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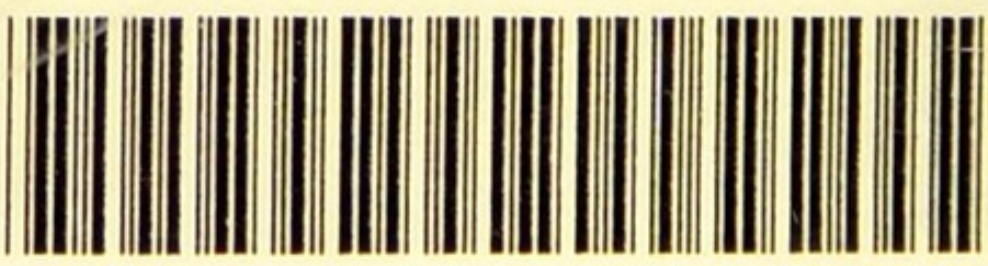
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A MANUAL

OF THE

PRACTICE OF MEDICINE.

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PRACTICE OF MEDICINE.

BY

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PREFACE.

At the request of Mr. Renshaw, I have re-written Dr. Spillan's "Libamenta Praxeos Medicæ," or Manual of the Practice of Medicine, a little book which has long been out of print, but for which there is still a constant demand.

In fulfilling my task, I have endeavoured to make the following pages the medium of as much practical information as the limited space at my disposal would allow, my aim having been to obtain brevity not so much by omission as by a strict avoidance of all reiteration, by on all occasions saying what I mean in the fewest number of words possible, as well as by a careful selection of those points only which can aid the practitioner in the discharge of his duties at the bedside; in short, I have endeavoured to paint the features of disease not imperfectly,

but, as it were, in miniature. Whether this object has been accomplished it must be left to others to determine. I cannot help expressing a hope, however, that with all its faults and imperfections, this little work may still prove useful, especially to those whose occupations prevent them from studying larger and more valuable treatises.

CHARLOTTE STREET, BEDFORD SQUARE,
July, 1854.

A MANUAL

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PRACTICE OF MEDICINE.

DISEASES OF THE GENERAL SYSTEM.

INFLAMMATION.

EVERY part of the body is liable to inflammation (*inflammo*, to burn), and much of the premature extinction of human life is due to it. Its distinctive external marks are the combination of pain, swelling, heat, and redness. "Notæ inflammationis," says Celsus, "sunt quatuor, rubor et tumor, cum calore, et dolore." The constitutional symptoms are fever and buffiness of the blood. Thus, if blood be drawn from a vein, it will exhibit, after standing and coagulating, the *buffy coat*, *i. e.*, the upper part of the clot will consist of fibrin unmixed with red corpuscles. It must be remembered, however, that this appearance is not characteristic of inflammation; it will generally arise when the fibrin coagulates more slowly, or the corpuscles subside more rapidly than in healthy blood. It is also frequently found in the blood of plethoric persons, and in that of pregnant women. Sometimes the surface of the buffy coat is contracted and concave; the blood is then said to be buffed and cupped.

Inflammation occasionally arises unexpectedly

and from causes unknown. In other instances it will be found to have been produced by some mechanical or chemical irritant, or by cold, or some morbid poison in the system, or contagion, or metastasis. It is said to be *acute* when it runs its course rapidly, and is attended with severe constitutional and local disturbance; *chronic*, when its phenomena are less strongly marked. By some authors the term *latent* has been applied to those cases in which internal inflammation proceeds silently and treacherously, and without manifesting signs by which its existence might be suspected.

The *terminations* or *events* of inflammatory action are resolution or cure; the effusion of serum; the effusion of coagulable lymph; the formation of pus, or suppuration; ulceration; and gangrene, sphacelus, or mortification. When inflammation attacks the areolar tissue, all the results of inflammatory action may occur. So also when the larger glands and the solid viscera of the body suffer. In inflammation of the serous membranes we expect there will be effusion of serous fluid and coagulable lymph—that it will prove adhesive inflammation. The synovial membranes are less liable to this disease than the serous, and coagulable lymph is seldom poured out. The mucous membranes are rarely affected by the adhesive form of inflammation, but the inflamed membrane pours out serous fluid, or viscid mucus, or pus, or blood; the membranous exudation in croup differs from coagulable lymph in being softer, in not contracting permanent adhesions to the subjacent tissue, and in never becoming organized.

When inflammation of any organ has terminated in suppuration, and the suppuration con-

tinues, its continuance is marked by *hectic fever*, the leading symptoms of which are frequency of pulse, alternations of chilliness with heat and flushing, followed by sweating, a gradual wasting of the body, and daily increasing debility.

Treatment.—The general principles only admit of being laid down. In the commencement the cause of the inflammation should, if possible, be removed. Attempts must then be made to obtain resolution, or, if this seems impossible, the next best termination, which, in cases of external inflammation, will generally be suppuration; in internal, sometimes suppuration, sometimes adhesion. These results will generally be best attained by the *antiphlogistic regimen*, which consists essentially of low diet, removal of all sources of irritation, and perfect quiet of body and mind, in a well-ventilated room, with a temperature of about 60°. If the head be the part affected, it should be elevated by pillows; if one of the lower extremities, the limb should also be slightly raised. In some instances, however, as in strumous ophthalmia, or when suppuration or mortification has supervened, this regimen will do harm, as the system then requires support. In addition to the foregoing, there are certain remedies which, from their importance, require special mention. The first of these is—

Blood-letting, which of all antiphlogistic remedies is the most powerful, and consequently demands the greatest caution in its use. It may be said to be indicated where there exists high fever; where the heart's action is morbidly increased; where the pulse is hard, full and frequent, and where this action appears to increase or even maintain the inflammation: the

structure of the organ affected, the nature of the prevailing epidemic, and the period of the disease, should also be taken into consideration, this remedy being most useful in the early stages. The quantity of blood to be removed must always depend upon the effect produced, the rule being to continue it until the pulse becomes softer, or faintness is felt, or the local symptoms are relieved. Dr. Cullen held any amount below 12 oz. as a small bleeding for a previously healthy adult, and above 16 as a large one. The very young and old bear bleeding badly; 2 oz. may be said to be a full quantity for a child of one year, which should be taken by two leeches.

Mercury is a most important agent in controlling inflammation, especially of the acute adhesive kind. It checks the effusion of coagulable lymph, increases the secretions from the bowels, liver, and salivary glands, and alters—perhaps equalizes—the condition of the capillary circulation. Its good effects are well seen in iritis, peritonitis, and pericarditis; it is hurtful in instances of erysipelatous and strumous inflammation, or where the disease has a tendency to assume a typhoid character. Calomel is the best form for administration, combined with opium, to prevent its running off by the bowels. See Formula, No. 173. Where a speedy effect is required, mercurial inunction may be combined with the foregoing. It is unnecessary to produce salivation in all cases.

Antimony is a valuable remedy, especially in inflammation of the mucous membrane of the air-passages, and in cases where the preceding remedies cannot be employed; it causes nausea, and lowers the action of the heart and arteries.

A quarter of a grain of tartar emetic may be given in solution every half-hour, until sickness ensues, when it should be continued less frequently.

Active purging frequently forms an important part of the antiphlogistic regimen; it is especially beneficial in inflammatory affections of the head; it must often be avoided where the abdominal viscera are affected.

The remaining remedies which have been recommended, require little more than enumeration: they are *digitalis*, *opium*, *colchicum*, and *nitre*, internally; and externally, *counter-irritation* and the application of *cold*, such as bladders containing ice, to the head, in inflammation within the cranium; or tepid or cold sponging.

DROPSY.

Dropsy may be defined as an accumulation of watery or serous liquid in some one or more of the natural serous cavities of the body, or in the interstices of the areolar tissue, or in both, independent of inflammation.

When the cerebral ventricles are distended with water, we say the patient has *hydrocephalus*. When serous fluid occupies the pleura or the pericardium, we express the diseased conditions by the terms *hydrothorax* or *hydropericardium*. If the cavity of the peritoneum be the seat of the collected water, the complaint is called *ascites*. Dropsy of the tunica vaginalis testis is termed *hydrocele*. Should the areolar tissue of a part become infiltered with serous liquid, the part is said to be *œdematous*, and *anasarca* is the term applied to the more or less general accumulation of serum in the areolar tissue throughout the body. Lastly, the combination of anasarca with

dropsy of one or more of the large serous cavities is known as *general dropsy*.

Now, to explain the mode in which dropsy may originate, it must be remembered that from all the surfaces of the healthy body a kind of excretion or oozing forth of fluid is constantly taking place, accompanied at the same time by absorption; so that when the two processes of exhalation and absorption are properly balanced, the surfaces will merely be kept moist. But suppose that the balance from some cause is disturbed; imagine exhalation to take place more rapidly from the surfaces of one of the shut sacs, or absorption more slowly than in health; under such circumstances it is clear that dropsy must result. It is probable that absorption takes place by the lymphatics, by the lacteals, and by the veins; the first removing the worn-out particles of the body, the second taking up the chyle from the alimentary canal, while the third imbibe the fluid exhaled from serous membranes. In dropsies, the veins are generally in fault, and it often happens that from congestion these vessels are unable to take up more fluid. Hence, if the process of exhalation remains even as in health, an accumulation of fluid must take place.

When dropsies arise from defective absorption, they are called *chronic* or *passive* dropsies; when from excessive exhalation of serous fluid, *active* or *acute*. Those due to cardiac or renal disease are usually of the first kind; those caused by cold, by sudden checking of the perspiration, of the second. The treatment of dropsy will be discussed in speaking of the different varieties.

CARCINOMA OR CANCER.

There is scarcely an organ or tissue in the body

which may not be attacked by this malignant and terrible disease. It occurs most frequently in women, on account of the liability of the breast and uterus to it; otherwise it more commonly affects men, the skin, bones, and digestive organs being more prone to it in the male than in the female sex. The tendency to cancer is often hereditary. A cancer may be described as a local manifestation of a specific disease of the blood, having incorporated in it peculiar morbid materials which accumulate in the blood, and which its growth may tend to increase.* There are three principal varieties and five sub-varieties of malignant disease, the latter being probably mere modifications of the former; they consist of—

Scirrhous or Hard Cancer.
Medullary or Soft Cancer.
Epithelial Cancer.
Colloid (Gelatiniform, Alveolar, Cystic, Gum-cancer).
Melanoid.
Osteoid.
Hæmatoid (Fungus Hæmatodes).
Villous Cancer.

A scirrhous cancer never becomes medullary or epithelial, nor does the converse happen. But a medullary or epithelial cancer may become melanoid or hæmatoid, and a scirrhous or a firm medullary may become osteoid, or either of the three chief forms may assume the colloid character.

The *medical treatment* of malignant disease consists in the use of tonics, stimulants, nourishing food, cod-liver oil, and sedatives—such as opium, conium, henbane, and belladonna. For the surgical treatment, consult Dr. Druitt's *Surgeon's Vade Mecum, sixth edition.*

* See Paget's Lectures on Surgical Pathology, vol. ii.

Scirrhous or **Hard Cancer** occurs most frequently in the female breast. It is found in such cases as an infiltration, affecting part or the whole of the mammary gland; its hardness is extreme, and it has a corresponding weight and inelasticity; its size is not great, the part of the gland affected not being much larger than it was in health. It occurs chiefly between forty and fifty years of age. Its average duration, from the patient's first observation of the disease, is a little more than four years. The elementary components of the infiltrated cancer substance are—1st, certain cancer-cells and other corpuscles; and, 2nd, a fluid or solid blastema, or nearly homogeneous substance, in which they lie imbedded.

Medullary Cancers are of two kinds, soft and firm—the former being the most frequent; in either condition they are found in about equal proportion as separable tumours or as infiltrations. As separable tumours, when occurring in the testicle, the breast, the eye, the intermuscular and other spaces in the limbs; as infiltrations, when occupying the substance of the uterus, the alimentary canal, the serous membranes, and the bones. In either form their course towards a fatal career is rapid, the average duration of life, from the patient's first observation of the disease, being little more than two years. The *soft medullary tumours* are commonly round or oval, and present to the touch a sense as of the fluctuation of some thick fluid, so that the most experienced are often deceived. They are very vascular; the material composing them resembles brain partially decomposed and broken up; and they frequently contain extravasated blood. The *firm medullary cancers* are elastic and tense, but not hard, like

scirrhus; in their shape and size they resemble the soft; they may possess distinct investing capsules, or they may extend into the substance of organs.

Epithelial Cancer is located generally in or beneath some portion of skin or mucous membrane; its primary seat being most frequently in the lower lip, in the scrotum of chimney-sweeps, and in the nymphæ, labia majora, tongue, larynx, neck and lips of the uterus. Cauliflower-excrescence of the uterus consists either of epithelial or of medullary cancer, or of simple warty growths, but for the most part of the first. It has been called "warty cancer," from the resemblance it often has to a common wart. It occurs more frequently in the male than in the female sex. Its progress towards a fatal termination is much slower than is that of medullary cancer, the average duration of life with the disease being about four years. The essential character of this form of carcinoma is that it is composed for the most part of cells resembling the tesselated or scaly epithelium lining the inside of the mouth, these cells being infiltrated into the interstices of the affected membrane.

Colloid Cancer consists of a clear viscid substance, resembling soft gelatine, usually affecting as a primary disease the stomach, intestines, uterus, and peritoneum. **Melanoid Cancers** are said generally to be medullary cancers, modified by the formation of black pigment in their elemental structures, this pigment varying in degree from a brownish tint to a deep black; they are very apt to take their primary seat in or near cutaneous moles. The nature of **Osteoid Cancers** would be best expressed, according to Mr. Paget, by calling them ossified fibrous or medullary cancers, and by regarding them as illustrating a cal-

careous or osseous degeneration. Their growth is usually from some bone, and especially from the lower part of the femur; they are as malignant and as quickly fatal as medullary cancers. **Hæmatoid Cancers** (fungus hæmatodes) resemble clots of blood, so much of this fluid do they contain. Soft medullary carcinoma is very likely to become hæmatoid. **Villous Cancers** are varieties of medullary and perhaps of epithelial cancers, occurring most frequently on the mucous membrane of the urinary bladder. Their histories coincide with those of medullary cancers.

TUBERCLE.

Tubercle, or tuberculous matter, is the specific product of a peculiar constitutional disease. It is deposited in distinct isolable masses, or is infiltrated into the tissues of many different organs, but is most frequently found in the lungs, constituting pulmonary tuberculosis, or tubercular disease of the lungs, or phthisis, or consumption, these terms being synonymous. The morbid condition of system which gives rise to this production, wherever it may be deposited, is now usually known as tuberculosis, or tubercular disease; the tendency to it is often hereditary. According to Rokitansky, pulmonary tubercles are found in two varieties, or in forms intermediate between them, viz., as the grey or miliary, and the yellow tubercles. By some it is supposed that these two varieties merely represent two stages of the same disease. Rokitansky maintains, however, that they are always different substances, and that although they often coexist in the same lung, yet that they never become transformed the one into the other. Be this as it may, it is certain that

the minute structures of both are essentially similar. Of course there has been a vast amount of speculation as to the mode of formation and nature of tubercle. The best explanation, and that to which many authorities—as Lebert, Ancell, and Dr. John Hughes Bennett—subscribe, is that it consists of an exudation of the liquor sanguinis, presenting marked differences from the simple or inflammatory exudation on the one hand, and the cancerous exudation on the other. From its chemical analysis, it would appear to consist of animal matter—principally albumen—and certain earthy salts, chiefly the insoluble phosphate and carbonate of lime, and the soluble salts of soda.

For the further consideration of this subject, see the section on Phthisis.

SCROFULA.

Scrofula, or struma, is a disease of the constitution manifested by certain external signs, of which swelling of the subcutaneous lymphatic glands, especially those of the neck, is the most conclusive.* Not that engorgements of the lymphatic vessels and glands constitute scrofula, or are always due to it; such enlargements often occur from temporary causes, but they are easily recognised by their histories and symptoms. It must not also, as is often done, be confounded with tuberculosis; though it should be borne in mind that it sometimes leads or predisposes to this disease. It has been said, though the truthfulness of the statement may be questioned, that persons possessing the strumous constitution or diathesis manifest certain peculiarities, such as a coldness of the body; a dull white, but very delicate skin;

* See the excellent Treatise of Mr. Benjamin Phillips.

a rounded, graceful outline of face, with a delicacy of feature, and rosy hue of the cheeks, strongly contrasting with the surrounding pallor, and often giving to the countenance, especially in women, a characteristic beauty; that the hair is usually blond or auburn; the eyes large, blue, projecting, and humid, with the pupils habitually dilated; that such persons are remarkable for the development of the head, of the alæ nasi, and of the upper lip; the large development of the lower jaw, the long and rounded neck, and the milk-white teeth, which early become carious; that the breath is habitually sour and fœtid, the chest narrow and flat, the shoulders high, the abdomen large and prominent, the limbs thin, and that their flesh is soft and flabby. It is commonly believed that in youth all scrofulous persons manifest great cerebral activity; that they are impatient and passionate; that their intellectual system is largely developed; and that although many have more imagination than judgment, yet some occasionally are capable of sustained mental exertion. There are few cases where the actual appearances will correspond with this description; the most constant peculiarities are the paleness and coldness of the body, and the tumidity of the abdomen.

As regards *the nature of the scrofulous deposit*, I cannot do better than give the opinion of Hecht, who says,—"If we take a large lymphatic gland, altered in structure and converted into a mass of scrofulous matter, the whole mass seems homogeneous, and of the same yellowish or dirty white colour; towards the centre the mass is softer, and of a creamy, pulpy appearance. The softened pulp turns litmus paper green; acted upon by boiling water, or acids, it coagulates, presenting no globule

either of fibrin or of pus, and is apparently only a mass of coagulated albumen, with an excess of alkaline salts. But when inflammation is excited by its presence, pus may be found mixed with the matter." He then goes on to show that, in addition to albumen, it consists of gelatine, fibrine, and probably a little stearine.

Causes of Scrofula.—The causes which have been most frequently assigned are hereditary influence, syphilis, bad air, bad food, and a cold and damp atmosphere. As regards hereditary influence, it may be noticed that if by this is meant that there is a certain poison or strumous virus transmitted from parents to children, the position is totally untenable; but, on the other hand, if it be only understood that the children of scrofulous parents are more liable to have the disease developed in them on the application of the exciting causes than the children of healthy parents, as was the opinion of John Hunter, the position is most probably true. That it is not contagious is certain. Many authors have imagined that a syphilitic taint in either parent will induce scrofula in their offspring, while some have even maintained that this disease is only a degenerated species of syphilis. There seems, however, to be no truth in either of these suppositions, scrofula and syphilis being very different diseases, quite independent the one of the other. Neither does the development of struma appear to be influenced by climate or temperature. But it is to diseased nutrition, however brought about, that we may refer the production of scrofula; and it is to insufficient, or innutritious, improper food, that the vast majority of cases of diseased nutrition are due, though it may also arise from breathing a vitiated

atmosphere, or from want of cleanliness, and healthy exercise.

Prevention.—There are four points to be attended to in the prevention of scrofula. 1. To obtain well-assorted marriages—the marriages of parties in sound health and vigour. 2. Where this disease exists in the parents, or in either of them, great care should be taken to maintain the health of the mother during the period of utero-gestation. She should wear warm clothing, should take regular exercise in the open air, avoid heated rooms and late hours, and have a plain nourishing diet. 3. On the birth of the child, every means should be taken to strengthen its general health, and to counteract the hereditary influence by attention to the food, air, clothing, &c. If the mother be free from the strumous habit she may suckle her offspring, but otherwise a young and healthy nurse should do so. At the age of nine or ten months the child should be weaned, and fed on cow's milk, a small quantity of light nutritious vegetables, and a little broth. Dr. Paris strongly recommends milk impregnated with the fat of mutton suet, which he orders to be prepared by enclosing the suet in a muslin bag, and then simmering it with the milk. The child should be warmly clothed, should live in apartments where the ventilation is good, should have plenty of exercise in the open air, and once daily should have a cold sea-water bath, or a cold bath with bay salt dissolved in it. 4. In cases where there is no hereditary predisposition, ill-ventilated, damp houses must be avoided, as well as localities generally regarded as unhealthy.

Curative Treatment.—An account of the superstitious practices—the touch of the dead felon's hand, the drinking out of human skulls, the various

pilgrimages, and the Royal touch—formerly performed for the cure of scrofula would form a curious chapter in the history of human credulity.

The agents which are for the most part employed, and which are most deserving of attention, are mercury, iodine, cod-liver oil, the muriates of baryta and lime, &c. *Mercury*, in all its forms, has been administered in cases of scrofula. It does not, however, possess any peculiar property of removing this disease, and when administered so as to lower the general powers, whether by profuse purging or by salivation, does much mischief. When combined with other medicines it is often beneficial, especially the bichloride, given in minute doses—such as $\frac{1}{20}$ of a grain twice daily, with the extract and decoction of sarsaparilla. See Formula 92. *Iodine* is by some regarded as little less than a specific, and it certainly is a remedy of great value. The iodide of potassum, in two, three, or five grain doses, is the best and most extensively used preparation of this agent; or the liquor potassii iodidi compositus of the London Pharmacopœia, in doses of two drachms to one ounce, may be employed. Applied externally, as an ointment (F. 287) or as a paint (F. 271), to enlarged glands, etc., it is very useful. Lugol also recommends the application of iodine and its compounds, in the form of baths (F. 293). Associated with iron or quinine or zinc, its efficacy is in some instances increased (F. 93, 97, 100). *Cod-liver oil* (oleum morrhuæ) will often do good in improving the nutrition of strumous patients. It requires to be given for some time, commencing with half a drachm thrice daily, up to half an ounce or more. The *muriates of baryta and lime* have been much extolled, but on insufficient grounds; they are rarely or never used. The

whole class of *tonic medicines* have been recommended; quinine, steel, and the mineral acids will occasionally be found very useful (Formulæ 7, 10, 11, 16).

BRONCHOCELE.

This affection, called *Goitre* by the Swiss, and in this country *Derbyshire Neck*, from its prevalence in some parts of Derbyshire, consists of a morbid enlargement of the thyroid gland. The whole gland may be swollen, or the centre only, or either side. According to Alibert, the right lobe is more frequently affected than the left. The swelling is unaccompanied by pain, and usually causes but little inconvenience beyond the deformity which it produces. Sometimes, however, distressing symptoms are induced by the pressure of the enlarged gland on the surrounding parts; and respiration and deglutition may be rendered painful and difficult by the compression of the trachea and œsophagus. It is much more common in women than in men, almost in the proportion indeed of twelve to one. Wherever goitre prevails, popular opinion justly regards the water used for drinking as its cause.

Cretinism is a strange disease, a sort of idiotcy, accompanied by deformity of the bodily organs, which has a close but ill-understood connection with goitre. Most cretins are goitrous; but bronchocele may prevail where there are no cretins. The cretin is found principally in the Alps, the Pyrenees, and the Himalaya mountains. His stature is diminutive; his head of great size; countenance vacant, and void of intelligence; tongue large; abdomen sunken and pendulous; legs short and curved. Idiotism of the lowest grade is frequently his lot; sometimes he is deaf

and dumb, or blind; and, in short, if neglected he more resembles an animal than a human being. I say, if neglected, for thanks to Dr. Guggenbühl, the humane and talented director of the establishment at Abendberg, near Interlachen, for the treatment of cretins, it has been proved that even for these apparently hopelessly wretched beings much may be done by pure mountain air, plenty of exercise, a simple nourishing diet into which milk largely enters, the occasional use of such medicines as cod-liver oil, carbonate of iron, phosphate of lime, valerianate of zinc, &c., moral control, and judicious mental training.*

Treatment.—The first point in the treatment of bronchocele is, if possible, the removal of the patient from the infected locality. As regards therapeutic agents the introduction of iodine, by Dr. Coindet, of Geneva, has superseded all other remedies. The liquor potassii iodidi compositus of the Phar. Lond. should be ordered in doses of ʒij. to ʒj. The unguentum iodinii compositum, or the pigmentum iodinii (Formula 271) should be applied locally.

When these means fail, surgeons have attempted to give relief by one of three operations. Thus some cases are recorded as having been cured by the introduction of setons into the diseased gland; while, in other instances, the operation of tying the thyroid arteries has been practised; and these means having failed, attempts have been made to extirpate the gland. To a physician, however, the last operation seems unjustifiable.

HYPERÆMIA.

Hyperæmia, polyæmia, plethora, or fulness of

* See Sir John Forbes's "Physician's Holiday."

blood, consists either of an excessive quantity of blood, or, as is most commonly the case, of a superabundance of the red globules and fibrin, the quantity remainining unchanged; so that this fluid is, as it were, excessively rich. It is a condition often plainly indicated by the distension of the capillaries, as observed on the cheeks, lips, and mucous membranes; by the strong, full, resistent pulse; and by the turgid appearance of the veins. Obesity, also, is often an accompaniment, though by no means an infallible sign of plethora.

The *treatment* must consist in the use of low diet, or the employment of non-nutritious substances; in the avoidance of beer and all other alcoholic drinks; in lessening the hours devoted to sleep; and in the use of active exercise. Saline purgatives often do good. In extreme cases the abstraction of blood may be necessary.

ANÆMIA.

Deficiency of blood, poverty of blood, or anæmia, arises generally in casea where there has been deprivation of the proper materials necessary for the formation of healthy blood, as well as in those diseases which are attended with a gradual drainage of this fluid, as in persons suffering from bleeding piles, women with menorrhagia, cancer uteri, &c. It may of course be produced artificially by excessive venæsection, and such like means.

A peculiar form of anæmia, termed CHLOROSIS, frequently affects young women about the age of puberty; it is generally dependent on, or at least connected with, disordered menstruation, and probably certain sexual causes.

Symptoms. — The chief are—a pale, waxy, blanched appearance of the countenance and in-

teguments generally, as well as of the lips, tongue, and inside of the mouth; the pulse is feeble and small; and there is great general debility and languor. Any exertion is attended by a sense of sinking, and fainting or syncope, together with hurried breathing and palpitation; œdema of the ankles is often present, and sometimes albuminuria. On auscultation over the base of the heart, a loud systolic bruit or bellows-sound will frequently be detected, and may be traced distinctly up the aorta, and in the subclavian and carotid arteries. By placing the stethoscope over the jugular vein, especially over the right, a continuous humming, or cooing, or even whistling sound—the *bruit de diable*—will be heard; a sound which is caused, as Dr. Ogier Ward first pointed out, by the descent of attenuated blood through the great cervical vessels.

Treatment.—The various preparations of iron, aloetic purgatives (Formulæ 4, 12, 14, 189, 194), good nourishing food, exercise, the respiration of pure air, and cold bathing, particularly in sea-water, are the remedies we trust to. Under their judicious use, all the formidable symptoms just enumerated entirely disappear.

LEUCOCYTHEMIA.

Leucocythemia is a disease of the blood, which, as far as I know, was first described by Virchow, under the name of "Leukhemia," or white blood, an objectionable term, inasmuch as the blood is not white, but of its usual colour Dr. Hughes Bennett has therefore substituted the word Leucocythemia, from λευκὸς, white, κυτος, a cell, αἷμα, the blood; literally, white-cell blood. But little is known of this disease at present; but in cases where it has been found to exist, the patients

have suffered from an unusual pallor, like that of anæmia, from great emaciation and debility, often ending in death. It will probably be found to be associated with enlargement of some or all of the following glands—the liver, spleen, thyroid, thymus, supra-renal capsules, and lymphatics.

On examining the blood microscopically, under a magnifying power of 250 diameters, the yellow and colourless corpuscles are at first seen rolling together, the excess in the number of the latter being at once recognisable, and becoming more evident as the coloured bodies become aggregated together in rolls, leaving clear spaces between them filled with the colourless ones. A drop of blood taken from a prick in the finger is sufficient for examination.

Treatment.—The remedies which would appear to promise the most success, are certain tonics, especially iron in various forms, and quinine (Formulæ 5, 9, 12, 145). Good nourishing food will be indispensable, and cod-liver oil would no doubt be beneficial. The practitioner must, however, in a great measure be guided by the prominent symptoms in each case.

CELLULITIS VENENATA.

By this term is meant that disease which arises from punctures received in dissecting the deceased human body, or some dead animal. The bites of certain venomous reptiles, as the cobra di capello, will also produce it. The poison thus absorbed into the system gives rise chiefly to inflammation of the cellular tissue and absorbents, generally of the wounded limb, but sometimes of remote parts, especially of the lymphatic glands. These inflammations are accompanied by general, often severe, consti-

tutional disturbance ; they sometimes cause death in a few days, or even hours ; or they end in suppuration or gangrene; always permanently, though at times imperceptibly, injuring the powers of the constitution.

Some dead animal substances or fluids are more dangerous than others, as the serum found in the abdomen after puerperal peritonitis, and that found after gangrenous inflammation.

Treatment.—Directly the puncture or bite is made, the poison should be drawn from it by sucking, or by the application of a cupping-glass, and lunar caustic freely applied; a ligature should also be tied between the wounded part and the trunk. Subsequently, when absorption has taken place, I should treat the constitutional disturbance as I should treat a case of typhus, that is to say, by support and stimulants, hoping by such means to give strength until the force of the poison was expended. Venæsection, leeches, and other antiphlogistic remedies, are often employed as a matter of course, much, it is to be feared, to the sufferer's disadvantage. Opium is to be freely given when the pain is severe, and hot fomentations or poultices applied locally.

FARCINOMA.

Farcinoma, farcy, or glanders, is attended by *symptoms* somewhat similar to those of glanders in the horse ; by fever, great debility, pains in the limbs, profuse offensive discharge from the nostrils, and the formation of a number of pustules and tumours in different parts of the body, which have a great tendency to suppurate and become gangrenous. The pustular eruption does not occur until about the twelfth day ; it is accom-

panied by profuse fœtid sweats, and sometimes by the formation of black bullæ. The disease generally proves fatal before the twentieth day. It occurs for the most part in grooms, stable-men, &c. There is abundant proof of the transmission of the glanders from the horse to man.

No *treatment* seems hitherto to have been of any service. I can only recommend stimulants, and a trial of the salts of potass, especially the chlorate.

SCURVY.

Scorbutus, or scurvy, is a peculiar disease caused by long-continued privation of fresh succulent vegetables.

Some authors speak of land scurvy and sea scurvy as if they were two different complaints. I believe them to be identical. The same authorities have also regarded land scurvy and purpura as one and the same affection; there is no doubt but that they are very dissimilar.

The *symptoms* of scurvy show themselves gradually, commencing with lassitude, mental anxiety, and difficulty of breathing on the least exertion. The countenance becomes sallow and of a dusky hue; the gums swell, are spongy, of a livid colour, and bleed on the slightest touch; the teeth loosen, and the breath becomes very offensive. As the disease advances the debility increases; the dyspnœa often becomes most urgent; the gums frequently slough, and hæmorrhages occur from the gums, mouth, nose, stomach, and intestines. Ecchymoses or effusions of blood beneath the skin also appear, especially on the lower extremities and trunk; many parts of the body become discoloured with bruise-like marks, so that the patient appears as if he had been severely

beaten. The legs swell; the skin is dry and rough; the urine is scanty; in some instances there has been spontaneous salivation; and there is generally constipation. Unless relieved, the patient dies from exhaustion.

Dr. Garrod believes that in scurvy the blood is deficient in potass, and that this deficiency is indeed the cause of the disease. He shows that all substances which act as antiscorbutics contain this agent, and he has rapidly cured cases by the use of some of its salts. These views have lately been confirmed by Dr. Hammond, who has cured and prevented the disease by the bicarbonate of potash, when fresh vegetables could not be obtained.*

Treatment.—That usually adopted consists in the administration of those vegetables remarkable for their antiscorbutic qualities, such as oranges, lemons, potatoes, lime-juice, &c. If we believe in the soundness of Dr. Garrod's opinions, as indeed we are bound to do, we shall employ the tartrate, chlorate, or phosphate of potash (Formulæ 23, 109, 162).

RHEUMATISM.

Rheumatism is one of the most common, painful, and severe diseases with which, in this country, we are afflicted. It may be described in a few words as inflammation of the fibrous tissue; wherever fibrous textures are found there may be rheumatism. Some physicians have attempted to make a distinction between fibrous and synovial rheumatism; but I agree with Dr. Todd, that the natural history of the disease does not warrant such a distinction, since the synovial membranes

* American Journal of Medical Sciences, January, 1853.

can never be affected alone. There are two forms of rheumatism, the acute and chronic.

Acute Rheumatism, or **Rheumatic Fever**, is formidable from the suffering it causes, from the intensity of the fever, and from the damage which so frequently arises from it to the heart. The earliest *symptoms* of it are usually slight fever, with stiffness and aching pain of the limbs, following exposure to cold and damp. The pain quickly increases, and in a short time is accompanied by swelling and great tenderness of one or more of the large joints, together with much constitutional disturbance. When the disease is established, the patient presents a pitiable spectacle of helpless suffering. He is very restless, yet dare not or even cannot move; the pain in the affected joints is so agonizing, that even the weight of the bed-clothes can barely be borne; the skin is generally bathed in sweat, of a disagreeable acid or sour odour; the pulse is full, bounding, and quick; there is constipation; the tongue is moist, but furred; the saliva is acid; and the urine is high coloured, scanty, of high specific gravity, very acid, and loaded with uric acid, or more frequently with urates. It has lately been shown that the deposits usually, and still by Dr. Golding Bird, regarded as consisting of urate of ammonia, have a variable composition, being made up of the urates or lithates of lime, potash, and soda. A remarkable feature in this disease is the tendency to metastasis; thus the inflammation may suddenly leave one joint and appear in another, and then another, afterwards jumping back again to its original seat. But the most serious change is when it shifts its place, or extends to the membranes of the heart. This it is most likely to do

in severe cases, when we may suppose the blood to be loaded with the *materies morbi;** in young persons; and when the irritability of the heart is great, as it is after bleeding and great prostration. Since, however, rheumatic carditis and rheumatic pericarditis do not differ from simple inflammation of the heart or pericardium, I shall defer further notice of these affections until treating of the diseases of the heart generally, merely urging here that as they are very likely to occur, their symptoms should be daily and carefully looked for, in order that early appropriate treatment may be adopted.

Rheumatic fever may also, but more rarely, be complicated with bronchitis, pleurisy, or pneumonia, or even with inflammation of the brain or its membranes. Whenever uncomplicated, its average duration is about three or four weeks. When death occurs, it is almost always from the cardiac inflammation. When recovery takes place after the heart has been affected, the patient has a sad time in store for him—future bad health, palpitation, dyspnœa, and dropsy. The great majority of cases of acute rheumatism occur in persons between fifteen and forty years of age.

