus described the figure 8 around the joint, it is to be properly secured, and daily increased in tightness.

In order to maintain a perfect extension of the limb, a splint, well lined with wool, may be applied under the ham.

OF THE OLECRANON.

When the olecranon has been separated from the ulna, the same retraction takes place as in a fracture of the patella; and precisely the same treatment is required.

OF THE TIBIA AND FIBULA.

DIAGNOSIS.

Fractures of these bones may be known to have taken place by the irregularity discovered upon carefully feeling along their prominent edge;—by the unnatural motion at the fractured part;—and by the crepitus created by pressure, or an attempt to rotate the leg.

TREATMENT.

The same refrigerant wash, or saturnine or soap plaster, will be proper, as in fracture of the femur; and over one of these the many-tailed bandage.—Two splints are then to be applied, the one on the outside, the other on the inside of the leg:—the best for this purpose are Martin's whalebone splints.—In applying them, care should be taken that the outside splint be long enough to reach completely from the knee to the toes.—The

leg is now to be laid on its side upon soft pillows, with the knee a little bent. The pillows are to be secured by a proper application of tapes.

OF THE FIBULA ALONE.

A fracture of the fibula generally happens from two to three inches above the ancle-joint, which is always dislocated.—The foot is so much turned outwards as to form a considerable angle at the fractured part.—Upon moving the joint a crepitus is to be observed.

TREATMENT.

Splints are to be applied, and the limb treated as for a fracture of both bones; with the exception of a roller, which is to be substituted in the place of the usual bandage.—It should at first be loosely applied, but afterwards gradually tightened and extended to the foot.

OF COMPOUND FRACTURE.

A fracture is called compound when it is accompanied with a wound in the integuments, by which the extremities of the divided bone are exposed.—There is much swelling and inflammation of the part; extensive suppuration ensues, with great constitutional irritation.

PROGNOSIS

Will be drawn from the extent of the injury, and from the constitution of the patient.

Unfavourable circumstances are, the bone being much splintered;—supervening erysipelatous inflammation;—deli-

rium;—the division of large arteries;—disposition to sloughing from extensive contusion of the soft parts;—the constitution of the patient impaired by inebriety;—or by concomitant disease of the lungs, or any other important organ.

TREATMENT.

Any extraneous bodies which may have got into the wound, or small detached portions of bone, which, if suffered to remain, would increase the supervening inflammation, are first to be cautiously removed by means of a soft sponge moistened with warm water, or by the forceps.—Should there be any hæmorrhage, this is to be suppressed by pressure, by the application of dossils of lint, or bits of compressed sponge; rarely will there be occasion for the use of the needle.—If the fractured extremity of the bone protrude through the wound in the integuments, it ought, if possible, to be reduced to its proper situation by manual exertions; but sometimes this is impracticable; in which case there will be a necessity, either for dilating the wound, or removing the protruding portion with the saw.—If the fracture be transverse, and the injury to the soft parts of no great extent, the former is to be preferred; but if the bone be broken obliquely, and the protruded extremity be so sharp-pointed, as to endanger the production of great irritation were it to be reduced in that state, it will be advisable either entirely to remove it, or, having cut off its pointed end only, to reduce the remainder by dilating the wound.

The fractured portions of bone being brought in apposition, union, if possible, is to be effected by the first intention; but if the injury to the soft parts has been so extensive as to render the attempt useless, a pledget of lint is to be applied to the wound, the limb is to be encircled with cloths wet with some refrigerant lotion, and afterwards the many-tailed bandage is to

be lightly applied; all pressure being avoided, as likely to increase the attendant inflammation.

The limb is either to be supported on pillows, and placed in that position in which the wound may be got at with the greatest facility, or it should be laid in an appropriate fracture-box.

If the inflammation run high, recourse must be had to general or local bleeding,—refrigerants,—opium in large doses.

In many instances an operation will become necessary for the removal of the limb.

The circumstances requiring amputation are,

1. Very extensive laceration or contusion of the soft parts,
2. An opening communicating with a large joint.
3. The division of large arteries.
4. Hectic fever from an extensive suppurating surface.
5. Mortification.
6. The bone greatly splintered.

Should the operation be required to be performed immediately after the accident, it will be advisable to draw blood, in considerable quantity, from the incised arteries of the stump, or from the arm.

DISEASES OF THE URINARY AND GENITAL ORGANS.

CALCULUS.

SYMPTOMS.

1. *Of calculus in the kidney.*

Pain in the loins increased by pressure;—nausea and vomiting, especially upon friction being applied to the back;—

difficulty of making water;—the urine, after exercise, often bloody, purulent, or mixed with sand.

II. *Of stone in the ureter.*

Pain and numbness of the leg and thigh of the affected side;—pain and contraction of the spermatic cord;—retraction of the testicle;—bloody, mucous, or purulent urine;—in some instances ischuria.—The calculus generally descends from hence into the bladder, when the following symptoms suddenly take place:

III. *Of stone in the bladder.*

Micturition;—pain or sense of irritation at the extremity of the penis, greatly increased upon making water, to the evacuation of which there is frequently a sudden stop, followed by an almost insupportable sense of bearing down; and at the ejection of the least drops the pain amounts even to torture.—The patient in voiding his urine is observed to place himself in a position, in which every muscle may be as relaxed as possible;—his knees are bent, his head resting against some object for support, while he draws the prepuce forcibly over the glans penis.

From the irritation of the bladder there are not unfrequently violent spasms of the abdominal muscles; or inflammation and suppuration of the internal coat of the organ itself, accompanied with violent rigors, bloody and purulent urine, and in some instances general convulsions.—The urine is sometimes even of the spissitude of size, owing to the large quantity of mucus with which it is mixed.

CAUSES.

Hereditary predisposition; probably connected with a gouty diathesis;—sedentary life;—a long use of fermented liquors;

and of wines abounding with tartar; or of waters which have a large proportion of earthy matter suspended in them;—the long retention of urine;—the irregularities productive of gout.

PROGNOSIS.

The prognosis will be drawn from the urgency of the symptoms, and from the existence of certain circumstances, which will determine the favourable or unfavourable event of an operation.

Adverse circumstances are—extreme obesity;—the patient being the subject of asthma, or other disease of an important organ;—the constitution impaired by a previous dissolute life;—extreme heat of the weather;—diseases of neighbouring parts, as of the prostate gland;—ischuria;—cystitis.

TREATMENT.

Indications.

I. To palliate urgent symptoms.
II. To endeavour to dissolve the calculus; or prevent its further accretion.
III. To extract it by an operation, after other attempts for the relief of the patient have been unsuccessfully made.

I.

If symptoms of inflammation, bleeding, general and local; and other remedies recommended for the cure of nephritis and cystitis.

Pain is to be alleviated by opium, administered in large doses;—by the warm bath;—uva ursi;—aqua kali puri.

By muriatic acid, as recommended in the Memoirs of the Medical Socicty, vol. iii.

℞. Acidi muriatici gutt. x—xx.
In aquæ cyatho ter in die sumendæ.

Decoction of the garden leek.

Copious emollient and opiate clysters.

Terebinthina in the form of clyster.

II.

By alkalies and aërated alkaline solutions;—natron;—soap;—kali aëratum;—aërated soda-water.

Professor Hufeland and others affirm, that a dilute solution of pure potash has reduced calculi to a sabulous state.

The carbonic acid alone is recommended by Harrison in the Memoirs of the London Medical Society.

Some calculi are acted upon by alkalies, others by acids.

Mr. Jesse Foot recommends lime-water by the use of the vesicæ lotura.

Seltzer, Buxton, and Malvern waters.

III.

Previously to determining on an operation, the actual existence of a calculus in the bladder is to be well ascertained by the introduction of an instrument called a sound.—This is performed precisely as the introduction of the common catheter; and if no cause of deception be present, the percussion of the instrument against the stone will give a vibrating sensation to the finger at once decisive: in general the sound is distinguishable also by the ear.

Its presence being ascertained, the patient, if of a plethoric habit, should, on the day preceding that determined upon for the operation, lose a moderate quantity of blood; an aperient

should be also administered, with tepid diluents, and on the succeeding morning an emollient enema; and he should be directed to retain his urine, if possible, for some hours previous to the time of operating.

THE OPERATION.

These preparatory steps having been taken, the patient is to be laid upon a table considerably higher than is usual for other operations;—his thighs are to be drawn up to the abdomen, and the ancles and wrists of each side firmly bound together, by means of a noose formed in a piece of strong tape.—The thighs should then be separated from each other, and the nates being made to project a little over the edge of the table, the surgeon is to commence his operation.

He is first to introduce a grooved staff of proportionable size into the urethra and bladder, the concave surface of which he should incline to the left side; and then deliver it to an assistant, who is carefully to preserve it in that position.

An incision is now to be made on the left side of the raphe of the perineum with a common scalpel, beginning immediately below the symphysis pubis, and continuing it obliquely downwards and outwards, to about opposite the middle of the sphincter ani muscle. By this the muscles of the perineum will be exposed.—A second incision is to be made between the bulb of the urethra and crus of the penis, at the same time drawing aside the former with the fore-finger of the left hand. The transversus perinei, and a few fibres of the sphincter ani, will now have been divided, and the membranous part of the urethra and prostate gland will be exposed.—The third incision will be through the membranous part of the urethra into the groove of the staff.

The next step in the operation is the introduction of the gorget; and the knife may serve as a guide to the passage of its beak into the groove: after which the operator is to take the staff from the assistant, and drawing it gently towards him, the gorget is to be pushed forwards, in an horizontal direction, until it has entered the bladder; the criterion of which is, the flow of water which then takes place, and the necessary percussion of one instrument against the other.

The staff is now to be withdrawn, and the forceps passed along the groove of the gorget into the bladder, and then cautiously moved about in different directions, until, by striking against the stone, the situation of this is discovered; when the blades are to be separated, and the stone grasped in the most favourable position, which may in great measure be ascertained by the greater or less degree of expansion of the handles.—It should then be extracted in a slow and cautious manner, directing part of the extracting force downwards on the perineum, that it may with greater facility pass under the arch of the pubis.

Should the stone be too large to pass the angle formed by the rami of the ischia, it is to be broken down by a pair of strong forceps usually made for this purpose, and each portion carefully removed by means of an instrument called the scoop, and by tepid injections.

Subsequent Treatment.

Pressure will in general be sufficient to put a stop to any hæmorrhage that may take place, provided the operation has been properly conducted.—The wound is to be treated with simple dressings; and the legs of the patient kept constantly together, by means of a bandage passed around the thighs.

After the operation, the patient is to be laid in bed, and an opiate administered.—After the expiration of some hours, the abdomen becomes swelled and painful; and should this arise to a high degree of inflammation, with a quick hard pulse, recourse must be had to the warm bath, to leeches, to fomentations, and other means recommended for the cure of cystitis.