Treatment.—A vast number of different plans have been recommended in this disease. That which I believe to be the best, consists in the use of sudorifics, opiates, and saline purgatives. *Venæsection* will merely give temporary relief, at the expense of future suffering; remembering also that it increases the irritability of the heart, and consequently predisposes to rheumatic inflammation of this organ, I should, as a rule, never resort to it. *Saline purgatives* (Formulæ 38, 53), given so as to obtain one free evacuation daily,

* Probably lactic acid.

will always be beneficial, especially after the bowels have been well acted on by a large dose of calomel and jalap. *Opiates* in full doses will be necessary to relieve the pain, and to allay the general irritability; they will also help to produce sweating, and thus aid nature in eliminating the poison by the skin. Two grains of solid opium may be given every night, and five grains of the compound ipecacuanha powder, every four hours; the efficacy of the latter will be increased if nitrate of potash be substituted for the sulphate in making it. *Lemon-juice*, in one or two-ounce doses, repeated three or four times a day, has been recommended by Dr. Owen Rees, who considers that the citric acid undergoes changes in the stomach, supplying oxygen to such elements as tend to produce uric acid, and inducing thereby the formation of urea and carbonic acid instead. The result of its use has not been such as to make me recommend it. Great relief is often experienced from wrapping the affected joints in cotton wool and oiled silk, by which a sort of local vapour-bath is formed; small blisters, the size of a penny-piece, may also be often applied advantageously, together with the wool. I also allow a drink containing the chlorate of potash (Formula 162), or an effervescing drink containing a large excess of the bicarbonate of potash, or of the carbonate of soda. Dr. Garrod treats all his cases with the bicarbonate of potash, in half-drachm doses, every two hours (Formula 151). The diet should at first be low, and gradually increased in quality. Directly any signs of cardiac affection manifest themselves, calomel and opium should be administered (Formula 173), and inunction with the mercurial ointment ordered, so that the system

may be got under the influence of mercury as soon as possible, to the extent of slight salivation. In some cases bleeding, by the application of several leeches over the region of the heart, may be useful. I have generally seen more benefit, however, from the application of a large blister, the sore surface being afterwards dressed with mercurial ointment. When effusion has taken place into the pericardium, a blister does especial good. Perfect rest must in all cases be enjoined, and all sources of mental anxiety removed.

Chronic Rheumatism is sometimes the sequel of acute, but more commonly I believe a separate constitutional affection, coming on quite independently of any previous acute attack. It is apt to follow gonorrhœa; hence one variety of this disease has been termed *gonorrhœal* rheumatism. The fibrous textures around the joints, or the fibrous envelopes of the nerves, or the aponeurotic sheaths of the muscles, the fasciæ, and tendons, or the periosteum, are the parts which suffer. In any case there is little constitutional disturbance; but the sufferer is constantly annoyed, and his existence made miserable with chronic pains, making him restless at night, and destroying all comfort during the day. In some instances, the pains are worse at night, being aggravated by the warmth of the bed; in others, warmth affords the greatest relief. One form in which this complaint frequently presents itself is that of *lumbago;* the pain is referred to the fleshy mass of muscles on one or both sides of the loins, and is increased by every movement of the back. When the intercostal muscles or the fibrous fasciæ lining the chest are affected, the disease is termed *pleurodynia.*

Treatment.—It is always necessary to attend to the general health, as by doing so the disease will often be materially mitigated. There are several special remedies which give relief, the best being the iodide of potassium. If the secretions are very acid, liquor potassæ should be combined with it (Formula 95). The mistura guaiaci, cod-liver oil, cinchona, the oil of turpentine, colchicum, and the hydrochlorate of ammonia have all their advocates (Formulæ 96, 112, 117, 146).

Hot-water, or hot-air, or vapour baths are often very serviceable in this disease, especially when the pains are severe. During the intervals of the attack, the tepid salt-water sponge bath should be employed every morning.

Local applications to the painful parts, such as blisters, iodine paint, and stimulating liniments (Formulæ 252, 254, 271), often give temporary relief. In lumbago, a large belladonna plaster, or the emplastrum ferri, applied over the whole loins, will be productive of great comfort. All sufferers from chronic rheumatism should wear flannel, and beware of exposure to damp and cold. They should also be careful in their diet, as I am convinced that many paroxysms of this disease are brought on by disorder of the digestive organs.

GOUT.

Dr. Cullen has defined gout as "an hereditary disease arising without any obvious external cause, but preceded by some unusual disturbance of the stomach, fever, pain affecting some joints, but especially those of the feet and hands, returning at intervals, and for the most part alternating with affections of the stomach, or of some other internal structure." The ancient name of this

disease, *podagra*—foot-pain—sufficiently indicates its most frequent seat.

Diagnosis.—The earliest signs of an approaching fit of gout are, dull pain in the left side of the chest, and inability to lie comfortably on that side, with, in many instances, fluttering, irregularity, or intermission in the heart's action; and symptoms of impeded cutaneous circulation, the skin being dry and hot, and sometimes affected with scaly eruptions, or with urticaria. After a short lapse of time the attack comes on, generally at night, with severe burning, throbbing pain in the ball of the great toe, or the heel, or the fascia covering the instep of the foot, or the thumb. There is often a slight rigor succeeded by heat. The pain is most excruciating, but it abates towards morning, and the patient falls asleep. On awaking, the affected part is found red, swollen, and exquisitely tender to the slightest touch; the sufferer is feverish, restless, irritable, and depressed; his tongue is furred; his bowels are constipated; and his urine will be found high coloured, acid, and loaded with lithates, or with lithic acid. In a few days, sometimes almost in a few hours, the attack passes off, and the patient is well, often better indeed than he has been for a long time previously. But the disease will return. At first, a happy time of two or three years may elapse; with each paroxysm, however, the interval will shorten, until at length, perhaps, the patient is hardly ever free from an attack, except it may be for a few weeks in summer. At first, also, it confines itself to a single joint; by degrees several joints in both feet or in the hands suffer. Deposits, called tophi, tophaceous deposits, or chalk-stones, are formed around and outside the joints, of a

material resembling moist chalk, and consisting of lithate of soda; small spots of this substance may often also be seen just beneath the skin of the auricle of the ear.

In one variety, called by Cullen *retrocedent* gout, metastasis occurs from a joint to some internal organ, more especially to the stomach. In such cases there is sickness and vomiting, hæmatemesis, violent spasmodic pain in the stomach, and great distress and anxiety. When the retrocession is to the brain, it produces intense headache, lethargy, and sometimes apoplexy or paralysis; when to the heart, dyspnœa and syncope.

It must also be remembered that the gouty diathesis may be developed in individuals who never suffer from its local manifestations, so that many obscure pains, which are often regarded as local neuralgic diseases, are really mere results of the poison of gout in the system.

Women are much less liable to this disease than men. It generally begins between thirty and forty years of age. It is often hereditary, but more frequently acquired by a luxurious mode of living, sedentary habits, and over-mental toil and anxiety, especially when stimulants are resorted to for the purpose of making this toil more supportable.

Dr. Garrod has demonstrated the existence of uric acid in the blood of gouty people, and he seems to think that this agent is indeed, in a great measure, the *materies morbi*. Certainly, the benefit which arises from the use of colchicum confirms this view, if it act, as it probably does, by increasing the discharge of urea from the system, such increase being accompanied by a decrease of the lithates in the urine; urea and uric acid being plausibly regarded as correlative and vicarious

substances. To detect uric acid in the blood, see Appendix.

Treatment.—The treatment of gout naturally divides itself into that proper during an attack, and that to be adopted in the interval. That this malady is curable there is no doubt, though it has been, and as Dr. Gairdner insists in a valuable treatise on this disease, ever will be the *opprobrium medicorum*, if extirpation by means of the medicines of the Pharmacopœia be only aimed at. The fit may be mitigated, shortened, often cut asunder by drugs, but only temporary relief from this source must be looked for.

It is generally considered that bleeding during an attack is unnecessary. Dr. Gairdner, however, proves conclusively to my mind, that a small venæsection, to the amount of only three or four ounces, is often productive of the greatest benefit. Laxatives must be employed, not violent, but mild warm aperients, such as aloes, senna, rhubarb, jalap, &c. The compound gentian mixture will agree well, or Formulæ 41, 43. With respect to colchicum, there can be no doubt that it may be regarded as a specific for the gouty paroxysm. It ought not to be administered until the bowels have been well opened, and it must be given not, as often recommended, so as to gripe and purge, but in small doses, easily borne without pain or inconvenience. Ten or fifteen minims of the wine three times a day, or Formula 96, will suffice. The affected limb must be kept elevated, warm, and the painful part covered with a poultice, on which some extract of belladonna may be spread, or some tincture of opium sprinkled.

But the most important question is—How are we to prevent the return of gout? Clearly

by the observance of a well-regulated diet, by exchanging a life of indolence for one of bodily activity, by adopting early and regular hours, by avoiding too great sexual indulgence, as well as by omitting all severe mental application, and by the aid of medicine. Starving the disease won't cure it. An animal and vegetable diet should be used; the point is to take care that, both as regards quantity and quality, the stomach can digest and can consequently extract healthy chyle from the materials put into it. Spirits, beer, and our heavy wines, especially port, are injurious; brandy and water is sometimes allowed, but wrongly. It is probable, on the other hand, that some light wines, such as claret, &c., may be of service rather than otherwise. The best medicines will be an occasional mild purgative, and some of the neutral salts frequently used. The citrate, tartrate, or phosphate of potash are valuable remedies (Formulæ 48, 56). In the later periods of gout, or when the disease lingers about the system, tonics, such as quinine and iron, do much good. When gout attacks the stomach, an emetic should be given, if any suspicion exist that this viscus is loaded, followed by a sinapism or turpentine stupe to the epigastrium. If these means fail, I should cautiously give a little brandy and water, or some tincture of opium, or the liquor opii sedativus, with some sulphuric ether (Formula 29).

The collections of chalk-stones should not be opened. Mr. Spencer Wells says that they may be often dispersed by the administration of the iodide of potassium, which possesses the power of dissolving urate of soda; local friction with the same salt (Formula 252) will often do good,

After an attack of gout a wise patient will take a holiday. A visit to some of the mineral waters, to Bath, Buxton, Cheltenham, or Leamington, or for a greater, and therefore perhaps better change, to Wiesbaden, Vichy, or Aix-la-Chapelle, will be productive of the greatest benefit.

EPISTAXIS.

Epistaxis, or hæmorrhage from the nose, though common and often harmless, deserves brief mention. It is sometimes a remedy, sometimes a warning, and sometimes a disease; occasionally it appears as a vicarious hæmorrhage in amenorrhœa, or suppression of the catamenia. In those cases in which it is considered advisable to stop the flow of blood, this may generally be accomplished by the application of cold to the nose and forehead, or to the back of the neck, or by plugging the nostrils. Dr. Negrier, of Angiers, says that he never fails to check the bleeding, by directing the patient to raise one or both of his arms above his head, and to hold them so for some little time. Should the bleeding prove obstinate and frequently recur, Dr. Latham recommends that the system should be speedily brought under the influence of mercury.

GLOSSITIS.

Glossitis, or inflammation of the substance of the tongue, is generally met with as an accompaniment of other diseases, rather than as an idiopathic affection. The organ becomes painful, hot, swollen, and of a deeper red colour than usual; occasionally the swelling proceeds to such an extent that the cavity of the mouth is not large enough to contain the tongue, and it projects out

beyond the teeth. This condition, which often occurs very rapidly—sometimes in a few hours—is attended with urgent dyspnœa, and requires prompt treatment. Active purgatives should be administered by means of enemata, several leeches applied to the tongue itself, and incisions made to relieve the tension. If suffocation be threatened, tracheotomy must be performed.

GANGRÆNA ORIS.

Gangræna oris, or Cancrum oris, or sloughing phagedæna of the mouth, occurs in children of debilitated habits, between the ages of two years and five. On examining the mouth, a whitish or ash-coloured eschar is seen in the centre of the cheek, which gradually increases until the slough has spread over the whole of the interior of the cheek, lips, and gums. The saliva is copious, and horribly fœtid. There is great constitutional disturbance, and the disease frequently ends fatally. It has often been unjustly attributed to the action of mercury; it may occur when not a particle of this medicine has been given. The *treatment* must consist in the application of the nitrate of silver to the slough, syringing the mouth with solutions of the chloride of soda (Formula 239), and the administration of nutritious drinks, stimulants, and tonics, such as wine or brandy, good beef-tea, the aromatic spirits of ammonia in decoction of bark, or quinine.

APHTHÆ.

Aphthæ consist of small round white specks or patches scattered over the tongue and lining membrane of the mouth. They form a special disease in infancy—*the thrush;* in adult age they are apt to arise in the course of other diseases,

when they are often the harbingers of death. In some forms of this disease, microscopical parasitic plants—the *Leptothrix buccalis* and the *Oidium albicans*—are said to be developed in large quantity, though in a few examinations which I have made, I have not succeeded in discovering them. The *treatment* of the thrush consists in the use of alteratives and tonics (Formulæ 13, 27, 101), and the application of the mel boracis to the aphthous parts.

Dr. Jenner states that in cases attended with the formation of parasitic plants, the application of a solution of sulphite of soda (ʒj to water ℥j), suffices to remove the disease from the mucous membrane of the mouth in twenty-four hours. The secretions of the mouth being acid, the salt is decomposed, and sulphurous acid is set free, which at once destroys the parasite.

CYNANCHE PAROTIDÆA.

Cynanche parotidæa, or parotitis, or the mumps, is a specific contagious inflammatory affection of the salivary glands, and of the parotid gland especially. It first manifests itself by slight febrile disturbance, with tumefaction and soreness in one or both parotid regions, the swelling extending from beneath the ear, along the neck to the chin, and involving the submaxillary glands. The disease reaches its height in four days, and then declines. Occasionally, during or after the decline, the testicles or mammæ become painful and swollen.

The *treatment* consists in the employment of the antiphlogistic regimen, gentle laxatives, diaphoretics, and hot fomentations or merely flannel to the throat (Formulæ 21, 53, 57).

CYNANCHE TONSILLARIS.

Cynanche tonsillaris, or tonsillitis, or quinsy,

or common inflammatory sore throat, manifests itself by smart fever, redness and swelling of the fauces and tonsils, and difficulty of deglutition, together with—in severe cases—pain shooting from the throat to the ear, along the course of the eustachian tube. Dyspnœa is but rarely present. Under ordinary circumstances, the inflammation runs a certain course, and terminates by resolution in a few days, merely leaving the tonsils enlarged; when violent and prolonged, however, it frequently leads to suppuration in one or both tonsils. Rigors often announce the suppuration, and the pain is very severe until the abscess bursts, or is opened artificially.

The principal exciting cause of quinsy is cold. The liability to it is increased by repetitions of the attacks. It is doubtful whether it be contagious or not; from the way in which I have myself suffered from it, I am inclined to believe it to be so, but this opinion differs from that entertained by the majority of practitioners.

Treatment.—An antiphlogistic system, with an emetic at the onset, followed by cooling saline purgatives, and hot fomentations or linseed-meal poultices to the throat, will be necessary. The steam of hot water applied to the fauces gives great relief. Blistering the outside of the throat, or the application of stimulating embrocations, as the compound camphor liniment, will often be useful. Guaiacum in large doses has been recommended as a specific in quinsy, but I have never found it of any service (Formula 112).

CYNANCHE LARYNGEA.

Cynanche laryngea, or laryngitis, is not happily a very common disease; in the proportion of

cases in which it has occurred it has proved fatal. Cold and wet are generally the exciting causes of it.

The *symptoms* of acute inflammation of the larynx are these :—Fever, harsh cough, pain referred to the pomum Adami, difficulty of breathing and of swallowing, hoarseness, or even complete loss of voice, and frequent spasmodic exacerbation of these symptoms, causing the most distressing sense of suffocation. The inspirations are long, and attended with a peculiar wheezing sound, as if the air were drawn through a narrow reed. The face is flushed, the countenance anxious, the pulse hard ; unless relief be afforded the patient becomes drowsy and delirious, and speedily dies suffocated, the chink of the rima glottidis becoming closed from the swelling of the mucous membrane lining it, or from the effusion of serum into the subjacent areolar tissue.

The inflammation is often of very limited extent ; the danger is owing entirely to its situation. But this danger can be averted by surgical *treatment*, by making an artificial opening into the trachea, through which the patient may breathe until the inflammation has subsided. The operation of tracheotomy often affords a striking example of the power of our art. Too long a period must not be allowed to elapse before having recourse to it ; since it had better be performed unnecessarily than too late.* If the distress be not urgent, however, it will be as well to try the effect of a full blood-letting before operating. Calomel and opium (Formula 173), and inunction with the mercurial ointment, are the chief medical remedies.

Œdema of the glottis may sometimes arise from

* See Fergusson's Practical Surgery, 3rd Edition, p. 641.

other causes besides inflammation, and produce the same effects as laryngitis. It is often due to boiling water, or the strong mineral acids, or alkalies taken into the mouth. There seems reason to believe that the poison of erysipelas may give rise to it. Tracheotomy is our only resource.

The larynx may also suffer from *chronic* disease. Thus chronic inflammation and ulceration is not uncommon in cases of pulmonary consumption; a species of phthisis is consequently known as *phthisis laryngea*. So again, the membrane lining the laryngeal cartilages often becomes thickened and ulcerated in secondary syphilis. Polypi and warty growths may also arise from parts of this tube, and cause great impediment to the entrance and exit of air.*

CYNANCHE TRACHEALIS.

Cynanche trachealis, tracheitis, or croup, consists of inflammation of the trachea, often of the trachea and larynx, ending, in the majority of cases, in the exudation of false membranes upon the affected surface.

It is a disease of early life; most cases of it occur during the second year of childhood. It is often complicated with bronchitis or pneumonia.

Symptoms.—In the commencement they are those of a cold; slight fever, cough, hoarseness, drowsiness, suffusion of the eyes, and running at the nose. In a day or two the peculiar signs of croup show themselves, commencing with an alteration in the character of the cough, which becomes attended with a peculiar ringing sound, rendering it "brassy," followed in a few hours by a remark-

* Histoire des Polypes du Larynx. Par C. H. Ehrmann. Strasbourg, 1850.

able change in the respiration. The act of inspiration becomes prolonged and attended with a characteristic crowing noise, readily recognised when once it has been heard. As the disease advances, the fever increases, the breathing becomes more hurried, the cough more frequent; the pulse becomes weak, there is great thirst, and the child is very irritable and restless. Exacerbations always take place at night, with remissions towards the morning. The drowsiness soon becomes extreme, though the sleep is uneasy; the child starts and wakes in terror; the breathing becomes gasping and interrupted; the skin gets cold and covered with clammy sweats; and the child often dies directly after an inspiration, or coma and convulsions ensue, and close the scene.

Sometimes this disease runs a very rapid course. Thus Professor Golis, of Vienna, relates the case of a healthy little boy, aged four years, who going into the open air on an extremely cold day, was attacked with croup, which proved fatal in fourteen hours.

Treatment.—In no disease, perhaps, is it more necessary to be prompt and cautious. Bleeding, tartar emetic, and mercury are the measures on which to rely. Abstraction of blood by venæsection or cupping, or, in infants, by leeches, must be practised; two leeches may be applied to an infant one year old, and an additional leech for each additional year. The leeches should be applied to the upper part of the sternum, rather than to the neck, in consequence of the difficulty sometimes experienced in stopping the bleeding in the latter situation. For tartar emetic to do any good, it must be given in doses of one-eighth, or one quarter of a grain every fifteen minutes,

until vomiting is produced, afterwards repeating it every hour, until decided relief is obtained. It may be best given with a little ipecacuanha wine, according to Formulæ 65, 66.

In order to prevent the formation of false membranes, mercurial inunction should be had recourse to from the commencement of the severe symptoms, half a drachm, or even a drachm, of the unguentum hydrargyri being gently rubbed in every four or six hours. Calomel may also be given as a purgative, in doses of two, three, or four grains. The warm bath often gives great relief. In the latter stages of the disease, it will be necessary to support the powers of life by beef-tea, wine, or a few drops of the aromatic spirits of ammonia, or of brandy, with water, frequently repeated. Formula 33 will often give strength, and act as a useful stimulant expectorant.

Much difference of opinion exists as to the use of counter-irritants. Dr. West, the greatest authority on these complaints of childhood, thinks that when the disease has been checked by antiphlogistic measures, and the symptoms been thus lessened, great good is done by the application of blisters to the upper part of the sternum.

Can we do any good by tracheotomy? is a question the consideration of which must force itself upon every one treating a case of croup. Looking at the pathology of the disease, remembering that the inflammation generally extends into the bronchial tubes, that the serious dyspnœa for the most part arises from the albuminous exudation obstructing the trachea and bronchi, and that in no case have we any reason to believe that suffocation is due to closure of the glottis—remembering these points, I cannot see any

ground for expecting relief from this operation. Nevertheless, it must be confessed that in a very small number of cases it has done good. Mr. Henry Smith, surgeon to the Westminster Dispensary, tells me that he has operated in four or five cases, and that although they all terminated fatally, yet great temporary relief was experienced.

There is a formidable variety of croup, in which the larnygeal affection is connected with inflammation of the fauces, soft palate, pharynx, and tonsils, and is followed by the exudation of false membranes in these parts. It occurs especially in some provinces of France, and has been described by M. Bretonneau under the name of *diphtheritis*. Sponging the parts with a strong solution of nitrate of silver, the exhibition of tartar emetic, mercurial inunction, and subsequently stimulants, are the means to depend on.

LARYNGISMUS STRIDULUS.

Laryngismus stridulus, infantile laryngismus, or child-crowing, is a spasmodic disease occurring in infants during the period of dentition, consisting of a temporary, partial, or complete closure of the rima glottidis, by which the entrance of air into the lungs is impeded or stopped. It is unattended by fever, almost its only symptom being the interruption of the breathing. The child is suddenly seized with dyspnœa, it struggles and kicks, and is unable to inspire; presently the spasm gives way, air is drawn in through the chink of the glottis, with a shrill whistling or crowing sound, and the paroxysm is over, sometimes to return shortly, or in a few hours, or not perhaps for days. This affection was carefully

investigated by Dr. Ley, who attributed it to pressure made by enlarged glands in the neck or chest upon the recurrent nerve, or upon some part of the eighth pair of nerves; subverting the exact antagonism by which the glottis is automatically and involuntarily kept open, and allowing its margins to come together, thus occasioning the dyspnœa and peculiar kind of inspiration so much like that of croup. It was reserved for Dr. Marshall Hall, however, to give the immediate explanation of the phenomena of this disease, by showing that it is to be attributed to some source of irritation producing reflex spasm—to some excitation of the true spinal or excito-motory system. It *originates*, says Dr. Marshall Hall, in—

1. *a.* The *trifacial nerve*, in teething.
   b. The *pneumogastric*, in over or improperly fed infants.
   c. The *spinal nerves*, in constipation, intestinal disorder, or catharsis.

These *act* through the medium of—

2. The *spinal marrow*, and—
3. *a.* The *inferior* or *recurrent laryngeal*, the constrictor of the larynx.
   b. The *intercostals* and *diaphragmatic*, the motors of respiration.

Treatment.—During the paroxysm this should be the same as that employed in resuscitating still-born children. Hot water to the lower parts of the body, cold affusion to the head and face; slapping the chest and nates; exposure to a current of cold air; and artificial respiration, if necessary. The vapour of ether or ammonia may also be applied to the nostrils, and, as a last resource, tracheotomy may be performed.

The subsequent remedies must consist of purga-

tives, antispasmodics, tonics, and, above all, change of air. The diet should be very simple; a child at the breast should not be fed. Many of the diseases of infants are caused by the silly obstinacy of some mothers, who are only happy when overloading the stomachs of their children.

DYSPHONIA CLERICORUM.

Dysphonia clericorum, or clergyman's sore throat, is frequently a nervous complaint, unattended, at least in its early stages, by any organic lesion, but consisting rather of irritation of the investing membrane of the fauces. Subsequently, however, a series of morbid changes take place, such as congestion, inflammation, or relaxation of the mucous membrane; enlargement of the tonsils; elongation of the uvula, and irritation, inflammation, morbid deposit, and ulceration of the mucous follicles. Dr. Horace Green, of New York, has described this affection when far advanced, as consisting of a diseased condition of the glandular follicles of the mucous membrane of the throat and windpipe, commencing usually in the mucous follicles of the isthmus of the fauces, and of the upper portion of the pharyngeal membrane, and extending by continuity until the glandulæ of the epiglottis, larynx, and trachea are extensively involved in the morbid action. He calls it *follicular disease of the pharyngo-laryngeal membrane.*

Symptoms.—These consist of an uneasy sensation in the upper part of the throat, with frequent inclination to swallow, as if there were some obstacle in the œsophagus which could be removed by deglutition. The patient also makes frequent attempts to clear the throat of phlegm

by coughing, hawking, and spitting; he will point to the larynx, too, as being the seat of pain. At the same time the voice undergoes an alteration; there is loss of power, and hoarseness, sometimes complete aphonia, especially towards the evening. On examining the throat and fauces, we shall find these parts presenting an unhealthy, slightly raw or granular appearance; the mucous follicles will be visible, sometimes filled with a yellowish substance; and a viscid muco-purulent secretion will be seen adhering to the palate and to the edge of the velum pendulum palati.

This sore throat may exist alone, or it may accompany or follow laryngitis, bronchitis, or phthisis. Clergymen, public speakers, actors, singers, &c., are most liable to it.

Treatment.—In its early stages, when merely a nervous affection, this must consist in the use of tonics, especially iron and quinine; cold shower-baths or sea-bathing; and temporary change of scene and occupation. When the disease is further advanced, a combination of internal with local remedies will be necessary. Iodide of potassium, iodide of iron, iodide of zinc, small doses of the bichloride of mercury with the tincture and infusion of cinchona, hydrocyanic acid, tonics, and opiates will prove efficacious (Formulæ 4, 12, 22, 29, 92, 93, 100). The local treatment consists in the application of a solution of nitrate of silver (two to four scruples to the ounce of distilled water) to the diseased parts, even to the interior of the larynx if necessary, by means of a whalebone probang about ten inches long, having a piece of fine sponge, the size of a pistol-bullet, attached to its extremity. The method of introducing the sponge is described

somewhat thus by Dr. Hughes Bennett :—The patient being seated in a chair and exposed to a good light, the practitioner stands on the right side, and depresses the tongue with a spatula held in the left hand. Holding the probang in the right hand, with the sponge saturated with the solution, it should be passed carefully over the upper surface of the instrument, exactly in the median plane, until it is above or immediately behind the epiglottis. The patient should be now told to inspire, and as he does so, the tongue must be dragged slightly forwards with the spatula, and the probang thrust downwards and forwards by a movement which causes the right arm to be elevated, and the hand to be brought almost in contact with the patient's face. The operation of course requires dexterity, since the rima glottidis is narrow, and unless the sponge comes fairly down upon it, the aperture is readily missed. The passage of the sponge into the proper channel may be determined by the sensation of overcoming a constriction, which is experienced when it is momentarily embraced by the rima, as well as by the spasm and harsh expiration which it occasions. The application will require to be made about every other day for two or three weeks. When the tonsils remain enlarged and indurated, as they often do after this disease, as well as after tonsillitis, various astringent gargles and inhalations, preparations of iodine, and the solid nitrate of silver, have been employed. Not unfrequently permanent and effectual relief will only be obtained by the excision of one or both of these glands. Mr. Harvey has condemned this practice, and has stated that removal of the tonsils inter-

feres with the development of the genital organs. I have seen, however, so much benefit from the operation, without any bad results, that I cannot but doubt the correctness of Mr. Harvey's views.

DISEASES OF THE ŒSOPHAGUS.

The œsophagus is not often subject to disease. Occasionally, however, this canal becomes the seat of *stricture*, the result usually of injury, from swallowing the strong mineral acids or caustic alkalies. I have seen only one instance in which inflammation and ulceration occurred, followed by stricture, without any appreciable cause.

Dr. Basham has recorded* a very interesting example of stricture of the œsophagus, arising in a young woman, twenty-two years of age, from the accidental swallowing of a very small quantity of soap-lees (a caustic solution of impure carbonate of soda). When admitted into the Westminster Hospital, five days after the accident, she was suffering chiefly from vomiting, which was relieved by calomel and opium, oleaginous laxatives and demulcents, milk and farinaceous diet, and by a blister to the throat and upper part of the sternum. An œsophagus-tube passed easily. Ten days after her admission she was discharged apparently well. At the end of eleven months she was again admitted, suffering from urgent dysphagia. She appeared half-starved, and stated that for many weeks she had taken no solid food; and that lately the difficulty of swallowing had become so great that she could hardly take liquid nourishment. A small gum-elastic catheter, No. 8, was passed with a little difficulty, and beef-tea was

* Medico-Chirurgical Transactions, vol. xxxiii. p. 99.

injected into the stomach, to the great relief of the patient. This plan of treatment was continued, a larger tube being gradually used, and in a little more than twenty days she was so much improved that she was able to swallow freely, and was therefore made an out-patient. She neglected to attend, however, and consequently eighteen days afterwards was readmitted with her symptoms aggravated. The same treatment was again successfully resorted to, and she was kept under longer observation by employing her as an hospital nurse. She was afterwards lost sight of for a time; but in about eight months, or twenty-six from the accident, she again, for the fourth time, applied, and was admitted. Only the smallest bougies could now be passed; nutritious enemata were employed, but in a few days she died, literally of starvation.

Treatment.—In the management of these cases we can only trust to the repeated use of bougies, to prevent the stricture from closing. In hopeless examples, it has been suggested to make an incision into the stomach, large enough to enable us to introduce food. The well-known case of Alexis St. Martin seems to show that such treatment *might* be successful in a case otherwise hopeless.

The œsophagus may, like the urethra and bronchial tubes, suffer from *spasmodic* stricture. Young hysterical women are often affected with it. It may generally be readily relieved by antispasmodics (Formulæ 19, 20), by the cold shower-bath, &c.

FEVERS.

The best definition of fever is perhaps a modification of that by Cullen:—After a preliminary

stage of languor, weakness, and defective appetite, acceleration of the pulse, increased heat, great debility of the limbs, and disturbance of most of the functions, without primary local disease. Much has been written on the classification of fevers, each author having some favourite arrangement, which does not always simplify the subject. In order to be as clear as possible, I shall consider the different varieties of fever according to the following plan :—

1. Continued Fever.
   - *a.* Common Continued Fever.
   - *b.* Typhus and Typhoid Fevers.
   - *c.* Plague.
2. Intermittent Fever.
   - *a.* Quotidian.
   - *b.* Tertian.
   - *c.* Quartan.
3. Remittent Fever.
   - *a.* Infantile Fever.
   - *b.* Yellow Fever.
4. Eruptive or Exanthematous Fevers.
   - *a.* Small-pox.
   - *b.* Chicken-pox.
   - *c.* Measles.
   - *d.* Scarlet Fever.
   - *e.* Erysipelas.
   - *f.* Erythema.
   - *g.* Roseola.
   - *h.* Urticaria.

1. CONTINUED FEVER.

Continued Fever is so called from the fact that it pursues its course without any well-marked remissions.

a. **Common Continued Fever** may be defined as

a fever consisting of a stage of chilliness or rigor, succeeded by great increase of heat, with a frequent hard pulse, redness of the urine, little disturbance of the mental faculties, and tending usually to terminate by sweating. It commences for the most part without any warning, the patient being suddenly seized with lassitude, disinclination for bodily or mental exertion, loss of appetite, sickness, headache, dull aching of back and limbs, coldness of the surface—especially of the back—and often shivering. At the end of a few hours the chilliness passes off, and the skin becomes dry and hot, the pulse hard, sometimes full and bounding, often small, wiry, and rapid, 100 or 120, or even 130, in a minute; there is increased headache and restlessness, a dry and furred tongue, with urgent thirst, constipation, and the urine is scanty and high coloured. An exacerbation or aggravation of all the symptoms frequently occurs towards night, with a slight remission at the approach of morning, when sleep is often obtained. These symptoms usually continue for three or four days, when, frequently on the fourth day, sometimes on the fifth or sixth, the skin becomes moist, the headache and pains in the limbs abate, and a profuse sweating follows, which proves the natural crisis or termination of the disease, leaving the patient languid and exhausted, but with a pulse of the natural standard, and a complete freedom from the fever. Convalescence gradually and slowly takes place, some weeks often elapsing before the patient regains his strength. Relapse, too, is common, occurring about the fourteenth day.

Common continued fever is seldom attended with danger, and is not contagious. Nosologists

have divided it into different classes, according as one particular organ has been more affected than another; thus in some books we find unnecessary distinctions into brain, catarrhal, gastric, mesenteric, and bilious fevers.

Treatment.—All fevers seem disposed to run a certain course, and to terminate in the re-establishment of health. But, as in the treatment of all disease, there are certain general objects, called the *indications of cure*, which must be kept in view. In fever these indications are—1, to moderate, where necessary, the violence of arterial excitement by the antiphlogistic regimen; 2, to support the powers of the system; 3, to obviate local inflammations and congestions; and, 4, to relieve the urgent symptoms. It was well observed by Pitcairn,—"I do not like fever-curers. You may *guide* a fever; you cannot *cure* it. What would you think of a pilot who attempted to quell a storm? either position is equally absurd. In the storm you steer the ship as well as you can; and in a fever you can only employ patience and judicious measures to meet the difficulties of the case."

b. **Typhus and Typhoid Fevers.**—In systematic treatises on medicine, these fevers have hitherto been generally confounded together, and regarded as merely two stages of the same affection, being frequently described as typhus, or low nervous, or jail, or hospital, or camp, or malignant fever. There appear good grounds for believing, however, that they are essentially distinct diseases, attended by different important symptoms, and due to different blood-poisons. They commence much in the same way, and at first present the same features, as common continued fever; but instead of terminating in the crisis of sweating

they increase in severity, and in each case the pulse becomes more frequent, weaker, and more compressible; the tongue grows drier and browner; certain eruptions show themselves; more sordes, and of a darker colour, accumulate on the teeth and lips; the fæces are often passed involuntarily; delirium ensues; there is great prostration of the vital powers, and a tendency to death.

In *typhus* the eruption consists of a mulberry-rash, coming out at the beginning of the second week, and gradually fading away, without any replacement by a fresh crop. In *typhoid fever* the eruption is formed of rose spots, appearing upon the thorax, back, and abdomen at the end of the second week, being thinly scattered, so that they often require to be looked for, fading and gradually giving way in one place to a new and equally sparing crop on another part. In *typhus*, diarrhœa seldom occurs, and hæmorrhage from the bowels never. In *typhoid*, diarrhœa is very common, and there is hæmorrhage from the bowels in about one case out of every three. In an excellent monograph on these fevers, by Dr. Jenner, published in 1850, this gentleman shows that in all the fatal cases of *typhoid fever* which he examined, the agminated glands, or Peyer's patches, situated in the ileum, were found ulcerated; the ulcerations increasing in extent as they reached the ilio-cæcal valve; in a few instances, also, the solitary glands were ulcerated; and one-eighth of the cases recorded died from extension of the ulceration, with perforation of the intestine. As regards the cases of *typhus*, ulceration did not exist in a single instance. *Typhus* may occur at any age, while *typhoid fever* rarely, if ever, attacks persons after fifty, and is most common in youth;

the former is much less dangerous than the latter; and, lastly, relapses do not occur in *typhus*, while they are common in *typhoid*. Both diseases are contagious, but it is probable that each propagates itself, and not the other; an attack of the one does not act as a preventive to infection by the other at any future period. In either case it occasionally happens that the patient falls a victim to the disease at the very onset, knocked down and killed, as it were, at once by the virulence of the poison.

Treatment.—Where possible, choose for your patient a large well-ventilated apartment, free from bed and window curtains, carpets, and all superfluous furniture. The chloride of lime may be used as a disinfectant. A fire in the room acts as a ventilator. Forbid all unnecessary intercourse between the patient and his friends, and select a trustworthy nurse. In the early stages beware of doing too much, of interfering too much with nature. Remember we cannot cure these maladies any more than we can cure small-pox or measles; our aim must be to keep our patient alive until the fever-poison has expended itself. In opposition to this opinion, however, I must mention that Dr. Dundas, of Liverpool, has directed the attention of the profession to a mode of treating typhus by ten-grain doses of quinine, repeated every two hours, which he regards as almost or quite a specific for cutting short the disease. In two instances in which I tried this plan it signally failed, and I believe this is the experience of other physicians, who have employed it on a larger scale. Dr. Brinton, senior physician to the Royal Free Hospital, often finds it advantageous, when the patient is seen early, to commence

the treatment by the administration of an emetic* (Formula 225); and at the same time a purgative, to thoroughly clear the intestines, will often be useful. All other medicine had better be avoided. At this stage the patient's uneasy sensations will be much soothed by sponging the surface of the body with cold or tepid water. Dr. Armitage speaks highly of the use of cold affusion, especially where there is a tendency to stupor; when, on the contrary, there is a great degree of irritability, he has found the warm bath, 93° to 95°, prolonged for three quarters of an hour, very useful. In all cases a free supply of toast-water, barley-water, or plain water may be allowed; and following Dr. Watson's advice, I always order chlorate of potass ʒj, in one pint of water, to be taken daily as part of the patient's drink. The diet should be restricted to milk, farinaceous food, and thin broth.

Directly the powers of life begin to fail, as soon as there is signal loss of strength, a dark brown tongue, and a feeble pulse, a stimulating plan of treatment should be commenced,† by ordering strong beef-tea, with ammonia and sulphuric ether, or wine, or the mistura spiritus vini gallici of the London Pharmacopœia, or brandy. The last is, in my opinion (having been taught its value by Dr. Todd), the agent generally to be preferred. It should be given in small quantities, ʒj or ʒij, in water, every two hours, or every hour, or even, in bad cases, each half hour, the effect produced being closely watched, and its repetition guided by such

* Dr. Brinton on the Treatment of Fever.—*Lancet*, December 17, 1853.

† See an abstract of eighteen cases of typhus, treated by brandy in King's College Hospital, by Dr. R. B. Todd, *Medical Times and Gazette*, August 27, 1853.

effect, remembering that severe febrile symptoms do not contraindicate it. Where there is much irritability of the brain, a well-timed dose of opium will do wonders, especially when combined with the application of some cold lotion (Formula 267) to the shaven scalp; if there be delirium threatening to merge into coma, the opium may be guarded with a small dose of tartar emetic, as recommended by Graves. In typhoid fever, with much abdominal pain and tympanitis, relief will be given by the frequent application of turpentine stupes—flannel wrung out in hot water and sprinkled with turpentine. The diarrhœa will be best checked by Formula 246; the enema opii of the London Pharmacopœia will also be very useful. Under this management the patient will often remain in a very precarious state for some days, but at length begin to recover, sleeping much as he improves. During convalescence great care will be required to prevent a relapse; the return to a generous diet must be very gradual, no solid animal food being allowed till the tongue becomes clean and moist, the pulse soft, and all feverish excitement has vanished, until which time, also, the patient should not be allowed to leave his bed.

c. **Plague.** The plague, or pestis of Cullen, though generally classed among the exanthemata, is said to be, strictly speaking, a continued contagious fever, bearing a slight resemblance to severe typhus. As it is a disease exclusively of Eastern occurrence, it is only necessary to mention it in these pages. It has been best defined by Dr. Brown (art. Plague, Cyc. Prac. Med.) as "an exanthematous disease, the eruption consisting of buboes, carbuncles, and pustules, white, livid, or

black, and generally attended with malignant and very fatal fever."

2. INTERMITTENT FEVER.

There are three species of intermittent fever or ague, viz., **Quotidian, Tertian,** and **Quartan Ague,** of which the tertian is the most common. When the paroxysm occurs at the same hour every day, it is called quotidian ague; when every other day, tertian, though secundan would be more appropriate; and when it is absent for two whole days, and then recurs, quartan. In the first species the interval is twenty-four hours, in the second forty-eight, in the third seventy-two. The time between the commencement of one paroxysm and the beginning of the next is termed the *interval;* that between the termination of one paroxysm and the commencement of the next, the *intermission.* In quotidians the paroxysm occurs, for the most part, in the morning; in tertians, at noon; in quartans, in the afternoon. The first is most common in the spring, the second in the spring and autumn, the third in the autumn.

The *predisposing causes* of ague are debility, and the once having suffered from it. The *exciting cause* consists of certain emanations or invisible effluvia from the surface of the earth, known as malaria. It is worth remembering that malarious districts are most dangerous at night, and that this poison lies low, or, as Dr. Watson says, "loves the ground."

An ague fit is composed of three stages, the cold, hot, and sweating. *The cold* stage is ushered in with feelings of languor, chilliness, though the heat of the body may not be really lessened; sensation as of streams of cold water running down

the back, and shivering; the teeth chatter, and the whole frame is shaken; there is exhaustion, often urgent thirst; the countenance appears anxious, the features shrunk and pale, and the eyes dull and hollow; the pulse is small, the respiration hurried and oppressed, and there is a peculiar mental irritability. The duration of this stage varies from half an hour to four hours, and is gradually succeeded by the *hot* stage, which is one of reaction. The surface of the body becomes dry, and intensely hot, the temperature being raised considerably above the natural standard; the mouth is parched; there is excessive thirst, frequent full pulse, a painful sense of fulness in the head, and great restlessness, general uneasiness, and sometimes delirium. This condition continues rarely less than three or more than twelve hours, and then follows the *sweating* stage, commencing with perspiration appearing first on the forehead and breast, and gradually extending over the whole body. The pulse and breathing become natural, the headache, heat of skin, and thirst abate, the bowels and the kidneys act freely, and all the distressing symptoms are relieved, so that the patient, if the case be recent, often feels in perfect health.

Disease of the spleen is a very frequent concomitant or result of intermittent fever. It is found enlarged, sometimes to a great extent, and occasionally indurated; it is popularly spoken of in this condition as *ague-cake*.

Treatment.—When the patient is obliged to remain in a malarious district, the difficulty of curing ague will be much increased. In the cold stage, warm diluent drinks, as barley-water, weak

tea, or weak negus, or white-wine whey, may be freely allowed; while the application of external warmth is to be assiduously employed, by means of warm clothing, hot bottles to the feet, and hot-water or hot-air baths. The latter may be easily prepared by means of a long wicker-work cradle, closed at one end by a board. This is laid over the patient and covered with blankets; a curved tin tube is then passed through a hole in the centre of the board, the other end of the tube expanded into a bell looking downwards, and having a spirit lamp placed beneath it; the air under the wicker-work soon becomes very hot. An opiate given a little before the cold stage is often beneficial. During the hot stage an opposite plan should be pursued, cooling drinks given, and the surface of the body sponged with tepid or cold water. When the hot has subsided into the sweating stage, the action of the skin should be encouraged by tepid drinks.

Purgatives should always be given at the outset; four or six grains of calomel, and the same of rhubarb, followed by an aperient draught. The bowels having been thoroughly emptied, the use of one of the two specific remedies for ague—bark and arsenic—may be commenced. The best plan is to give two or three grains of the disulphate of quinine in the compound infusion of roses, every four or six hours, during the intermission. If it be desirable, on account of its cheapness, to employ arsenic, Formula 103 will be found a convenient preparation. The salt of the willow bark (salicine) has been recommended as a substitute for quinine; it is by no means as efficacious. In cases of enlargement of the spleen, great benefit

will be derived from a combination of quinine and sulphate of iron, perseveringly used (Formula 4), or from the bromide of potassium (F. 111).

3. REMITTENT FEVER.

The symptoms of remittent bear a resemblance to those of intermittent fever, with this difference, that in the intervals there is no cessation of the fever, but simply an abatement or diminution. The period of remission varies from six to twelve or fourteen hours, when the feverish excitement increases, such increase being often preceded by chilliness and rigors. The remittent fever of hot climates is characterised by the intensity of all the symptoms, and by the constant occurrence of particular complications. Thus, the fever of Sierra Leone is ushered in by violent pain in the liver, followed by determination of blood to the head, and coma.

Symptoms.—The paroxysm of remittent fever commences with languor, lassitude, mental depression, a feeling of cold down the back, and headache. To these symptoms soon succeed delirium, nausea, vomiting — generally of bilious matter; sense of pain at the epigastrium; signs of pulmonary congestion, such as dyspnœa, a feeling of oppression at the chest, cough, and a livid colour of the countenance; the pulse is often frequent and full, the skin hot, and the tongue dry and furred. The urine is often scanty, high coloured, and loaded with lithates.

The remissions usually occur in the morning; the principal exacerbation generally takes place towards the evening, and continues for the greater part of the night.

Treatment.—The indications to be followed are

the reduction of the general fever, and the prevention or removal of congestion or inflammation of the brain and its membranes, as well as the prevention of inflammatory action in the liver, stomach, and intestines. *See remarks on the treatment of Inflammation.*

a. **Infantile Fever.** Simple or remittent fever in children occurs in two degrees, in a mild and in a severe form. In cases of a *mild* kind, the disease comes on gradually; the child first loses its cheerfulness, its appetite fails, and it suffers from urgent thirst; during the day it is listless and fretful, and though drowsy towards evening, yet its nights are restless, and it has no sound refreshing sleep. On these symptoms attracting attention, the skin is found hot, and at some hours of the day dry, at others covered with perspiration; the bowels are generally loose, the evacuations being unhealthy and offensive; sometimes there is obstinate constipation. In the second week the symptoms increase, the child passes very bad nights, screams and starts in its sleep, suffers much from thirst, and occasionally has slight delirium; there is exacerbation of the fever towards the evening, with remission as the morning approaches; occasionally there is a second though less severe exacerbation about eleven o'clock in the morning. In mild cases there is seldom any rash; if any appear, it will be at this time. The skin of the lips, face, and fingers becomes dry and rough, and the child is constantly picking it. Towards the end of the second or the beginning of the *third* week, the symptoms begin to abate, and day by day the child improves in health, although some time often elapses before convalescence is completely established.

In *severe* cases, the symptoms just enumerated commence more suddenly, and are more strongly marked; there is frequently a scanty eruption, which appears between the sixth and tenth days. As the disease progresses, the restlessness and delirium become aggravated, the evacuations are passed unconsciously, and the child becomes much emaciated, until, when apparently in the worst possible condition, slight signs of amendment show themselves, followed by daily improvement. The cases which terminate fatally are few in number.

Treatment.—Our object must be, as in the treatment of fever in the adult, to enable our patient to bear up against the disease. At first, medicine is little needed; toast-water or plain water may be allowed rather freely as a drink; and the use of the tepid bath every morning, or frequent sponging of the body with lukewarm water, will be beneficial. The unhealthy diarrhœa will be best relieved by castor oil, followed by small doses of the hydrargyrum cum cretâ, and Dover's powder (F. 184). When the vital powers need support, good beef-tea, chicken-broth, and wine will be necessary, or a stimulant draught (F. 27) may be ordered in place of the wine, or, if necessary, to alternate with it. Dr. Stieglitz, of St. Petersburg, strongly recommends F. 35, where there is great depression. During convalescence, the food must be nourishing, but very digestible. Change of air, especially removal to the sea-side, will prove of great advantage.

b. **Yellow Fever.** This is a disease of not infrequent occurrence in the West Indies, Africa, the southern parts of Spain, and some parts of America. It has been described under the names

of *Bulam Fever*, *Mal de Siam*, *Typhus icterodes*, &c. Its striking features, in addition to the general pyrexia, are the yellowness of the skin, severe headache—referred to the forehead and bottom of the orbit—and great irritability of the stomach, the matter vomited being at first slimy and tasteless, but gradually assuming the appearance of coffee-grounds; it is then called the *black vomit*. The dejections generally have a tarry appearance. There is often suppression of urine. The usual duration of the fever is from five to seven days. When the sixth day elapses without the occurrence of black vomit or suppression of urine, there is great hope of recovery. Death usually occurs from exhaustion.

Treatment.—The indications are to subdue the inflammatory state, and to prevent the system sinking into a state of collapse. The salts of potash (Formulæ 23, 61, 137, 157) should be employed.

4. ERUPTIVE OR EXANTHEMATOUS FEVERS.

They may be regarded as continued fevers, having an eruption superadded. The character of the accompanying fever is, generally speaking, essentially inflammatory. The principal exanthemata are *Small-Pox*, *Chicken-Pox*, *Measles*, and *Scarlet Fever*. There are, however, a few other diseases allied in some respects to these, which may therefore be comprehended in this division, viz., *Erysipelas*, *Erythema*, *Roseola*, and *Urticaria*.

The exanthemata have this common character: that they are accompanied by fever, which runs a defined course; they are attended by an eruption which runs through a regular series of changes;

they for the most part affect every individual once, and once only, during life; and they arise from specific contagion.

a. **Variola, or Small-pox,** may be defined as a fever commencing with lassitude, headache, vomiting, and pain of the back, succeeded on the third day by an eruption of pimples, which in the course of a week inflame and suppurate; it is accompanied, in many instances, by a similar affection of the mucous membrane of the nose and mouth; in some, by swelling and inflammation of the subjacent cellular tissue; and occasionally by affection of the nervous system. When the vomiting and pain of the back are violent, they generally are the precursors of a severe form of the disease.

The peculiar eruption of pimples or papulæ always begins to show itself on the third day of the fever, first appearing on the face, the neck and wrists, the trunk, and, lastly, on the lower extremities. The papulæ then gradually ripen into pustules, the suppuration being complete by the eighth day, at which time the pustules break, and crusts or scabs form. In four or five days more these scabs are falling off.

Now the severity of the disease almost always bears a direct relation to the quantity of the eruption. When the pustules are few, they remain distinct, and separate from each other; when very numerous, they run together, coalesce, and lose their regularly circumscribed circular form. We thus have a division of small-pox into two varieties—variola *discreta*, and variola *confluens*. The former is seldom attended with danger; the latter is never free from it. The eruption on the face may be of the confluent form, while it is

scanty elsewhere; still the disease is of the confluent kind. Sometimes, the pustules are so numerous that they touch each other, but nevertheless do not coalesce; the disease has then been said to be of the *cohering* or *semiconfluent* form.

In *variola discreta*, the eruption, in the words of Willan, is papular. On the third day a small vesicle, with a central depression, appears on each papula, containing some thin transparent lymph; around this an inflamed areola forms. About the fifth day of the eruption, or the eighth of the disease, the vesicles lose their central depression, become turgid, and hemispheroidal. Suppuration has occurred, and the vesicles have become pustules containing yellowish matter. A peculiar disagreeable odour now begins to emanate from the patient, which once smelt cannot be forgotten; from it alone the disease might be diagnosed. About the eighth day a dark spot appears on the top of each pustule, the cuticle bursts, the matter oozes out, and the pustule dries into a scab. In about ten days more the crusts fall off, leaving a purplish red stain, which slowly fades, or where the pustule has gone so deep as to destroy a portion of the true skin, that permanent disfigurement, the so-called pitting or pock-mark.

Variola confluens is usually ushered in by more violent fever than is the discrete variety. The eruption comes out earlier; the eyelids swell, so that by the fifth day the patient is often unable to see; the parotid glands become affected; there is salivation also, and the limbs swell. The vesicles on the face run together into one bleb, containing a thin brownish ichor; face is pale and doughy. The vesicles on the trunk and extremities, though often not confluent, have no areola, and are pale.

On the breaking of the pustules, large black or brown scabs are formed, exhaling great fœtor; pulse rapid; great debility; and restlessness. The mucous membranes become involved; those of the nose, mouth, larynx, and trachea are the seat of an eruption; tongue and palate covered with vesicles; throat is very sore; there is difficulty of swallowing; hoarseness; dyspnœa; cough; the glottis often becomes narrowed, and suffocation ensues. Delirium frequently occurs. When to the foregoing symptoms malignancy and putrescency are added, the disease becomes *malignant small-pox.*

But the greatest difference between the two forms of the disease is in the *secondary fever*, which, slightly marked in distinct small-pox, is intense and perilous in confluent. It sets in usually about the eleventh day of the disease, or the eighth of the eruption, and occasionally at once proves fatal, the system appearing to be overwhelmed by the virulence of the poison. During its course, various troublesome complications may arise, such as erysipelas, swelling of the glands in the groin and axilla, phlebitis, pneumonia, &c.

There is no contagion so powerful or so certain as that of small-pox. From the time of imbibing the variolous poison to the commencement of the symptoms, is called the latent period, or the stage of incubation; its duration is about twelve days, during which time little or no inconvenience is felt.

Since the discovery of Vaccination by Jenner, towards the close of the eighteenth century, the fatality of small-pox has been very much diminished. When vaccination has been successfully performed on a healthy child, an elevation

may be felt over the puncture on the second day, accompanied by slight redness; on the fifth, a distinct vesicle is formed, having an elevated edge and depressed centre; on the eighth, it is of a pearl colour, and is distended with a clear lymph. It is composed of a number of cells, by the walls and floor of which the lymph is secreted. An inflamed ring or areola now begins to form round the base of the vesicle, and to increase during the two succeeding days; about the eleventh day it fades, and the vesicle, which has now burst and acquired a brown colour, has by the end of the second week become converted into a hard round scab. This falls off about the twenty-first day leaving a circular, depressed, striated cicatrix, which is permanent in after life. The constitutional disturbance which accompanies vaccination is usually very slight. Some interesting experiments lately made by Dr. Gustav Wertheim, of Vienna, tend to show that the frequency of the pulse is permanently increased by the process of vaccination. Thus, a man aged thirty-eight, and a woman aged thirty-three, neither of whom had suffered from small-pox, were vaccinated for the first time; the pulse, in both cases, increased in frequency up to the sixth day after vaccination, when it began to decline; never declining—not at least for the four months during which the observations were continued—as low as it was before the introduction of the vaccine virus. For example, before vaccination, the man's pulse was on an average 66; afterwards the average was 78.

In practising vaccination, it is better to use recent lymph, which should be taken from vesicles between the fifth and ninth days, the eighth being probably the best. When small-pox occurs after

vaccination, as it sometimes will, the disease is much milder and shorter, and is unaccompanied by secondary fever; it is called *modified* small-pox.

Treatment.—In the early stages, the force of the eruptive fever may often be lessened by saline purgatives (Formula 53), given so as to produce two or three motions daily; where the skin is very hot, it should be sponged with tepid water. Where there is much irritability, opiates, in full doses, at night will be beneficial. If the maturation of the pustules goes on tardily, good broths and stimulants—wine or ammonia—are indicated. In treating the secondary fever, keep the bowels open by mild laxatives (Formula 38), administer opiates once or twice a day, and support the system by a nourishing but digestible diet, such as strong beef-tea, milk, the yelk of one or two eggs daily, &c. Sloughy and gangrenous sores demand the liberal administration of wine and brandy. When they occur on the back or nates, the patient should be placed on a water-bed, or on one of Hooper's large water-pillows. To relieve the intolerable itching, the pustules should be smeared with cold cream, or, what is better, carron oil (Formula 264). When the pustules have burst, some dry powder, as the oxide of zinc, or powdered starch, should be freely applied, to absorb the matter.

b. **Varicella, or Chicken-pox**, is a trifling complaint almost peculiar to infants and young children. It consists of an eruption of transparent vesicles surrounded by a slight redness, commencing on the shoulders and breast, affecting the scalp, but often sparing the face; the accompanying pyrexia is slight. Dr. Gregory says that when the eruption is abundant, the body presents the appearance of having been exposed to a no-

mentary shower of boiling water, each drop of which has caused a small blister.

It occurs but once to the same person, is contagious, and requires no treatment.

c. **The Measles** (Cullen), **Rubeola** (Willan), **Morbilli** (Sydenham), are terms employed synonymously to designate a disease, the distinguishing characters of which are a continued contagious fever, accompanied by an eruption, and frequently attended with inflammation of the mucous membrane of the respiratory organs.

Diagnosis.—The symptoms are pyrexia and catarrh; the conjunctivæ, Schneiderian membrane, and mucous membrane of the fauces, larynx, trachea, and bronchi being affected. Swelling of the eyelids; eyes suffused and watery, and intolerant of light; sneezing; dry cough, with hoarseness and severe dyspnœa; drowsiness; great heat of skin; frequent and hard pulse. The eruption comes out on the fourth day of the disease, seldom earlier, often later. It consists of papulæ, which gradually coalesce into blotches; these are of a dingy red colour, present often a horseshoe shape, and are slightly raised above the surface of the skin. The rash appears first on the forehead and face, and gradually extends downwards; it begins to fade on the seventh day in the same order.

It is worthy of notice that the fever does not abate on the appearance of the eruption, as in small-pox, nor does the severity of the attack at all depend upon the quantity of the rash. The contagion of measles is strong; the period of incubation is from ten to fourteen days. It is mostly seen in children.

Prognosis.—This must depend upon the mildness or severity of the chest symptoms; the com-

plications most to be feared are bronchitis and pneumonia. The diarrhœa, which often sets in as the rash declines, is for the most part beneficial.

Treatment.—Exposure to cold to be carefully avoided. The patient should be confined to bed, in an apartment moderately warm. Low diet, mucilaginous drinks, gentle aperients, and mild diaphoretics must be had recourse to. A draught containing one drachm of the liquor ammoniæ acetatis, ten or twenty drops of the spiritus ætheris nitrici, and half an ounce of camphor mixture, may be given to a child six years old every four or six hours.

The state of the three great cavities must be carefully watched, especially towards the decline of the eruption. Should any complications arise, they must be treated according to the rules which will be laid down in speaking of each affection. After the disease has subsided, the patient should be warmly clad, and not allowed to go out of doors too early.

d. **Scarlatina,** or **Scarlet Fever,** is a contagious febrile disease, characterised by scarlet efflorescence of the skin, and of the mucous membrane of the fauces and tonsils, commencing about the second day of the fever, and declining about the fifth; it is often accompanied by inflammation of the throat, and sometimes of the submaxillary glands. Like measles, it is essentially a disease of childhood, but it is more to be dreaded. There are three varieties of this disease. Scarlatina *simplex*, in which the skin only is affected; scarlatina *anginosa*, in which both skin and throat are implicated; and scarlatina *maligna*, in which all the force of the disease seems to be expended upon the throat.

Scarlatina simplex commences with slight fever

lassitude, and headache. The eruption appears on the second day, first about the neck, face, and chest, in the form of numberless red points, which in twenty-four hours from their first appearance cover the whole body. On the limbs, but especially about the fingers, there is a diffused, continued efflorescence, but on the trunk the rash is distributed in irregular patches. The eruption is of a bright scarlet colour, most distinct about the loins and the flexures of the joints. The efflorescence commonly terminates by desquamation of the cuticle, which begins about the end of the fifth day on those parts where the rash first appeared. On the face and trunk the desquamation is in the form of scurf, while on the hands and feet large flakes of cuticle are detached, so that sometimes a glove or slipper of scarf-skin comes away at once.

At the same time that the efflorescence has been spreading on the surface of the body, the mucous membrane of the mouth, fauces, and nostrils has also been affected. The tongue especially puts on an appearance characteristic of scarlatina. It is at first covered with a thick white fur, through which the red elongated papillæ project; but as this fur clears away, it becomes clean and preternaturally red, and of a strawberry appearance. The affection of the mucous membrane of the mouth, &c., terminates by resolution; with the disappearance of the rash the febrile symptoms subside, and the disease terminates at the end of eight or nine days, leaving the patient very weak.

Scarlatina anginosa is ushered in with more violent symptoms than the preceding. There is headache, with some delirium, more pungent heat of the skin, and marked prostration. About the second day there is stiffness of the neck, uneasiness

in the throat, hoarseness, and pain on swallowing. The fauces, palate, uvula, and tonsils are red and swollen, and the inflamed surfaces are covered with an exudation of coagulable lymph. As this inflammation goes on, all the febrile symptoms increase, and the skin becomes very dry and hot. The efflorescence does not observe the same regularity as in the simple form; it does not appear so early, is delayed to the third or fourth day, comes out in scattered patches on the chest and arms, and shows a tendency to vanish the day after its appearance, and to reappear partially at uncertain times. With the fading of the eruption about the fifth or sixth day, the fever and inflammation of the throat begin to abate, although the throat often remains sore for a week or ten days after the disappearance of the rash. Occasionally this variety of scarlet fever assumes a more aggravated form, being accompanied with an acrid discharge from the nostrils and ears, deafness, and inflammation of the parotid and cervical glands—sometimes going on to suppuration.

During the progress of the disease particular attention should be paid to the internal organs, since there is a great predisposition to inflammation of the serous and mucous membranes.

Scarlatina maligna, described by Cullen under the title of *Cynanche maligna*, differs but little in its symptoms, at first, from scarlatina anginosa. The fever, however, soon assumes a malignant or typhoid character, great cerebral disturbance being superadded to the affection of the fauces and skin. There is great irritability, restlessness, and delirium, the delirium being sometimes violent, but usually of the low muttering kind. The tongue is dry and brown, tender and chapped; the lips,

teeth, and gums are covered with sordes; and the breath is extremely fœtid. The throat is not much swollen, but appears of a dusky red hue, while the velum, uvula, and tonsils are covered with dark incrustations, consisting of exudations of lymph; in some cases there is gangrenous inflammation of these parts, followed by sloughing. The cervical glands are often involved in the inflammation. The rash is exceedingly irregular as to the time of its appearance and duration, often coming out late, disappearing after a few hours, and being renewed several times during the progress of the disorder. It is at first of a pale hue, but soon becomes changed to a dark livid red; petechiæ also often appear upon the skin.

In many instances this malignant form of scarlet fever terminates fatally on the third or fourth day. It is always a disease of such extreme danger that only patients with vigorous constitutions survive it; great hopes may be entertained, however, if the seventh day be passed.

Sequelæ.—Children who have suffered from scarlatina are very liable to have their health permanently affected, and to become afflicted with some of the many forms of scrofula, especially strumous ulcers, ophthalmia, scrofulous enlargements of the cervical glands, diseases of the scalp, &c. But the most frequent and most serious sequel is *anasarca*, serous infiltration of the subcutaneous areolar tissue, often accompanied by dropsy of the larger serous cavities; it occurs about the twenty-second day from the commencement of the fever. Now it is curious that this scarlatinal dropsy is more frequent after a mild than after a severe attack, owing probably to the want of caution which is often observed in such cases during the

period of desquamation. The patient gets exposed to cold, and immediately the escape of the fever-poison through the pores of the skin is checked, and, as a consequence, is directed to the kidneys in larger quantities than they can bear, giving rise to ACUTE DESQUAMATIVE NEPHRITIS.* This renal affection has its origin from many causes (intemperance, cold, the cholera-poison) besides the one we are considering, but however produced, its symptoms are the same. It commences usually with rigors or chilliness, followed by feverish reaction, headache, restlessness, pain and tenderness in the loins, and often vomiting. The dropsy is an early symptom; the face first becomes puffy, followed by general swelling of the areolar tissue throughout the body, and by effusion of fluid into one or more of the serous cavities. At the same time there is frequent desire to pass urine, which is scanty, of a dark smoky colour, and on being tested by heat and nitric acid, is found to be highly albuminous. Examined microscopically, it is seen to contain masses of coagulated fibrin, blood-corpuscles, epithelial casts and cells, and occasionally crystals of lithic acid. When the progress of the case is favourable, the earliest signs of improvement are the disappearance of the dropsy and an increase in the quantity of urine. It is not uncommon for a patient, during convalescence from acute desquamative nephritis, to pass from four to six pints of urine in the twenty-four hours, the natural quantity averaging only from a pint and a half to two pints.

In seeking to cure acute inflammation of the kidney, we have to remember, as Dr. George Johnson remarks, "that there has been, first, a morbid

* See Dr. George Johnson on Diseases of the Kidney.

condition of the blood, which has excited disease in the kidney, and that, as a secondary consequence of the renal disease, the blood has become contaminated by the retention in it of urea and other excrementitious matters." (*Op. cit.*, p. 126.) Our object of *treatment* must therefore be to rest the kidney, and to purify the blood by means of the other excretory organs. To carry this object into practice, the patient must rest in bed, in a moderately warm room; low diet; plenty of simple drink—water or barley-water; and, in order to get the skin and bowels to act freely, the hot-air bath, or hot-water bath must be used, diaphoretic medicines (Formulæ 197, 212) administered, together with saline purgatives, (Formulæ 38, 53, &c.) When the urine is highly albuminous and scanty, the pain in the back severe, and the head seems affected, the most valuable remedy is cupping on the loins; eight or ten ounces of blood being quite sufficient to take from an adult, and two or three from a child four years of age. It is only necessary to say that diuretics should, under no circumstances, be had recourse to in this disease. As recovery advances, great care must be taken to avoid exposure to cold, and all errors in diet should be rigidly guarded against.

Treatment.—The treatment of scarlatina yet remains to be considered. The simple form, says Sydenham, is "fatal only through the officiousness of the doctor." It requires no treatment beyond confinement to the house, warm clothing, spare diet, and attention to the bowels. In scarlatina anginosa the treatment is often much the same as that for many cases of continued fever. Cold or tepid sponging where there is great heat; emetics when the tongue is much coated, and nausea and

irritability of stomach exist; shaving the scalp and the application of cold lotions, where there is much delirium; great caution in the abstraction of blood, if the head symptoms indicate bleeding, and then only by the application of leeches to the throat over the situation of the tonsils. Purgatives judiciously employed will often obviate the necessity for bleeding. Saline medicines are grateful and cooling, or, where the pulse is feeble, effervescing draughts containing an excess of ammonia (Formula 22).

In malignant scarlet fever, a stimulating plan of treatment, such as that recommended in typhus, alone offers any chance of success. The vital powers are so prostrated by the deadly force of the poison, that unless we support them by the free administration of brandy, wine, and bark, they will fail altogether. When seen early, however, the treatment may be advantageously commenced by a mild emetic (Formula 225). The gangrenous ulceration of the fauces, which often complicates this form, will be also best combated by the use of stimulants, and the local application of a solution of the chloride of soda. The chlorate of potass drink (Formula 162) will be useful. Chlorine itself is used by some practitioners, who speak highly of its good effects, in even the worst cases. To prepare it, see Formula 110. Belladonna, in very minute doses, has been recommended as a prophylactic against scarlatina. In an epidemic of this disease which occurred on board her Majesty's ships *Agamemnon* and *Odin*, in 1853, this remedy was freely tried, without the slightest benefit.

e. **Erysipelas,** called in Scotland the *rose*, in this country *St. Anthony's fire*, is an inflammatory affection of the skin, and very commonly of

the areolar tissue, characterised by the affected part becoming of a deep red colour, hot, painful, and swollen. No portion of the surface is exempt from attacks of it, but the integuments of the face and head are most commonly the seats of *idiopathic* erysipelas—that which arises from internal causes; while *traumatic* erysipelas—that which follows wound—may occur on any part.

Idiopathic erysipelas resembles the other exanthemata, inasmuch as it is preceded by fever and general constitutional disturbance. It often sets in with distinct rigors, and sore throat is an early and frequent accompaniment of it; disturbance of the cerebral functions, nausea, vomiting, and diarrhœa may also be present. Then, on the second or third morning from the rigor, redness and swelling appear on some part of the skin, frequently on one side of the nose, spreading to the rest of the face, and often extending over the scalp, neck, and shoulders. The lips swell, the cheeks enlarge, the eyes become closed by their puffy lids, and all traces of the natural features are completely lost. After three or four days, the redness fades, the swelling subsides, and the cuticle desquamates. In most cases the inflammation is merely superficial; occasionally it affects the subcutaneous areolar tissue—phlegmonous erysipelas, and is then apt to be followed by suppuration and sloughing.

Erysipelas may prove fatal, by the extension of the inflammation to the brain or its membranes, giving rise to effusion and coma. The same result may occur from the mucous membrane of the glottis becoming affected, so that the chink gets closed, and the patient dies unexpectedly from suffocation. In other cases, death is owing to

failure of the vital powers. Erysipelas may arise from contagion. When it prevails epidemically, as it sometimes does, intemperance, insufficient food, foul air, and trifling injuries favour its occurrence.

Treatment.—This must be conducted on the principle that we cannot cut short the disorder, but only lead it to a safe termination. At the commencement, an active purgative—such as a full dose of the neutral salts—will be beneficial. In the country, when the patients are young and vigorous, bleeding is commonly considered necessary; in London such practice would almost invariably be bad. In the cases which have fallen under my own notice, there has always been marked evidence of debility, and I have consequently followed the practice of those physicians who adopt a tonic mode of treatment as the great rule in idiopathic erysipelas. The late Dr. Robert Williams, of St. Thomas's Hospital, gave all his erysipelatous patients, milk diet, sago, very gentle purgatives, and from four to six ounces of port wine daily, from the very first appearance of the disease, irrespective of the symptoms or the part affected; and he says, in his admirable work on Morbid Poisons, "I have pursued this system for several years, and I hardly remember a case in which it has not been successful." The sesquicarbonate of ammonia (Formula 8) will often prove an excellent substitute for wine.

Of all the local applications which have been recommended, that which gives the most relief is the fomentation by flannels wrung out of a hot decoction of poppy-heads, assiduously applied. Flour freely dusted over the inflamed part has often a soothing cooling effect in mild cases.

In the phlegmonous form of the disease, when suppuration has taken place, and pus has become infiltrated through the areolar tissue, free incisions must be made to give it exit.