Of the Operation for the Stone in the Female.

The treatment of calculus in the female differs only in the mode of operating, which is much more simple than in the male.—A staff less curved, and somewhat shorter than that in common use, is first to be introduced; and then with a gorget of the common structure passed rather obliquely, the whole of the urethra and neck of the bladder is to be laid open, and the operation finished as before directed.

STONE IN THE URETHRA.

A stone lodged in the urethra is productive of much local pain and swelling; an obstruction to the passage of the urine, and often a sudden stop to its evacuation, with painful contractions of the accelerator urinæ.—It is generally perceptible to the touch; and gives the same impression upon the introduction of a sound into the urethra, if not contained in a cyst, as in the case of stone in the bladder.

TREATMENT.

If the calculus be in the membranous part of the urethra, an incision must be made in the same manner as in the operation for the stone in the bladder, between the bulb of the urethra and crus of the penis; supporting the stone by the finger

introduced at the same time per rectum. After it has been thus exposed, it is to be hooked out with a tenaculum, or other appropriate instrument.

Should the calculus be further forward in the urethra, the operation will be more simple, as the stone itself will be a sufficient guide to the incision.

If it become necessary to make an opening through the scrotum, it will be advisable, in order to obviate the consequences of effusion of urine, to introduce the metallic elastic catheter invented by Mr. Smith, and to suffer it to remain in the urethra, until union between the edges of the wound has been effected.

When near the extremity of the urethra, the gradual expansion of this canal with a pair of common forceps, has in some instances been sufficient to allow of its extraction.

INCONTINENCE OF URINE, OR ENEURESIS.

CAUSES.

Relaxation or palsy of the sphincter vesicæ muscle, induced by debility, the abuse of spirituous liquors, excess in venery, &c.;—irritation produced by calculi;—injury done to the parts, either by accident, by the process of ulceration, or by the unskilful performance of the operation of lithotomy;—the pressure of the uterus in the state of pregnancy.

TREATMENT.

When from relaxation or paralysis, tonics; bark, steel;—cold bathing;—cold lotions applied to the region of the pubis;—cold water daily dashed over the pudenda;—the application of

cold substances to the perineum; as cloths wet with vinegar and water.

Electricity;—terebinthina;—tinctura cantharidis;—uva ursi;—lime-water;—blisters to the perineum;—zincum vitriolatum;—balsamum copaivæ.

If these be ineffectual, the constant use of the jugum penis in the male, and of the pessary in the female.

When from the irritation of calculi, opiates;—mucilaginous diluents;—removal of the cause of the disease;—recourse must be had to the use of urinals.

When from laceration of the parts, the constitution is to be invigorated by tonics, and other means are to be employed for procuring union of the divided parts. See *Ulcer*.

From the pressure of the uterus. See works on midwifery.

OF STRANGURY, OR RETENTION OF URINE; OR DYSURIA AND ISCHURIA.

DIAGNOSTIC SYMPTOMS.

I. *Of strangury.*

Frequent inclination to make water, attended with smarting pain, heat, and difficulty in voiding it, together with sense of fulness in the region of the bladder.

II. *Of retention.*

An accumulation of urine in the bladder is discovered by the pain and distention of that organ, evident in an examination of the hypogastrium;—by the violent efforts to discharge the water, occurring at intervals;—by the excruciating pain, and

often by all the symptoms of cystitis.—Sometimes, when the bladder has suffered its utmost distention, the urine runs off from the urethra, as fast as it is brought in by the ureters;—and at others the patient is able, at intervals, to make a small portion of urine;—yet in both cases the complaint still continues unremoved.

CAUSES.

Want of tone in the body of the bladder; induced by any cause, but chiefly by a too long retention of its contents.—Spasm at the neck of the bladder;—inflammation induced by stimulating diuretics, or by other causes of cystitis;—the pressure of the enlarged uterus;—calculus impacted in the urethra, or in the neck of the bladder; or gouty matter deposited in these parts;—spasmodic or permanent stricture;—disease of the prostate gland;—fleshy excrescences in the urethra;—tumors of contiguous parts; as hæmorrhoids, polypi of the bladder, &c.

TREATMENT.

Of strangury.

When arising from simple irritation, plentiful draughts of warm diluent liquids; as barley-water, a thin solution of gum Arabic, linseed-tea with a small portion of nitre dissolved in it;—fomentations to the pubes;—copious emollient and opiate clysters;—opium;—uva ursi;—an infusion of the seeds of the daucus sylvestris.—If the disease arise from any other of the above causes, the treatment will be that afterwards to be laid down for retention.

Of retention.

The first step in the treatment of retention of urine, from whatever cause, should be an attempt to draw off the collected

urine, by the introduction of a catheter into the bladder.—Should this be successful or not, the means to be pursued in other respects will depend upon the cause inducing the disease.

I. *Loss of tone.*

The muscular structure of the bladder is to be strengthened by the means recommended for the cure of incontinence of urine from the same cause, which see; and recourse must be had to the frequent introduction of the catheter as a temporary relief.

II. *Retention of urine from inflammation.*

Consult medical works on the treatment of *Inflammation of the Bladder.*

III. *Spasmodic stricture.*

The existence of this cause is denoted by the sudden accession of the disease, and by the violent and exquisitely painful spasmodic contractions of the accelerator urinæ.—After repeated and unsuccessful attempts to introduce the catheter,—copious bleeding;—the warm bath;—nauseating doses of emetic tartar;—emollient and opiate enemas;—the tinctura ferri muriati—ten drops every ten minutes is recommended by Mr. Cline;—opium with vitriolic æther;—blister to the perineum;—the operation.—Its return has been often prevented by the use of hydrargyrus muriatus.

IV. *Permanent stricture.*

See *Stricture.*

V. *Disease of the prostate gland.*

Vide the treatment of that disease.

VI. *Pressure of the uterus in pregnancy.*

See works on midwifery.

VII. *Tumors or excrescences in and about the urethra.*

Extirpation by the knife,—by ligature,—or by caustic; according to the size and situation of the tumor.—If small, the frequent introduction of a common bougie, or the continued use of a metallic one.

Should the means recommended for the treatment of the particular causes of the disease above mentioned prove unsuccessful, and after repeated attempts to introduce the catheter or bougie have been fruitlessly made, the only resource to be had recourse to for the relief of the patient is the operation of puncturing the bladder.

THE OPERATION.

A puncture may be made into the bladder in three different situations,

I. In the perineum.
II. Through the rectum.
III. Above the pubes.

I.

In the perineum.—The patient being secured as in the operation for the stone, an incision is to be made on the left side of the raphe of the perineum, commencing immediately below the symphysis pubis, and continuing it between the bulb of the urethra and crus of the penis, until the prostate gland is exposed, or can be distinctly felt.—This is now to be pressed to one side with the finger of the left hand, while with the right a small trochar is introduced into the bladder a little above it, and to its side.—The stilette being withdrawn, the canula is to be secured by proper bandages.

II.

Through the rectum.—In this operation the finger, previously introduced into the rectum, is to be made the guide to a curved trochar, in length about five inches, which is to be passed into the bladder immediately beyond the prostate gland; and the stilette being withdrawn, the canula is to be secured by a bandage, and suffered to remain until the cause of the obstruction has been removed.

III.

Above the pubes.—This operation, as performed by Mr. Hunter, is described by Mr. Home as follows:

A small opening being made with a lancet through the integuments, immediately above the pubes, the os pubis was felt for, and made a guide to the trochar, which was then passed immediately behind it perpendicularly into the bladder.—Upon withdrawing the trochar, a flexible gum catheter was introduced in its place, and the canula then slipped out over it.—The catheter was retained by means of a bandage passed around the body.

RUPTURE OF THE URETHRA.

SYMPTOMS.

The scrotum becomes suddenly distended and swelled to a large size, which is increased upon every attempt to void urine; and upon endeavouring to introduce a catheter, this is found impracticable.—The urine is retained with excruciating pain, and if means are not taken to evacuate it, numerous abscesses form, hectic fever arises, and a fatal termination ensues.

CAUSES.

External violence;—stricture, preventing the free passage of the urine, hence producing a morbid accumulation and a bursting of the urethra;—stone impacted in the urethra operating in the same manner.

TREATMENT.

Indications.
I. To evacuate the effused urine.
II. To remove the cause which induced the disease, if it still remains and becomes an obstacle to the cure.

I.

For this purpose a free incision is to be made into the tumor, and the collected urine being evacuated, the wound should be kept open, by the application of appropriate dressings, until granulations arise, and the communication with the urethra is nearly closed, when a bougie should be daily passed, to prevent a consequent contraction of the canal of the urethra.

II.

Should the disease have arisen from an obstruction in the urethra, either by stricture, or by the presence of calculus, it will become necessary, after having evacuated the urine, to remove the obstructing cause. Vide *Calculus in the Urethra* and *Stricture*.—The stricture may in some cases be advantageously dilated with the knife, at the time the incision is made for letting out the effused fluid.

FISTULA IN PERINEO

Is a sinuous or fistulous ulcer in the perineum, communicating with the bladder, or with the urethra.

CAUSES.

It is generally the consequence of rupture of the urethra, produced by obstruction of whatever nature; most frequently by stricture.—It sometimes arises from an abscess forming in one of the lacunæ of the urethra, in consequence of gonorrhœal inflammation.

TREATMENT.

The first object will be to remove the cause of the obstruction; without which the sinus cannot be made to fill up.—The means of doing this are enumerated under the heads *Stricture*, &c. &c.

Should the cause already have been removed, a staff should be introduced into the bladder, and a probe or small director being passed through the external opening until it reaches the groove of the instrument, the sinus is to be dilated; and if more than one, a communication is to be made between them.

A preferable mode is to introduce the bougie or catheter invented by Mr. Smith, and to suffer it to remain in the urethra, occasionally taking it out to be cleaned; and afterwards to scarify the edges of the ulcer throughout its whole extent:—stimulating applications are to be applied to the wound, as the unguentum hydrargyri nitrati rubri, by which means granulations will be formed, and the dribbling of urine soon cease.

ENLARGEMENT OF THE PROSTATE GLAND.

SYMPTOMS.

Sense of weight and bearing down in the perineum;—frequent inclination to make water, with difficulty and pain in

voiding it;—great costiveness;—the evacuation of fæces is attended with much pain, and is in general accompanied with a discharge of urine;—micturition and dysuria increase, and at length a total suppression takes place.

DIAGNOSIS.

The urine and fæces discharged at the same time;—the patient in making water is observed to kneel and separate his legs from each other, in order to effect a relaxation of the muscles;—an examination per rectum, when a large irregular tumor will be discovered in the situation of the prostate gland.

TREATMENT.

Recourse should be had to all those means which allay irritation in the urinary organs. Vide *Calculus*.—The internal use of opium,—cicuta,—hydrargyrus muriatus;—the occasional or constant use of a catheter.

GONORRHŒA.

SYMPTOMS.

About the fourth or fifth day after infection has been conveyed, an uneasy sensation is felt at the extremity of the penis, with a slight degree of fulness of the lips of the urethra; and in the course of a few hours an oozing of a whitish fluid is perceived. The sense of pain soon becomes more acute, and is referred to the frænum.

In a few days the discharge from the urethra is much increased, and assumes a greenish or yellowish hue;—a considerable degree of pain and scalding heat also is experienced on

every attempt to make water, called *ardor urinæ*.—If the inflammation run high, a *chordee* is a very frequent consequence; —this is a painful and involuntary erection, accompanied with an incurvature of the penis downwards, and exquisite pain.—The adjacent parts sympathising with those already affected, the bladder becomes irritable and incapable of retaining its urine for any length of time;—this gives the patient a frequent inclination to make water, and he feels an uneasiness about the scrotum, perineum, and fundament.—Sometimes the discharge is more copious from the external surface of the glans, or from the membrane of the prepuce, when phymosis or paraphymosis are not unfrequently produced. See these diseases.—Often there is an enlargement of the glands of the groin, which however is to be considered as depending merely upon irritation of the lymphatics, and not as a syphilitic bubo.—The inflammation sometimes extends along the whole course of the urethra, and even to the bladder itself, producing actual cystitis.—In other instances it happens, more especially in the protracted state of the disease, that, owing to the rupture of a small vessel, a hæmorrhage proceeds from the penis, occasioning alarm to the patient, but easily stopped by pressure upon the urethra.—Spasmodic stricture, with retention of urine, are likewise at times the effect of the great irritability of the parts; and in some instances a suppression of the evacuation from the penis, by cold, or other causes, has been followed by inflammation of the prostate gland and bladder, and of the uterus in women.

After a longer or shorter time, generally in about fourteen days, the discharge, from having been thin and discoloured, will become white and of a ropy consistence, will gradually diminish in quantity, and at last cease entirely, together with every other inflammatory symptom.

In women the symptoms are similar to those before enumerated as happening to the male; there is the same heat and soreness in making water, and the same discharge of discoloured matter from the urethra and neighbouring parts, though generally less severe;—it sometimes happens that a great enlargement of the nymphæ takes place, with an inflammation of the whole course of the urethra, so as to cause retention of urine.

CAUSE.

An inflammation of the mucous membrane of the urethra, induced by the action of a specific virus.

TREATMENT.

Indications.

I. To diminish inflammation.

II. To alleviate pain, and other urgent symptoms, to which the disease may have given rise.

III. To suppress the discharge from the urethra, after the inflammatory symptoms have subsided.

I.

By a spare diet;—abstinence from animal food, and fermented liquors;—avoiding exercise.

If the inflammatory symptoms run high, by general bleeding;—purging; with magnesia vitriolata, or calomel with rhubarb.

Diluents; frequent and copious draughts of a decoction of pearl-barley, or linseed, with the addition of gum Arabic and a small portion of nitre.

Sedative and refrigerant applications to the external parts; the aqua lithargyri acetati composita.

Warm fomentations, and the immersion of the penis in warm water, are sometimes more effectual.

II.

To abate pain, by the administration of opium;—cicuta.

Narcotic fomentations, of cicuta or poppy-heads.

Injections, of a watery solution of opium; or fresh cream diluted with warm water.

Spasm with suppression of urine.—See *Spasmodic Stricture.*

Hæmorrhage from the urethra.—By a compress applied to the perineum, and secured by means of the T bandage;—the introduction of a large bougie;—cold applications to the perineum,—vinegar and water;—astringent and sedative injections,—cerussa acetata.

Inflammation of the prostate gland—indicated by much heat and pain in the perineum, and thence extending to the rectum;—by leeches,—fomentations,—poultices,—emollient clysters.

Sympathetic enlargement of the glands of the groin.—By the application of leeches;—cold lotions;—perfect rest.

Hernia humoralis.—See that disease.

Phymosis and paraphymosis.—See these diseases.

III.

1st, By astringent injections; a very diluted solution of vitriolic acid,—of zincum vitriolatum,—zincum acetatum,—of cerussa acetata,—cuprum ammoniatum;—where there is reason to suspect the existence of ulceration—of hydrargyrus muriatus, or of calomel joined with lime-water.

℞. Acidi vitriolici diluti gutt. viij.
Aquæ distillatæ ℥viij.
Fiat injectio.

℞. Zinci vitriolati gr. viij.
Aquæ distillatæ ℥viij.
Fiat injectio.

℞. Zinci acetati ℈ss.
Aquæ distillatæ ℥viij.

Fiat injectio.

℞. Cerussæ acetatæ ℈ss.
Aquæ distillatæ ℥viij.

Fiat injectio.

℞. Cupri ammoniati gr. iv.
Aquæ distillatæ ℥viij.

Fiat injectio.

℞. Hydrargyri muriati gr. ij.
Aquæ distillatæ ℥viij.

Fiat injectio.

℞. Calomelanos ʒss.
Aquæ calcis ℥viij.

Fiat injectio.

These injections should be used cold every three or four hours.

For women, a drachm of the zincum vitriolatum and acetatum, and cerussa acetata, should be dissolved in half a pint of water.

2dly, By the internal use of astringents and tonics; balsamum copaivæ,—ferrum vitriolatum,—cinchona,—terebinthina.

In some cases, after every inflammatory symptom has disappeared, in consequence of a relaxation of the mucous glands of the urethra, induced by repeated attacks of gonorrhœa, or from other causes, the discharge long remains, in some instances even for the remainder of life, and resists every remedy

employed for its suppression: in this state it is denominated *a gleet*.—Recourse should be had to the injection of powerful astringents; a solution of alum in decoction of bark,—hydrargyrus muriatus,—cuprum vitriolatum,—solutions of sal ammoniac,—tincture of cantharides,—cold water frequently dashed upon the pudenda,—daily use of the cold bath,—blisters applied frequently to the perineum.

℞. Aluminis purificati ʒj.
Decocti quercûs ʒviij.
Solve ut fiat injectio.

℞. Hydrargyri muriati gr. iv.
Acidi muriatici gr. j.
Terantur simul in mortario vitreo, dein adde—
Mucilaginis Arabici ʒj.
Aquæ distillatæ ʒvij.
Fiat injectio.

℞. Cupri vitriolati gr. vj.
Aquæ distillatæ ʒviij.
Fiat injectio.

The internal use of tonics, especially of chalybeates and of astringents, is also necessary; as balsamum copaivæ,—olibanum,—zincum vitriolatum,—cuprum vitriolatum,—alum,—terebinthina.

℞. Balsami copaivæ ʒjſs.
Mucilaginis Arabici ʒij.
Aquæ cinnamomi ʒiv.
Syrupi Tolutani ʒſs.
Fiat emulsio cujus sit dosis cochlearia tria ter quotidie.

℞. Olibani ʒj.
Zinci vitriolati gr. jſs.
Balsami Peruviani q. s.
Fiat pilulæ xii. quarum capiat æger duas ter in die.

℞. Cupri vitriolati gr. j.
Extracti gentianæ ʒj.
Fiat pilulæ xii. quarum sit dosis duæ bis quotidie.

℞. Aluminis purificati ʒj.
Extracti cascarillæ ʒjſs.
Olibani pulverisati q. s.
Fiat pilulæ mediocres quarum sumantur tres ter in dies.

In all such obstinate cases there will always be reason to suspect the existence of stricture: this should be ascertained by the means presently to be mentioned.

It may be necessary to observe, that, although the use of mercury is by most surgeons of the present day admitted to be unnecessary to the cure of gonorrhœa, yet that after all inflammatory symptoms have disappeared, and not until then, it may be used by those who are still incredulous, to ensure the patient from the supposed danger of being afterwards attacked by the constitutional disease.

STRICTURE.

A stricture is a thickened and contracted state of one or more parts of the canal of the urethra, producing an obstruction to a free passage of the urine.

SYMPTOMS.

Its presence is denoted by micturition;—by the discharge of mucus from the urethra;—by the urine, which is greatly diminished in its stream; often split into two, or voided drop by drop.—A small tumor may be felt in the perineum, and upon attempting to introduce an instrument into the urethra, an obstruction occurs to its passage.—There is often a concomitant disease of the bladder, producing a discharge of purulent urine.

CAUSE.

Preceding inflammation and ulceration, by whatever cause induced.

TREATMENT.

The daily use of a bougie; of which the best for this purpose are the catgut and the flexible metallic bougies invented by Mr. Smith.—Previous to its introduction, it should be slightly curved, and covered with some bland oil, or unguent, to prevent irritation.—It ought to be worn at first for about half an hour, gradually increasing the time from day to day.—The size of the bougie is also to be increased as the resistance to its passage becomes diminished.

In those cases where a bougie, even of the smallest size, cannot be passed, as likewise in those which are of such long standing as to preclude the hope of a recovery from its use, recourse is to be had to the application of caustics.—For this purpose a piece of lunar caustic is to be securely inserted into the extremity of a common bougie, and secured from irritating the urethra, by being so enclosed as not to project beyond the extremity of the instrument; being surrounded every where laterally by its substance.—A common bougie is now to dilate the canal of the urethra, to ascertain the degree of the

stricture, and to measure its exact distance from the external orifice: this distance being marked upon the armed bougie, it is to be immediately carried down to the contracted part, and its extremity suffered to remain there, with a slight degree of pressure, for the space of about half a minute, and then to be withdrawn.—This is to be repeated every second day; and if there be more than one stricture, they may thus be removed in succession.

PHYMOSIS

Is a thickened and contracted state of the prepuce, by which it is prevented from being drawn behind the glans penis.

CAUSES.

The irritation produced by the matter of gonorrhœa;—acrid secretions from the glandulæ odoriferæ;—sometimes it is connate; at others it depends upon an anasarcous swelling of the scrotum and penis.

TREATMENT.

Where inflammation is present, topical bleeding by leeches;—cold lotions applied to the parts;—fomentations, if these are unsuccessful;—the injection, if practicable, of warm fluids between the prepuce and the glans.

If after inflammation has been by these means removed, and reduction by manual efforts still continues impracticable, an operation is to be performed for the removal of the disease. This is done by means of a sharp-pointed knife concealed in a grooved director, which should be insinuated between the prepuce and the glans, until it has reached the corona glandis, when the knife should be pushed forwards, and the prepuce

divided at the dorsum: the wound is afterwards to be dressed with simple dressings.