In *infantile erysipelas*, the strength must be supported. If the mother's milk be deficient in quantity or quality, a vigorous wet-nurse should be obtained. Cordials, as white-wine whey, wine and water, &c., must be given.

f. **Erythema** designates a slight, superficial, continuous redness of the skin, not contagious, not generally attended with fever, nor with vesication. The principal species of this disorder is called *erythema nodosum*, in which the eruption is confined to the fore part of the leg, taking the form of one or more large oval patches, running parallel to the tibia, and rising into painful protuberances much resembling nodes. It occurs chiefly in young women. Mild laxatives and rest, followed by the disulphate of quinine, are sufficient for its cure.

g. **Roseola** is a non-contagious inflammation of the skin, characterised by transient patches of redness, of small size and irregular form, distributed over more or less of the surface of the body. The eruption, at first brightly red, gradually subsides into a deep roseate hue, and slowly disappears. It is accompanied by slight fever. There is one form of this affection which frequently affects adults, especially females, in the summer; it is called *roseola æstiva*.

But little *treatment* is usually necessary. Mild alteratives, laxatives, and tonics, may in some cases be required.

h. **Urticaria,** or **Nettle-rash,** is a non-contagious exanthematous eruption, characterised by long prominent patches or wheals, either red or white, of

irregular shape, of uncertain duration, and accompanied by intense heat, a burning and tingling in the affected spots, and great itching.

There are two varieties: one in which it is acute, running a short, rapid course; another in which it is chronic, very obstinate, and either persistent or intermittent; both forms attack individuals of all ages and constitutions. The chronic intermittent variety is the *urticaria evanida* of Willan; it sometimes lasts for months, or even years.

Urticaria is caused by certain derangements of the digestive organs, arising from the use of particular articles of diet, such as shell-fish of different kinds, cucumbers, mushrooms, bitter almonds; certain medicines, as turpentine and balsam of copaiba, &c.

Treatment.—This must consist in the administration of emetics and purgatives, where the disease depends upon stomach derangement. In the chronic form, a simple diet, without wine, beer, or spirits, must be rigidly adhered to; laxatives, antacids, and warm or tepid baths, are the chief remedies. Formula 12 will sometimes effect a cure.

DISEASES OF THE SKIN.

In the following observations upon cutaneous diseases, a classification will be adopted, which I have partly derived from that originally suggested by Mr. Plumbe. It excludes the eruptive fevers or exanthemata, which have been already considered. The different descriptions will necessarily be brief, though all the important features will be noticed. A knowledge of these complaints can only be obtained, however, by seeing them; verbal descriptions are useless, for the most part. This arrangement, which has only its simplicity to recommend it, consists of four orders, thus:—

Order 1.—Diseases strictly local, deriving their characters from local peculiarities of the skin, or from the presence of parasitic plants or insects. It includes Strophulus, Tinea favosa, Tinea tonsurans, Tinea decalvans, Tinea sycosa, Plica Polonica, Chloasma, and Scabies.

Order 2.—Diseases marked by chronic inflammation of the vessels forming the cuticle, producing morbid growth of that structure, and having *probably* a constitutional origin. It includes Pityriasis, Lepra, Psoriasis, and Icthyosis.

Order 3.—Diseases having a *decided* constitutional origin, and characterised by local and general excitement:—Eczema, Herpes, Prurigo, Impetigo, Lupus, Furunculus, and Anthrax.

Order 4.—Diseases dependent on general de-

bility, and characterised by diminished tone of the vessels of the cutis:—Purpura, Pompholyx, Rupia, and Ecthyma.

Order I.—STROPHULUS.

This disease, known also as *Lichen strophulus, red gum, tooth-rash*, &c., generally attacks infants at the breast. It is characterised by an eruption of minute, hard, sometimes slightly red pimples, attended with itching, and appearing upon part or the whole surface of the body. It requires no treatment beyond the use of the warm or tepid bath.

DISEASES OF THE SCALP, POPULARLY KNOWN AS RINGWORM.

The generic name tinea has been given to those diseases of the hairs which are either due to, or attended by, the development of parasitic plants. The genus includes four species, viz., Tinea favosa, Tinea tonsurans, Tinea decalvans, and Tinea sycosa.

Tinea favosa most commonly affects the scalp, in the form of small cup-shaped, dry, yellow crusts, each containing a hair in its centre, and somewhat resembling a piece of honeycomb; it is contagious. It is termed porrigo favosa by Willan and Bateman. The parasitic plant causing or accompanying it is the *Achorion Schönleinii*.

Tinea tonsurans is a chronic contagious disease, known by the decolorization and brittleness of the hairs, the scaly eruption, and the roundness of the diseased patches. It is called porrigo scutulata, by Bateman and Willan, and vulgarly ringworm. The parasite is the *Trichophyton tonsurans*.

In **Tinea decalvans**, the third variety, the hair falls off one one or more circular spots, leaving a perfectly smooth bald patch; it is usually known as porrigo decalvans; and the parasitic vegetable is the *Microsporon Audouini.*

The last species—**Tinea sycosa**—is characterised by inflammation of the hair-follicles, causing successive eruptions of small acuminated pustules, occurring most frequently upon the chin, and other parts occupied by the beard; it rarely occurs on the scalp, and rarely affects women. It is called mentagra by Willan and Bateman, and sycosis by Cazenave. The parasite is the *Microsporon mentagrophytes.*

Treatment.—This is the same in all the varieties of tinea, and consists in attention to cleanliness, removal of the hair with the scissors, improvement of the general health, and the destruction of the parasitic plant. By the latter, the disease will in most cases be cured. It is best effected by the application of sulphurous acid, for the introduction of which agent into practice we are much indebted to Dr. Jenner* (Formula 266).

PLICA POLONICA.

Plica Polonica, or *trichosis plica*, is a disease of the hair little known in this country. It is characterised by tenderness and inflammation of the scalp; the hairs become swollen and imperfectly formed; and the hair-follicles secrete a large quantity of viscid, reddish-coloured fluid, which glues the hairs together, uniting them into a mass. It is caused, or accompanied by, two parasitic plants—the *Trichophyton tonsurans* and *Trichophyton sporuloides.* As regards the *treatment*

* See Medical Times and Gazette, August 20, 1853.

of this disease little is known, but it is usually recommended that the diseased hairs should not be cut. I should myself resort to the use of the sulphurous acid lotion, so beneficial in analogous diseases (see Formula 266).

CHLOASMA.

Chloasma, *pityriasis versicolor*, or *liver-spot*, makes its appearance generally on the front of the chest or abdomen, in the form of small spots of a dull reddish colour, which gradually increase in size, and assume a yellow tint. It may last from a few days to many months or years. It is contagious. According to Eichstedt, this disease is caused by a cryptogamic plant—*Microsporon furfur*. It may be cured by the use of the sulphurous acid lotion, or by a lotion of bichloride of mercury in water (gr. ij to ℥j), applied night and morning. Mr. Startin considers that it is apt to return, if an arsenical course be omitted (Formula 104). I have, however, cured cases by the mercurial lotion alone, continuing its use for a short time after the disappearance of the eruption.

SCABIES.

Scabies, or *psora*, or *the itch*, is a contagious disease—contagious in that sense which implies contact—consisting of a vesicular eruption, presenting a number of watery heads, attended with violent itching. It may attack every part of the body, with the exception of the head and face; it most frequently occurs in the flexures of the joints, especially on the fingers. The cause of the disease is an insect called the *Acarus scabiei*, which is to be found about a line from, but not in, each vesicle. It must be killed by the free application

of sulphur ointment, or the use of sulphur baths, and thus this loathsome disease will be cured. The contaminated clothes must be afterwards destroyed, or well fumigated with sulphurous acid gas, which may be procured by igniting a rag dipped in melted sulphur.

Order 2.—PITYRIASIS.

Pityriasis is a chronic inflammation of the skin, attended with redness and itching, and characterised by the production of minute white scales or scurf in great quantity. It may attack any region, but the scalp and parts covered with hair are the most common seats of it. The desquamation takes place copiously and incessantly.

Treatment.—Some tonic infusion, an occasional purgative, and the use of alkaline lotions (Formulæ 261, 262, 269) to the affected part. Occasionally the unguentum hydrargyri nitratis mitius does much good, applied daily. When the head is the part affected, the hair should be cut off close to the scalp, with a pair of scissors. Great cleanliness is, of course, essential.

LEPRA.

Lepra, or *lepra vulgaris*, is perhaps the most obstinate and troublesome of all cutaneous diseases. It is a non-contagious chronic eruption, consisting of red, scaly, circular patches, of various dimensions, scattered over different parts of the body, but most frequently found in the neighbourhood of the joints, especially near the knee and elbow. By degrees, the patches increase in size and number, and extend along the extremities to the trunk.

When the patches are small, white, and of long

standing, the disease is termed *lepra alphoides;* when copper coloured, and the result of syphilis, *syphilitic lepra.*

Treatment.—All local applications, with the exception of alkaline baths, or the simple warm bath, are useless. Liquor potassæ, in half-drachm or drachm doses, thrice daily, is often beneficial, or the liquor potassæ arsenitis, or the triple compound of iodine, arsenic, and mercury, known as Donovan's solution (Formulæ 102, 103), may be cautiously given with the greatest advantage. Where these remedies fail, the decoction of dulcamara, or decoction of sarsaparilla and bichloride of mercury, tar capsules, tincture of cantharides, or the iodide of potassium, may be tried; mercury will generally cure the syphilitic form. The Harrogate waters have been recommended. At the same time, the diet must be very simple, and all stimulating food or drink avoided. During an arsenical course, all acids, fruits, and vegetables should be abstained from.

PSORIASIS.

Psoriasis, psora leprosa, or *dry tetter,* is a chronic, non-contagious inflammation of the derma, characterised by the development of patches, of various extent and form, slightly raised above the level of the skin, covered by thin, whitish scales of altered epiderma, and accompanied by rhagades or fissures of the skin. The eruption may be local, or it may be diffused over the whole body. The *local* varieties consist of psoriasis palpebrarum, psoriasis labialis, psoriasis præputialis, psoriasis scrotalis, psoriasis palmaris, and psoriasis unguinum. The *general* varieties are

psoriasis vulgaris, psoriasis gyrata, and psoriasis inveterata,

Psoriasis is closely allied to lepra in its appearance and general pathology; in the former disease, the patches are irregular, and not depressed in the centre; in the latter, they are circular, and depressed in the centre, with elevated margins. Both affections are sometimes hereditary, and both require the same treatment.

ICTHYOSIS.

Icthyosis, the fish-skin disease, is characterised by the development, upon one or more parts of the integuments, of thick, hard, dry, imbricated scales of a dirty grey colour, resting upon an uninflamed surface, and unattended by heat, pain, or itching. It is said to be a congenital disease, and to last during life.

Simple warm and alkaline baths may be used as palliatives; no other treatment seems of any use. Donovan's triple solution might be tried.

Order 3.—ECZEMA.

Eczema, crusta lactea, humid tetter, or scall, is a non-contagious disease, consisting of an eruption of small vesicles on various parts of the skin, closely crowded together, and often running into each other, so as to form, on being ruptured, superficial moist excoriations. There are several species of this disease. When the eruption consists of minute vesicles on different parts of the skin, without any inflammation, it is called *eczema simplex;* when the skin is inflamed, and there is heat and swelling, *eczema rubrum. Eczema impetiginodes* is a severe degree of eczema rubrum. When arising, as it sometimes does, from great heat, espe-

cially from the heat of the sun, it is called *eczema solare;* when as a result of the use of mercury, *eczema mercuriale.* In infants at the breast, and in children during dentition, it often affects the scalp—*eczema capitis.*

Treatment.—All the varieties are often obstinate, and resist the power of medicines. Mild local applications, as thin gruel, barley-water, or linen rags dipped in warm water and covered with oiled silk, are useful. I have found glycerine, or a lotion of glycerine and water, in equal parts, very beneficial. The carron oil (Formula 264) has been recommended. The general treatment must consist in the use of warm or tepid baths, saline laxatives, slightly acidulated drinks, opiates to relieve the irritation, sarsaparilla, the mineral acids, &c. In severe or chronic cases the iodide of potassium, or the liquor potassæ arsenitis, should be tried (Formulæ 98, 99, 103).

HERPES.

Herpes, or *tetter*, is a transient non-contagious affection, consisting of clusters of vesicles upon inflamed patches of irregular size and form. The eruption runs a definite course, rarely continuing for more than two or three weeks; it is not usually severe, nor is it accompanied by any constitutional symptoms. Care must be taken not to mistake its nature, since *herpes præputialis* has been treated as syphilis, and *herpes circinatus*, when occurring on the scalp, as tinea tonsurans or ringworm. A singular species of this disease is *herpes zoster*, or *zona*, or *the shingles*, in which the inflamed patches with their clustered vesicles are arranged in the form of a band, encircling half the circumference of the body.

Very little is necessary in the way of *treatment* beyond attention to the bowels, and regulation of the diet.

PRURIGO.

Prurigo—itching—is a cutaneous disease characterised by an eruption of small papulæ or pimples, of the natural colour of the skin. It is a chronic affection, lasting for months or years, and causing great discomfort, not to say misery. Patients afflicted with it scratch and tear themselves constantly till the blood flows; their sufferings are aggravated by warmth. Willan describes three varieties—*prurigo mitis*, *prurigo formicans*, and *prurigo senilis*. The first is the mildest form; in the second, the itching is combined with a sensation like the creeping of ants or the stinging of insects; while the third occurs in old persons, and is the most obstinate, often continuing for the rest of the patient's life.

Diagnosis.—The itching arising from prurigo must not be confounded with that caused by insects. I may here mention that the human body is infested with three kinds of lice, viz., the *Pediculus vestimenti*, or *clothes' louse;* the *Pediculus capitis*, or *head louse*, which lives in the hair; and the *Pediculus pubis*, or *crab louse*, which infests the hair of the pubes. They are all destroyed by mercurial ointment, or by dusting the parts with calomel, or by washing them with infusion of tobacco.

Treatment.—Alkaline (Formula 290), or sulphur (Formula 294), or plain water baths should be used daily; the temperature should not exceed 70° F. The local applications which give the most relief are vinegar, lime-water, a weak solution

of bichloride of mercury, a dilute solution of creosote, a lotion containing prussic acid, tar ointment, an ointment containing a small quantity of aconitine, &c. (Formulæ 255, 261, 262, 265, 279.)

The general treatment must consist of a light and cooling regimen, the avoidance of stimulating food or drink, and the use of laxatives, sarsaparilla, acid tonics, or even the liquor potassæ arsenitis (Formulæ 42, 91, 104).

Dr. Bowling, of Kentucky, says in a letter to Dr. Watson, that he has cured numerous cases of prurigo senilis thus:—"I direct that the affected parts be sponged for a minute or so with good apple vinegar, and then be allowed time to dry. After this they are to be *smeared* over with citrine ointment (*unguentum hydrargyri nitratis*). The applications are to be made twice a day. The cure is usually effected in a week."

IMPETIGO.

Impetigo is a severe non-contagious inflammation of the skin, characterised by an eruption of small hemispheroidal or flattened pustules, most frequently grouped in clusters, and forming thick, rough, yellowish scabs or incrustations. From beneath the incrustations a discharge takes place; the crusts become thicker and larger, and fall off, leaving a raw surface. The mode of distribution of the pustules has caused a division of the disease into two varieties — *impetigo figurata* and *impetigo sparsa*. The first occurs generally on the face, especially on the cheeks; it is attended with constitutional disturbance; and as the pustules burst and form scabs, the heat and itching become intolerable. In children the impetiginous eruption sometimes covers the face like a mask,

and is called *crusta lactea*. The second form merely differs from the first, inasmuch as the pustules are more scattered, being sometimes distributed over an entire limb, or even over the whole body.

Treatment.—When there is much inflammatory action, the application of a few leeches, or even general bleeding to six, eight, or ten ounces, may be necessary. The best local applications are lotions containing the oxide of zinc, or hydrocyanic acid (Formulæ 261, 268); dusting the affected part with the oxide of zinc is often very useful. Vapour or warm-water baths are always beneficial. The constitutional treatment must consist in attention to diet, mild laxatives, alkalies, and tonics, (Formulæ 17, 23, 42, 48, &c.)

LUPUS.

Lupus is a most formidable affection. Dr. Burgess, in his excellent translation of Cazenave, says that it commences with purple and red spots, or more frequently livid indolent tubercles, the chief character of which is their tendency to end in destructive ulceration of the surrounding parts. There are two varieties of this disease, *lupus non exedens*, and *lupus exedens* or *noli me tangere*. In the *first* there is no ulceration, yet the tubercles leave deep cicatrized pits behind them; when it spreads rapidly and superficially, it leaves the skin crossed by white scar-like ridges and bands. The *second* is very destructive; it attacks the nose more frequently than any other region of the body, though why it does so is unknown. The extent of parts which it destroys varies; sometimes the whole nose being eaten away, sometimes only the point.

Treatment.—A prolonged course of the liquor hydriodatis arsenici et hydrargyri, or of the liquor potassæ arsenitis, or of iodide of potassium in decoction of sarsaparilla, is necessary in both varieties (Formulæ 93, 99, 102, 103).

As a local remedy in lupus non exedens, Mr Wilson recommends the occasional application of the acetum cantharidis, made with strong acetic acid. In lupus exedens, chloride of zinc, or potassa fusa, or nitric acid, must be used to destroy the ulcerated surface, and excite the capillaries to a more healthy action.

FURUNCULUS.

Furunculi, or boils, form a common and very irritating pustular cutaneous disease. They generally arise when the system is below par, and when consequently a generous diet, port wine, and bark will be indicated. Sugar and all saccharine matter should be avoided.

ANTHRAX.

Anthrax, or carbuncle, is merely an enlarged boil, most frequently occurring at the nape of the neck or between the shoulders. When the carbuncle becomes tense and very painful, deep crucial incisions must be made into it. The system must be well supported by generous diet, stimuli, and tonics. Change of air, especially a visit to the sea-coast, will often work wonders.

Order 4.—PURPURA.

Purpura consists of a morbid condition of the capillaries, owing to which blood is effused into the different tissues of the body, the effusion giving rise to the formation of sanguineous patches of various size. When the patches are small—

mere spots—they are termed *petechiæ;* when large, *ecchymoses.*

The spots vary in colour, being either red, purple, livid, or reddish-brown; they bear a great resemblance to bruises; pressure does not efface them. Five varieties are usually enumerated, namely, purpura simplex, purpura urticans, purpura hæmorrhagica, purpura senilis, and purpura cachectica. This disease must not be confounded with scurvy, which it somewhat resembles. It differs, however, inasmuch as it often appears suddenly, is not owing to any want of vegetable food, and is not attended by a livid, spongy state of the gums.

Treatment.—As purpura is a disease of debility, the treatment must consist in the use of good diet, tonics, especially the mineral acids, quinine and iron, and acidulous drinks (Formulæ 7, 11, 12, 159). The oil of turpentine in small, frequently repeated doses has been strongly recommended (Formula 134).

POMPHOLYX

Is characterised by the eruption of large bullæ or vesicles, which appear in successive crops upon different parts of the body, but especially upon the extremities; it is generally unattended by fever. *Pemphigus* is merely pompholyx with fever superadded. A kind of artificial pompholyx may be produced by the application of cantharides. I remember a young woman in King's College Hospital, who deceived her physician for a short time by rubbing powdered cantharides into various parts of her person, and thus raising numerous small blisters.

Treatment.—Tonic and alterative medicines, with generous diet and fresh air, appear to be the remedies called for (Formulæ 91, 97, 100).

RUPIA.

Rupia may be considered as a modification of pemphigus, occurring in persons of debilitated constitutions. It is characterised by the eruption of small flattened bullæ, containing at first serous fluid, which soon becomes purulent or sanguinolent, and concretes or dries into dark, black, rough crusts. When the crusts fall off, they leave circular ulcers, of various sizes, indisposed to heal. It is sometimes dependent upon syphilis, when it is known as *syphilitic rupia*. Rupia often lasts for weeks or months. Warm baths, generous diet, wine, bark, and other tonic medicines, followed by change of air, will form the *treatment* to be pursued. In syphilitic rupia iodide of potassium (Formula 94) will generally effect a cure.

ECTHYMA.

Ecthyma is an acute inflammation of the skin, characterised by large, round, prominent pustules, occurring upon any part of the body. The pustules are usually distinct, seated upon a hard, inflamed base, and terminate in thick dark-coloured scabs, which leave superficial ulcers, followed by cicatrices. It is often caused by different stimulating applications to the skin, such as lime, salt, sugar, &c. Grocers and bricklayers are liable to it.

Treatment.—This must consist in the use of gentle laxatives, with alteratives, slightly acid drinks, and spare diet. Water-dressing, or the lotio plumbi, or the unguentum zinci, may be applied to the pustules.

DISEASES OF THE EYE.

Myopia, or **Near Sight**, most frequently arises from too great a convexity of the cornea or of the crystalline lens, or of both. An undue density of any or of all the refractive media may also cause it. Myopia is usually congenital; it may, however, be gradually or even suddenly induced. It occurs most frequently in the higher ranks of life. In confirmed cases, double concave glasses or spectacles must be worn; single eye-glasses are bad. The glasses had better not be worn constantly, but only when especially required.

Presbyopia, or **Aged Sight.** One of the earliest indications of advancing years is an alteration in the refractive powers of the eyes, producing presbyopia, or long-sightedness. Mr. White Cooper enumerates the following structural changes in the eye as giving rise to this state:—1. A flattening of the cornea, from a diminution in the bulk either of the aqueous or vitreous humours, or of both, the result of defective secretion. 2. An alteration in the consistence and diminution in the convexity of the crystalline lens. 3. Diminished density of the various humours. 4. Diminished curvature of the retina, which—existing while the vertical diameter of the globe remains about the same—prevents the refracted rays that

enter the flattened cornea from forming a picture upon the retina. Whichever of these may exist, the effect is to cause the converging rays of light to be brought to a focus beyond the retina, and so to produce an imperfect and confused picture. Distant objects, however, are still seen distinctly, since the rays which proceed from them require less refractive power to bring them to a focus by the time they arrive at the retina; the difficulty is in discerning close objects. Double convex glasses should be used. The eyes should be spared by artificial light. Where the sight is *weak*, relief will often be obtained by wearing spectacles with glasses of a neutral tint.

INFLAMMATION OF THE CONJUNCTIVA.

Catarrhal Ophthalmia is a mild form of inflammation of the conjunctiva and Meibomian follicles, the most common of all diseases of the eye, being caused by exposure to cold and wet, vicissitudes of temperature, &c. The pain is slight, the patient complaining more of stiffness and dryness, and of a feeling of pricking or roughness of the eye, as if sand or broken glass was under the upper eyelid. This sensation is caused by the rubbing of the sensitive eyelids over the enlarged vessels of the sclerotic conjunctiva. These vessels are seen to be of a bright scarlet colour, and irregularly arranged; differing thus from the appearance of the vessels in sclerotitis, in which they are of a pink hue, and disposed straight and regularly, like radii in a circle. The natural secretion from the conjunctiva and Meibomian follicles is increased in quantity, and often becomes puriform.

Treatment.—Catarrhal ophthalmia yields rea-

dily to simple treatment. At the outset, the patient should be purged with calomel and jalap, or with the common blue pill and black draught. Local astringent remedies should then be used. Dr. Mackenzie recommends a solution of nitrate of silver (gr. iv. to ℥j). A large drop to be placed in the eye twice or thrice daily. Some practitioners employ the same remedy as an ointment, in the proportion of gr. xx. to ℥j.

Purulent Ophthalmia is the same disease as the foregoing, only much more severe, and consequently of a more destructive tendency. There are three kinds of purulent ophthalmia, viz., purulent ophthalmia of adults, or contagious ophthalmia, or Egyptian ophthalmia; gonorrhœal ophthalmia; and the purulent ophthalmia of infants.

In *purulent ophthalmia*, the inflammation is very intense, runs a rapid course, is attended with violent pain, and leads to the formation of large quantities of thick, yellow, purulent matter. At the same time effusion takes place into the areolar tissue, between the sclerotic and conjunctiva, as well as into that between the conjunctiva and palpebræ, producing great tumefaction, or *chemosis*, so that the globe of the eye can hardly be seen. Where the disease does not yield, the inflammation increases, attacks the cornea, and occasionally the internal textures of the eye; extensive sloughing takes place, and when the sufferings terminate, it is found that the sight is completely lost.

This affection is contagious, is frequently epidemic, and is common in hot climates. Military life appears especially to predispose to it. Both eyes are often affected, and sometimes simultaneously.

Gonorrhœal ophthalmia differs from the Egyp-

tian form in a few points only. Thus, it is limited usually to one eye, is perhaps the most severe disease of the two, and is caused by contact of the gonorrhœal discharge with the conjunctiva.

Treatment.—The treatment of both affections is the same, and consists in checking the inflammation by antiphlogistics and purgatives, and the employment of local astringents. As regards the propriety of general blood-letting, most authorities agree that it is necessary in severe cases; Mr. Mackenzie recommends it to the extent of from ten to forty ounces, according to the strength, constitution, and age of the patient. We must remember, however, that bleeding has more influence over the inflammations of serous and fibrous tissues than over those of the mucous. In many instances therefore local depletion, by means of leeches (from eight to twenty) round the eye will suffice; especially when combined with the use of astringents, as recommended by Mr. Guthrie. This gentleman's plan consists in the employment of moderate depletion, with the daily use of an ointment, made by mixing ten grains of nitrate of silver with one drachm of lard. Before inserting a portion of this beneath the eyelids, the discharge is to be washed away with a solution of alum. The pain arising from the application must be relieved by warm narcotic fomentations, and opium. To prevent the lids from adhering, the edges should be smeared at night with the *unguentum hydrargyri nitratis mitius.*

The *purulent ophthalmia of infants*, or *ophthalmia neonatorum*, generally commences about the third day after birth, with inflammation of that part of the conjunctiva lining the palpebræ. The edges of the eyelids adhere, and on separating them a

drop of thick white fluid escapes. As the inflammation extends to the conjunctiva covering the eyeball, the eyelids swell, the purulent discharge increases, and the child becomes very feeble, restless, and fretful. The disease may remain in this state for eight or nine days; if not then relieved ulceration of the cornea occurs, and those destructive consequences ensue which have been already referred to. Both eyes commonly suffer, either at the same time, or within an interval of a few days. The discharge is contagious.

Treatment.—The child's bowels should be opened by castor oil, magnesia, or a few grains of grey powder and rhubarb. If the inflammation be severe, apply one leech to the upper eyelid, remaining with the patient till all the bleeding from the bite ceases. The eye must be frequently bathed with tepid water, and a solution of alum (gr. v to ℥j) injected between and beneath the lids twice or thrice in the twenty-four hours. Occasionally a lotion of nitrate of silver (gr. iv to ℥j), applied once daily, will be more efficacious than the alum.

Strumous Ophthalmia is a disease of scrofulous children, occurring generally between the period of weaning and the ninth or tenth year. Its principal *symptoms* are slight partial redness, with the formation of little phlyctenæ, or pustules on the conjunctiva; a copious lachrymal secretion, and great intolerance of light; both eyes are usually affected. The hot tears flowing over the cheek often produce an eruption resembling crusta lactea.

The Treatment of these cases must be chiefly constitutional. In addition to good nourishing food, warm clothing, and fresh air, mild laxatives, cod-liver oil, and tonics are necessary; of the latter,

steel, and especially quinine, are the best (Formula 13). Warm fomentations give great relief; wearing a green shade will also be useful. When the most acute symptoms have subsided, local stimulants, such as the vinum opii, or the solution of nitrate of silver (gr. ij to ℥j) may be employed; benefit is often derived from small blisters behind the ears, or to the nape of the neck.

INFLAMMATION OF THE SCLEROTICA.

Rheumatic Ophthalmia, or *Sclerotitis Idiopathica,* may be defined as inflammation of the sclerotic and surrounding fibrous tissues of the eye, excited by cold. When severe, the inflammation generally extends to the conjunctiva and cornea. The *symptoms* consist of bright redness of the eye, the turgid vessels being arranged in a radiated or zonular form, and being evidently beneath the conjunctiva; of severe pulsating pain round the orbit, in the eyebrow and temple, most severe during the night; of dimness of vision, from haziness of the cornea and contraction of the pupil; and of general constitutional disturbance. There is no chemosis, neither does the access of light prove very distressing.

Treatment.—Venæsection will generally be necessary to the extent of eight, twelve, or sixteen ounces, followed by leeches to the temple if the circumorbital pain be not relieved. After the use of purgatives, calomel and opium (gr. ij to gr. ¼) should be given twice or thrice daily, till the gums become slightly affected. The iodide of potassium is often useful (Formula 94). Colchicum has been recommended. Blisters behind the ears, or a large one to the nape of the neck, will do good. Collyria have but little power over this disease.

During the progress of the case, the pupil of the affected eye must be kept dilated, by placing a drop of a solution of atropine in it (Formula 276), or by smearing the extract of belladonna, made semi-fluid by admixture with distilled water, round the orbit.

Catarrho-Rheumatic Ophthalmia, or inflammation of both the conjunctiva and the sclerotica, is a common and severe disease, characterised by a combination of the symptoms of conjunctivitis and sclerotitis. Thus, there is a feeling of sand between the eyeball and eyelids, severe circumorbital pain, the peculiar redness of both affections, chemosis, intolerance of light, epiphora, &c. When the inflammation runs on unchecked for eight or nine days, ulceration of the cornea, and the deposition of pus between its lamellæ—constituting the disease called onyx—is to be feared; at the same time, the iris becomes sluggish in its movements and altered in colour, and lymph is effused into the pupil, sometimes quite closing it.

The Treatment must be of a twofold nature, with a view to relieve both the sclerotic and conjunctival affection. As regards the former, those remedies must be adopted which have been mentioned in speaking of rheumatic ophthalmia; while as to the latter, the stimulating applications so useful in simple conjunctivitis must be had recourse to, especially the solution of nitrate of silver (gr. iv—x to ℥j), or the vinum opii.

INFLAMMATION OF THE CORNEA.

Strumous Corneitis.—The cornea frequently suffers in the affections previously noticed. Scrofulous inflammation of the cornea, however, is a peculiar chronic disease, lasting for months, or

even years, occurring chiefly in strumous subjects between the ages of eight and eighteen, and commencing in the conjunctival layer of the cornea, but gradually extending to the deeper tissues. It is generally accompanied by slight sclerotic redness, some opacity and more convexity than natural of the cornea, dilatation of the pupil, and slight constitutional disturbance; there is no great intolerance of light, and but little pain, except sometimes in the early stages. The change of figure in the cornea is due to an increased secretion of the aqueous humour.

Treatment.—When the inflammation is active, and opacity of the cornea rapidly progressing, local blood-letting must be employed, together with purgatives, and calomel and opium (Formula 173) till the mouth is affected. In chronic cases, the treatment recommended in speaking of strumous ophthalmia must be adopted. In one troublesome case, I found much benefit from the long-continued use of the iodide of potassium, sarsaparilla, and cod-liver oil. Warm anodyne fomentations may be beneficially applied.

INFLAMMATION OF THE IRIS.

Iritis is a most interesting disease to the physician and to the pathologist. Suspended—like a curtain with a circular aperture near its centre—between the cornea and crystalline lens, and bathed on both sides by the aqueous humour, the iris serves to regulate the quantity of light admitted to the retina. By it, the cavity containing the aqueous humour is divided into an anterior and a posterior chamber, lining which is a serous membrane, forming a shut sac analogous to the

peritoneum; consequently, in iritis, the inflammation is similar to that of other serous membranes, that is to say, is of the adhesive kind—is attended with the formation of coagulable lymph.

Diagnosis.—Now, from whatever cause iritis may arise, its symptoms are the same. They are thus clearly enumerated by Dr. Mackenzie:—

1. Zonular sclerotitis; fine hair-like vessels, running in radii towards the edge of the cornea.

2. Discoloration of the iris. If naturally blue, it becomes greenish; if dark coloured, reddish. This is the result of increased vascularity, or of effusion of lymph into its substance, or on its posterior surface.

3. Contraction, irregularity, and immobility of the pupil.

4. Effusion of coagulable lymph into the pupil and posterior chamber, and occasionally into the anterior.

5. Adhesions of the iris, and especially of its pupillary edge, to the capsule of the lens; in some rare cases, to the cornea.

6. Tubercles, pustules, or small abscesses of the iris.

7. Dimness of sight, and sometimes total blindness.

8. Pain in the eye, and nocturnal circumorbital pain.

It must not be supposed that in every case all these symptoms will be met with, but rather that a certain number of them will be found sufficient to render the diagnosis certain. The constitutional disturbance is well marked, though it is not generally severe.

If the inflammation be not checked, it creeps

on, involves the choroid coat and retina, and, spoiling the delicate texture of the latter, destroys the sight for ever.

The Causes of this affection are, exposure to cold and wet, giving rise to rheumatic or idiopathic iritis; syphilis and gonorrhœa, causing syphilitic iritis; injuries and wounds, producing traumatic iritis; and certain conditions of the constitution, especially the scrofulous, rheumatic, and gouty. Iritis arising as one of the secondary effects of syphilis, is perhaps the most common; it is usually attended with the other effects of constitutional syphilis, such as copper-coloured eruptions, nodes, pains in the bones—especially severe at night, and ulceration of the throat. Without laying too much stress upon the local peculiarities of syphilitic iritis, it may be mentioned that, at first, the redness is much less severe than in the rheumatic form; that the iris often assumes a rusty colour, especially near its pupillary edge; and that the pupil is apt to be displaced, to be drawn upwards towards the root of the nose.

Treatment.—Mercury, blood-letting, and belladonna are the three supports on which we rely. The system should be got under the influence of the first as speedily as possible, by administering calomel and opium (Formula 173) every four or six hours, or by inunction with the mercurial ointment. One drachm of the *unguentum hydrargyri* may be rubbed into the axillæ, or into the inside of the thighs, night and morning: in very acute cases inunction should be combined with the administration of calomel by the mouth. As soon as salivation occurs, the mercury acts like a charm; its administration should then be suspended. When the nocturnal circumorbital pain is intense,

relief may be speedily given by mixing three grains of powdered opium with ten of mercurial ointment, and well rubbing it into the temple. Bloodletting, aided by purgatives and the antiphlogistic regimen, must be had recourse to. Do not take away blood, however, as a mere matter of routine, but be guided entirely by the severity of the case. General bleeding is sometimes necessary; more frequently the application of several leeches (twelve to twenty) round the orbit, to be repeated if necessary, will suffice. The disease may undoubtedly be cured solely by mercury, but as a rule it must not be trusted to alone, During the treatment, from the commencement to the termination, the pupil must be kept dilated, in order to prevent the iris from forming adhesions with the capsule of the crystalline lens. This may be done by belladonna or by a solution of atropine (Formula 276). No other local application should be employed.