PARAPHYMOSIS.

Paraphymosis is a retraction and swelling of the prepuce, so as to produce a stricture behind the glans penis.—It is generally accompanied with much swelling and inflammation of the penis, which has in many instances terminated in mortification.

CAUSES.

It is induced by the same causes as the preceding disease.

TREATMENT.

The same means must be employed to reduce inflammation as recommended for phymosis; and if, after these, the parts still continue irreducible by pressure with the fingers simply, the prepuce is to be divided, by making an incision upon each side, and not, as directed for phymosis, on the dorsum penis, which would in this case endanger the division of the vessels and nerves of the penis.

After the operation, an emollient cataplasm should be laid upon the part, and the wound afterwards treated as a common sore.

CANCER OF THE PENIS.

SYMPTOMS.

The disease usually begins with a small circumscribed tumor, or a warty excrescence, upon the glans or prepuce of the penis, and is frequently accompanied with a natural phymosis, or the

latter disease becomes a consequence of the former.—After the expiration of a shorter or longer time, inflammation supervenes, ulceration takes place, a fetid ichor is discharged, a livid and truly cancerous fungus arises, attended with an intolerable burning and lancinating pain.—The glands in the groin at length become affected, and if the parts are not removed by a timely operation, it usually, like all other cancerous diseases, proves fatal.

If the prepuce be the seat of the disease, circumcision alone will be required.—If it be seated in the glandular part, or should have extended to it, amputation of the penis becomes necessary.

THE OPERATION.

The sound parts are first to be compressed by a ligature formed of narrow tape, as recommended by Mr. Hey; after which a circular incision is to be made through the integuments, and the skin being drawn back by an assistant, the body of the penis is to be divided with one cut.—The vessels are now to be secured by ligature, and the integuments being brought forwards, are to be united with adhesive plaster, through the middle of which, by means of an opening previously formed, a canula should be passed into the urethra, and retained there by means of ligatures, connected with a bandage passed around the body.

HYDROCELE

Is an accumulation of water within the cavity of the tunica vaginalis of the testis, of the spermatic cord, or in the cellular membrane of the scrotum.

1. *Of hydrocele of the tunica vaginalis testis.*

SYMPTOMS.

An accumulation of a fluid is first perceived to commence at the bottom of the scrotum, which gradually increasing, the latter becomes enlarged and distended; a distinct fluctuation is generally to be distinguished;—the tumor acquires a pyramidal shape;—there is no pain nor discolouration of the integuments; and upon viewing the parts near to a strong light, a transparency is observable.

DIAGNOSIS.

sdistinguished from other diseases by its shape, which is constantly pyramidal, except where the patient has had a hernia, or where the disease has been taken for hernia, and a truss has been worn, when it acquires an oblong shape;—by its transparency; yet this criterion is rendered fallacious when the investing membranes have previously undergone inflammation, in which case they become thickened and impermeable to light;—by the fluctuation of the contained fluid;—by the tumor having first commenced at the bottom of the scrotum.

From hernia.—By the tumor not dilating when the patient coughs;—by the tumor in the one disease commencing at the top of the scrotum, in the other at the bottom;—by the facility of returning the protruded intestine, in reducible hernia, into the abdomen.

From disease of the testicle.—By the want of discolouration and hardness; and the absence of that irregularity to the touch possessed by scirrhus.

From hæmatocele.—By the colour and shape of the tumor, and by that disease suddenly coming on and being usually the consequence of accident.

From anasarca of the scrotum.—By the one being elastic to the

feel, the other œdematous;—the one pyramidal, the other irregularly shaped.

TREATMENT.

At the commencement of the disease, and when a small quantity of fluid only is collected, attempts may be made to disperse it by cold and stimulating applications; a solution of ammonia muriata, with the addition of vinegar and spirit.

℞. Ammoniæ muriatæ ʒfs.
Aceti communis ʒiij.
Spiritus vini tenuioris,
Aquæ distillatæ, āā ʒiv.

Fiat lotio sæpe applicanda.

The lotio ammoniæ muriatæ is also a proper and a stronger application.

In general, however, recourse is had to an operation for the evacuation of the fluid.

THE OPERATION

May be either palliative, or radical.

The palliative.—This is simply an evacuation of the water, by means of a trochar.—The operator having grasped the back part of the tumor with his left hand, is to introduce a lancet-pointed trochar at the anterior and inferior part of the scrotum; and having pushed it obliquely upwards, the stilette is to be withdrawn, and the canula suffered to remain until the whole of the water has been evacuated; when the wound is to be covered with a piece of adhesive plaster, and the scrotum suspended with a suspensory bag, or the T bandage.

Of the radical cure by injection.—The mode of performing the radical cure of the hydrocele, now most frequently employed, is the following:

After having evacuated the fluid, as above directed in the palliative operation, the scrotum is to be again filled with some

stimulant liquor; diluted port-wine, or a solution of vitriolated zinc, are most proper for the purpose.—It is to be injected by means of an elastic bottle and stop-cock, previously adapted to the canula of the trochar, and when the tumor has by this means been made to regain its original size, the cock is to be turned, and the lower part of the syringe unscrewed from its neck, which should be suffered to remain within the canula.—The patient will soon begin to complain of pain in the part, and colic pains across the abdomen; when these occur, and not until then, the neck of the instrument is to be withdrawn from the canula, the wine or injected liquor discharged, and the patient should be conveyed to bed.

In a few days the scrotum will again become tumid, from an effusion of coagulable lymph caused by the inflammation of the tunic: this gradually wearing away, a complete cure is effected.

II. *Hydrocele of the spermatic cord.*

This is a collection of water within the tunica vaginalis of the spermatic cord, or in separate cells.

It most frequently occurs in infants.

It is distinguished from *hydrocele of the tunica vaginalis testis*, by being situated above the testicle; which, when the tumor is not large, may be distinctly felt below.

From anasarca of the spermatic cord.—By the smoothness, elasticity, and fluctuation of the one tumor, and the œdematous feel of the other.

It is often with great difficulty distinguished from hernia.—See *Hernia*.

TREATMENT.

Stimulant and astringent applications are generally sufficient to procure an absorption of the fluid;—friction.

III. *Anasarca of the scrotum.*

An anasarcous state of the scrotum sometimes occurs, and increases to a large size, without any concomitant hydropic affection of neighbouring parts.

CAUSE.

Enlargements of the glands in the groin, or the pressure of a truss;—blows, or other injuries;—the pressure of the enlarged uterus in pregnancy, or other mechanical causes producing compression of the lymphatic vessels;—inflammation of a peculiar kind.

DIAGNOSIS.

The œdematous feel, and irregular shape, distinguish it from hydrocele of the tunica vaginalis; as likewise from other diseases of the scrotum.

TREATMENT.

Small incisions made with the point of a lancet, and afterwards suspension, and compression of the scrotum, by means of a laced bag, or the T bandage.

VARICOCELE, OR CIRCOCELE.

Tumor produced by a varicose state of the spermatic vein, which sometimes increases to a large size.—It is attended with no pain, and to the sight and feel often seems composed of hard knotty irregularities;—sometimes it much resembles hernia and hydrocele, for the former of which it is often mistaken.

CAUSE.

Mechanical obstruction to the return of blood from whatever cause;—a relaxed state of the coats of the vessels themselves.

DIAGNOSIS.

The peculiar feel and appearance, with the tumor receding

in a recumbent position, distinguish it from the complaints before mentioned; not so from hernia.—See *Hernia.*

TREATMENT.

When the disease arises from temporary pressure upon the vessels in their course, this, if practicable, should be removed; —when from relaxation, the constant use of a suspensory bandage,—astringent and stimulant applications to the part, as the lotion of ammonia muriata with vinegar.

LOTIO AMMONIÆ MURIATÆ CUM ACETO

Pharm. Chir.

℞. Ammoniæ muriatæ ʒfs.
Aceti,
Spiritus vinosi rectificati, singulorum ℔j.

Fiat lotio.

The cold bath;—cold water frequently dashed upon the perineum;—a solution of alum,—of vitriolated zinc.

HERNIA HUMORALIS.

SYMPTOMS.

Pain and enlargement of the epididymis of the affected testicle; shooting pains along the course of the spermatic cord. —The body of the testicle next becomes affected; it swells, becomes hard and painful;—the scrotum becomes much enlarged and inflamed;—there is a distressing pain in the loins; —the system at length becomes affected with fever, quick, hard pulse, nausea, and vomiting.

CAUSES.

Inflammation of the testicle may be induced by any of the common causes of inflammation, but is most frequently produced

by irritation of the urethra, by the matter of gonorrhœa;—the improper use of injections, or incautious introduction of a bougie.—It often follows a suppression of the gonorrhœal discharge from cold;—sitting on wet grass is a frequent cause.

TREATMENT.

The patient should be put upon a spare regimen, should remain in a recumbent posture, with the part suspended by means of the bag-truss, employed for irreducible hernia.

If the inflammatory symptoms run high, general bleeding will be necessary; if not, local bleeding by the application of leeches;—saline purges;—diaphoretics—antimonials.

Emetics have been highly extolled for their good effects in this disease;—sedative and refrigerant local applications; as, aqua ammoniæ acetatæ,—a solution of ammonia muriata,—aqua lithargyri acetati composita; and at night a cold cataplasm made of linseed or rye, with the addition of a solution of cerussa acetata.

After the inflammatory symptoms have disappeared, should the swelling remain, and assume a scirrhous form, hydrargyrus muriatus;—mercurial applications topically, as the emplastrum hydrargyri;—oil-skin;—repeated emetics.

Should suppuration ensue, poultices,—fomentations,—early incision;—tonics, bark, &c.

A fungus sometimes arises which assumes an appearance much resembling cancer. It should be removed by the opiate caustic, or by excision.

CAUSTICUM OPIATUM
Pharm. Chir.

℞. Calcis cum kali puro ʒiij.
Opii pulveris ʒfs.
Saponis mollis q. s.

The caustic powder and the opium being mixed together, are to be formed into a paste with the soap.

SCIRRHUS OF THE TESTICLE.

SYMPTOMS.

An enlargement is first observed in the body of the testicle, which becomes preternaturally hard, and gradually increases in size.—An acute, intermitting, lancinating pain ensues; the colour of the integuments becomes livid; the surface assumes an irregular knotty appearance; and often adhesions take place of the skin, forming indentations which much resemble cicatrices.—Ulceration supervenes; the edges of the ulcer become livid, sore, hard, and retorted; fungous excrescences sprout forth; and if timely means are not employed to prevent the extension of the disease, the spermatic cord partakes of the affection, becoming hard and knotty.—Emaciation and hectic fever ensue.

DIAGNOSIS.