Oil of turpentine has been recommended in iritis where the use of mercury is contraindicated. Mr. Guthrie speaks favourably of its effects in some few instances (Formula 127).

INFLAMMATION OF THE CHOROID.

Choroiditis is rarely seen alone, since the inflammation rapidly spreads to the neighbouring textures of the eye, producing disorganization, &c., by which it is recognised rather than by any symptoms of vascular excitement.

Diagnosis.—The pathognomonic symptom is the formation of a blue zone, of variable breadth and completeness, round the cornea, produced by thinning of the sclerotic, followed by the protrusion of small dark blue humours. The pupil

is frequently displaced, contracted or dilated, and immovable; the cornea often becomes in parts opaque. There is generally considerable pain, intolerance of light, and dimness of vision; the constitutional symptoms are slight. The disease is followed by enlargement of the globe of the eye, and sometimes by suppuration and the formation of fungous growths: the sight is often lost, or at least much impaired.

The Treatment consists in local blood-letting, followed by the use of mercury, first as a purgative, and afterwards as an alterative (Formulæ 172, 173). The warm bath, counter-irritation to the temples and behind the ears by means of the tartar emetic ointment, and the administration of the liquor potassæ arsenitis (Formula 103), are the remedies usually recommended.

INFLAMMATION OF THE RETINA.

Retinitis usually occurs as a sympathetic affection in the course of other ophthalmiæ; as a simple idiopathic inflammation it is rare.

Diagnosis.—It is characterised by acute deep-seated pain in the eyeball, extending to the temples and forehead; great intolerance of light, diminution or loss of the power of vision, and frequent sensations of flashes of light. The pupil is found contracted, the iris loses its brilliancy and becomes motionless, and there is vascularity of the sclerotic. The constitutional disturbance is severe. High fever and delirium are often present. It is generally caused by exposure to vivid light—large fires, furnaces, &c. Reflected light appears very injurious to the retina, hence the pernicious effects of the glare from snow, or from the burning sands of tropical climates.

Treatment.—General and local bleeding, followed by purgatives, and mercury given until the mouth becomes affected, are the means upon which we must rely. The patient must be confined to a darkened room.

AMAUROSIS.

The term amaurosis—from *ἀμαυρόω*, to obscure or darken—is used to express partial or complete loss of vision arising from defective nervous function. The transparent tissues and humours of the eye may all be healthy, but the nervous matter which should receive and convey impressions, and render them perceptible to the mind, is affected. As Dr. Mackenzie says, if the retina be incapable of receiving with correctness impressions of external objects through the medium of light, if the optic nerve be unable to convey to the sensorium the impressions made upon the retina, or if the brain be incapable of receiving the impressions conveyed by the optic nerve, the individual must be affected with an obscurity in vision, or suffer a total deprivation of sight, according to the degree of inability in these several parts to execute their functions. Even when he goes no further than this, the pathologist must see the necessity of distinguishing different cases of amaurosis according as the retina, the optic nerve, or the brain is the part first and principally affected. Now the affections of either of these three parts which may cause amaurosis are *pressure* and *structural change*, such as inflammation, suppuration, induration, ramollissement, hypertrophy, atrophy, &c. It must be remembered, however, that slight structural changes are often produced by remote causes. Thus, amaurosis may arise from the presence of

worms in the intestines, the intestinal irritation being sufficient, in an extreme case, to excite a morbid condition of some part of the optic apparatus. So, again, the irritation of teething may produce temporary amaurosis in the same manner.

Symptoms.—In examining an amaurotic patient, the first points that attract attention are his gait and expression of countenance. He walks with an air of uncertainty, and his eyes, instead of being directed towards surrounding objects, have an unmeaning look—appear to be staring at nothing. In incomplete amaurosis, the movements of the iris are sluggish and the pupil is dilated; in total blindness, the pupil is greatly dilated and the iris immovable. When both eyes are affected, they are often unnaturally prominent and of an unhealthy colour, the sclerotica being frequently of a yellowish hue, and covered with varicose vessels.

In the commencement, the failure of sight is only experienced occasionally, as after long continued exertion of the eyes, reading by candlelight, &c. Occasionally it begins with indistinct vision, or *amblyopia;* or objects appear double, *diplopia;* or only one-half of an object may be seen, *hemiopia.* At the same time there is frequently headache, and ocular spectra become visible, the patient complaining of black specks floating in the air, or flies —*muscæ volitantes.*

Treatment.—It is difficult to lay down rules for the treatment of this disease, for since the causes upon which it depends are various and opposite, so, consequently, are the means of cure numerous and unsatisfactory. In all instances, however, attention must first be directed to the general health. Each case is then to be studied in all its bearings, especially with reference to the cause of the affection.

When it manifestly results from inflammation, mercury and antiphlogistics may be necessary; when from vascular exhaustion or nervous debility, the preparations of iron, bark, good diet, sea air, and cold bathing are indicated. Strychnia has been particularly recommended, and probably in some few examples it may stimulate the optic nerve into action (Formula 215). Electricity acts, I suppose, in the same way. Both remedies require caution in their use, however, for if improperly employed they do much mischief. Counter-irritants behind the ears, or to the nape of the neck, or to the shaven scalp, are spoken highly of by some authorities. Dr. Prichard recommends an issue to be made by dividing the scalp with a bistoury from the summit of the forehead to the occiput, and filling the space with peas. I have seen this cruel practice resorted to by physicians on several occasions, but I cannot remember that benefit was derived in a single instance.

DISEASES OF THE EAR.

OTALGIA.

Otalgia, or earache, may be *symptomatic* of inflammation of the ear, or of the presence of foreign bodies, or of tonsillitis, or of disorder of the *prima via*, or of rheumatism of the head, &c.; or it may be *idiopathic*, that is to say, true neuralgia of the ear. In the latter case, the pain is most severe on its invasion, and, unlike the pain in otitis, does not increase in severity, is unattended by fever, and often disappears suddenly. When the pain is very severe, it frequently shoots through the nervous filaments distributed over the same side of the face and head, causing much suffering and restlessness. When the affection is symptomatic, the *treatment* must be directed to the primary disease; when idiopathic, mild purgatives, a blister behind the affected ear, or the application of chloroform or the tincture of aconite, will be useful. Any carious teeth must be extracted or stopped.

OTITIS.

Otitis, or inflammation of the ear, may affect the external and internal ear at the same time, or it may be confined to either. External Otitis, or inflammation of the membrane lining the meatus auditorius externus,* is at first charac-

* See Wilde's Aural Surgery.

terised by dryness, itching, and heat of the part, gradually increasing to a dull aching, and eventually to an acute pain, generally increased at night, causing great agony, sleeplessness, fever, and even delirium. The lining of the meatus is swollen, dry, and pinkish ; in a short time a muco-purulent or purulent discharge takes place, and relief is experienced. INTERNAL OTITIS, or inflammation of the lining membrane of the cavity of the tympanum, is a most severe disease, being generally combined with inflammation of the membrana tympani—the *myringitis* of Wilde. Though frequently a disease of youth, it may occur at any time of life ; cold is a frequent cause of it, especially in debilitated or strumous individuals. It commences with violent headache, followed by intense, acute, gradually increasing pain in the ear, and loud or beating noises ; after a short time a sense of bursting or distension in the ear is experienced. The eyes become injected, the countenance anxious, the skin hot, pulse frequent, and the functions of the kidneys and bowels disordered. Delirium is often present, or, in children, convulsions. Facial paralysis, caused by the inflammation extending to the bony canal in which the portio dura passes round the tympanum, may occur. The disease terminates in one of three ways : either by resolution, or by suppuration, the pent-up pus bursting through the membrana tympani, and so discharging itself; or by the inflammatory process spreading through the mastoid cells internally, or by the bony meatus to the periosteum covering the mastoid process externally. Peculiar forms of otitis have been well described by Mr. Harvey, such as the rheumatic and gouty, which, however, need only be here mentioned.

The Treatment of otitis must be prompt and decided. In many cases, where the fever runs high, and the suffering is acute, general depletion will be called for, followed by the repeated application of leeches behind the ear. Hot fomentations and poultices will be found soothing. Antimonials must be administered so as to produce nausea, together with purgatives, such as calomel or blue pill, followed by the common black draught. Should the pain continue, both Wilde and Harvey recommend that an incision one inch long should be made over the mastoid process, down to the bone. At the same time the system should be gently got under the influence of mercury. When the membrana tympani has been ruptured, the inconvenience which arises must be subsequently obviated by the application of a thin layer of moist cotton wool as recommended by Mr. Yearsley, or by the use of an artificial membrane as suggested by Mr. Toynbee.

OTORRHŒA.

Otorrhœa—a purulent or muco-purulent discharge from the ear—is, properly speaking, only a symptom of certain diseases of this organ, as of inflammation, polypus, granulations on the surface of the membrana tympani, &c. It occurs very frequently, however, without any appreciable cause in young children about the time of dentition, or on the subsidence of any of the exanthemata, especially in strumous subjects. Commonly, under appropriate treatment, the discharge ceases in a short period, but occasionally it becomes chronic, in which case it may continue for years, destroying in the course of time the membrana tympani, the ossicula auditûs, and producing caries of the bony

walls of the meatus and tympanum. The disease may even extend to the cells of the mastoid process of the temporal bone, or in the opposite direction along the petrous portion of the same bone, until the brain and its membranes becoming involved in the unhealthy action, rigors, fever, and masked cerebral symptoms show themselves, and the case ultimately terminates in convulsions, coma, and death.

Treatment.—The first step must be to syringe, and then carefully examine the meatus auditorius externus. If the discharge be not severe, and no cause, as polypus, &c., be found to account for it, a cure may often be effected by daily dropping into the ear a solution of alum, zinc, or tannin, of the same strength as the various collyria (Formula 273). When these means fail, the surface of the canal should be painted with a solution of nitrate of silver (gr. vj ad ℥j), by means of a camel's hair pencil; this must be repeated every second day, the ear being frequently syringed in the interval with tepid water, by means of an elastic bottle. The application of glycerine, as recommended by Mr. Thomas Wakley, will also be beneficial after the use of the astringents. Where the patient's general health is bad, tonics and change of air will be necessary; in scrofulous cases iodine, cod-liver oil, &c., should be tried.

DISEASES OF THE ARTERIES.

AORTITIS.

Aortitis, or acute inflammation of the aorta, is a very rare disease. The *symptoms* are obscure; probably great general uneasiness, rigors followed by fever, pain and violent pulsation of the vessel, and great palpitation of the heart, will be the most prominent. In a very interesting case reported by Dr. Parkes,* a loud, rough, systolic bruit, due to the passage of the blood over a surface roughened by a deposit of lymph, was heard from the third dorsal vertebra down into the lumbar region; the pulse was irregular and small, but this arose from the aortic orifice of the heart being diseased. The pulse is usually unaffected. Should the existence of aortitis be suspected, venæsection, cupping over the spine, counter-irritation by means of blisters, and the administration of calomel and opium, are the measures to be resorted to.

AORTIC PULSATION.

Aortic pulsation is a peculiar functional affection, characterised by violent throbbing, usually most observable in the abdominal aorta. It causes annoyance rather than pain, but at times produces sickness and syncope. The pulsation may frequently, in thin subjects, be seen at the epigastrium, and sometimes at the umbilicus; on applying the hand a jerking, quick, strong, forward impulse is felt; auscultation often discovers a

* Medical Times, Feb. 23, 1850.

bellows-murmur, especially if anæmia coexists. The diagnosis between functional and aneurismal pulsation is somewhat difficult. I have found this pulsation not uncommon in cases of uterine disease. It has also been frequently noticed in hypochondriacs, in those whose digestive organs are deranged, in chlorotic females, &c.

Treatment.—This must be directed to the removal of the cause. In a case which was under my care last year in the Hospital for Women, the pulsation produced so much sickness and distress, that it was frequently necessary to control it by the application of ice to the abdomen, and by the administration of morphia. Hohnbaum, who suffered for some years from this disease in connection with dyspepsia, says that he derived most relief from the use of the aperient waters of Carlsbad, change of air, and relaxation from his professional duties.

ANEURISM OF THE AORTA.

Three forms of aneurism are usually described: *true aneurism*, in which all the coats of the artery dilate and unite in forming the walls of the pouch; *false aneurism*, in which the inner and middle arterial tunics being ruptured, the walls are formed by the cellular coat and contiguous parts; and *mixed or consecutive false aneurism*, in which the three coats having at first dilated, the inner and middle ones subsequently rupture as the distension increases.

Aneurism of the Thoracic Aorta is chiefly met with in the ascending portion, or in the arch. Its general *symptoms* are very obscure, partly in consequence of their similarity to those arising from disease of the heart. When the aneurismal tumour is large and pulsating, and rises out of the chest,

producing protrusion or absorption of the sternum and ribs, then the diagnosis is altogether as easy as it was before difficult. When the sac presses upon the trachea, there will be dyspnœa; when on the recurrent laryngeal nerves, aphonia; when on the œsophagus, dysphagia and symptoms of stricture; and when on the thoracic duct, inanition, and engorgement of the absorbent vessels and glands.

Aortic aneurism is sometimes accompanied by a bellows-sound, sometimes not. In false aneurism there is generally a murmur both with the entrance and exit of blood into the sac; or there may be one loud, prolonged, rasping bruit, from the passage of the blood over the roughened inner surface of the vessel. In true aneurism or mere dilatation of a part of the wall of the artery, murmurs are seldom audible. A small but free opening from the canal of the artery into the aneurismal sac, and a roughened state of the arterial tunics, from degeneration or from atheromatous deposit, are, however, two conditions which will give rise to a bruit. In both forms, when a murmur exists, a peculiar thrilling or purring tremor will be felt on applying the hand over the sternum.

Aneurism of the Abdominal Aorta often gives rise to acute pain in the lumbar region, occasionally shooting into either hypochondrium, and downwards into the thighs and scrotum; constipation aggravates the pain. By careful examination, a tumour may generally be felt, which communicates a constant and powerful pulsation to the hand. On applying the stethoscope, a short, loud, abrupt bellows-sound will be heard.

The Treatment of aortic aneurism must consist in the avoidance of all bodily and mental excite-

ment, in the use of a generous reparative diet, free from stimulants of every kind, and in attention to the digestive, secreting, and excreting functions.

The method of cure proposed by Valsalva and Albertini, and which has been since often adopted until the present time, consisted in bleeding the patient frequently, and keeping him upon the lowest possible diet compatible with the sustenance of life. By this means it was thought that the force and velocity of the blood would be diminished, and that coagulation would take place in the aneurism. Since, however, the coagulation of fibrin seems to be impeded by all lowering measures, and as the rapidity of the circulation and the throbbing of the arteries is increased by depletion, Valsalva's method would seem to produce effects the very opposite to those wished for, and such is the case. Dr. Copland says he has seen cases "in which aneurismal tumours had existed for some time without any increase, so long as the patient avoided any marked vascular excitement and continued his accustomed diet; but when repeated depletions and vegetable or low diet were adopted, great augmentation of the tumour, and fatal results soon followed."

In advanced and aggravated cases we can only endeavour to palliate the various symptoms as they arise. Thus the harassing cough may generally be relieved by sedatives and expectorants (Formulæ 67, 76, 81); the dropsy by small doses of mercury, digitalis, squills, and other diuretics (Formulæ 87, 90, 177); while the heart's action may be regulated and moderated by assafœtida, camphor, and digitalis, in small doses. In all cases, experience no less than common sense teaches us to avoid too debilitating a plan of treatment.

DISEASES OF THE VEINS.

PHLEBITIS.

Phlebitis, or inflammation of the veins, depends upon or is generally accompanied by disease of the blood. Mr. Henry Lee has clearly shown that the lining membrane of veins has a very slight tendency to inflammation, and that when inflamed it does not exude lymph as a serous membrane does.

Diagnosis.—The signs of phlebitis are pain, increased on pressure, swelling, stiffness, and redness in the course of the vessel, generally spreading upwards towards the heart. When suppuration results, it is usually accompanied or perhaps preceded by rigors and flying pains in various parts of the body. The constitutional disturbance is always great. The result of the admixture of pus or other morbid fluids with blood is to cause the latter to coagulate; in this way a vein sometimes becomes filled with a coagulum, when, if the morbid matter is of such a nature that it ought to be eliminated, the areolar tissue around inflames, suppuration and abscess follow, the coats of the vein ulcerate, and the contained clot is discharged by means of the abscess. On the other hand, if the poison does not produce coagulation, it mixes with the circulating blood, affects the whole system, and is subsequently deposited in distant parts, as in the lungs, liver, spleen, eye, joints, areolar tissue, &c., giving rise to very serious consequences.

The Treatment consists in rest, fomentations and poultices, and purgatives. When the system is low, stimulants and tonics will be necessary, especially good beef-tea, port wine or brandy, and opiates to relieve the restlessness (Formulæ 24, 22, &c.)

PHLEGMASIA DOLENS.

Phlegmasia dolens probably depends upon inflammation of the internal or external iliac and femoral veins, commencing for the most part, especially in puerperal women, in the uterine branches of the hypogastric veins. It has been termed obstructive phlebitis. We are chiefly indebted to Dr. Robert Lee for our knowledge of the pathology of this affection. It is very common after parturition, especially in women who have been much weakened by flooding, or other causes.

Symptoms.—It commences generally, in from one to five weeks after labour, with fever, headache, thirst, nausea, and pain; swelling, and loss of motor power of one of the lower extremities—rarely both limbs are affected—the swelling beginning at the upper part of the thigh, and gradually extending downwards. The limb is unnaturally hot, tender, not œdematous, but swollen sometimes to twice its natural size; it is of a pale white colour, and has a glazed or shining appearance. The acute stage generally lasts about fourteen or twenty-one days, but the limb often remains swollen and feeble, or almost useless, for many weeks or even months.

Dr. Mackenzie* rejects the opinion that this disease arises from phlebitis, but believes that it is due to a vitiated state of the blood, giving rise to

* Medico-Chirurgical Transactions, vol. xxxvi.

irritation of the nerves, muscles, lymphatics, lining membrane of veins, and areolar tissue of the limb; owing to which there results the tense, elastic swelling, pain, loss of the power of motion, affection of the lymphatics, and obstructed condition of the veins, constituting the pathognomonic symptoms. Dr. Mackenzie does not explain, however, why this vitiated condition of the blood should as a rule only affect one or other of the lower extremities, though for this reason alone I should not doubt, as I do, the correctness of his views, since we cannot tell why gout affects the small and rheumatism the large joints; why one blood-poison should expend itself upon the mucous membranes, and another upon the skin.

Treatment.—Dr. Davis, who paid much attention to this affection, recommended the local abstraction of blood by leeches, the application of blisters, evaporating lotions, free and constant exposure to the action of the atmosphere, and the internal exhibition of digitalis and blue pill, Formula 177. In a case which lately came under my care, and which recovered, I at first employed warm fomentations, perfect rest, low diet, and opiates, to relieve the pain. Subsequently great benefit was derived from a mild alterative course of mercury, iodide of potassium, and a more generous diet. Dr. Robert Lee places most reliance upon local bleeding.

Blisters, stimulating liniments, and bandages to the limb are useful when all the inflammatory symptoms have subsided.

DISEASES OF THE NERVOUS SYSTEM

INFLAMMATION OF THE BRAIN.

Our knowledge of the effects of inflammation of the parts within the cranium is not sufficiently perfect to enable us to point out with certainty the symptoms which indicate inflammation of the substance of the brain—phrenitis, as distinguished from that of the membranes—meningitis ; and fortunately the distinction is not of much practical importance, since it is doubtful whether meningitis and phrenitis ever occur as separate diseases.

The Symptoms of encephalitis, or acute inflammation of the brain and its membranes, are fever, nausea and vomiting, acute headache, impatience of light and sound, watchfulness, suffusion of the eyes, and maniacal delirium. At the end of from twelve hours to two days, the second stage of the complaint sets in—the period of collapse. The patient falls into a state of stupor, his vision and hearing become dull, the pupil—from having been contracted to a pin's point—becomes dilated, there are frequent twitchings of the muscles, the countenance is ghastly, the body covered with cold sweats, the sphincters relax, and there is profound coma, ending in death. Occasionally the first symptom that attracts attention is a sudden attack of convulsion, in some cases occurring without any previous illness, sometimes preceded for a few days by headache and slight complaints,

which have passed on unnoticed. The convulsion is generally long and severe; it may be followed immediately by coma, which in a few days is fatal; or it may recur frequently at short intervals, and pass into coma at the end of twenty-four hours. Dr. Watson thinks that when nausea and vomiting are the earliest symptoms, the inflammation has had its origin in the cerebral pulp—in the substance of the brain; and that when the attack commences with a convulsion, the inflammation has commenced in the pia mater or arachnoid.

In all the forms of this dangerous complaint there is great variety in the symptoms, and much observation is necessary to put us on our guard against the insidious characters which many of the cases assume, and the deceitful appearances of amendment which often take place. Fortunately the disease is of rare occurrence. It may terminate fatally in a few hours, or the patient may struggle on for two or three weeks. The *post-mortem* appearances usually found are, great vascularity; serous effusion beneath the pia mater and into the ventricles; the deposition of false membranes between the bone and dura mater, or the dura mater and arachnoid; thickening of the membranes; and ramollissement, or softening of the cerebral substance.

Treatment.—The principal measures are, strict observance of the antiphlogistic regimen, bleeding, purging, and the application of cold to the head. Venæsection from the arm, or jugular vein; cupping, or the application of leeches between the shoulders, nape of the neck, behind the ears, or on the occiput. The blood must be allowed to flow until a decided impression is made upon the pulse, or until the patient faints.

Active cathartics of calomel and jalap, followed in three or four hours by an aperient draught, are indispensable (Formula 37). They should be repeated every morning. Croton oil is a valuable purgative in these cases (Formula 179). Dr. Abercrombie says—"Although blood-letting is never to be neglected in the earlier stages of the disease, my own experience is, that more recoveries from head-affections of the most alarming aspect take place under the use of very strong purging than under any other mode of treatment."

The application of cold to the head, after it has been shaved, is a remedy of great importance. Pounded ice in a bladder, or a cold evaporating lotion (Formula 267), or especially the pouring of cold water in a stream upon the vertex of the head, will best effect our object. By the latter proceeding a strong man in the highest state of maniacal delirium may often be subdued in almost a few minutes.

When, from exhaustion of the nervous force, an extreme degree of collapse occurs, the only chance of rescuing the patient will consist in the administration of stimulants, such as ammonia, sulphuric ether, strong beef-tea, wine, &c. In all stages of the disease the practitioner must watch his patient almost hour by hour, must be careful that he is kept dry and clean, and that the bladder does not become distended.

Should the disorder happily yield to these measures, great care will be requisite for some time—especially with regard to diet and the avoidance of all excitement—to prevent a relapse.

Chronic Inflammation of the Brain occasions symptoms which are singularly diversified; low

spirits, slight headache, loss of appetite, constipation, and irregularity of the pulse, being perhaps the most prominent. As the disease slowly progresses, however, the evidences of cerebral disorder become developed, the memory fails, the external senses become impaired, and the general health is deteriorated. It often terminates in—

Ramollissement, or softening of the brain, which is usually partial, the softened parts becoming pulpy, and ultimately of the consistence of thin cream. It may sometimes be diagnosed by the occurrence of paralysis, with spasm, or by the permanent contraction of the flexor muscles of one or both extremities. When resulting from inflammation, the corpus callosum, septum lucidum, fornix, and the cerebral substance surrounding the ventricles are the parts which usually suffer. In such instances, too, the softened matter is often infiltrated with pus; occasionally the purulent matter is contained in a well-defined cavity, forming *abscess of the brain*. Softening may also occur in aged persons, from an opposite condition to the inflammatory—from an insufficient supply of blood, owing to disease of the cerebral arteries; the grey matter of the convolutions at the base of the brain, the optic thalami, and corpora striata are the parts then affected.

Induration is another termination of chronic inflammation. The indurated portion is generally of small extent, presenting the appearance of wax, or of boiled white of egg; the change is due to a great increase of albumen.

Tumours, both simple and malignant, deposits of tubercle, and hydatids, have also been found in the brain. Dr. Jenner has lately discovered sarcinæ ventriculi in the fluid removed from the

ventricles of a child who died of acute tuberculosis.

ACUTE HYDROCEPHALUS.

Acute inflammation of the brain is a very common disease of early life—of children under five years of age. It rarely occurs, however, in children previously healthy; when it does so, it may be regarded as simple phrenitis or encephalitis. When it is the result, as it frequently is, of tubercular deposit in the brain or its membranes, when it occurs, in fact, in scrofulous children, it is then known as acute hydrocephalus; a term evidently badly chosen, since it refers only to one of the results of the disease, not to the disease itself.

The Symptoms of acute hydrocephalus are various and uncertain. For convenience they may be arbitrarily considered as exhibiting three stages. The *first* or *premonitory stage* is attended with indications of cerebral congestion, together with general fever, presenting exacerbations and remissions at irregular periods. The skin is hot; the appetite capricious—sometimes bad, sometimes voracious; the tongue is furred; the breath offensive; there is often nausea and vomiting, and the bowels are disordered—generally constipated. The child is drowsy, yet restless; it sleeps badly, moans, or grinds its teeth, screams and awakes suddenly in alarm, without any apparent cause.

At the end of four or five days, the disease, if unchecked, passes into the *second stage*, when its nature becomes very apparent and its cure almost hopeless. The child wishes to remain quiet in bed; its countenance is expressive of anxiety and suffering; its eyes are closed, and eyebrows knit; and it is annoyed by light and noise. If old

enough to reply to questions, it complains of headache, weariness, and sleepiness, crying out frequently, "Oh! my head." As this stage advances, the pulse—which has hitherto been rapid—becomes diminished in frequency, often falling in a few hours from 120 to 80; the slightest exertion, however, accelerates it. Stupor and heaviness now come on; the little patient lies on his back almost in a state of insensibility; perhaps picking, with tremulous fingers, his nose and lips; convulsions frequently occur, and sometimes paralysis, while, at the same time, the urine and fæces are passed unconsciously.

The transition to the *third stage*, at the end of a week or two, is sometimes effected very gradually by the drowsiness passing into profound coma, from which it is impossible to rouse the child. In other instances the child becomes comatose quite suddenly, and immediately afterwards is attacked with convulsions, which often put an end to the painful scene. Occasionally, however, death does not occur until the lapse of several days.

Post-mortem Appearances.—Those usually found are, traces of inflammation of the membranes of the brain, especially effusion of serous fluid beneath the arachnoid and in the meshes of the pia mater, as well as the presence of false membranes between the arachnoid and pia mater. The cerebral substance often contains scrofulous tubercules, while granular tubercular deposits may be seen scattered upon and between the membranes. But the characteristic morbid appearance consists of softening of the central parts of the brain, with effusion of thin watery serum into the ventricles.

The Treatment of acute hydrocephalus is beset with difficulties. As an inflammatory affection, it

requires remedies which our patients—strumous children—will not bear. Great caution is requisite therefore, lest they be rescued from the disease merely to die of the doctor. Depletion must not be had recourse to, without great consideration; if in doubt, first try the effect of a strong purgative. If it be necessary to take blood, local bleeding will generally answer our purpose; the leeches should be applied to the crown of the head, rather than to the temples. It is usually calculated that each leech will cause the discharge of one ounce of blood: infants six months old will not bear the application of more than three. Purgatives are most valuable, especially when given so as to maintain a free action of the bowels (Formulæ 182, 183). At the same time that you employ them, Dr. West advises the continued administration of calomel, in one or two-grain doses, twice or thrice daily. Green evacuations, resembling chopped spinach, follow its use: salivation is very rarely produced in young children. The local employment of cold is likewise an important remedy. A rag wetted with cold water, or the evaporating lotion (Formula 267), laid on the child's head and frequently renewed, will generally suffice.

When the child is teething, many practitioners resort, as a matter of course, to scarification of the gums; forgetting that the irritation arises from the passage of the tooth through the bony canal of the jaw, rather than from pressure on the gum. Such practice is a piece of barbarous empiricism. Should the vital powers become much depressed, either from the course of the disease or from the use of the remedies, stimulants must be freely had recourse to. I have frequently given a child from six to twelve months old a teaspoonful of

port wine-and-water, equal parts, or port wine and beef-tea, in the same proportions, every hour, or every second hour, with the greatest advantage. If you prefer physic, order some ammonia with Hoffmann's anodyne (Formula 27).

CHRONIC HYDROCEPHALUS.

Chronic hydrocephalus, or dropsy of the brain, is met with in children at various ages, as the result of a great variety of circumstances. When congenital, as it often is, it is generally associated with malformation of the brain. It is sometimes the result, sometimes the precursor, of acute hydrocephalus. The head attains a very great size in this disease, the unossified sutures readily yielding to the pressure of the liquid. The fluid is usually contained in the lateral ventricles, which are often expanded into one cavity; occasionally it is collected in the sac of the arachnoid.

The bodily functions are frequently but little impaired, sometimes not at all, till a short time before death; it is remarkable also how little the mental powers are affected in many cases. Although essentially an affection of childhood, yet cases are recorded in which it has affected adults; the celebrated Dean Swift suffered from it. According to Dr. West, almost every case is fatal. Professor Gölis, of Vienna, affirms on the contrary, that of the cases which began after birth, and which were seen and treated early by him, he saved the majority.

Treatment.—The plan advocated by Professor Gölis, after great experience, consists in the administration of calomel in quarter or half-grain doses, twice daily, together with the inunction of

one or two drachms of mild mercurial ointment into the shaven scalp once in the twenty-four hours. At the same time the head is to be kept constantly covered with a flannel cap, to prevent all risk of the perspiration being checked. If no improvement be perceptible after a lapse of six or eight weeks, diuretics—as the acetate of potash, or squills, or both—are to be combined with the treatment, and an issue made in the neck or on each shoulder, to be kept open for months. When convalescence is once established, he thinks benefit is derived from small doses of quinine—a quarter of a grain three or four times daily.

Two remedies—*compression* of the head, and *puncturing* it—have been strongly advocated by some writers. Compression is best effected by bandaging, or by the application of strips of adhesive plaster applied over the whole of the cranium, so as to make equal pressure on every part. In cases where there are no symptoms of active cerebral disease, pressure will probably do good. Puncture is performed with a small trocar and canula at the coronal suture, about an inch and a half from the anterior fontanelle; only a part of the fluid is to be taken at one time, and gentle pressure must be kept up both during its escape and afterwards. This operation is only to be had recourse to when other means have failed.

Dr. Watson mentions two hopeless cases successfully treated on a plan suggested by Dr. Gower. Ten grains of crude mercury were rubbed down with a scruple of manna and five grains of *fresh* squills. This formed a dose which was taken every eight hours, for three or four weeks. It caused a profuse flow of urine, great debility, and emaciation: no ptyalism. When the symptoms

of hydrocephalus had disappeared, the health was restored by steel.

APOPLEXY.

By the term apoplexy is meant sudden insensibility—the loss of sensation, thought, and voluntary motion, with a more or less severe disturbance of the functions of respiration and circulation. It is a state of coma occurring spontaneously and suddenly.

It is often a matter of difficulty to distinguish between apoplectic coma and that due to a narcotic poison or to drunkenness. The distinction is most important as regards the treatment. The coma is profound in each instance, though arising from so different a cause: the history of the case, the general appearance and age, and the presence or absence of the odour of spirits in the breath, are the only points which help to solve the difficulty.

The state of coma may end in three ways. Either it may gradually pass off, leaving the patient well; or it may terminate in incomplete recovery, the mind being impaired, and some parts of the body paralysed; or it may cease in death. On examining the brain we find either no appearance whatever of disease, or extravasated blood, or effusion of serum into the ventricles or beneath the arachnoid. Dr. Abercrombie calls the first—that which is fatal without leaving any traces—*simple* apoplexy; the second *sanguineous* apoplexy, or *cerebral hæmorrhage;* the third *serous* apoplexy. During life we are unable to distinguish by the symptoms these three varieties.

Warnings.—This dreadful visitation is seldom experienced without some previous threatenings, which, properly interpreted, should put the patient on his guard. The following in-

dividuals may be said to be predisposed to apoplexy. Those whose ancestors suffered from it; men of a peculiar habit of body, with a large head, florid face, and short, thick neck; and individuals advanced in life, beyond fifty. A predisposition may also be engendered by disease of the kidneys, of the heart, or of the cerebral blood-vessels; by intemperance; and by the cessation of habitual discharges. Among the threatenings, the following are the most important. Headache; giddiness, particularly on stooping; a feeling of weight and fulness in the head; noises in the ears; transient deafness or transient blindness; double vision; occasionally epistaxis; numbness; loss of memory; great mental depression; incoherent talking; drowsiness; indistinctness of articulation; and partial paralysis, sometimes affecting a limb, sometimes the muscles of the face, sometimes the eyelids.

Modes of Seizure.—Dr. Abercrombie has shown that the apoplectic attack commences in three different ways. "In the first form of the attack, the patient falls down suddenly, deprived of sense and motion, and lies like a person in a deep sleep; his face generally flushed, his breathing stertorous, his pulse full and not frequent, sometimes below the natural standard. In some of these cases convulsions occur; in others rigidity and contraction of the muscles of the limbs, sometimes on one side only."

In the second form, the coma is not the first symptom, but rather a sudden attack of pain in the head; the patient becomes pale, sick, and faint; sometimes vomits, and frequently falls down in a state resembling syncope. Occasionally he does not fall down, the sudden attack of pain being

merely accompanied by slight and transient loss of memory. After a few hours, however, the headache continuing, he becomes heavy, oppressed, forgetful, and gradually sinks into perfect coma, from which recovery is rare. A large clot is usually found in the brain.

The third form of apoplectic seizure begins with a sudden attack of paralysis of one side of the body, with loss of speech, but no loss of consciousness. The paralysis passes gradually into apoplexy, or, in some favourable cases, it slowly goes off and the patient recovers.

Phenomena during the Fit.—The duration of the apoplectic fit varies from two or three hours to as many days. There is total unconsciousness. Pulse, at first generally small, becomes full and strong, according as the system recovers from the shock; it is usually slower than natural, sometimes intermitting. Respiration slow, embarrassed, often accompanied by stertor; frothy saliva about the mouth. In bad cases, the body is covered with a cold clammy sweat; the face is pale; the eyes dull and glassy, with dilatation of the pupils; the teeth firmly clenched; power of deglutition lost, or much impeded; torpidity of the bowels, or, if they act, the motions are passed involuntarily; and either involuntary micturition, or retention of urine, until the bladder becomes distended, overflows as it were, and causes the urine to be constantly dribbling away. When the patient recovers incompletely, paralysis remains. *See section on Paralysis.*

Post-mortem Appearances.—It is only necessary to notice those found in cases of sanguineous apoplexy. The blood may be effused upon or between the membranes of the brain; into one of

the ventricles; or into the cerebral substance itself. In the latter case, it is usually found in the corpora striata, the optic thalami, or that part of the hemispheres of the brain which is on a level with these bodies. Dr. Craigie arranges the parts which may be the seat of the hæmorrhage in their order of frequency, thus:—the corpus striatum; optic thalamus; hemispheres; pons varolii; crura of the brain; medulla oblongata; and cerebellum.