From hernia humoralis.—The one is an acute, the other a chronic disease; the one enlarging gradually, the other suddenly.—In the one the pain is intermittent, pungent, lancinating; in the other constant.—In hernia humoralis the surface of the testicle is smooth, and of the usual colour of inflammation; in scirrhus it is livid, irregular, or knotty.

From hydrocele.—By the transparency of the tumor in that disease; and other marks already mentioned.—Vide *Hydrocele.*

PROGNOSIS

Will ever be unfavourable; more especially should there be adhesions of the integuments, enlargement of the spermatic cord, or of the glands immediately within the pelvis, as discovered by pressure in the recumbent position of the patient;—if hectic be present, or the patient be the subject of diseased

viscera.—The success of an operation may be predicted by the absence of the above circumstances, and by the youth and unimpaired constitution of the patient.

TREATMENT.

After employing the common remedies for the removal of scirrhus (see *Diseases of the Breast)* without effect, the safety of the patient demands the performance of an operation for the removal of the diseased testicle.

OF THE OPERATION FOR CASTRATION.

The parts being shaved, and the patient laid in the position recommended in the operation for hernia, an incision is to be made through the integuments, from the upper part of the abdominal ring to the bottom of the testicle.—By this incision the external pudendal artery will be divided; which, if necessary, should be immediately tied.—The fascia covering the cremaster muscle will now be exposed;—this being divided, the spermatic vessels are to be dissected from the vas deferens, and secured by ligature, the latter being excluded.—The cord is now to be divided, at least an inch above the diseased part; after which the testicle is to be removed from its situation by a cautious dissection.

The same ligature may be suffered to remain upon the cord, or it may be slackened, and the artery secured alone.

After the operation, the edges of the wound are to be brought together by means of the interrupted suture, and the part being covered with a soft compress, is to be supported by the suspensory bag, or T bandage.

HÆMATOCELE

Is a tumor formed by an extravasation of blood in the tunica vaginalis of the testicle, or of the spermatic cord; in the body of the testicle itself, or in the cellular membrane of the scrotum.

CAUSE.

Mechanical injury;—puncture;—a rupture of vessels after the sudden removal of the water in the operation for hydrocele;—an atonic or relaxed state of the vessels themselves.

DIAGNOSIS.

The sudden appearance of the tumor;—when arising from external injury, the effect immediately following the cause;—the livid discolouration of the scrotum;—the swelling increasing from the bottom.

TREATMENT.

Upon the first appearance of the tumor, astringents may be employed to effect an absorption of the fluid;—should these be unsuccessful, recourse must be had to an operation, which is performed as for hydrocele by incision;—after which, should an oozing of blood continue, tonics and astringents may be employed both internally and topically;—bark with vitriolic acid, as recommended by medical writers for the cure of passive hæmorrhages;—locally, tincture of myrrh, &c.—Vide *Incised Wounds*.

If the effusion of blood be into the body of the testicle, castration will be necessary.—See *Scirrhus of the Testicle*.

DISEASES ABOUT THE ANUS.

HÆMORRHOIDS, OR THE PILES.

The piles consist in a distention of the hæmorrhoidal veins; or in an effusion of blood into the surrounding cellular substance, forming small tumors, either within the anus or its verge, or sometimes producing one tumid or varicose ring, by which it is surrounded.

In some cases they are attended with a discharge of blood, particularly when the patient goes to stool, called *the bleeding or open piles*;—in others there is no discharge, when they are denominated *the blind piles*.—Sometimes they are situated within the gut, and obtain the name of *internal piles*;—but more frequently they protrude beyond the anus, and are called *external piles*.

SYMPTOMS.

The piles are sometimes preceded by a sense of weight in the back, loins, and bottom of the belly, together with sickness at the stomach, and flatulency in the bowels;—on going to stool, a pungent pain is felt in the fundament, and small tumors are perceived to project beyond its verge.—If these break, a quantity of blood is voided, and a considerable relief from pain is obtained;—if they continue unbroken, the patient experiences great torture every time he goes to stool, and feels an inconvenience when sitting down on any hard seat.

CAUSES.

Habitual costiveness;—hard riding;—plethora;—excesses of various kinds;—the suppression of long-accustomed evacuations;—the use of aloetic purgatives;—the pressure of the enlarged uterus in pregnancy.

TREATMENT.

The frequent use of gentle laxatives; as, sulphur,—electuarium e senna,—cremor tartaris.

When the tumors are attended with much pain and inflammation, leeches,—puncture;—refrigerant lotions; as, a solution of cerussa acetata,—the aqua lithargyri acetati composita, with the addition of opium.

Emollient and anodyne ointments:

℞. Unguenti spermatis ceti ℥j.
Tincturæ opii vinosæ ʒj.

Fiat unguentum.

Fomentations sometimes succeed better in alleviating pain and inflammation than cold lotions; as, the fomentum papaveris albi,—fomentum cicutæ.

Firm yet gentle pressure of each pile between the finger and thumb.

In cases where the tumors are relaxed and irritable, fomentations of oak-bark,—of galls,—the frequent affusion of cold water,—or

PASTA PIPERIS COMPOSITA

Pharm. Chir.

℞. Piperis nigri,
Radicis inulæ campanæ, āā ℔j.
Seminum fœniculi dulcis ℔iij.
Mellis despumati,
Sacchari purificati, āā ℔ij.

The three first ingredients are to be finely powdered and well mixed; after which the honey and sugar, melted together over the fire and formed into a clear syrup, are to be added, and the whole beaten into a mass.

This is the celebrated Ward's Paste.—The dose is the size of a nutmeg three times a day, with a glass of water or white wine.

Balsam of copaiva taken on sugar, forty drops twice a day.

The following ointment is also a good application:

UNGUENTUM GALLÆ CAMPHORATUM

Pharm. Chir.

℞. Gallarum pulveris subtilissimi ʒij.
Camphoræ ʒſs.
Adipis suillæ preparatæ ℥j.

Fiat unguentum.

In the open piles, should the attendant hæmorrhage be profuse, the injection if within the anus, or the application if situated externally, of a solution of alum,—of saccharum saturni,—fomentation of oak-bark.—Pressure upon the bleeding veins, either by means of a small tube, covered with lint moistened with an astringent fluid, or with a sheep's gut tied at one end, and after being introduced into the rectum, distended with vinegar and water.

Extirpation by ligature or excision.

Mr. Ware observes, that though there may be many hæmorrhoidal tumors, the pain is found usually to proceed from one only. This is generally situated in the centre, is hard, inflamed, of a darker colour, and more prominent than the rest;—this he directs to be secured by means of a forceps or tenaculum, and then to be removed with a pair of sharp scissars:—cold brandy and water, or a saturnine solution, is afterwards to be applied.

FISTULA IN ANO.

A sinuous ulcer in the neighbourhood of the anus and rectum.—It is either complete, incomplete, or compound.

A fistula is termed complete when there are two openings; the one externally, the other communicating with the rectum. —The latter of these is ascertained to exist by an examination per rectum, and by the discharge of fæces by the sinus.

An incomplete fistula is where the ulcer communicates with the gut, but has no external opening, or where there is an external opening, but no communication with the rectum.— Its existence, in the first case, is ascertained by a discharge of matter by stool, and by an examination per anum, by which the sinuous opening may often be discovered.

The compound fistula is where the ulcer, besides opening into the rectum, communicates with the bladder, as shewn by the fetid smell and brown feculent sediment in the urine;— by air discharged from the urethra, and by great irritation and dysuria.—Within the vagina, in which case fæces are discharged by both orifices; or when there is concomitant disease of the sacrum, coccyx, or contiguous parts.

CAUSES.

Obstructions in the rectum from collections of hardened fæces;—condylomatous excrescences;—piles;—inflammation, and consequent abscess, induced by whatever cause; by the application of cold, as sitting on wet grass;—inflammation consequent on fever.

TREATMENT.

Of the complete fistula.

Indications.

I. To reduce the sinus to the state of an healthy ulcer.—See *Ulcer.*

II. If that be impracticable, to reduce it to the state of a simple wound.

I.

By the topical use of stimuli;—injections of aqua calcis,— of a solution of hydrargyrus muriatus,—of tincture of cantharides.

By invigorating the constitution by tonics;—Peruvian bark, —preparations of steel,—pure air,—regular exercise, if practicable.

II.

By an operation performed in the following manner:

The patient being placed with his back towards a window, while his body leans upon a table or bed, the finger covered with a bland oil is first to be introduced at the rectum; after which, if the fistula be complete, a probe is to be passed along its course, until its extremity reach the internal opening, and touch the finger in the rectum;—a probe-pointed bistoury is then to be passed along the probe, and having reached the opening in the intestine, its handle is to be elevated, and its point depressed as much as possible by the finger previously introduced, and in this manner gradually drawn out at the anus; by which means a complete incision will be made of the intermediate space between the sinus and the gut.

If the fistula be incomplete, having no internal opening, an artificial communication with the intestine must be made;—this is most easily effected by means of a curved bistoury with a concealed point, which may be pushed forwards through the coats of the gut, when the instrument has reached the extremity of the sinus.—*Mr. Hey.*

Should the matter have so insinuated itself along the cellular membrane, as to cause several external openings; they are to be successively dilated, until all are laid into one.

The edges of the wound are to be prevented from uniting, and dressed with some stimulating application. If any callous parts are observable, they are to be touched, by means of a camel-hair pencil, with ammonia muriata, or with hydrargyrus nitratus ruber.

When an abscess is discovered in the neighbourhood of the anus, and is suspected to communicate with the rectum, by

a discharge of matter by stool, suppuration is to be accelerated by the application of fomentations and poultices, and an early opening should be made; by which means the sinus will be reduced to the first of the above species.

PROLAPSUS ANI.

A protrusion of the rectum beyond the verge of the anus.

CAUSES.

Relaxation of the parts;—irritation of the rectum by the use of aloetic purgatives;—worms;—hæmorrhoids;—violent exertion for the expulsion of hardened fæces.

TREATMENT.

Indications.

I. To replace the protruding portion of intestine.

II. To prevent its again prolapsing.

I.

The patient being laid upon his back, the finger being covered with a piece of soft linen, or a cone formed of stiff paper, is to be introduced at the aperture in the prolapsed intestine, when gentle pressure is to be made until the whole be returned to its original situation, successively pushing back the last protruded portions;—after which a thick compress, so graduated in size as to adapt itself to the space between the nates, and steeped either in red wine, or in some astringent lotion, as a weak solution of alum, should be bound on the part by means of the T bandage.

Should there be much inflammation, fomentations, or the vapour of hot water, should be applied to the parts previous to any attempts at reduction.

II.