Treatment.—This may be divided into that which is prophylactic, and that which is required when an attack has occurred.

Prophylaxis.—Where a predisposition to apoplexy is suspected, the individual should avoid strong bodily exertion; venereal excitement; the excitement of drunkenness; violent mental emotion; straining at stool; long stooping; tight neckcloths; too much indulgence in sleep; and warm baths. He should observe a cool spare diet, free from alcoholic drinks; regular exercise; and must pay great attention to his bowels. Formulæ 38, 39 will be useful. Washing the head daily with cold water, or establishing a drain near the head, by means of an issue or seton in the neck, will often do good. When giddiness, headache, throbbing of the arteries of the head, and epistaxis are present, much benefit will result from free cupping at the nape of the neck.

When an attack has occurred.—Formerly the treatment of every attack of apoplexy was commenced by bleeding. In the present day such treatment is improper in the majority of instances. Among the several cases which came under my care when house physician to King's College Hospital, I never saw one in which I considered bleeding necessary. The rule to adopt is that

laid down by Cullen—*to obviate the tendency to death.* If the tendency be towards death by coma, if the pulse be full or hard, or thrilling, and the face flushed and turgid, then blood-letting is called for. If, on the contrary, the patient is dying from syncope, with a feeble or almost imperceptible pulse, and a cold clammy skin, then bleeding will only ensure a speedily fatal termination. In either case, the patient should be removed into a cool well-ventilated room; his head should be raised; all the tight parts of his dress loosened, especially his cravat and shirt-collar; and cold applied to the head by means of pounded ice in a bladder. If you bleed, you may do so by venæsection at the bend of the arm, or by opening the jugular vein, or by cupping the nape of the neck, or by applying leeches to the temples. The quantity of blood to be taken can only be regulated by the effect produced. Loss of blood acts beneficially, by checking further effusion from the ruptured vessel within the skull, or by lessening the hazard of subsequent inflammation, or by putting the system into the condition most favourable for the absorption of the effused blood.

Active purgatives do good in all cases. If the patient can swallow, give a full dose of calomel and jalap followed by the common black draught (Formula 37). If the power of deglutition be lost, put three or four drops of croton oil on the back part of the tongue. Stimulating enemata (Formulæ 244, 245) should also be thrown up the rectum. Blisters are often subsequently of use, applied over the scalp or to the neck. Some practitioners recommend emetics; unless the attack was clearly due to an overloaded stomach, I should avoid them.

CONCUSSION OF THE BRAIN.

Concussion of the brain is signalised by fainting, sickness, stupor, insensibility, or sudden death, succeeding immediately to some blow or some act of external violence. Although cases of this kind are usually regarded as surgical, yet their importance demands so imperatively that every practitioner should be well acquainted with their symptoms, treatment, &c., that no apology is needed for the introduction of this section.

Symptoms.—These will vary according to the degree of concussion. When the shock has only been slight, the person soon recovers from the state of unconsciousness, and complains only of confusion of ideas, faintness, sickness, a desire to sleep, and ringing noises in his ears. In a more severe case, the insensibility continues longer; the patient lies as if in a deep slumber, his pupils are insensible to the stimulus of light, and his breathing is often scarcely perceptibie. When—after a variable interval—partial recovery ensues, there is great confusion of thought, often an inability to articulate distinctly, frequently vomiting, and sometimes paralysis of one or other of the extremities. In the worst forms of concussion, the person is felled to the ground by the shock—whatever it may be—and dies upon the spot.

Diagnosis.—The following circumstances—according to Chelius—distinguish concussion from pressure upon the brain caused by extravasation of blood. In concussion which immediately follows external violence, the patient usually recovers himself in some degree. In extravasation he lies in an apoplectic state, with snoring, difficult breathing; hard, irregular, intermitting pulse; with

pupils widely dilated; but no vomiting. In concussion, the body is cold; the breathing easy; the pulse regular and small; the countenance little changed. Extravasation and concussion may, it must be remembered, occur together. It is often difficult to distinguish between concussion and drunkenness. The history of the patient, his general appearance, and the smell of his breath, are the chief points to attend to.

Prognosis.—This must in all cases be guarded. In a severe form of concussion, the convalescence is always tedious, and it frequently leaves behind it permanent impairment of the memory, loss of smell or taste, weakness of sight, or even amaurosis.

Treatment.—In plethoric persons, a small quantity of blood may probably be taken away with advantage, not at the time of the accident, but a few hours after recovery from the insensibility, when too severe reaction might be feared. Generally speaking, however, the shock to the system is so great, that mild stimulants are necessary, and a little wine, or brandy and water, should be cautiously administered. At the same time, if the surface be cold, warmth must be applied by means of blankets, bottles of hot water, hot bricks, &c. In the after-treatment of these cases, a mild unstimulating diet, rest, and quiet, with gentle purgatives, will alone be necessary.

COUP DE SOLEIL.

This complaint is allied to apoplexy. In its perfect form it is met with only in the tropics. Mr. Cotton, surgeon of the 12th regiment of Infantry, met with twelve cases when at Meerut. The men affected were of irregular habits, and for two or three days previous to the attack had been

indulging freely in alcoholic drinks, and prowling about under exposure to an almost vertical sun. The seizure usually occurred towards evening, with *symptoms* of stupor and insensibility, loss of speech, burning of the skin, at first contraction and afterwards dilatation of the pupils, and great rapidity, hardness, and fulness of the pulse. In some of the cases tetanic convulsions occurred. They almost all sank rapidly, death usually ensuing within two or three hours from the commencement of the attack. The *treatment* adopted consisted of venæsection, the application of cold to the head, and blisters.

DELIRIUM TREMENS.

Delirium tremens, or *delirium è potu*, or *delirium ebriositatis*, is a very common disease in this country, requiring care in its diagnosis, since if mistaken and treated for phrenitis, which it somewhat resembles, the result will most probably be the death of the patient.

Diagnosis.—The disease—which consists essentially of nervous irritation—is characterised by sleeplessness; a busy but not a violent delirium; constant talking or muttering; a trembling of the hands; and a generally excited and eager manner. The skin is generally moist, from copious perspiration; the face is sometimes pale, sometimes flushed; the tongue is moist and covered with a white fur; and the pulse is frequent and soft. In severe cases there is a diminution in the quantity of phosphates contained in the urine; in phrenitis, on the contrary, the phosphates are increased. Dr. Watson well describes the delirium. He says, "If you question the patient about his disease, he answers quite to the purpose; describes, in

an agitated manner, his feelings, puts out his tongue, and does whatever you bid him; but immediately afterwards he is wandering from the scene around him to some other that exists only in his imagination. Generally his thoughts appear to be distressful and anxious; he is giving orders that relate to his business to persons who are absent; or he is devising plans to escape from some imaginary enemy; he fancies that rats, mice, or reptiles, are running over his bed, or that strangers are in his room. He looks suspiciously behind the curtain, or under his pillow, and he is perpetually wanting to get out of bed; but he is readily induced to lie down again. It is very seldom that he meditates harm, either to himself or to others; there is rather a mixture of cowardice and dread with the delirium."

Causes.—It arises generally from the excessive use of ardent spirits, wine, or beer. The habitual use of opium, and excessive mental excitement will also cause it. Men are very much more subject to it than women.

Treatment.—The great point is to procure sleep. For this purpose opium must be given in full doses; either morphia, or solid opium, or Battley's liquor opii sedativus, or the common tincture (Formulæ 79, 218, 219). At the same time stimulants are necessary, and as a rule, that stimulant will be the most beneficial to which the patient has been accustomed. Thus, if he has generally besotted himself with beer, give him good porter freely; if brandy has been his drink, administer it now. The bowels are to be kept open; the diet is to be nourishing.

Occasionally it is necessary to restrain the patient's movements by strapping him to his bed, or by putting on a strait-waistcoat. This should

never be done, however, if it can possibly be avoided, as it always increases the excitement and prevents sleep. It will be much better to have an attendant at the bedside to quietly control him. The apartment occupied by the patient should be darkened, kept quiet, and well ventilated.

INSANITY.

Few subjects more deserve the careful study of the medical practitioner than the diseases which affect the intellectual functions, and few are more neglected. "The care of the human mind," says Gaubius, "belongs to the physician,—it is the most noble branch of our office."

Many definitions have been given of insanity, but the only one which will embrace all forms is, that it is a general term used to express the mental condition opposed to sanity; sanity being regarded as that state of mind which enables a man to discharge his duties to his God, his neighbour, and himself.

Mental diseases are most frequently accompanied with symptoms of a variety of bodily disorders. Even the Greek and Roman physicians were aware of this fact; yet in the present day it is often forgotten, and the disorder is allowed to pass on unnoticed, simply because it is not at first apparent. There are two morbid affections especially, however, which demand our attention. Of all the forms of insanity those which are complicated with general paralysis, or with epilepsy, are the most terrible.

Insanity with general paralysis was first pointed out by Esquirol as an incurable disease, paralytic lunatics seldom living more than from one to three years. At whatever period the paralysis supervenes, its commencement is gene-

rally unmarked by any striking symptoms; it increases as the mental powers diminish. Its first indication is often an impediment in the movements of the tongue; the articulation is muffled and imperfect. This increases, and is followed by tottering, uncertain, and vacillating movements in walking, together with involuntary escape of the excretions, either from want of attention or from paralysis of the sphincters. As the disease progresses, the patients become unable to articulate a single word; their weakness is such that they cannot walk or even stand; all traces of intelligence become abolished; they get motionless and insensible; and their existence is reduced to a kind of slow death.

Insanity with epilepsy is also said by Esquirol to be incurable. The conduct of insane epileptics is often characterised by the most ferocious, murderous, or suicidal aberrations; it is frequently also most filthy and disgusting. If early death do not result, it induces incurable dementia.

Much diversity of opinion exists as to the best *classification* of mental diseases. As the most intelligible and simple, I shall adopt that proposed by Pinel and Esquirol, who divided insanity into *mania*, *monomania*, *dementia*, and *idiocy*. It must be remembered that the differences between these varieties are often indistinctly marked, and that they frequently run into each other.

Mania, or raving madness, may be said to be characterised by *general* delirium. The reasoning faculty, if not lost, is disturbed and confused; the ideas are abundant, erroneous, absurd, wandering —not under control. The manners are violent, excited, and mischievous.

Although mania rarely makes its incursion sud-

denly, still it is that form of insanity which most frequently does so. From its commencement the delirium is general, and the fury extreme. Then it is that maniacs often destroy themselves, either from not knowing what they do, or from despair—being conscious of their condition, or from accidentally injuring themselves. The difficulty of describing the symptoms of mania is extreme. "Where is the man," says Esquirol, "who would dare to flatter himself that he had observed and could describe all the symptoms of mania, even in a single case? The maniac is a Proteus, who, assuming all forms, escapes the observation of the most practised and watchful eye."

In general, maniacs soon become weak and emaciated. The mere physical exertion which they go through, sometimes howling, shouting, laughing, reciting, &c., for hours together; often restless, constantly and rapidly moving about, would exhaust a strong man. Combined with this fatigue is a want of refreshing sleep, and not unfrequently an aversion to all food. Where recovery takes place, it is preceded by sleep, a desire for food, and a gradual cessation of the agitation and delirium.

Puerperal Mania is a peculiar affection occurring to women almost immediately, or about the fourth or fifth day after delivery. It commences usually with restlessness, insomnia, severe pain in the head, and a diminution in the secretion of milk; sometimes there is no fever; sometimes the skin is hot and dry, the pulse full and quick, and the tongue thickly furred. In the few cases which I have seen there has been great debility, the patients having been prostrated by floodings during their labours, or by some other cause which has

lowered their vital powers. The delirium is often violent, and there is great general irritability.

In their *treatment* these puerperal cases require much care. The indications are to rouse and support the powers of the patient, and to allay the irritability of the brain and nervous system. The first is to be accomplished by a cordial, stimulant, and nutritious diet; the *mistura spiritûs vini gallici* of the London Pharmacopœia will often be very useful, given frequently in small quantities; good beef-tea and wine are also beneficial. The cerebral excitement is to be calmed, and sleep procured, by sedatives. Full doses of the *liquor opii sedativus*, or of *camphor* with *morphia*, or of *henbane* (Formulæ 201, 218, 219), often do great good. The patient must be controlled effectually, but mildly; when the disease threatens to be of considerable duration, she should be separated from her family and friends.

Monomania, or partial insanity, is that form in which the understanding is partially deranged, or is under the influence of some particular illusion. The mind is vigorous; the ideas are few, erroneous, fixed, not under control. The manners are in accordance with the predominant idea or train of ideas. At one time the intellectual disorder is confined to a single object, or a limited number of objects. The patients seize upon a false principle, which they pursue logically, and from which they deduce legitimate consequences, which modify their acts and affections. Thus, a monomaniac will insist that his body is made of glass, and being thoroughly impressed with this idea, will reason correctly that slight causes will injure it; he consequently walks with care, and avoids any rough handling. Aside from this partial delirium, he often thinks, reasons,

and acts like other men. Another monomaniac will fancy himself suspected of some horrid crime, or will think he is possessed of a demon or evil spirit, or will believe himself to be a god—imagining that he is in communication with heaven. Occasionally, under the idea that he is a divine instrument of vengeance, he commits murder. He will often be happy, full of joy, and communicative, unless attempts are made to control him, when he becomes wild and furious. Such individuals ask the most extraordinary favours, and make the most absurd demands. For example, the following is the copy of a letter presented by one of them to Dr. Conolly:—"In the name of the most High, Eternal, Almighty God of Heaven, Earth, and Space, I command you to procure me the following articles immediately:—A Holy Bible, with engravings, &c.; a Concordance; a Martyrology, with plates; some other religious books; a late Geographical Grammar, a modern Gazetteer, newspapers, magazines, almanacks, &c., of any kind or date; musical instruments and music; large plans, guides, maps, directories," and many other works, concluding with "wines, fruit, lozenges, tobacco, snuff, oysters, money — everything fitting to Almighty God. Answer this in three days, or you go to hell. P.S.—A portable desk and stationery, and a dressing case."

That form of monomania which is characterised by fear, moroseness, and prolonged sadness, has been separately described by some authors as *lypemania*, or *melancholia*. Such cases are painful to have charge of, the despondency is often so great. A lypemaniac is unwilling to move, or talk, or to take food; he will often remain a whole day without change of posture, or without uttering

a word. He dreads solitude; sleeps but little; sometimes tortures himself by the anticipation of future punishment; while at at other times he is bent on committing suicide.

Another variety has also been described as *moral insanity*, in which there is perversion of the natural feelings, affections, temper, habits, and moral dispositions, without at first any remarkable disorder of the intellect. Eccentricity of conduct, an impulse to commit crime, a propensity to every species of mischief—especially to theft—are often the leading features.

Dementia, or incoherence, is that condition in which weakness of the intellect, induced by accident or age, is the prominent feature. The mind is altogether weak; the ideas are confused, obscure, vague, incoherent, unfixed, and the memory is impaired. The patients are ignorant of time, place, quantity, property, &c. They forget in a moment what they have just seen or heard. Their manners are undecided, childish, and silly; their conversation is incoherent, and they repeat words and entire sentences without attaching any precise meaning to them. They have neither partialities nor aversions; neither hatred nor tenderness. They see their best friends and relatives without pleasure, and they leave them without regret. Sometimes they are constantly but slowly moving about, as if seeking for something; on other occasions, they will pass days in the same place and almost in the same attitude. The ultimate tendency of mania and monomania is to pass into dementia. It is very rarely cured.

Idiocy is characterised by partial or complete absence of the intellect, either congenital or occurring in early life. The mind is not developed;

there are no ideas, or they are few. The manners are childish, with occasional transient gusts of passion. The countenance is vacant, and void of aught approaching to intelligence. The articulation and the gait are often imperfect.

The General Treatment of Insanity.—In examining a person supposed to be insane, the duty of a medical man resolves itself into two parts:* 1st, to determine whether the individual in question be of sound mind; and, 2nd, to give an opinion concerning the treatment required, and especially concerning the necessity of restraint, its degree, and nature. As regards the medical treatment, it must of course depend upon the state of the patient. Our object clearly must be to restore and maintain the bodily functions, and to remove any disorders in other parts of the system—as skin diseases, &c., which may be connected or coexistent with the cerebral affection. We may persevere the more, when we remember that many lunatics have been cured by improving their general health. In an ordinary case of insanity, I should especially take care that the patient had a nutritious diet, warm clothing, exercise in the open air, free evacuations from the bowels, and sound sleep at night. I should try and prevent all bad habits, such as onanism, &c., and I should often use the douche, shower, or simple warm bath. At the same time, such occupation and mental amusement should be afforded, as the lunatic could beneficially enjoy.

From this it will be seen that stimulants, tonics, purgatives, and narcotics—especially opiates—must often prove invaluable remedies. The diet of the insane should undoubtedly, as a rule, be

* Dr. Conolly on the Indications of Insanity.

generous and of the most nourishing kind. Much credit is due to Dr. Sutherland and Mr. Henry Stevens, for the improved scale of diet which they have lately been the means of introducing at St. Luke's Hospital. Where patients obstinately refuse their food, strong beef-tea, with wine or beer, must be introduced into the stomach by means of the stomach-pump.

As regards the moral treatment, no rules can be of universal application. I will only say therefore that it should be regulated by the "law of love."

In order to render restraint imperative, I suppose a lunatic should be dangerous either to himself or to others, or seclusion should be necessary as part of the curative treatment. I am convinced, however, that many asylums contain harmless lunatics, who would be much happier and in no degree injured by residence elsewhere, but who, unfortunately, have relations and friends who will not be troubled with them.

CEPHALALGIA.

Cephalalgia, or headache, is of common occurrence as a prominent symptom in the progress of most acute diseases. Occasionally, however, it predominates so much over the other phenomena, that instead of being a symptom it really becomes a disease. Three principal varieties of headache may be noticed. The first, or *plethoric headache*, is connected with fulness of blood; the cerebral vessels become congested; there is a sense of pulsation in the ear; and giddiness on stooping. Persons who live too freely, who rise late in the morning, &c., are liable to it; also, plethoric young women, with irregularity of the catamenia. The second, or *bilious headache*, may be temporary

or constant. When temporary, it generally arises from some error of diet—some excess either in food or wine, and passes away as the cause ceases. The constant bilious headache occurs in persons of weak stomach, who are almost always suffering from indigestion. The stomach and duodenum are out of order, as is evidenced by the nausea which exists, though there is seldom any disposition to vomiting. The third, or *intermittent headache*, is characterised by its tendency to recur every day or every second day, with the same degree of regularity as an ague fit. It is often indeed known as brow-ague. There seems no reason to believe, however, that it is due to malaria, but rather to constitutional debility. It is sometimes caused in women by over-lactation.

Treatment.—The indications are, to relieve the congestion of the head and the dyspeptic symptoms, while at the same time attempts are made to give tone and strength to the system. Mild purgatives, such as the compound rhubarb pill and blue pill, or the alkaline decoction of aloes (Formulæ 42, 163); emetics; stimulants and tonics—especially the nitro-muriatic acid (Formula 16); cold lotions to the head (Formula 267); cupping, or blisters to the nape of the neck; and change of air, are the means to be relied upon.

DISEASES OF THE SPINAL CORD.

Spinal Meningitis, or inflammation of the membranes investing the spinal cord, rarely exists without accompanying disease in the nervous matter composing the cord, and rarely, also, without inflammation of the brain or its membranes. The *symptoms* which have been described as indicating inflammation of the meninges of the cord,

are—acute pains extending along the spine and stretching into the limbs, aggravated by motion, and often simulating rheumatism; rigidity or tetanic contraction of the muscles of the neck and back, amounting sometimes to opisthotonos; a sense of constriction in the neck, back, and abdomen; suffocating sensations; retention of urine; priapism; and obstinate constipation.

Myelitis, or inflammation of the substance of the spinal cord, is not marked by any very uniform symptoms, since they will be found to vary with the severity of the attack, its duration, and the portion of the cord affected.

Tracking the inflammation from above downwards, the following are the chief *symptoms.* When the *cranial* portion is affected, deep-seated headache, convulsive movements of the head and face, inarticulate speech, trismus, difficult deglutition, difficult spasmodic breathing, irregularity in heart's action and in pulse, hemiplegia, or other form of paralysis. As the fatal stage advances, great prostration, feeble pulse, increased dyspnœa, and involuntary escape of the excretions. When the inflammation affects the whole thickness of the cord above the origin of the phrenic nerves, life is at once extinguished by stopping the action of respiration. When the inflammation is in the *cervical* portion, difficulty of deglutition, impossibility of raising or supporting the head, acute pain in back of neck, great dyspnœa, a sense of pricking and formication in the arms and hands, and paralysis of the upper extremities. In inflammation of the *dorsal* portion, there is pain in the dorsal region, convulsive movements of the trunk, paralysis of the arms and lower extremities, short and laborious respiration, great palpitation, &c. When, as is

most commonly the case, the *lumbar* portion is affected, the paralysis of the lower extremities is more marked; there is great pain in the abdomen, with a sensation as of a cord tied tightly round it; convulsions or paralysis; and paralysis of the bladder and sphincter ani, leading to retention, followed by incontinence of urine, and involuntary stools.

The Treatment proper in inflammation of the cord and its membranes is the same as that previously recommended in inflammation of the brain and its membranes. Blood-letting, purging, the use of mercury, and perfect rest, are our chief remedies. Great care must be taken to keep the patient dry and clean, as well as to empty the bladder frequently with the catheter, remembering that incontinence of urine generally arises from the bladder being over-distended—the urine literally overflows. Bed-sores will be best prevented by placing the patient on a water-bed.

Spinal Hæmorrhage, or spinal apoplexy, as it is sometimes termed, is more rare than cerebral hæmorrhage. It is characterised by acute and sudden pain in the back, corresponding with the seat of effusion, followed by convulsions and paralysis. Its diagnosis is difficult.

Hydrorachis is a term applied to abnormal collections of fluid within the spinal column. It is generally congenital, and associated with *spina bifida*. In such cases, one or more tumours containing fluid are found over the cervical, dorsal, or lumbar vertebræ—generally the latter—which communicate with the medulla spinalis. The arches and spinous processes of the vertebræ are wanting in the situation of the tumours.

The Treatment must consist in improving the

general health. In some instances, pressure judiciously applied to the tumour may be serviceable.

Spinal Irritation, as a distinct and idiopathic disease, has been denied to exist by some writers. Dr. Todd, and subsequently Dr. F. W. Mackenzie. have done much, however, to remove any doubts on this head. Women are much more predisposed to it than men. The *symptoms* consist of pain about the thorax, mammæ, abdomen, or uterus, having some remarkable connection with the spine, since, wherever the pain may be, it is increased on pressing certain of the spinous processes of the vertebræ, which are also themselves exceedingly tender, this tenderness being sometimes confined to one spot, sometimes diffused over a large portion of the spinal column; it is most common in the lumbar and sacral regions. The disease would seem to depend upon congestion of the spinal venous plexus, causing pressure upon—and consequent irritation of—the origins of the nerves.

Local *treatment* often suffices to remove all the symptoms. Counter-irritation by blisters, or sinapisms, or the application of cupping-glasses, may therefore be relied upon. Occasionally cupping or leeches may be necessary. Its return may, I believe, be best prevented, by the use for some weeks of a belladonna plaster.

PARALYSIS.

By paralysis, or palsy, is meant a total or partial loss of sensibility or motion, or of both, in one or more parts of the body. All paralytic affections may be divided into two classes: the first including those in which both motion and sensibility are affected; the second, those in which the one or the other only is lost or diminished. The former

is called *perfect*, the latter *imperfect* paralysis. Imperfect paralysis is divided into *acinesia*—paralysis of motion—and *anæsthesia*—paralysis of sensibility. Again, the paralysis may be *general* or *partial*, as it affects the whole body or only a portion of it. Partial paralysis is divided into *hemiplegia* when it is limited to the lateral half, and *paraplegia* when it is confined to the inferior half of the body. The term *local paralysis* is used when only a small portion of the body is affected, as the face, a limb, a foot, &c.

Paralysis of the eye, or loss of sensibility of the retina to the rays of light, is called *amaurosis;* paralysis of the levator palpebræ superioris muscle, allowing the upper eyelid to fall over the eye, *ptosis palpebræ;* insensibility to the impression of sounds (deafness), *cophosis;* insensibility to odours (loss of smell), *anosmia;* loss of taste, *ageustia.*

There are also certain forms of paralysis arising from the use of metallic poisons, as *mercurial palsy*, and *saturnine* or *lead palsy;* and, lastly, there is a peculiar affection known as *paralysis agitans.*

General Paralysis, or complete loss of sensation and motion of the whole system, cannot take place without death immediately resulting. But this term is usually applied to palsy affecting the four extremities, whether any of the other parts of the body are implicated or not. M. Defermon* has related a case in which the power of motion in every part of the body was lost, with the exception of the muscular apparatus of the tongue, and of the organs of deglutition and respiration; the sensibility was also wholly destroyed, except in a small patch on the right cheek, by tracing letters on which the patient's friends were enabled to com-

* Bulletin des Sciences Méd., vol. xiii. p. 6.

municate with him; the intellect was perfect. In most cases the loss of motion is more marked than that of sensibility; the intelligence also soon becomes affected.

Hemiplegia is used to denote paralysis of one side, extending generally to both the upper and lower extremities. It is the most common form of palsy; the left suffers more frequently than the right side. When only one extremity suffers, it is generally the arm. Very rarely, the upper limb of one side and the lower of the opposite is affected, forming what is termed *transverse* or *crossed palsy*. Generally the paralysis extends to the side of the face, the angle of the mouth being drawn slightly upwards and to the sound side, clearly because the muscles on that side are no longer counteracted and balanced by the corresponding muscles of the paralysed side. The tongue also is often affected; when protruded, its point is turned towards the palsied side, owing to the muscles which protrude this organ being powerless on that side and in full vigour on the other: the sound half of the tongue is pushed out further than the other half, and consequently it bends towards the affected side. The paralysis is always limited to one-half of the body, the median line being the boundary. In most cases there is anæsthesia. The mental faculties are sometimes uninjured, but more frequently are irreparably damaged. The memory especially becomes affected; at the same time there is a peculiar tendency to shed tears, and to be much affected by slight causes.

If recovery takes place, the symptoms of amendment are first noticed in the leg. In hopeless cases, the limbs waste; their nutrition is diminished; they become atrophied. It is of practical importance to remember that they are colder, and un-

able to resist the influence of cold or heat equally with the sound parts.

Hemiplegia is generally the result of organic lesions of the brain. When a sequel of apoplexy, the effused blood is not, as a rule, found on the side of the brain corresponding to the affected half of the body, but on the opposite. The decussation of the fibres of the anterior pyramids at the junction of the medulla oblongata and medulla spinalis accounts probably for this phenomenon.

Paraplegia, or paralysis of the inferior half of the body, most frequently commences slowly and insidiously, with weakness and numbness of the feet and legs, or with tingling—*formication*—of these parts, unattended by pain. By degrees the weakness increases until there is complete loss of sensibility and motion in the lower exiremities, with paralysis of the bladder and rectum; the patient is obliged to remain in the horizontal posture, sloughs form on the hips and sacrum, and these, by their irritation and exhausting discharges, accelerate death. If the urine be allowed to collect in the bladder in any quantity, it will become ropy, fœtid, and alkaline; owing probably to the coats of the bladder becoming diseased and pouring forth unhealthy mucus, in consequence of the paralysis. Dr. Bence Jones has proved that the urine when secreted is healthy, but admixture with the diseased mucus contaminates it, decomposes its urea, and gives rise to the formation of carbonate of ammonia, rendering it alkaline.

Although voluntary motion is completely abolished in the lower limbs, involuntary movements and spasms of the muscles are not uncommon. Reflex movements can be excited much more frequently in paraplegia than in hemiplegia.

Paraplegia may arise from injury of the spinal

cord or its membranes, from inflammation or other diseases of these parts, from tumours pressing upon the cord, as well as from affections of the bones and cartilages of the vertebral column. There seems reason to believe, also, that some cases may be merely functional, that is to say, that no organic change exists which we can recognise. Intemperance, cold, excessive venery, &c., seem to produce this form.

Local Paralysis.—Of the different varieties of local palsy, I shall only mention *paralysis of the face*, the effect of pressure or injury of the portio dura and fifth pair of nerves. As one-half only of the face is affected, the appearance is very striking, the features on the paralysed side being blank, unmeaning, and void of all expression. It is generally free from danger, being but rarely connected with cerebral disease; exposure to cold is a frequent cause of it.

Mercurial Palsy, or mercurial tremor, as it is sometimes termed, consists of a kind of convulsive agitation of the voluntary muscles, which is increased when volition is brought to bear upon them. In advanced stages of the disease, articulation, mastication, and locomotion are performed with difficulty, while the use of the hands is almost entirely lost. The skin acquires a brown hue, and the teeth turn black. Workmen exposed to the fumes of mercury, such as gilders of buttons, glass platers, barometer-makers, &c., are very liable to it.

Lead Palsy usually follows or accompanies colica pictonum, though it may exist independently. The poison of lead appears to exert some peculiar noxious influence over the nerves of the fore-arm and hand; in consequence of which the extensor muscles of the hands and fingers become

paralysed, so that when the arms are stretched out the hands hang down by their own weight, or, as the patients say, the wrists *drop*. The inferior extremities are very rarely affected. A characteristic symptom of the presence of lead in the system is the existence of a blue or purplish line round the edges of the gums, just where they join the teeth. Plumbers, painters, colour-grinders, type-founders, &c., are the usual sufferers from this affection.

Paralysis Agitans is characterised by a tremulous agitation—a continued shaking—usually commencing in the hands and arms, or in the head, and gradually extending over the whole body. Mr. Parkinson has well defined the disease thus:—"Involuntary tremulous motion, with lessened muscular power, in parts not in action, and even when supported, with a propensity to bend the trunk forward, and to pass from a walking to a running pace; the senses and intellects being uninjured." The disease progresses slowly, but when far advanced the agitation is often so violent as to prevent sleep; the patient cannot carry food to his mouth; deglutition and mastication are performed with difficulty; the body is bent forward, and the chin bent on the sternum; the urine and fæces pass involuntarily; and coma with slight delirium closes the scene.

Treatment.—As paralysis is only the effect of some morbid lesion in one or other of the nervous centres, our treatment must be directed to the pathological condition on which it depends.

In *hemiplegia* at the onset, when there is general plethora and a strong determination of blood to the head, bleeding—both general and local—will be advisable. Cupping from the nape

of the neck particularly useful. The quantity of blood to be taken must be regulated by the age and constitution of the patient, and the effect produced. Great benefit may reasonably be expected from active cathartics such as jalap and scammony combined with calomel, or croton oil, or stimulating purgative enemata. Some authors recommend blisters to the scalp or to the nape of the neck, or the use of a seton. I should also try alterative doses of mercury, with iodide of potassium, &c. When the paralysis becomes chronic, stimulants, especially such as act on the paralysed parts, must be had recourse to. Strychnia in small doses (the twentieth part of a grain thrice daily) may be cautiously tried, if we can reasonably hope that there is no disease of the brain. Or local stimulants may be employed; thus frictions with the hand or flesh-brush, stimulating liniments of turpentine, ammonia, tincture of cantharides, croton oil, &c., have been used with occasional benefit. Electricity and galvanism have also been extensively employed, but when there is structural disorganization they undoubtedly do harm.

The same principles apply to the treatment of *paraplegia*, arising from disease of the cord or its meninges. In many of these cases, however, a mercurial course does decided good; the bichloride of mercury therefore, or Plummer's pill, should be exhibited until the gums are affected. The iodide of potassium, with liquor potassæ and sarsaparilla, will also be useful. Where the paralysis seems to depend upon serous effusion into the spinal cavity, Dr. Seymour recommends the tincture of cantharides, in half-drachm doses. Embrocations may also be applied along the spine.

In *mercurial palsy*, the patient must be withdrawn from the injurious atmosphere. Warm baths, good diet, sea-air, tonics—especially iron and quinine—will generally effect a cure.

So with *lead palsy*, the sufferer must give up his occupation, use shampooing-baths, galvanism to the affected arm, or the cold douche, or blisters. Great benefit will be derived from supporting the wrist on a splint. Liebig recommends all workers in lead to drink daily sulphuric acid lemonade as a prophylactic measure; it acts probably by converting the salt of lead, as it enters the system, into an insoluble sulphate.

As regards the cure of *paralysis agitans* I can say but little, since I know of no measures likely to do much good. I should, however, try the effects of pure air, nourishing diet, ferruginous tonics, and occasional opiates.

EPILEPSY.

Epilepsy is a disease the leading symptoms of which are sudden loss of consciousness and sensibility, with clonic spasm, usually followed by coma; the attack recurring at intervals.

There are sometimes, though not in the majority of cases, *premonitory symptoms* sufficient to warn the patient of an approaching seizure. These warnings differ both in duration and character, in some cases being too short even to allow the sufferer to dismount from horseback, or to get away from the fire, or even to lie down; while in other instances, many minutes, or even hours, elapse before the attack. Dr. Gregory, of Edinburgh, was assured by an epileptic that when a fit was approaching, he fancied he saw a little old woman in a red cloak advance towards him, and

strike him a blow on the head, on which he at once lost all recollection and fell down. Spectral illusions, headache, giddiness, dimness of vision, confusion of thought, and especially that peculiar sensation known as the *aura epileptica*, constitute the most frequent premonitory symptoms. The epileptic aura is differently compared by patients to a stream of cold water—or a current of cold or warm air—or the creeping of an insect—the sensation commencing at the extremity of a limb, and gradually ascending along the skin towards the head ; when it stops, the paroxysm takes place.

Diagnosis.—The commencement of the seizure is generally characterised by the utterance of a loud piercing shriek or scream, immediately after which the individual falls to the ground senseless and violently convulsed. Hence the disease has been called by the vulgar the *falling sickness*, or more vaguely, *fits*. During the attack the convulsive movements continue violent ; there is gnashing of the teeth, foaming at the mouth, the tongue is thrust forward and often severely bitten, the eyes are fixed and partly open, the breathing is laborious or almost suspended, the face flushed and turgid, and death, in fact, seems about to take place from suffocation ; when—gradually—these alarming phenomena subside, and shortly afterwards cease, leaving the epileptic insensible, and apparently in a sound sleep, or state of coma, from which he recovers exhausted, but without any knowledge of what he has just gone through.

The average duration of the fit is about five or eight minutes ; it may last for half an hour or more. It may also be very slight or very severe, constituting the *petit mal* and the *grand mal* of the French. The periods at which the seizures recur

are variable. At first there is often an interval of two or three months, but as the disease progresses the intervals become shorter, until hardly a day passes without one or more paroxysms. In recent cases especially, the fits often take place in the night, either on just going to sleep or on awaking. As may be imagined, various accidents are likely to occur from falls, &c., during the fit. The tendency to epilepsy is often hereditary. Malformations of the head are frequent predisposing causes. When an epileptic dies who has only laboured under the disease for a short time, no appreciable lesion of any part of the nervous system can, as a rule, be discovered. If death occur during a paroxysm, the brain is often found more or less congested. In cases of long standing, disease of the cerebral blood-vessels, with softening or induration of the brain, may be found. Occasionally the bones of the skull are thickened or otherwise diseased.

The Treatment must have reference to the measures to be adopted during a fit, and those to be employed in the interval.

During the fit the patient should be laid on a large bed, air freely admitted around him, his head raised, and his neckcloth, together with any tight parts of his dress, loosened. A piece of cork or soft wood should, if possible, be introduced between his teeth, to prevent injury to the tongue. Cold affusion to the head will sometimes be useful, especially if the countenance is turgid and congested. In cases preceded by the epileptic aura, the application of a ligature just above the part where the sensation is experienced has been said to prevent the attack.

In the interval we must endeavour to improve

the patient's general health, and especially to give tone and firmness to the nervous system. Dr. C. B. Radcliffe, in his excellent "Comments on Convulsive Diseases," has well shown that everything tending to depress the vital powers does harm. Mineral tonics, especially the salts of iron, zinc, and silver, are consequently to be employed (Formulæ 192, 194, 195). The cold shower-bath may be especially recommended, if it can be borne; otherwise the tepid sponging-bath should be substituted; the diet must be simple but nutritious, avoiding intoxicating drinks; and the patient's habits must be regulated by such rules as common sense will dictate—daily exercise, early hours, and attention to the alvine and urinary secretions being necessary, while mental excitement or exertion is, on the other hand, especially contraindicated.

In some cases, those more particularly which are dependent upon the thickening of the cranial bones, iodide of potassium, or, a gentle, long-continued course of mercury, does good. Foville had great faith in the oil of turpentine in half-drachm doses, repeated every six hours; care is required, however, lest strangury result from its use. The nitrate of silver long enjoyed great but undeserved reputation; its tendency to blacken the skin, moreover, is sufficient to interdict its employment. Again, the juice of the Cotyledon umbilicus has been of late much vaunted; my own experience coincides with that of many practitioners who have tried it and found it valueless. Dr. Marshall Hall recommends strychnia in *tonic* not *stimulant* doses (Formula 125); while Dr. Todd believes that he has seen benefit from the frequent inhalation of chloroform, which I can readily imagine, since I have myself found the fits diminish both

in severity and number from the use of the vapour of sulphuric ether. The truth probably is, however, as Esquirol shrewdly remarked, that epileptics improve for a time under every new plan of treatment.

HYSTERIA.

Dr. Copland defines hysteria as—"Nervous disorder often assuming the most varied forms, but commonly presenting a paroxysmal character; the attacks usually commencing with a flow of limpid urine, with uneasiness or irregular motions and rumbling noises in the left iliac region, or the sensation of a ball (*globus hystericus*) rising upwards to the throat, frequently attended by a feeling of suffocation, and sometimes with convulsions; chiefly affecting females from the period of puberty to the decline of life, and principally those possessing great susceptibility of the nervous system, and of mental emotion." *

I shall consider this disease as it occurs in paroxysms, and as it mimics other affections.

Symptoms.—The symptoms which characterise the hysteric paroxysm or fit are, convulsive movements of the trunk and limbs; violent beating of the breasts with the hands clenched, or tearing of the hair, or of the garments; shrieks and screams; violent agitation; and the globus hystericus; the attack ending with tears, convulsive fits of crying or laughter, and sometimes with violent hiccup. Occasionally the patient sinks to the ground insensible and exhausted, remains so for a short time, and then recovers, tired and crying. The fit is often followed by the expulsion of a quantity of limpid urine; occasionally it is passed involuntarily during the paroxysm.

* Art. Hysteria: Copland's Medical Dictionary.

Diagnosis.—It differs from epilepsy, inasmuch as the fit is almost peculiar to women; it continues longer; there is seldom loss of consciousness, the patient being aware of all that is passing around her. The convulsive movements are of a different character, much less severe, not more marked on one side of the body than the other; the respirations are never suspended; the tongue is not bitten; and it is not followed by coma, as epilepsy is.

Hysteria simulates almost all diseases; perhaps the favourite maladies imitated are suppression of urine, calculus of the bladder, inflammation of the peritoneum, pleurisy, consumption, laryngitis, stricture of the œsophagus, aphonia or loss of voice, paralysis, and disease of the spine, or of one or more of the joints. A practised eye is seldom, however, deceived by such patients. There is a peculiar expression about hysterical women, impossible almost to define, yet readily recognised when once it has been studied; they answer questions in an unpleasant manner, often only in monosyllables; and their pains are always said to be most acute, and to be increased by pressure, or almost even by pretended pressure. The catamenia are generally irregular, and there is often profuse leucorrhœa.

Treatment.—During a fit the patient's dress should be loosened, she should be prevented from injuring herself, should be surrounded by cool air, smelling salts applied to the nostrils, and if she can swallow, a draught containing a drachm of the compound tincture of valerian, or of the fœtid spirit of ammonia, should be administered. If the paroxysm continues, the sudden and free application of cold water to the head and face will probably cut it short.

In the other forms of hysteria the general health must be attended to, the bowels kept freely open, the shower-bath daily used, and ferruginous tonics administered. When the catamenia are unnatural, the treatment must have reference to the nature of the particular disorder; thus, if too abundant, astringents and the cold hip-bath, to which alum or bay-salt should be added, must be employed; if scanty, they should be encouraged by aloetic purgatives, different preparations of iron, and the warm bath. The compound decoction of aloes and the compound iron mixture, half an ounce of each, taken thrice daily, forms an excellent medicine in such cases. Formulæ 14, 19, 20, 25, 30, &c., will also be found very valuable.

The patient's diet should be regulated; hot rooms and evening parties proscribed; stays ought not to be worn; and, lastly, it is of the greatest importance that healthy mental occupation should be found.

CATALEPSY—ECSTASY.

These wonderful diseases are very rare, but they undoubtedly do happen occasionally. Nervous, hysterical women are most likely to suffer from them; they are not dangerous.

By a fit of *catalepsy* is implied a sudden loss of consciousness and volition, the patient remaining during the attack in the same position in which she happens to be at the commencement, or in which she may be placed during its continuance. The seizure may last only a few minutes, or several hours, or even days. On recovery, which is generally instantaneous, there is no recollection of what has occurred.

In what is termed *ecstasy* the state is different.

The patient is insensible to all external impressions, but is absorbed in the contemplation of some imaginary object. The eyes are immovably fixed; but impassioned sentences, fervent prayers, psalms and hymns, are uttered or sung with great expression.

A similar plan of *treatment* to that recommended in hysteria must be relied upon.

CHOREA.

Chorea, or St. Vitus's dance, is characterised by incomplete subserviency of the muscles of voluntary motion to the will, giving rise to irregular, tremulous, and often ludicrous actions. It has been quaintly designated "insanity of the muscles."

Diagnosis.—This disease occurs most frequently in young girls between the ages of six and fifteen, and begins generally with twitchings of the muscles of the face. By degrees, all or almost all the voluntary muscles become affected; the child finds it impossible to keep quiet; there is a constant movement of the hands and arms, and even of the legs; the features are most curiously twisted and contorted, and the articulation is impeded; these movements are, moreover, always most severe when the child is watched. If you ask your patient to put out her tongue, she is unable to do so for some moments, but at last suddenly thrusts it out, and as suddenly withdraws it. If you tell her to walk, she advances in a jumping manner, by fits and starts, dragging her leg rather than lifting it, and alternately halting and hopping. She cannot even sit still; her shoulders writhe about, she picks her dress, and shuffles and scrapes the floor with her feet. During sleep these irre-

gular actions usually cease. When the disease lasts long, the countenance assumes a vacant appearance bordering on fatuity, and some imbecility of mind becomes manifest. The functions of the stomach and bowels are also frequently deranged; the appetite is irregular; the abdomen swollen and hard; and there is often constipation. These symptoms, however, all cease on the termination of the disease, which is scarcely ever fatal, or even dangerous, unless it merges into organic disease of the nervous centres, or into epilepsy.

Chorea may last from one week to several months; the average duration is probably five or six weeks. It is often complicated with hysteria, and it has been observed to happen in conjunction with—or on the termination of—rheumatic fever, and rheumatic inflammation of the heart. Although most common in girls, yet boys not unfrequently suffer from it.

The Treatment consists in regulating the bowels, subduing irritation, and strengthening the system. For this purpose, the employment of cathartics of a stimulating nature is necesary, such as calomel and jalap, or, where worms are suspected, the oil of turpentine. A combination of tonic or antispasmodic medicines with purgatives, is often found to be serviceable. The two great remedies, however, are the cold shower or douche bath, and steel. As regards the former, it should be employed every morning on the patient's rising; with respect to the latter, different preparations have been recommended. Perhaps the best is the carbonate of iron, given in doses varying from half a drachm to two drachms, mixed with treacle. The sulphate, or the ammonio-citrate, or the tincture of the sesquichloride of iron may, however, be

used almost as advantageously. The diet must be nutritious, exercise in the fresh air allowed, and mental excitement guarded against.

TETANUS.

This term denotes a disease the principal feature of which is, long-continued, painful contraction or spasm of a certain number of the voluntary muscles.

Diagnosis.—The muscles of the jaws and throat are usually the first affected. The patient complains of a sensation of stiffness in the neck, which gradually increases, and extends to the root of the tongue, causing difficulty in swallowing. The temporal and masseter muscles become involved, and *trismus*—or *locked-jaw*, occurs. When the disease proceeds, the remaining muscles of the face, those of the trunk, and, lastly, those of the extremities, become implicated. The spasm never entirely ceases, except in some cases during sleep; but it is aggravated every quarter of an hour or so, the increased cramp lasting for a few minutes, and then partially subsiding. When the strong muscles of the back are most affected, they bend the body into the shape of an arch, so that the patient rests upon his head and heels, a condition known as *opisthotonos*. When, on the contrary, the body is bent forwards by the contraction of the muscles of the neck and abdomen, the affection is termed *emprosthotonos;* while if the muscles are affected laterally, so that the body is curved sideways, it has been designated *pleurosthotonos*, or *tetanus lateralis*. The suffering caused by the tetanic spasms is absolutely frightful to contemplate; the face is pale, the brows contracted, the skin covering the forehead corrugated, the eyes fixed and prominent—sometimes suffused with tears, the

nostrils dilated, the corners of the mouth drawn back, the teeth exposed, and the features fixed in a sort of grin—the *risus sardonicus*. The respirations are performed with difficulty and anguish; severe pain is felt at the sternum; there is great thirst, but the agony is increased by attempts at deglutition; the pulse is feeble and frequent; the skin is covered with perspiration; and yet with all this suffering, the intellect remains clear and unaffected. Death at length ends the scene, being due partly to suffocation, and partly to exhaustion.

There is a peculiar form of this affection called *trismus nascentium*, which occurs in young infants about the second week after birth, and which is common in the West Indies. It is very rare in this country.

The *causes* of tetanus are chiefly exposure to cold and damp, and bodily injuries. When due to cold, or when arising spontaneously, it is termed *idiopathic;* when the result of wounds, *traumatic* tetanus. The symptoms produced by a poisonous dose of strychnia are very similar to those of this disease. The most common *post-mortem appearances*, are alterations in the spinal cord and its membranes.

The Treatment is generally empirical, and generally—it must be confessed—useless. I have never had the management of a case, but should it fall to my lot to treat one, there are three remedies on which I should chiefly rely—opium, chloroform, and wine. Laudanum, or a solution of morphia, should be given in large, frequently repeated doses; either remedy is generally well borne. If deglutition be difficult enemata must be used. I should also be inclined to try the application of a blister along the spine, dusting the raw surface

afterwards, with from two to four grains of the acetate or hydrochlorate of morphia. Dr. Todd has suggested the use of ice to the spine. Some practitioners recommend the frequent use of the warm bath, while others prefer the cold douche. The feelings of the patient might be consulted as to which he would prefer. Purgatives will generally be necessary. Blood-letting, mercury, digitalis, tobacco, musk, iron, hydrocyanic acid, belladonna, and the extract of Indian hemp, have been repeatedly tried, and caused disappointment.

HYDROPHOBIA.

This is another terrific malady, the pathognomonic symptoms of which are, cramps of the muscles of the pharynx and thorax; dread of fluids and difficulty of drinking; with great restlessness and anxiety, terminating almost invariably in death.

Diagnosis.—A person we will suppose is bitten by a mad dog. After an uncertain interval, varying from one month to eighteen, called the period of *incubation*, a sense of chilliness, languor, and lassitude is experienced; restlessness also, and some headache. Sometimes there is a sensation of numbness or soreness in the bitten part; in any case these symptoms are followed, in two or three days, by the *confirmed* stage of the disease, which commences generally with great garrulity, peculiar sighings, and a horror of liquids; then succeeds a frequent sense of suffocation, an excessive secretion of saliva, and violent spasmodic convulsions of the whole body, occasioned especially by the sight of liquids, or the sound of running water, or any attempt at drinking. The countenance is exceedingly anxious, and there is generally much

mental distress, the intellect being perfect. As the fatal issue approaches, the sense of suffocation becomes more urgent, the convulsions more violent, the saliva more difficult to expel, and the terror greater, until at length wild delirium succeeds, followed by exhaustion and death. The general duration of the disease is from two to three days. There seems reason to believe that only a small number of those bitten by rabid animals suffer from hydrophobia. John Hunter mentions an instance in which of twenty-one persons bitten, only one suffered.

The Treatment must be prophylactic, for the cure of this disease seems hopeless. The wounded part is to be excised as soon as possible after the bite, care being taken to remove every portion touched by the animal's teeth; the wound is then to be thoroughly washed by a stream of water long poured over it; and lunar caustic afterwards applied. Mr. Youatt prefers the nitrate of silver freely used, to every other caustic, and he also recommends that after its application the wound should be quickly healed.

In treating the disease itself, I should resort to the inhalation of chloroform, the use of opium, prussic acid, and ice. Tracheotomy has been proposed, but it would be a useless piece of cruelty to resort to it. The practitioner should remember, that inoculation with the saliva of a patient with hydrophobia seems by no means impossible; he should, consequently, carefully guard against this secretion coming in contact with any scratch or abraded surface.

NEURALGIA.

This disease consists of violent pain in the

trunk or branch of a nerve, occurring in paroxysms, at regular or irregular intervals. It may attack the nerves of the head, trunk, or extremities; the subcutaneous nerves of these parts suffer the most frequently. When the branches of the fifth pair of nerves are the seat of the pain, we call the disease *neuralgia faciei* or *tic douloureux;* when certain nerves about the head—*hemicrania;* when the sciatic nerve—*sciatica.* Some authorities consider that *angina pectoris* is a neuralgic affection of some of the cardiac nerves; and *gastrodynia* a similar disease of the nerves of the stomach. In all these cases the cause or source of the suffering may be at some distance from the seat of pain; just as, when the ulnar nerve is struck at the elbow—when, as the vulgar say, the funny-bone is knocked—the pain is felt in the little finger.

Tic Douloureux may affect either of the three chief branches of the fifth pair of nerves. When the pain depends upon a morbid condition of the first or ophthalmic branch, the frontal ramification of it—the supra-orbital nerve—is the most frequently attacked, the suffering being referred chiefly to the forehead. When the second or superior maxillary branch is the seat of the complaint, the infra-orbital nerve is the one most commonly affected, the symptoms consisting of excruciating pain shooting over the cheek, lower eyelid, alæ of the nose, and upper lip. Tic douloureux of the third or inferior maxillary branch is generally confined to the inferior dental nerve, especially to that portion of it which emerges from the mental foramen and extends to the lower lip. The pain is referrible to the lower lip, the alveolar process, the teeth, chin, and side of the tongue.

Whichever nerve may suffer, the pain is usually confined to one-half of the face. The right infra-orbital nerve is the most frequent seat of this disease. The paroxysms of suffering are induced by very slight causes; a slight current of air, a sudden jar or shake, or anything which reminds the patient of his malady, will suffice to bring them on. The pains often prevent sleep; when the sufferer is once asleep, however, the rest is sound and undisturbed, since the pains—as pointed out by Sir B. Brodie—are suspended by sleep.

Hemicrania is merely headache, affecting one side of the brow and forehead. It is often attended with sickness, and frequently results from debility. Occasionally its attacks are periodical, coming on at a certain hour every day. It has been called *Sun-pain*, from the circumstance that at times it continues only as long as the sun is above the horizon.

Sciatica consists of acute pain following the course of the great sciatic nerve, and extending therefore from the sciatic notch down the posterior surface of the thigh to the popliteal space, and frequently along the nerves of the leg to the foot. It sometimes results from pressure upon some part of the nerve, sometimes from inflammation, and occasionally from rheumatism.

Treatment.—In the treatment of neuralgia, it is obvious that our first efforts must be directed to the removal of the cause. The state of the health must be looked to; general plethora—which very rarely exists in these cases—being relieved by purging and other lowering means, while general debility is to be corrected by nourishing diet, and ferruginous tonics. Dr. Elliotson says, that "in all cases of neuralgia,

whether exquisite or not, unaccompanied by inflammation, or evident existing cause, iron is the best remedy;" the sesquioxide may be given in half-drachm or drachm-doses two or three times a day, with an occasional aperient. When there are symptoms of disorder of the digestive organs, purgatives—especially Formula 41—and antacids will often give relief. Cases associated with rheumatism will derive benefit from iodide of potassium, guaiacum, colchicum, &c.; while those in which the attacks are periodic will often be cured by quinine. In most instances, narcotics and sedatives will be necessary.

Certain topical expedients have been proposed. Division of the affected nerve has rarely been of any service. Any tumour or foreign body pressing upon the nerve must be removed. In facial neuralgia, the extraction of a carious tooth will sometimes effect a cure; my friend Mr. Hulme tells me that he has known instances of this happy result. Belladonna, chloroform, opium, and aconite applied to the affected part will often at least palliate the suffering. A small portion of an ointment, made by mixing one grain of aconitine with one drachm of lard, may be smeared over the track of the painful nerve once or twice a day. Remembering that the pain is suspended by sleep, the inhalation of chloroform may serve to induce this state.

DISEASES OF THE THORACIC VISCERA.

THE diseases of the lungs and heart are for the most part attended by certain prominent symptoms, and their diagnosis is aided by certain methods, which may well claim a brief notice on account of their importance.

Respirations.—Each respiration consists of an inspiration and an expiration. In the adult there are, on an average, eighteen respirations in a minute, one act of respiration for about every four beats of the heart; in females and children the respirations are quicker and louder, averaging in the latter about twenty-five in a minute. When the respirations are from any cause interfered with, the breathing becomes difficult and disordered, or *dyspnœa* is said to exist; when the derangement is so great that the sufferer cannot lie down—can only respire in the erect or sitting posture—he is said to suffer from *orthopnœa*.

Cough.—A common symptom in diseases of the chest is cough, which may be defined as an abrupt and forcible expiratory effort, accompanied by a contraction of the glottis, trachea, and larger bronchial tubes, having for its object the expulsion of something, the presence of which is irritating the air-passages. If any portion of the vagus nerve above the part where the pulmonary branches are given off be irritated, cough will result.

Hæmoptysis is another symptom of disease of the heart or lungs, and is especially common in the early stages of pulmonary consumption. It is generally preceded by cough, dyspnœa, tickling in the throat, and a peculiar sensation in the thorax. The blood is brought up by coughing, in

mouthfuls at a time, is of a florid red colour, and is mixed with a little frothy mucus. Sometimes it comes on without any apparent cause, or merely from congestion of the lungs. It is then to be treated as a disease instead of as a symptom, and endeavours must be made to check it by venæsection, by astringents—especially the acetate of lead, or gallic acid (Formulæ 135, 186, 205), by ice taken internally and applied externally, and by the most perfect quiet and repose. Occasionally a part of the extravasated blood, instead of passing upwards by the trachea and mouth, is forced in the opposite direction into the ultimate divisions of the bronchial tubes, where it forms clots of variable size, giving rise to what Laennec termed *pulmonary apoplexy*. The hæmorrhage may arise from ulceration of a blood-vessel, or it may result from exhalation through different parts of the mucous membrane.

The Expectoration often presents peculiar characters which aid our diagnosis, as, for example, the rust-coloured sputa in pneumonia.

Since the discovery of **Percussion** and **Auscultation** the diagnosis of thoracic diseases may be said to have been rendered perfect. Auscultation is known as *immediate*, when the ear of the practitioner is placed in contact with the patient's chest; *mediate*, when a conductor of sound, such as a stethoscope, is interposed.

An instrument, called a **Stethometer** for measuring the expansive movements of the chest during inspiration, and for ascertaining the difference in the mobility of opposite sides of the chest, has been invented by Dr. Richard Quain. It consists of a case somewhat similar to that of a watch, with a graduated dial and an index ; a silk cord—which

acts upon this index—passing out of the side of the case. The cord is adjusted during the act of expiration, so that when the thorax is expanded by inspiration, the amount of enlargement is shown by the index on the dial; thus comparisons can readily be made of different parts of the chest.

The Spirometer.—For the introduction of the spirometer, an instrument for measuring the volume of air expired from the lungs, we are indebted to Dr. Hutchinson.

The quantity of air expired after the most complete inspiration is termed by this gentleman the *vital volume*, or the *vital capacity*. Now the vital capacity always increases with stature; it will also be slightly affected by weight, but not sufficiently, as a rule, to interfere with the correctness of the following table, which is intended to show the capacity in health and in the three stages of phthisis.

Height.				*Capacity in Health.*	*Capacity in Phthisis pulmonalis.*		
					1st Stage.	2d Stage.	3d Stage.
Ft.	in.	Ft.	in.	Cub. in.	Cub. in.	Cub. in.	Cub. in.
5	0 to	5	1	174	117	99	82
5	1 „	5	2	182	122	102	86
5	2 „	5	3	190	127	108	89
5	3 „	5	4	198	133	113	93
5	4 „	5	5	206	138	117	97
5	5 „	5	6	214	143	122	100
5	6 „	5	7	222	149	127	104
5	7 „	5	8	230	154	131	108
5	8 „	5	9	238	159	136	112
5	9 „	5	10	246	165	140	116
5	10 „	5	11	254	170	145	119
5	11 „	6	0	262	176	149	123

This table reads thus:—A man between 5 ft. 7 in. and 5 ft. 8 in. should breathe in health 230 cubic inches; in the first stage of consumption this will

be reduced to 154; in the second to 131; and in the third to 108 cubic inches.

When the vital capacity is to be tested, the patient should loosen his vest, stand perfectly erect, take as deep an inspiration as possible, and then put the mouth-piece of the spirometer between his lips. The observer having opened the tap, the patient empties his lungs, making the deepest possible expiration, at the termination of which the operator turns off the tap, thus confining the air in the receiver. The receiver is then to be lightly depressed until the surfaces of the spirit in a bent tube on the outside of the instrument are on a level with each other, when the vital capacity may be read off from the scale.

One of the earliest signs of disease is **Loss of Weight.** A slow and gradual loss is more serious than a rapid and irregular diminution in weight; a steady loss always precedes consumption. Dr. Hutchinson, from an examination of 2650 healthy men at the middle period of life, has deduced the following table:—

Exact Stature.		*Mean Weight.*			*Weight increased by 7 per Cent.*		
Ft.	in.	St.	lbs.	lbs.	St.	lbs.	lbs.
5	1	8	8	or 120	9	2	or 128
5	2	9	0	„ 126	9	9	„ 135
5	3	9	7	„ 133	10	2	„ 142
5	4	9	13	„ 139	10	9	„ 149
5	5	10	2	„ 142	10	12	„ 152
5	6	10	5	„ 145	11	1	„ 155
5	7	10	8	„ 148	11	4	„ 158
5	8	11	1	„ 155	11	12	„ 166
5	9	11	8	„ 162	12	5	„ 173
5	10	12	1	„ 169	12	13	„ 181
5	11	12	6	„ 174	13	4	„ 186
6	0	12	10	„ 178	13	8	„ 190

This reads,—A man of 5 ft. 8 in. should weigh 11 st. 1 lb. or 155 lb. (14 lb.=1 stone); he may exceed this by 7 per cent., and so attain 11 st. 12 lb. or 166 lb., without affecting his vital capacity; beyond this weight his respiration becomes diminished.

Other means are also employed in detecting diseases of the respiratory organs, such as **Inspection, Palpation**—or the application of the hand—**Mensuration**, and **Succussion.**

Regions of the Thorax.—For convenience, the thorax has been arbitrarily divided into regions. In *front* we have the upper sternal, middle sternal, and lower sternal, with the two clavicular, the two subclavian, the two mammary, and the two infra-mammary regions; *behind* there are the two acromial, the two scapular, the two intra-scapular, and the two dorsal; while on *either side* are found the axillary, the lateral, and the lower lateral regions.

CATARRH.

Catarrh consists of inflammation of the mucous membrane of some part of the air-passages. It is called *coryza* if it affect the Schneiderian membrane of the nose; *gravedo*, if the frontal sinuses suffer; and *bronchitis*, when the stress of the disease falls on the trachea and bronchial tubes.

It is the commonest of diseases. It arises not from mere cold, but from too sudden a change of temperature, or from exposure to wet, &c. No one applies to a doctor to cure a cold. Every man acts as his own physician, and judiciously amuses himself with slops, putting his feet in hot water, and perhaps by taking a few doses of James's powder, while the disease runs its course, and in

three or four days exhausts itself. Doubtless the cure may be expedited by a mild aperient, one or two ten-grain doses of Dover's powder at bedtime, or the use of a mixture similar to Formula 60. In some persons an opiate at bedtime (twenty minims of the tinctura opii) will cut short a catarrh. Dr. C. J. B. Williams assures us that any cold may be cured in forty-eight hours or less, by almost total abstinence from liquids; but it is difficult to meet with any one who has followed this practice.

BRONCHITIS.

Inflammation of the bronchial tubes may be acute or chronic.

Acute Bronchitis is a dangerous disorder, more especially on account of the frequency with which the inflammatory action spreads to the vesicular texture of the lungs.

The Symptoms consist of fever, a sense of tightness or constriction about the chest, hurried respiration with wheezing, severe cough, and expectoration—at first of a viscid glairy mucus—which subsequently becomes purulent. The pulse is frequent and often weak; the tongue foul; and there is headache, lassitude, sickness, and great anxiety.

On practising auscultation in the early stage of the inflammation, two *dry* sounds will generally be heard, viz., *rhonchus* and *sibilus;* both of which indicate that the air-tubes are partially narrowed—that the mucous membrane lining them is indeed dry and tumid. Rhonchus in itself need give us no anxiety, as it belongs entirely to the larger divisions of the bronchial tubes; sibilus, on the contrary, bespeaks more danger, since it denotes that the smaller air-tubes and vesicles are affected. After a time, the inflamed mucous membrane be-

gins to pour out fluid—a viscid, transparent, tenacious mucus is exhaled; this constitutes the second stage of the inflammation. Two very different sounds to those just noticed are then to be detected, viz., *large crepitation* and *small crepitation*—often called the *moist* sounds. As the air passes through the bronchial tubes it gets mixed—as it were—with the mucous secretion, so that numerous air-bubbles keep forming and bursting. When this occurs in the larger branches, it gives rise to large crepitation; when in the smaller, to small crepitation. We have therefore rhonchus and large crepitation as, respectively, the dry and moist sounds of the larger air-passages; sibilus and small crepitation as those of the smaller branches. On practising percussion, no appreciable alteration in the resonance of the chest will be discoverable.

Prognosis.—If relief be not afforded by the copious expectoration, or by remedies, the disease assumes a more dangerous character, the strength becomes much reduced, signs of great pulmonary congestion ensue, and symptoms of partial asphyxia follow, soon ending in death. In favourable cases, however, the affection begins to decline between the fourth and eighth day, and shortly either entirely subsides, or passes into the chronic form.

Treatment.—After a brisk purgative, tartarized antimony, given in doses sufficient to excite nausea, must be employed; Formulæ 58, 59, 197, &c., may be administered every three or four hours, discontinuing the remedy directly much exhaustion ensues. In young plethoric people, blood-letting, emetics, and mercury may perhaps be called for. When physician to the Farringdon Dispensary, where the patients were very poor, I was in the constant habit of successfully treating acute bronchitis

from the commencement, with stimulating expectorants (such as Formula 32), good beef-tea, the inhalation of the steam of hot water, and counter-irritation by means of rubefacient liniments or turpentine stupes. Opium cautiously given often does much good; it is not to be employed if there are any indications that the blood is not properly aerated—if the complexion is dusky or bluish.

Chronic Bronchitis is very common in advanced life. The slighter forms are indicated only by habitual cough, some shortness of breath, and copious expectoration, these symptoms being increased by cold and wet. The majority of cases of winter cough in old people are examples of bronchial inflammation of a low lingering kind. It may arise idiopathically, or it may follow an acute attack.

There is a peculiar and severe form of this disorder, however, occurring in old people, and liable to run into pneumonia, which deserves notice. It has been described as *peripneumonia notha* (bastard peripneumony), or *catarrhus senilis*, or *subacute bronchitis;* it consists of diffused inflammation of the mucous membrane of the lungs, attended with excessive secretion of puriform mucus. Cullen, who well describes this affection, says it "has often the appearance only of a more violent catarrh; and after the employment of some remedies, is entirely relieved by a free and copious expectoration. In other cases, however, the feverish and catarrhal symptoms are at first very moderate, and even slight; but after a few days these symptoms suddenly become considerable, and put an end to the patient's life, when the indications of danger were before very little evident." It sometimes proves fatal by the accumulated mucus,

which the patient has not the power to expel, causing suffocation.

Severe examples of chronic bronchitis, with abundant expectoration, are apt to be mistaken for cases of phthisis; consumption-curers often commit such an error of diagnosis, and then vaunt their very ordinary as extraordinary cures.

The Treatment of chronic bronchitis must depend very much upon the age and constitution of the patient. The cases which have fallen under my own observation have been most benefited by various stimulating expectorants (Formulæ 32, 67, 68), by tonics, cod-liver oil, good nourishing food, and wine or other stimuli. Counter-irritation by sinapisms, turpentine stupes, or rubefacient liniments, will give great relief; blisters frequently do good. Patients often subsequently derive advantage from covering the chest with a large emplastrum ferri. Where the expectoration is profuse, and any difficulty in expelling it is experienced, emetics must be had recourse to (Formulæ 228, 232).

INFLUENZA

Influenza, or epidemic catarrh, or, in France "la grippe," arises at times from some peculiar condition or contamination of the atmosphere. It is said to travel from east to west, and seldom to stay in one district more than six or seven weeks. Some visitations of it have proved more severe than others; one in 1782, which extended over the whole of Europe, was very fatal.

Symptoms.—The chief symptoms of this mysterious affection are slight fever, urgent headache, coryza, hoarseness, cough, shortness of breath, and disorder of the stomach; together with an uncommon degree of languor, debility, and dejection

of spirits. The suddenness and rapidity with which the attack occurs is very remarkable. It is more fatal to elderly than to other persons; in favourable cases it runs its course in about a week, merely leaving great prostration.

Treatment.—About the treatment there can be no mistake. The patient must be kept in bed, and barley-water and nourishing broths administered. If the catarrhal symptoms are urgent, ten grains of Dover's powder may be given at night, or a mixture similar to Formula 60. A sinapism applied to the chest, together with the inhalation of the steam of hot water, may be necessary. When prostration is the predominant symptom, stimulants are to be resorted to, such as wine, ammonia, or even brandy. The subsequent debility will be the soonest removed by tonics, especially by quinine and iron (Formulæ 4, 12).

Somewhat allied to influenza is a curious variety of catarrh known as HAY-ASTHMA or HAY-FEVER, which Dr. Elliotson has described as a combination of catarrh and asthma. It is attended with the usual symptoms of a common cold, often, however, in an aggravated and distressing form: susceptible people suffer from it during the time of hay-making, if they get into the neighbourhood of hay-fields or hay-stacks. Ipecacuanha is another substance which gives rise to similar symptoms in certain peculiar constitutions. In two or three instances, the susceptibility to hay-asthma has been removed by quinine and iron.

HOOPING-COUGH.

Pertussis, or hooping cough, is a contagious infectious disease, rarely occurring more than once in the same individual, attended with slight fever,

and a peculiar cough which occurs in paroxysms, at uncertain intervals. Its duration varies from a few days to many months. It is especially a disease of childhood.

Symptoms.—Hooping-cough appears to depend upon some peculiar poison which affects and irritates the pneumogastric or vagus nerve. In the commencement it produces a simple febrile stage of eight, ten, or twenty days duration, sometimes accompanied, but generally followed by violent paroxysms of coughing. The series of coughs or expiratory efforts are so powerful, and expel the air so largely from the lungs, that the patient seems on the point of being suffocated, until a long-protracted inspiratory act follows, the rush of air through the contracted glottis causing the characteristic crowing, or hooping noise. As Dr. Todd remarks, it is the signal of the child's safety.* Directly the fit, which bears some analogy to laryngismus stridulus, is over, the child appears well and returns to his amusements; even if it end in an attack of vomiting, the patient has a craving for food directly afterwards, and wants something to eat.

The poison of hooping-cough may coexist with other poisons, as with those of small-pox, measles, &c. It may also be complicated with bronchitis, pneumonia, disordered bowels, or some head affection.