If the disease arise from debility, by the internal and external administration of tonics and astringents;—the daily affusion of cold water;—lotions of a solution of alum, of vitriolated zinc, or decoction of logwood;—a spirituous infusion of oak-bark with lime-water, as recommended by Mr. Hey;—constant support by means of the before-described bandage and compress.

Internally.—Alum,—zinc,—the pasta piperis composita,—and other astringents.

If from hæmorrhoids, removal of the cause by the means already laid down.

When from irritation of the rectum by worms, anthelmintics.—Temporary support by bandage.

CONDYLOMATOUS EXCRESCENCES.

Excrescences are sometimes formed about the anus, which, from their figure, obtain the name of fici, aristæ, &c.—They sometimes grow within the gut itself, but are oftener situated at the verge of the anus.—They vary in size, from that of ordinary warts to that of split garden-beans.—They are also various in colour, figure, and consistence.—Sometimes there is only one or two; generally, however, all the skin around the anus becomes covered with them.

TREATMENT.

When they are soft, gentle escharotics will destroy them, as ammonia muriata, or pulvis sabinæ;—the application of tinctura ferri muriati, by means of a camel-hair pencil.—The harder kinds are to be removed by lunar caustic, by ligature, or by excision.

IMPERFORATE ANUS.

See works on diseases of children.

SYPHILIS.

A disease induced by the operation of a specific poison; imbibed most frequently during the act of coition.

1. *Of primary or local Symptoms.*

CHANCRE.

This is an ulcer induced by the immediate application of the venereal poison.

CHARACTER.

At its first appearance it resembles a common pimple which has suppurated, having in its centre a vesicle or depression containing a small collection of matter;—it soon increases and becomes an ulcer, possessing a peculiar and characteristic appearance;—its surface is white or ash-coloured, irregular, concave;—its base hard, thickened, and resembling the section of a pea;—its edges are prominent, thick, ragged, and of an ash colour, and resemble a curtain hanging over the hollow surface of the sore;—it is surrounded with an areola or circumscribed inflammation, and differs from other ulcers by its total want of disposition to heal.

The seat of chancre is various;—the glans penis,—the prepuce,—the frænum,—the scrotum,—the mons veneris.

In women, the nymphæ,—the clitoris,—the vagina,—the os uteri.

TREATMENT.

When discovered soon after its formation, a chancre may be removed by the application of lunar caustic, or by a lotion composed of a weak solution of corrosive sublimate in spirit of wine, or the following:

ÆRUGO CUM CALOMELANE

Pharm. Chir.

℞. Æruginis preparatæ,
Calomelanos, singulorum partes æquales.

Fiat pulvis subtilissimus.

In cases of longer standing, it should be treated with mercurial dressings,—as ointments composed of red precipitate, calomel, &c. or the unguentum hydrargyri, with the addition of opium, if the sore be painful.

Lotions of a solution of hydrargyrus muriatus, and of argentum nitratum, or of nitric acid.

While attempts are made by these means to heal the ulcer, the constitution should always be secured from the effects of absorption by the use of mercury, as directed for the general treatment of syphilis.

In irritable constitutions, it not unfrequently happens that chancres become phagedenic.—In this case the mercury is highly prejudicial;—the external use of opium, with fomentations, and a lotion composed of a solution of nitric acid;—fermenting poultices, the juice of oranges, &c. See *Sloughing Ulcer*.—The internal administration of wine,—opium in large doses,—cicuta.

BUBO.

An enlargement of an absorbent gland in the groin, owing to the absorption of the venereal virus; generally, though not always, preceded by chancre.

SYMPTOMS.

Pain in the groin, accompanied with some degree of hardness and swelling; which continuing to increase, a tumor, equal in size to a pigeon's egg, is formed.—If proper measures are not speedily taken, it inflames, becomes of a florid red, is attended with a more acute pain, which suffers a remarkable nocturnal exacerbation, and the progress from inflammation to suppuration is usually very rapid.

It is distinguished from similar enlargements from other causes,—by being confined to one gland,—by the tendency to inflammation and suppuration,—by being very generally preceded by chancre,—and by the peculiarity of the attendant pain.

Like chancre in irritable or vitiated habits, it sometimes becomes phagedenic; in which case a formidable sloughing ulcer is produced.

When combined with scrofula, it is rendered extremely indolent; often remaining a long time, and enlarging to a great size without any disposition to suppuration.

TREATMENT.

In the uninflamed state.

Mercurial friction;—lotions of a solution of hydrargyrus muriatus.

In the inflamed state.

Leeches,—cold lotions, as aqua lithargyri acetati composita; solution of ammonia muriata in water, with the addition of spirit.

Should these be unsuccessful, fomentations and cataplasms.

If suppuration ensue, the constant use of fomentations and poultices;—an early evacuation of the matter through a small opening.

After inflammation has subsided, or after the process of suppuration has ceased, recourse must again be had to the use of mercury.

In the sloughing state.

See *Sloughing Chancre*, and *Phagedenic Ulcer.*

In the indolent or scirrhous state.

If suppuration has already commenced, attempts are to be made to accelerate it by hot fomentations,—warm stimulating plasters.—Vide *Abscess.*

If the enlargement possess a scirrhous hardness, and is indisposed to suppurate, fomentations of cicuta,—sea-water,—sea bathing,—mercurial applications, as the emplastrum hydrargyri.—Vide *Enlargements of the Absorbent Glands*, and *Scrofula.*

II. *Of secondary or constitutional Symptoms.*

The constitution may become affected with syphilis, either,

1. By an absorption of the virus, without any evident local effect having been first induced.

2. In consequence of some primary local affection.

3. From the application of the matter to some common sore or wound.

SORE THROAT.

An inflammation and ulceration of the throat, produced by the absorption of the venereal virus, from whatever source.—It is usually the first effect produced in the constitution.—The time at which it makes its appearance, after infection has been received, varies from five weeks to many months.

CHARACTER.

Ulcers in the fauces, tonsils, uvula, or larynx, having the exact appearance of chancre before described;—circular,—

hollow,—with ragged edges,—surrounded with an areola.—Its surface is covered with a white slough, and it is attended with nocturnal pain.—These characteristics, together with its having most generally been preceded by an obvious local affection, distinguish it from ulcerations of the throat arising from other causes.

TREATMENT.

The use of mercury.—Locally, gargles of a weak solution of hydrargyrus muriatus;—of solutions of the nitric and muriatic acids.—The fumes arising from the hydrargyrus nitratus ruber, or hydrargyrus sulphuratus ruber, thrown on hot iron, and conveyed to the throat by means of a fumigating machine.

General Treatment of Syphilis.

Mercury, so administered as to excite a disposition to salivation.—It may be used either externally, by friction with the unguentum hydrargyri upon the inside of the thigh, which is decidedly the best and most certain way; or internally, by the use of the pilula hydrargyri, in pills of five grains, to be taken night and morning.

In the use of mercury, under whatever form, it will be prudent to begin with a small quantity, and to increase it gradually, until the patient perceive a copperish taste in his mouth, fetor of breath, and a more than ordinary secretion of saliva; it should then be diminished, and the quantity should afterwards be so regulated as constantly to preserve a slight salivation, without proceeding to any greater length.

The operation of mercury is promoted by abstinence from high-seasoned food; confining the diet to meats of easy digestion,—to thin broths,—preparations of sago,—barley, &c.,—vegetables,—ripe fruits.

Where great difficulty is found in producing the desired effect, the pediluvium, or warm bath, are serviceable.

Profuse purging is sometimes the effect of the administration of mercury.—This should be checked by the use of opium.

If too copious a salivation be produced, a gargle of a weak solution of alum ;—the internal use of sulphur,—cold air.

The length of time required for the cure of the disease by this means, will depend upon its inveteracy.—In mild cases, from four to six weeks ;—in cases of longer standing, and of a more confirmed nature, eight or ten :—continuing the use of mercury for some time after the disappearance of the disease.

This mercurial action, during the above period, is to be kept up with great uniformity, until the symptoms wholly disappear, and for a certain time after, which time experience alone can pronounce.

Besides mercury, other remedies have been recommended as specifics for the cure of the venereal disease; such are the nitric or nitrous acid ;—the oxygenated muriate of potash ;—decoctions of the lobelia, astragalus, &c.—The efficacy of these has hitherto not sufficiently been established.

ERUPTION.

When syphilis attacks the skin, it usually assumes the form of a scaly eruption ; and, according to Dr. Willan, most commonly of lepra vulgaris,—psoriasis guttata,—psoriasis diffusa,—psoriasis gyrata.—The blotches vary in size, from one sixth of an inch to the extent of half a crown.—Their elevation above the cuticle is sometimes scarcely evident ; at others they are considerably protuberant.—The scale or scurf with which they soon become covered, after a short time falls off, and is succeeded by another, which not unfrequently casting off deep,

an ulcer is formed, which discharges an acrid fetid matter. This sometimes extends, and becomes a venereal herpes exedens.

It is distinguished from every other eruption by its peculiar copper colour,—by being generally accompanied with nocturnal pains,—by not yielding to the usual remedies,—and by being ordinarily preceded by some indisputable mark of the existence of syphilis.

TREATMENT.

The use of mercury, as before directed; at the same time employing sudorifics, as antimony united with calomel, or pulvis ipecacuanhæ compositus, with decoctions of mezereon and sarsaparilla.

Should ulceration take place, lotions of hydrargyrus muriatus;—the unguentum hydrargyri as a common dressing.

Should there be great pain or irritation, the local application of opium in form of lotion or ointment; or added to the unguentum hydrargyri.

ULCERS.

Sores appearing in the legs and other parts of the body, produced by the operation of the venereal poison.

CHARACTER.

They are the most irregular of all ulcers; seldom forming one continued ulceration, but generally composed of a number of small, distinct, circular excavations, separated from each other by a thin bar of skin, the edges of which are jagged, and project over the adjacent sore. It is generally surrounded by an areola of a copper colour, and often by a venereal eruption. The discharge is at first a thin sanies; afterwards a gelatinous, whitish, yellow, or greenish matter. It is accompanied with

nocturnal pains, and other characteristics of the venereal disease.

TREATMENT.

Gentle salivation, continued until the ulcers have completely healed, and other symptoms disappeared.

The use of mercurial and other applications, as recommended for chancre.

OZÆNA.

SYMPTOMS.

After considerable previous deep-seated pain in the nose, a discharge not purulent, but thin, sanious, fetid, and intermixed with bloody sloughs.—It is attended with a nocturnal exacerbation of pain, and is generally accompanied with some other obvious syphilitic affection.—Caries of the ossa nasi is sometimes the cause, sometimes the consequence, of the disease.—It not unfrequently produces fistula lachrymalis.

TREATMENT.

Besides the use of mercury, lotions injected into the nose by means of a syringe, formed of a solution of hydrargyrus muriatus in lime-water, or a dilute solution of nitric acid.

Fumigations, of Æthiops mineral, cinnabar, &c. as recommended for ulceration of the throat.

OPHTHALMIA.

A severe inflammation of the eye is sometimes the consequence of the venereal taint, and if proper remedies are not duly administered, usually terminates in an opacity of the

cornea.—It is distinguished by not giving way to the use of common remedies;—by being attended by nocturnal pain;—by the eye being less sensible to impressions of light;—by the disease having been preceded, or being accompanied, by other marks of syphilis.

TREATMENT.

If much inflammation be present, this should be diminished by the application of leeches to the temples,—sedative collyria, &c. as in common ophthalmia.—After which, the internal use of hydrargyrus muriatus, and mercurial friction, as before directed,—and of a watery or vinous solution of opium, applied topically.

PAINS.

When the constitution has long been contaminated by the venereal poison, distressing pains take place in the bones of different parts of the body; more especially of the leg, the arms, and head.

They are distinguished from pains induced by other causes; by being attended with a nocturnal exacerbation;—by being seated, when occurring in the extremities, in the *middle* of cylindrical bones;—by being very generally preceded or accompanied with other symptoms of the venereal disease.

TREATMENT.

The long-continued use of mercury, as before directed.

Sudorifics; the pulvis ipecacuanhæ compositus,—antimony united with opium,—calomel united with antimony;—at the same time using decoctions of mezereon,—sarsaparilla,—guaiacum.

The warm bath;—the occasional use of opium.

NODE.

Its seat is most frequently on the cylindrical bones; and on the bones of the cranium.

SYMPTOMS.

After deep-seated, obtuse, and distressing pain, attended with a nightly exacerbation, a prominent rising upon the surface of a bone;—hard to the touch;—sometimes insensible, and unattended by discolouration of the integuments; at others considerably inflamed and sore.

Suppuration sometimes takes place within the bone;—apertures are formed by the ulcerative process, through which the fluid escapes;—the tumor, before hard, is now soft to the touch, and increased in size, and the fluctuation of a fluid between the periosteum and the bone is perceptible.—The integuments at length burst, when, upon examination, holes are often found communicating with the interior part of the enlarged portion of the bone, which is hollow, and surrounded with a thick deposit of ossific matter, or exostosis.

TREATMENT.

If there be much inflammation and pain, occasional bleeding by leeches, and blisters, will be useful.—See *Inflammation of Bone*.

If it be insensible to the touch, the emplastrum hydrargyri.

Should suppuration ensue, a free incision,—and afterwards the use of mercurial topics.

Mercury is to be gradually introduced into the system by friction, and the mercurial action kept up for some time after the total disappearance of the symptoms, as before directed; at the same time the patient must constantly take the decoctum sarsaparillæ, or the decoctum sarsaparillæ compositum.

AMPUTATION.

Amputation becomes necessary when a member has been rendered useless by disease, or when the constitution is in danger of suffering by its longer continuance.

The diseases most frequently requiring this operation are, extensive contusions and lacerations;—incurable ulcers;—hæmorrhage from vessels which cannot be secured by ligature, as the posterior tibial artery;—extensive mortifications;—gun-shot wounds of joints, or compound fracture by gun-shot;—scrofulous affections of the joints;—caries of bones;—bad fractures.

OF THE FINGERS.

At the joint connected with the metacarpal bone.

1. An incision is to be made on each side, between the fingers, and extended obliquely upwards to the joint.

2. A circular one through the remaining integuments and muscles.

3. A cautious separation of the finger at the joint.

4. The fingers, before contiguous to that removed, are to be brought together and secured by bandage; by which means the hæmorrhage will be restrained, union by the first intention will be effected, and deformity in great measure prevented.

At the lower joints.

A circular incision is to be made below the joint, and the integuments being retracted, the operation is to be finished as in amputation at the wrist.

AT THE WRIST.

The tournequet being properly applied, incision is to be made,

1st, Through the integuments, about one inch below the joint, after which they are to be drawn up by an assistant.

2dly, Through the tendons and into the joint; beginning the incision from the side connected with the radius.

3dly, The arteries are to be secured by ligature, and the integuments brought together, and united by adhesive plaster.

OF THE TARSUS.

The tournequet being applied, as in all amputations, in the lower extremity (see the following), a circular incision is to be made opposite the junction of the tarsal and metatarsal bones; and the divided integuments are to be drawn up by an assistant.—The second incision should be through the tendons and muscles.—The tarsal bones are now to be carefully cleared from any adhering muscular substance, and to be divided with the saw; saving as much of the foot as the disease for which the operation is performed will admit of.—After the arteries have been secured, the integuments are to be brought over the extremity of the bones, and united by the first intention.

OF THE THIGH.

The most proper part for the application of the tournequet in this, and in all other amputations of the lower extremity, is about the middle of the thigh, where the artery in its course

passes near to the bone.—The pad should be placed immediately above the vessel, and firmly secured in its situation by tightening the screw on the other side of the limb.

After this has been adjusted, the limb being supported by an assistant, a circular incision should be made through the integuments, immediately above the knee-joint; and any adhesions that may impede their retraction having been separated, they are to be drawn up as high as possible, when a second incision should sever either the whole of the muscles of the thigh, or the loose muscles only; leaving those attached to the bone to be divided by a third.

The bone now exposed, is to be cleared of its periosteum, and any portions of muscle that may still adhere; and then to be divided with the saw, at that part where it is connected with the retracted integuments: should any spicula or projecting points remain, these are to be removed.

The next step is to secure the arteries; and this should be carefully done by means of the tenaculum and ligature.—A flannel or linen roller is then to be passed around the thigh, to prevent the retraction of the muscles; after which the integuments are to be brought together, and preserved in contact by means of adhesive straps; suffering the ligatures to hang from one corner of the wound.

The stump is to be covered with a pledget of soft tow or lint, which should be preserved in its situation by a broad piece of linen or a laced stocking.

The patient may now be conveyed to bed; where the stump should be laid upon a soft pillow, and protected from the bedclothes by a hooped frame.—It will also be proper to administer an opiate, and to suffer the tournequet to remain loosely at-

tached to the limb, as a means of speedily restraining any hæmorrhage that may accidentally occur.

At the expiration of a week the dressings may be removed, and the ligatures withdrawn.

OF THE LEG.

The tournequet being properly applied, and the leg supported as before directed, an incision is to be made through the integuments, about six inches below the knee; and when the adhesions which connect them to the fore part of the tibia and fibula have been separated, they are to be drawn up by an assistant.

The muscles of the leg are next to be completely divided by a circular incision, close to the retracted integuments.

The object is now to divide all that connecting substance between the two bones: this is to be done by means of a sharp-pointed double-edged knife made for this purpose.—After which both the bones are to be sawn through, by the same action of the saw, at a distance from the knee equal to the breadth of the hand.—The remaining part of the operation will be exactly similar to the before described.

OF THE HUMERUS.

In amputations of the superior extremity, the most convenient part for the application of the tournequet is about midway between the shoulder and the elbow joint; where it is to be adjusted as before described, with the pad over the principal artery.

The first incision is to be begun about an inch above the joint, and the operation concluded precisely as in the thigh.

OF THE FORE-ARM.

As in the leg before the knee.

AT THE SHOULDER JOINT.

The patient is to be so placed, that the axilla may be clearly exposed to the view of the operator, who is first to make an incision in the course of the axillary artery, and having exposed the vessel, is carefully to dissect it from the vein and the plexus of nerves with which it is accompanied, and secure it by ligature.

A second incision is then to be carried obliquely through the deltoid muscle, beginning about four inches down the arm on the outside, and extending it upwards to the ligature on the artery.

The third incision divides the remaining muscles, the capsular ligament, and separates the humerus from its connexions.—It is to be begun close to the joint, immediately beneath the ligature, and carried in a circular direction around the arm.

The flap, previously formed in the deltoid muscle, is now to be extended over the surface of the wound; and union by the first intention is to be effected by the aid of the interrupted suture, adhesive plaster, and proper bandages.

A

GLOSSARY,

OR

EXPLANATION OF TERMS.

A.

Abscess (Abscessus, us, m. from *abs*, and *cedo*, to retire). A collection of pus in the cellular or adipose structure.

Amaurōsis (Amaurosis, is, f. from αμαυρωσις, obscurity). A loss of sight without any visible injury to the eye.

Anasarca (Anasarca, æ, f. from ανα, along, and σαρξ, the flesh). Dropsy of the cellular membrane.

Anchylōsis (Anchylosis, is, f. from αγχυλομαι, to bend). A stiff joint.

Aneurism (Aneurisma, ătis, n. from ανευρυνω, to dilate). A preternatural dilatation of an artery.

Anthrax (Anthrax, acis, m. ανθραξ, a burning coal). A carbuncle.

Antiphlogistics (Antiphlogistica remedia, from αντι, against, and φλογωσις, inflammation). A term applied to those medicines, plans of diet, and other circumstances, which tend to oppose inflammation.

Aphthæ (Aphthæ, arum, f. from αφθαι, the thrush). The thrush.

B.

Bronchocēle (Bronchocele, es, f. from βρογχος, the windpipe, and κηλη, a tumor). The Derbyshire neck;—a tumor formed by an enlargement of the thyroid gland.

Bronchotomy (Bronchotomia, æ, f. from βρογχος, the windpipe, and τεμνω, to cut). The opening of the windpipe, or trachea.

Bubo (Bubo, ōnis, m. from βουβων, the groin; because they most frequently happen in that part). A swelling of a lymphatic gland.

Bubonocēle (Bubonocele, es, f. from βουβων, the groin, and κηλη, a tumor). An inguinal rupture.

C.

Calculus (Calculus, i, m.). A stone. Concretions in the urinary bladder, gall-bladder, &c. are termed calculi.

Cancer (Cancer, ĕris, m. from the term being applied by the ancients to tumors accompanied with large blue veins, resembling crabs-claws). A painful, hard, indolent tumor of a part which terminates in the foulest ulcer.

Caries (Caries, ei, f.). Rottenness or ulceration of the bones.

Cataract (Cataracta, æ, f. from καταραασσω, to confound or disturb; because the sense of vision is confounded, if not destroyed). An opacity of the crystalline lens that obscures the sight.

Cicatrix (Cicatrix, ĭcis, f. from *cicatrico*, to skin). A scar.

Circocēle (Circocele, es, f. from κιρσος, *varix*, or a dilatation of a vein, and κηλη, a tumor). A swelling of the testicle and spermatic chord from a varicose state of the veins.

Condylōma (Condyloma, ătis, n. from κονδυλος, a tubercle or knot). Wart-like excrescences, which appear about the anus and pudenda of both sexes.

D.

Diagnōsis (Diagnosis, is, f. from διαγινωσκω, to discern). The science which points out the signs by which a disease may be distinguished.

Diathĕsis (Diathesis, is, f. from διαθημι, to dispose.) Any particular state of the body: thus, in a putrid fever there is a putrid tendency, in inflammatory fever an inflammatory tendency.

Discutients (Discutientia; from *discutio*, to shake in pieces). Substances which possess a power of repelling or resolving tumors.

Dysurĭa (Dysuria, æ, f. from δυς, difficult, and ουρον, urine). Difficulty and pain in discharging urine.

E.

Emollients (Emollientia; from *emollio*, to soften). Those substances which possess a power of relaxing the living animal fibre, without producing that effect from any mechanical action.

Emphysēma (Emphysema, atis, n. from εμφυσαω, to inflate). Air in the cellular membrane.

Empyēma (Empyema, atis, n. from εν, within, and πυον, pus). A collection of pus in the cavity of the thorax.

Entĕrocēle (Enterocele, es, f. from εντερον, an intestine, and κηλη, a tumor). A rupture formed by a protrusion of intestine.

Entero-epiplocele (from ενλερον, an intestine, επιπλοον, the epiploon, and κηλη, a tumor). A rupture formed by the protrusion of part of an intestine, with a portion of the epiploon.

Enurēsis (Enuresis, is, f. from ενυρεω, to make water). An involuntary flow of urine.

Epiplocēle (Epiplocele, es, f. from επιπλοον, the omentum, and κηλη, a tumor). An omental hernia.

Epistaxis (Epistaxis, is, f. from επιςαζω, to distil from). Bleeding at the nose.

Escharotics (Escharotica; from εσχαρεω, to scab over). Caustics. Those substances which possess a power of destroying the texture of the solids of the animal body, to which they are directly applied.

Excrescence (Excrescentia, æ, f. from *excresco*, to grow). Any preternatural formation of flesh.

Exomphălos (Exomphalus, i, m. from εξ, out, and ομφαλος, the navel). An umbilical hernia.

Exostŏsis (Exostosis, is, f. from εξ, and οσλεον, a bone). A morbid enlargement or hard tumor of a bone.

F.

Fistŭla (Fistula, æ, f. quasi fusula; from *fundo*, to pour out). A long and sinuous ulcer that has a narrow opening, and sometimes leads to a larger cavity.

Fracture (Fractura, æ, f. from *frango*, to break). A solution of a bone into two or more fragments.

Fungus (Fungus, i, m.). Proud flesh. A morbid growth of flesh upon an ulcer.

Furunculus (Furunculus, i, m. from *furo*, to rage. So named from its heat and inflammation before it suppurates). An inflammatory tumor of a subcutaneous gland.

G.

Ganglion (Ganglion, i, n. from γαγγλιον, a knot). An encysted tumor formed in the sheath of a tendon, and containing a fluid like the white of an egg.

Gangrene (Gangræna, æ, f. from γαινω, to feed upon). A mortification of any part of the body, before endowed with vitality.

Gonorrhœa (Gonorrhœa, æ, f. from γονη, semen, and ῥεω, to flow; from an erroneous supposition of the ancients that it was a seminal flux). A preternatural flux from the urethra or vagina.

Granulation. A healthy growth of flesh on a sore.

H.

Hæmatocēle (Hæmatocele, es, f. from αιμα, blood, and κηλη, a tumor). A collection of blood in the tunica vaginalis, or in the cellular membrane of the scrotum.

Hæmorrhage (Hæmorrhagia, æ, f. from αιμα, blood, and ῥηγνυμι, to break out). A bleeding or rupture of a blood-vessel, the blood flowing therefrom.

Hæmorrhōis (Hæmorrhois, idis, f. from αιμορῥοις, a flux of blood). The piles.

Hectic (from εξις, habit). A term applied to a fever that is attended with evening exacerbations, and slight remissions in the morning, and which reduces the strength and causes the body to waste.

Hernia (Hernia, æ, f. from ἑρνος, a branch, because it protrudes forwards). A rupture or protrusion of a part of any viscus from one of the circumscribed cavities of the body.

Hernia congenita (so called, because it is as it were born with the person). A species of hernia, wherein the intestine or omentum adheres to the testicle.

Hordeolum (Hordeolum, i, n. diminutive of *hordeum*). A tumor in the margin of the eyelid, resembling in some respect a barley-corn.

Hydarthrus (Hydarthrus, i, m. from ὑδωρ, water, and αρθρον, a joint). A white swelling of a joint.

Hydrŏcēle (Hydrocele, es, f. from ὑδωρ, water, and κηλη, a tumor). Dropsy of the scrotum.

Hydrothorax (Hydrothorax, acis, m. from ὑδωρ, water, and θωραξ, the chest). Dropsy of the chest.

I.

Indication (Indicatio, onis, f. from *indico*, to show). That which demonstrates in a disease what ought to be done.

Inflammation (Inflammatio, onis, f. from *inflammo*, to burn). A disease characterized by increased heat, redness, and tumefaction.

Ischurĭa (Ischuria, æ, f. from ισχω, to restrain, and ουρον, the urine). A suppression of urine.

L.

Lithotomy (Lithotomia, from λιθος, a stone, and τεμνω, to cut). The operation of cutting a stone from the bladder.

M.

Mastodynĭa (Mastodynia, æ, f. from μαζος, a breast, and οδυνη, pain). Inflammation of the breast of women.

Maturation (Maturatio, onis, f. from *maturo*, to make ripe). The process which succeeds inflammation, by which pus is collected into an abscess.

Meliceris (Meliceris, idis, f. from μέλι, honey, and κηρὸς, wax). A tumor that contains a substance like honey.

Mollities ossium (Mollities, ei, f. from *mollis*, soft). A disease of the bones, wherein they can be bent without fracturing them.

N.

Nævi materni (Nævus, i. m. Heb.). Mother's marks.

Necrōsis (Necrosis, is, f. from νεκροω, to destroy). The dry gangrene. A species of mortification, in which the parts become dry, insensible, and black, without any previous inflammation.

O.

Oedema (Œdema, atis, n. from οιδεω, to swell). A dropsical swelling of the flesh.

Ophthalmĭa (Ophthalmia, æ, f. from οφθαλμος, the eye). Inflammation of the eye.

Ozæna (Ozæna, æ, f. from οζω, to smell). A malignant ulcer in the nostrils.

P.

Parăcentēsis (Paracentesis, is, f. from παρακεντεω, to pierce through). The operation of tapping or drawing water from the cavities of the body.

Paraphymōsis (Paraphymosis, is, f. from παρα, about, and φιμοω, to bend). A permanent contraction of the foreskin behind the glans penis, so as to denudate the glans penis and strangulate it.

Paronychĭa (Paronychia, æ, f. from παρα, about, and ονυξ, the nail). A whitloe, or whitlow.

Pathognomic (Pathognomicus; from παθος, a disease, and γινωσκω, to know). Pathognomonic; a term given to those symptoms which are peculiar to a disease.

Pernĭo (Pernio, onis, m.). A chilblain.

Phlegmon (Phlegmone, es, f. from φλεγω, to burn). An inflammatory tumor.

Phagedænic (Phagedenicus; from φαγέδαινα, an ulcer that eats or corrodes rapidly). A foul ulcer, that spreads rapidly.

Phymosis (Phymosis, is, f. from φιμοω, to bend). A contraction of the foreskin, so that it cannot be drawn back over the glans penis.

Polypus (Polypus, i, vel podis, m. from πολυς, many, and πους, a foot; from its sending off many ramifications, like the legs of a polypus). A fleshy substance that grows in the nose and other parts.

Prognosis (Prognosis, is, f. from προ, before, and γινωσκω, to know). The judgment of the event of a disease by particular symptoms.

Prolapsus (Prolapsus, us, m.). A protrusion or falling down

of any part within itself, as when the lower bowel falls down and is inverted by passing through a part of its own canal.

Pterygium (Pterygium, i, n. πτερυξ, a wing). An excrescence growing upon the inner canthus of the eye.

Pus (Pus, uris, n. pl. pura). Matter. A secretion from ulcers and into abscesses, that resembles cream in appearance.

R.

Ranula (Ranula, æ, f. from *rana*, a frog). A tumor under the tongue, supposed by the ancients to make the person croak like a frog.

S.

Sarcoma (Sarcoma, atis, n. from σαρξ, flesh). A fleshy excrescence.

Scirrhus (Scirrhus, i. m. from σχιῤῥος, a primitive in Greek). A conversion of a part into a hard indolent tumor, not readily suppurating.

Scrofula (Scrofula, æ, f. from *scrofula*, a swine; because this animal is said to be much subject to a similar disorder). The king's evil. A disease of the lymphatic glands.

Sedatives (Sedativa; from *sedo*, to ease or assuage). Those medicines which diminish the animal energy without destroying life.

Specifics. Such remedies as have an infallible efficacy in the cure of disorders.

Sphacelus (Sphacelus, i, m.). A mortification of any part.

Steatoma (Steatoma, atis, n. from στεαρ, suet). An encysted tumor, the contents of which are like suet.

Stimulants (Stimulantia; from *stimulo*, to stir up). Medicines which excite the animal energy.

Strangury (Stranguria, æ. f. from στραγξ, a drop, and ουρον, urine). A difficulty of making water.

Styptics (Styptica, æ, f. στυφω, to astringe). Those substances which possess a power of stopping hæmorrhages.

Suppuration (Suppuratio, onis, f. from *suppuro*, to suppurate). The formation of pus in phlegmonous tumors.

Sympathy (from συμπασχω, to suffer together, to sympathize). Consent of parts.

Syphĭlis (Syphilis; from Syphilis, the name of a shepherd who fed the flocks of King Alcithous, who, proud of their number and beauty, insulted the Sun; as a punishment for which, fable relates, that this disease was sent on the earth: or from σιφλος, filthy). The venereal disease.

T.

Tetănus (Tetanus, i, m. from τεινω, to stretch). Spasm, with rigidity of the part under the spasm.

Trichiasis (Trichiasis, is, f. from τριξ, a hair). A disease of the eyelashes, in which they are turned inwards.

U.

Ulcer (Ulcus, ĕris, n. from ελκος, a sore). A purulent solution of continuity of the soft parts of an animal body.

V.

Varicocēle (Varicocele, es, f. from *varix*, a distended vein, and κηλη, a tumor). A swelling of the veins of the scrotum or spermatic cord.

Vesicatories (Vesicatoria; from *vesica*, a bladder, because they raise a bladder). Substances which increase the action of the vessels in those parts of the surface of the body to which they are applied, and cause a vesication or blister.

Vomica (Vomica, æ, f.). An abscess: generally applied to suppuration of the lungs.

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