Treatment.—In the treatment of this disease our object must be to keep it simple, to prevent other affections from complicating it; for since it arises from a specific contagion, like small-pox or scarlatina, so it has a tendency to run a certain course uncontrolled by art. Emetics are said to be very beneficial, followed by expectorants, such as small

* Medical Times and Gazette, March 4, 1854.

doses of the antimonial wine, or ipecacuanha wine, or tincture of squills; some practitioners even recommend blood-letting. But I think it is impossible not to see, as Dr. Todd points out, that this affection is not an inflammatory, but rather a spasmodic complaint, and that, consequently, all antiphlogistic measures are to be discarded. The patient should be kept from cold air; the general nutrition should be maintained by food easily digested; the chest should be sponged, back and front, once or twice a day with cold water; and embrocations may be afterwards used to the same part. The best drugs are those known as antispasmodics, such as opium, henbane, conium, belladonna, hydrocyanic acid, camphor, chloric ether, and chloroform. It need hardly be mentioned that the greatest caution will be necessary in the use of these remedies, that they should be given in minute doses, and that their effects should be narrowly watched. Where the secretion from the bronchial tubes is excessive, it should be checked by astringents, as, for example, by alum, sulphate of zinc, small doses of sulphuric acid and infusion of bark, or gallic acid. When the case becomes chronic, a cure may often be effected by change of air—by removal to the sea-side.

Refer to Formula 31.

ASTHMA.

Asthma may be defined as great difficulty of breathing, accompanied with a wheezing sound of respiration, occurring in paroxysms, and ceasing at the end of a few hours with mucous expectoration, more or less abundant.

Diagnosis.—A fit of asthma is either preceded by various digestive or other disturbances, or it occurs suddenly, without any warning. The patient

awakes an hour or two after midnight with a sensation of suffocation, or constriction about the chest; the efforts at inspiration are convulsively violent; the expiration is prolonged, and comparatively easy; both acts, but especially the first, are attended with wheezing. Various postures are assumed to facilitate the attempt at filling the lungs; the patient stands erect, or leans his head forwards on his hands, or rushes to the open window, at which he will remain almost for hours gasping for air. The pulse is small and feeble; the eyes staring; the countenance anxious; the skin cold and clammy. His whole appearance is most distressing, and he looks beseechingly at the practitioner for relief from his misery. Then, after a certain lapse of time, comes a remission, cough ensues, and with the cough expectoration of mucus, and soon the paroxysm ceases, to allow the sufferer to fall into the long-desired sleep.

When the attack ceases with expectoration, the case is said to be one of *humid* or *humoral* asthma; when without, it is called *dry* asthma. Both forms are often connected with emphysema of the lungs, and with disease of the heart. The paroxysms are supposed to depend upon spasmodic constriction of the bronchial tubes.

Repetition of asthmatic fits often leads to dilatation of the right cavities of the heart, or to insufficiency of the tricuspid valve; this occurs most frequently when there is emphysema.

Our Treatment must have reference to the relief of the fit, and the prevention of its recurrence. In the fit every effort must be made to relax spasm, and three agents—opium, stramonium, and chloroform—present themselves as eminently calculated to effect this object. Opium combined with sul-

phuric ether (Formula 29) is often of great service. Such is also the case with the leaves and stalks of stramonium cut up, put into a pipe, and smoked; or stramonium cigars may now be obtained, a few whiffs of which in many cases cause a temporary cure. The inhalation of the vapour of chloroform, in moderate quantity, is often very beneficial; yet in some cases, as with stramonium, it only does harm. Some practitioners assert that patients derive relief from the fumes of burning filtering paper which has been saturated with nitrate of potash, and dried; while others recommend belladonna, conium, hydrocyanic acid, strong coffee, &c. The Lobelia Inflata has of late been much praised, but though I have had frequent opportunities of employing it, I cannot remember one instance in which it has been productive of marked benefit; moreover, although only small doses have been given, it has invariably produced distressing sickness. Sinapisms and turpentine stupes to the back and front of the chest seem occasionally to give relief. The tendency to asthma may sometimes be removed by tonics, by attention to the digestive organs, by the use of the shower or sponging bath, and by change of air. Asthmatic patients, as a rule, appear to be more benefited by a bracing than by a relaxing climate.

EMPHYSEMA.

The diseases of the lung thus denominated are of two kinds. One consists essentially of enlargement of the air-cells, atrophy of their walls, and obliteration of their vessels; this is called *vesicular* or *pulmonary* emphysema. When, on the other hand, there is infiltration of air into the interlobular areolar tissue, or into the sub-pleural

areolar tissue, the disease is known as *interlobular* emphysema. Both forms give rise to habitual shortness of breath, with occasional severe paroxysms of dyspnœa, resembling asthma; they are at all times very distressing complaints, and quite unfit the sufferer for any active occupation. Emphysema is a common cause of asthma. The physical signs consist of unnatural clearness and resonance on percussion, while only a very indistinct vesicular murmur is heard on auscultation. The diseased side of the thorax is also more prominent and rounder than the healthy one. Thus, as regards percussion and auscultation, emphysema affords results the reverse of other affections; the disease consisting, as it were, of a superabundance of air, which does not pass away, there is more resonance, but less sound in the air-passages—less respiratory murmur.

Treatment.—Emphysema can only be relieved by rest, warm clothing, attention to the general health, and by the occasional use of anodynes and antispasmodics. A warm climate is often very beneficial to sufferers from this affection, the dyspnœa being always most urgent in cold weather. In interlobular emphysema, a cure is often effected by nature, the air becoming absorbed.

PLEURISY.

Pleuritis, or pleurisy, are terms applied to inflammation of the pleura—the serous membrane investing the lungs and lining the cavity of the thorax.

Symptoms.—The disease is ushered in with rigors, followed by fever, and an acute lancinating pain in the side, called a stitch, which pain is aggravated by the expansion of the lung in inspiration, by coughing, by lying on the affected side, and by

pressure ; there is also a short harsh cough, the skin is hot and dry, the cheeks flushed, the pulse hard and quick, and the urine is scanty and high coloured. If we listen to the painful part of the chest at this period, we shall hear the dry, inflamed membranes—the pulmonary and costal pleuræ—rubbing against each other, and producing a *friction-sound ;* if the hand be placed on the corresponding part of the thorax, this rubbing may also be felt. But the sound soon ceases ; either the inflammation terminates in resolution and complete recovery, or the roughened surfaces become adherent, or they are separated by the effusion of serum, and a kind of dropsy results, known as HYDROTHORAX. If the pleurisy has been severe, the effusion becomes excessive (it may vary from an ounce to several pints), and the fluid accumulating in the sac of the pleura compresses the yielding lung, suspends its functions, displaces the heart, and somewhat distends the thoracic parietes. When the serous fluid is mixed with pus, the disease is termed EMPYEMA. If we listen to the chest now, we shall find the respiratory murmur diminished, in proportion to the quantity of fluid thrown out ; where this is excessive and the lung is compressed backwards—flattened almost against the spinal column, no vesicular breathing at all will be heard, but instead we shall hear the air passing into the larger bronchial tubes, the condensed lung and the layer of fluid acting as conductors of sound ; we then say that *bronchial respiration* and *bronchial voice*, or *bronchophony*, exist. The bronchophony may be accompanied by a tremulous noise, resembling the bleating of a goat ; it is then termed *ægophony*. If the lung be completely compressed, so that no air can enter even the bronchial tubes, then no

sounds of any kind will be heard; but on the healthy side the respiration will be more distinct than natural—will be *puerile*. There will also be dullness on percussion all over the affected side, if the pleura be full of fluid; if it be only partially filled, we can judge of the quantity by placing the patient in different attitudes; for since the fluid will gravitate to the most dependent part of the cavity, so it will carry the dull sound with it. We shall also often be able to judge of the amount of the effusion by the dyspnœa which the patient suffers from, since this will, of course, be most urgent when the lung is most compressed. At this time also the sufferer is unable any longer to lie on the sound side, clearly because the movements of the healthy lung would be impeded by the superincumbent weight of the dropsical pleura; the pain, moreover, no longer prevents his lying on the diseased side. If we measure the two sides of the chest, the side containing the effusion will be found the largest; we must remember, however, that in many persons the right side of the chest is naturally rather larger than the left.

After a time the symptoms begin to decrease, and absorption of the effused fluid commences. Supposing the lung to be bound down by adhesions, it will not expand in proportion to the absorption of the fluid; the affected side will then shrink inwards, and instead of any longer remaining larger than the sound side, will become smaller.

Causes.—The most common causes of pleurisy are exposure to cold and wet, and mechanical injuries. The jagged ends of a fractured rib will often excite it, and if they wound the pulmonary pleura, air will escape from the lung into the pleural cavity. The same condition may arise from an external

wound, or from ulceration from the extension of a tubercular cavity. When the pleura contains air alone, we say there is PNEUMOTHORAX; when, as generally happens, there is liquid with the air, we call the disease PNEUMOTHORAX WITH EFFUSION. The physical signs of pneumothorax are great resonance on percussion, with indistinctness of the respiratory murmur on auscultation, the patient's breathing, cough, and voice, giving rise to a ringing metallic noise, like that produced by blowing obliquely into an empty flask, and hence called *amphoric resonance*. When there is also liquid with the air, we obtain in addition, on practising succussion, a sound known as *metallic tinkling*, which results from a drop of fluid falling from the upper part of the cavity and causing a little splash.

Treatment.—The indications in the treatment of pleurisy are first to subdue the inflammation; and, secondly, to promote the removal of its products. In the commencement therefore, blood-letting must be resorted to, and in no way probably can blood be so advantageously removed in this disease as by cupping over the inflamed part. The quantity to be taken must be regulated by the effect produced, and by the age and constitution of the patient; in an ordinary adult, about twelve ounces will probably suffice. Attempts must then be made to get the system under the influence of mercury, and consequently calomel and opium (Formula 173), and mercurial inunctions, are to be employed.

If these means prove insufficient and effusion takes place, we then endeavour to promote absorption. The patient must be kept on low diet, a succession of blisters applied to the diseased side, and purgatives and diuretics administered. The

iodide of potassium (Formulæ 94, 95) will often be useful, or a combination of squills, digitalis, and blue pill (Formula 177) has been highly recommended. When these means fail, tapping the thorax, so as to let the fluid out, has been resorted to, and on many occasions with perfect success. Before performing paracentesis, it will be as well to make an exploratory puncture with a grooved needle; if fluid issue, a trocar and canula may then be introduced. The best position for the puncture, is probably the intercostal space between the fifth and sixth true ribs, at—or somewhat posterior to—their angles, provided, of course, that the lung is not fixed to this part by adhesions, and that no good reason exists for selecting a different spot. It will probably be better to remove all the fluid; if serum come out, the orifice should be closed and healed; if pus, the aperture should be enlarged and kept open.

In some examples of pneumothorax, where the dyspnœa has been very urgent, it has been found necessary to puncture the pleural cavity with a grooved needle, to let the air out; such cases, however, are very rare.

PNEUMONIA.

Pneumonia, or inflammation of the substance of the lungs, consists of three degrees or stages, namely, first, that of engorgement; secondly, that of hepatization; and, thirdly, that of grey hepatization, or purulent infiltration. In each stage there is fever, more or less pain in some part of the chest—most severe at the commencement, accelerated and oppressed breathing, occasionally delirium, cough, and expectoration of viscid, rust-coloured sputa, which unite into a mass so

tenacious, that even inversion of the vessel containing them will not detach them.

In the first stage, or that of engorgement, the substance of the lung becomes loaded with blood or bloody serum. It is of a dark red colour externally, and on cutting into it a quantity of red, frothy serum escapes, while its appearance somewhat resembles the spleen. If we listen to the chest when the lung is in this condition we shall hear very fine crepitation, which is known as *minute crepitation*, or *crepitant rhonchus*. If a lock of one's own hair be rubbed between the finger and thumb close to the ear, a sound will be produced resembling it. The natural respiratory or vesicular murmur is still heard mingled with this minute crepitation, especially at first; as the inflammation advances, however, the healthy sound is quite displaced by the morbid one. Percussion also, at first, affords the natural resonance, which gradually becomes obscured.

If the inflammation proceed, it passes into *the second stage, or that of hepatization*, in which the spongy character of the lung is lost, and it becomes hard and solid, resembling the cut surface of the liver, whence it is said to be hepatized. If we now practise auscultation, neither the minute crepitation nor the vesicular murmur are any longer perceptible. *Bronchophony*, however, often exists, more particularly if the inflammation be seated near the upper part or in the vicinity of the root of the lungs; it is accompanied also by *bronchial respiration*, these sounds being conducted by the solidified lung. The sound on percussion is dull over the whole of the affected part.

Advancing still further, we now have *the third stage of pneumonia, or that of grey hepatization*,

or purulent infiltration, which consists of diffused suppuration of the pulmonary tissue. Circumscribed abscess of the lung is very uncommon, but diffused suppuration is a frequent consequence of inflammation. There are no physical signs by which this stage can be diagnosed, until part of the lung breaks down and the pus is expectorated; *large gurgling crepitation* will then be heard.

If the inflammation subside before the stage of purulent infiltration, as it fortunately often does, then the hepatized condition may remain permanent, or may gradually cease; in the latter case we shall find the air slowly re-entering the lung, as will be indicated by a return of the minute crepitation, mingled with—and subsequently superseded by—the healthy vesicular murmur.

Occasionally, in depressed constitutions, acute inflammation of the lung terminates in GANGRENE. The characteristic symptom of such an occurrence, is an intolerably fœtid state of the breath, resembling the odour which proceeds from external gangrenous parts. Unless the mortified portion be small, death will in all probability result.

Pneumonia may affect one lung or both, or, technically speaking, may be double or single. The right lung suffers from inflammation twice as often as the left; about once in eight cases both are affected. The lower lobes are more obnoxious to inflammation than the upper. The average duration of the disease is about ten days.

Pneumonia without bronchitis is probably never seen. It may occur with or without pleurisy; when the pneumonia forms the chief disease, the double affection is termed *pleuro-pneumonia*; when the pleurisy predominates, it is sometimes called *pneumo-pleuritis*.

Treatment.—Blood-letting, tartar emetic, and mercury, are the agents on which we mainly rely in our treatment. *Blood-letting* is not to be resorted to as a matter of routine, however, for many cases will recover much better without it. When the inflammation runs high, when the dyspnœa is urgent, and when the constitution will bear it, great relief will follow the loss of blood; and I am told, though I have never seen the practice adopted, that thirty or forty ounces may be taken. In some instances I have found benefit from merely taking away a small quantity of blood (five or six ounces), so as to relieve the lungs of part of their work, as it were, without depressing the vital powers. When there is much pain, cupping will give relief sooner than any remedy. In *tartarized antimony* we possess a valuable agent, which is especially useful in the first stage of pneumonia. It need not be given so as to produce vomiting, but merely so as to depress the powers of the system. (See Formulæ 58, 59.) In the second stage, or that of hepatization, we shall derive more benefit from *mercury* than from antimony, and the sooner the system is got under its influence the better. Blue pill, or calomel and opium, or the hydrargyrum cum cretâ may be given, or the mercurial ointment may be rubbed in. In the third stage, stimulants will usually be necessary, the sesquicarbonate of ammonia in senega or wine being the best. Care must be taken to have the bowels open once daily at least. The diet must at first be low and very simple, followed by good nourishing broths, &c. Blisters, if used at all, should only be applied in the latter stages of the inflammation; they undoubtedly do harm in the outset.

PHTHISIS.

Tubercular phthisis, or pulmonary consumption, is a constitutional disease manifesting itself chiefly by certain changes in the lungs.

The origin and formation of tubercle has already been considered in the section on Tuberculosis. It is only necessary to mention, therefore, that in phthisis the tubercular deposit takes place in the areolar tissue between the air-cells, in the air-cells themselves, and in the smaller bronchial tubes communicating with them; and that wherever a speck of this matter is deposited from the blood, it continues to increase by constant addition. In its hard state it is called crude tubercle. After a time, inflammation arises in the pulmonary substance surrounding the deposit, suppuration occurs, the tubercular matter softens and breaks down, and at length is gradually expelled through the bronchi, trachea, and mouth, leaving cavities or excavations behind, of various sizes. Sometimes these cavities close and heal; more frequently tubercular matter continues to be deposited on their sides, and in other parts of the lungs, until these organs become diseased to an extent incompatible with the continuance of life.

Symptoms.—The general symptoms of phthisis are cough, debility, expectoration, acceleration of the pulse, dyspnœa, hæmoptysis, loss of flesh, hoarseness, sweating, and diarrhœa. A mark at the reflected edge of the gums, usually deeper in colour than the adjoining surface, and producing a festooned appearance, by the accuracy with which it corresponds to the curve of the gingival border, has been observed by Dr. Theophilus Thompson to be very frequently present in these

cases.* The disease ordinarily sets in with a short dry cough, which may continue some time without being aggravated, or without the supervention of any other symptom. Occasionally there is hæmoptysis, which, recurring at variable intervals, gives the first intimation of the disease. The patient complains also of languor; slight exertion—ascending a hill or going up stairs—causes fatigue, hurries the breathing, and often gives rise to palpitation. When this state has lasted for some time, during which the cough and expectoration have been increasing, hectic fever appears. The debility becomes more marked; the countenance becomes frequently flushed; chilliness is complained of in the evening, while on awaking in the morning the body is found bathed in a profuse sweat; and there is loss of appetite, with thirst, &c. The patient now rapidly loses flesh; diarrhœa often sets in and increases the debility; the lower extremities become œdematous; and death soon ends the scene.

Some authors have divided phthisis into three stages. During the *first*—that in which tubercles become developed in the lungs—neither the local nor the general symptoms warrant us in announcing the presence of any other affection than severe catarrh; if the tubercles be deposited, however, in considerable quantity, the sound on percussion will be dull, the act of expiration will be prolonged—from impairment of the elasticity of the lungs, and *bronchial respiration* and *bronchophony* will be heard; the vesicular murmur will be feeble or even absent. In the *second* stage, the tubercles increase both in number and size,

* Clinical Lectures on Pulmonary Consumption, by Theophilus Thompson, M.D., F.R.S., &c.

so as to compress and obstruct the substance of the lung, and occasion dyspnœa; large crepitation will be distinct, and in the sound lung puerile breathing. In the *third* stage, the tubercles become softened; they make an opening for themselves through some of the surrounding or involved bronchi, and being thus evacuated, they give rise to the formation of cavities. Auscultation now elicits a peculiar sound, called *gurgling*, caused by the bubbling of air with the pus or mucus contained in the cavity. Gurgling, it must be remembered, may also arise from that rare disease, circumscribed abscess of the lung, as well as from the mixture of air with liquid in a dilated bronchus affected with chronic inflammation. When the cavity contains no liquid, we hear *cavernous respiration;* if it be large, *amphoric resonance*, and *pectoriloquy* will also be distinguishable. Notwithstanding the existence of one large or of numerous cavities, percussion almost invariably affords a dull sound, owing to the layer of lung forming the wall of the cavity being dense and solid.

Phthisis may be inherited or it may be acquired; it is not contagious. Of 1000 cases collected by Dr. Cotton, at the Consumption Hospital, 367 were hereditarily predisposed; 582 were males, and 418 females. The left lung suffers more frequently than the right; in Dr. Cotton's cases the left lung was affected in 455, the right in 384, and both in 161. The apices and posterior parts of the upper lobes of the lungs are ordinarily the situations in which the deposit first takes place.

No period of life is exempt from this scourge. Insufficient and bad food, impure air, confinement, deficiency of light, and immoderate indulgence of the sensual passions may be regarded as frequent

causes. Its ordinary duration is somewhere about six or nine months; it very rarely proves fatal in less than three months.

The Treatment resolves itself into that necessary for the prevention of phthisis, and that to be adopted to stay its course when it has once developed itself. As regards prevention, I need only refer to the section on Scrofula, as the remarks there made, apply with equal force to the disease under consideration.

When the disease is present—when tubercles have become developed in the lungs, we must endeavour to *improve the general nutrition*, by attention to the quantity and quality of the food, by pure mild air, by warm clothing, and by the administration of cod-liver oil. As regards the diet, only the most nutritious food should be allowed; an animal diet is absolutely necessary, so long as the powers of the stomach and alimentary canal are sufficiently strong to digest and assimilate it. Milk is also very nutritious, and so are raw eggs. Strong broths, a small allowance of wine, or of good bitter ale, or of Guinness's stout, may often be advantageously permitted. Too long an interval should not elapse between each meal. Change of air and scene is an important element in the treatment. There is probably no place to which patients can be sent with so much hope of benefit as to Madeira. They are not to be sent away to die, however. When softening of the tubercles has begun, it will be too late to expect much benefit from climate. Torquay, the Isle of Wight, and especially Hastings, are places in our own country, admirably adapted for consumptive patients. The wards of the Brompton Consumption Hospital are kept at an uniform temperature of 65° in both

winter and summer. Cod-liver oil is a most valuable remedy; it nourishes the body; diminishes the cough, expectoration, and night-sweats; and, there is every reason to believe, checks the fresh exudation of tubercular matter. In the beginning, a teaspoonful should be given thrice daily, and increased to a tablespoonful four times a day. Where the stomach will not tolerate this agent, enemata containing it may be tried, or it may be introduced into the system by inunction, and by applying lint saturated with it to the chest (Formula 263).

In addition to these means, there are certain other agents which must be pointed out. Iodine and its compounds—especially the iodide of potassium—have been highly praised. Liquor potassæ is often useful in the early periods. The various preparations of iron are also valuable, especially during the first stage of the disease in the absence of pulmonary congestion and hæmoptysis. When the cough is severe, opiates and small doses of hydrocyanic acid will give relief; if the night-sweats weaken and annoy the patient, they may often be checked by gallic acid, or by the mineral acids with bark (Formula 2); while the diarrhœa, when urgent, must be stopped by catechu, log-wood, the enema opii of the London Pharmacopœia, or by Formulæ 129, 131, &c. Counter-irritation to the chest by sinapisms, turpentine stupes, and particularly by the iodine paint (Formula 271), often gives relief. Pyro-acetic spirit or naphtha has been highly but undeservedly praised, since it more frequently does harm than good. So with all the specifics for phthisis.

MELANOSIS—SPURIOUS MELANOSIS.

Encephaloid cancer and scirrhus are the malignant diseases which sometimes, but extremely rarely, affect the lungs. The affection called *melanosis* was described by Laennec in 1806. It consists in the deposit of a black or dark-coloured material in the areolar tissue of the lungs, liver, &c.; this deposit gradually increasing until numerous tumours, varying in size and number, are formed. Like other foreign bodies, these cause inflammation and ulceration, and thus destroy life, as well as by the manner in which they interfere with important functions.

The term *spurious melanosis* has been applied to those collections of black carbonaceous matter which are so frequently found in the lungs of old people who have lived for some years in large towns. They are probably derived from the soot inhaled with the *fresh* air.

PERICARDITIS.

Pericarditis, or inflammation of the external serous covering of the heart, frequently arises from cold, from mechanical injuries, from a contaminated state of the blood produced by renal disease, and from acute rheumatism.

The Symptoms of this affection are, high fever; pain referred to the region of the heart, often darting through to the left scapula, upwards to the left clavicle and shoulder, and down the arm; violent palpitation, the motions of the heart being tumultuous, and perceptible at a distance from the patient; irregularity of the pulse; hurried respiration; incapacity of lying on the left side; strong pulsation of the carotids; anxiety of countenance;

and frequently noises in the ears, giddiness, and epistaxis. As the disease advances, there is extreme debility, cough, suffocative paroxysms, occasionally a tendency to syncope, and œdema of the face and extremities. These symptoms often vary much in different cases; thus, as Dr. Hope has remarked, if the effusion which results from the inflammation consists almost entirely of coagulable lymph, or if the serum thrown out has been rapidly absorbed and adhesions early effected, the circulation will be less interfered with, and less suffering will result, than in those more formidable cases where there is a copious fluid effusion painfully distending the inflamed membrane, pressing upon the heart, and embarrassing its movements.

On practising auscultation, we shall find—in the earliest stages—increased intensity of the natural sounds; if endocarditis coexists, as it so frequently does, a loud systolic *bellows-murmur* will also be heard. Very early, too, a distinct *alternate rubbing* or a *to and fro sound*, as Dr. Watson terms it, will be audible. The bellows-sound indicates fibrinous deposits in the texture as well as on the surface of the valves, from inflammation of the internal membrane of the heart—the endocardium—and it generally continues for life. The to and fro sound is indicative of inflammation of the pericardium, and it generally ceases in a few days when this membrane becomes adherent to the heart, as it always does if the patient survive. When copious effusion takes place, we shall have dullness on percussion over a larger surface than in health; if the fluid does not become absorbed, we say that *hydro-pericardium* exists, which usually proves fatal.

Treatment.—When seen early, in the acute stage, antiphlogistic remedies must be resorted to. Blood-letting will probably be necessary; some authors advise that free venæsection should be practised, and then that thirty or forty leeches should be applied to the præcordial region. I should myself first try the effect of the local abstraction of blood by leeches, or cupping to the extent of fifteen or twenty ounces. Attempts must then be made to get the gums tender by mercury, calomel and opium, and mercurial inunction being the agents to be used for this purpose (Formula 173). When the effusion into the pericardium is abundant, a large blister should be applied over the præcordia, which must be afterwards dressed with mercurial ointment; sometimes a succession of blisters is necessary. The iodide of potassium has been advantageously administered to promote absorption. Purgatives will also be often called for. Absolute repose of mind and body, and low diet, are important elements in the management of these cases. Sedatives, as opium, henbane, camphor, digitalis, &c., may be had recourse to when the restlessness is extreme. It has been proposed in obstinate hydro-pericardium, as a forlorn hope, to remove the fluid by the introduction of a trocar and canula.

ENDOCARDITIS.

Endocarditis, or inflammation of the interior lining membrane of the heart, gives rise to a sense of oppression and uneasiness at the præcordial region; fever; small, feeble, and intermittent pulse; great anxiety; cold sweats; oppressive dyspnœa; jactitation; and syncope. When the inflammation is only of limited extent, or when it

assumes a chronic form, the symptoms are much milder and more obscure.

Diagnosis.—If we apply the hand to the chest in simple endocarditis, the action of the heart will appear to be very violent; sometimes a vibratory thrill will be felt. Percussion often discovers an augmented extent of dullness in the præcordial region; this dullness may be distinguished from that caused by pericardial effusion, by the beat of the heart appearing superficial instead of remote and distinct. If we listen to the heart's action we shall detect a bellows-murmur, the most constant and characteristic of the phenomena of endocarditis. *For the further consideration of the physical signs, see the section on Diseases of the Valves of the Heart.*

The terminations of acute endocarditis are permanent valvular disease, followed by implication of the heart's substance, and all their combined consequences. Death rarely occurs from the acute disease.

Treatment.—This must be the same as that recommended for pericarditis.

CARDITIS.

Carditis, or inflammation of the substance of the heart, rarely occurs as a distinct affection, being generally combined with pericarditis or endocarditis, or with both. An instructive example has been recorded by Mr. Salter, in the "Medico-Chirurgical Transactions" (vol. xxii. p. 72), in which the disease ran its course in seven weeks. It commenced with an acute pain in the left side of the chest, which came on when the patient was walking, lasted a short time, and recurred about a week afterwards, whilst he was using the same ex-

ercise; it subsequently became very frequent, and was induced by the slightest exertion. When Mr. Salter first saw him, about a week before his death, there was orthopnœa, and an uneasy sensation or dull pain referred to the stomach and middle of the sternum. Venæsection, calomel and opium, and counter-irritation were the means adopted to stay the disease; but they were unavailing, and death took place. At the *post-mortem* examination the pericardium was found inflamed, especially its diaphragmatic portion; its vessels were distended, and spots of ecchymosis were found beneath the serous membrane. The substance of the heart was moderately firm; but the left ventricle had almost entirely lost the colour of muscle, pus could be scraped from its surface, and in some parts there were small cavities in the muscular substance containing pus.

DISEASES OF THE VALVES OF THE HEART.

The lining membrane, valves, and orifices of the left side of the heart are much more frequently diseased than those of the right. Diseases of the left side chiefly affect the arterial pulse, giving rise to irregularity and inequality; those of the right side affect the venous circulation, causing regurgitation into the jugular veins—a condition known as the venous pulse. Dropsy is more often connected with disease of the right than of the left cavities.

Endocarditis generally produces a deposit of lymph or fibrin upon or beneath the serous membrane of one or more of the valves, which deposit, by its conversion into fibrous tissue, renders the valve thick and rigid. Warty excrescences may also form upon the valves, independently of inflammation; or the valves may be torn; or they

may be partially or entirely converted into bone. It must not be forgotten that disease of the blood will give rise to a bellows-sound, and to symptoms of heart disease. The diagnosis will generally be easy if the remarks made in the section on Anæmia be borne in mind.

Disease of the *semilunar valves of the aorta* is not uncommon. If the affected valves diminish the aortic orifice during systole—or contraction—so as to prevent the blood from freely flowing out of the ventricle, a systolic bellows-sound will result, which will be best heard at the base of the heart, along the course of the thoracic aorta, up towards the right clavicle, and even in the carotids; the sound diminishing as the stethoscope is moved towards the apex of the heart. If the valves close imperfectly, permitting reflux of blood from the aorta, the morbid sound will be diastolic—will accompany the dilatation of the ventricle. The pulse of aortic regurgitant disease is peculiar, being generally sudden and sharp, and without any prolonged swell of the artery; Dr. Hope calls it a jerking pulse. The short second sound of the heart will also be muffled and indistinct. Sometimes we have both these conditions of the aortic valves in the same case; a double bruit or bellows-sound will then be produced.

The *mitral valve*, which guards the left auriculo-ventricular orifice, may become thickened or ossified. In such cases the orifice is almost rendered a permanent oval slit. A double bruit may perhaps be heard; the first, systolic, caused by the regurgitation of the blood from the ventricle into the auricle; the second, diastolic, and due to the impediment to the passage of the blood from the auricle to the ventricle: it is but rarely heard,

however. The murmur or murmurs will be best heard towards the apex of the heart, on the left. The pulse will be irregular. Palpation also often discovers a purring thrill.

The *semilunar valves of the pulmonary artery* are very rarely diseased. The bruit may be traced from the middle of the sternum up towards the left clavicle, in the track of the artery. The pulse will be unaltered.

The *tricuspid valve*, guarding the right auriculo-ventricular opening, is also but seldom found otherwise than healthy. The arterial pulse will be unaffected, but there will be turgescence and pulsation of the jugular veins.

HYPERTROPHY OF THE HEART.

The heart is stated roughly to be about the same size as the closed fist; its mean weight is between eight and nine ounces. The walls of the left ventricle are thicker than those of the right; disease of the left side of the heart—as before observed—is more common than of the right. The muscular walls of one or more of the cavities of the heart may become thickened, without any diminution in the size of the chamber; this is called *simple* hypertrophy. Or, as most frequently happens, the walls may be thickened and the chamber become larger than natural; this is *excentric* hypertrophy. On the other hand, the increase in thickness may be accompanied with diminution in the size of the cavity; this is known as *concentric* hypertrophy.

The *cause* of hypertrophy is usually some obstruction either to the flow of blood through the heart, or to the free play of this organ; the *symptoms* are palpitation, dyspnœa, difficulty

of walking quickly, uneasiness and pain in the cardiac region, headache, and frequent attacks of vertigo. If we listen to the heart's movements, we shall merely find the systolic sound less distinct than in health; but we shall also feel that the extent of the pulsation beyond the præcordial region, and the degree of impulse against the walls of the chest, are both much increased.

The Treatment must consist in keeping the patient as quiet as possible, and in prescribing for his symptoms. If there be much debility, steel may be given (Formulæ 4, 9, &c.); if the heart's impulse be very great, digitalis (Formulæ 81, 86) may be cautiously tried; when the dyspnœa is urgent, stimulants, especially ammonia and sulphuric ether (Formula 79), may be had recourse to. Dr. Hope observes that the art of treating hypertrophy consists in keeping the patient rather low, and the circulation tranquil, short of producing anæmia or debility.

ATROPHY OF THE HEART.

There are two forms of atrophy of the heart: one, in which the organ simply wastes and dwindles in all its parts; the other, in which the texture of the muscle suffers a sort of conversion into fat—becomes affected with fatty degeneration.

Fatty degeneration of the heart is a most interesting disease, for a full knowledge of which the student must refer to the writings of Drs. Quain and Ormerod, and Messrs. Paget and Barlow. It occurs under two circumstances; either alone, or in conjunction with fatty disease of the other organs, as the kidneys, liver, cornea,* &c. Its

* Mr. Canton has proved that the arcus senilis is caused by fatty degeneration of the cornea.

diagnosis is beset with difficulties, and when existing alone, it is frequently not suspected until after death, and after a microscopic examination of some of the muscular fibres of the heart. "On opening a heart thus affected," says Dr. Ormerod, "the interior of the ventricles appears to be mottled over with buff-coloured spots of a singular zigzag form. The same may be noticed beneath the pericardium also; and in extreme cases the same appearance is found, on section, to pervade the whole thickness of the walls of the ventricle and of the carneæ columnæ." On microscopically examining these spots, their nature is revealed; they are not deposits, but degenerated muscular fibres. Instead of seeing transverse striæ and nuclei—the evidences of a healthy state—little can be distinguished but a congeries of oil-globules. The muscular fibres are also found to be short and brittle; and Dr. Quain has pointed out that the coronary arteries are often obstructed. Mr. Paget well remarks that "the principal character which all these cases seem to present is that they who labour under this disease are fit enough for all the ordinary events of calm and quiet life, but are wholly unable to resist the storm of a sickness, an accident, or an operation."

Treatment.—In the present state of our knowledge, the treatment of a case of suspected fatty disease of the heart resolves itself chiefly, into enforcing the adoption of a diet which will nourish without increasing the growth of fat. Fresh meat may be taken in moderate quantity; all oleaginous articles must be avoided, as fat, milk, butter, &c. Soda water will prove useful as a drink; a little brandy or sherry may sometimes be given with it. The patient should use daily a sponging or shower-

bath ; should take gentle exercise ; and adopt early hours, rising early in the morning and not indulging in too much sleep. Should there be any anæmia, the preparations of iron may be employed. Mild purgatives wlll also be frequently called for.

CYANOSIS.

Cyanosis, morbus cæruleus, or blue disease, are terms applied to a condition characterised by blue or purplish discoloration of the skin, arising generally from some malformation of the heart, permitting direct communication between the right and left cavities.

The chief malformations are, permanence of the foramen ovale ; abnormal apertures in some part of the septum of the auricles or of the ventricles ; origin of the aorta and pulmonary artery from both ventricles simultaneously ; extreme contraction of the pulmonary artery ; or, lastly, continued patescence of the ductus arteriosus.

In addition to the discoloration of the skin, the patients who survive their birth suffer from coldness of the body, palpitation, fits of dyspnœa, syncope on the least excitement, and dropsical effusions.

The Treatment must be simply palliative, the organic cause being irremediable.

RUPTURE OF THE HEART.

Rupture of the heart may occur spontaneously from previous disease, or it may be caused by external violence.

Of the morbid conditions which are likely to give rise to it, ulceration of the inner membrane—resulting from carditis or endocarditis—is the most

common. Weakening of the muscular tissue from fatty degeneration, partial aneurism of the heart, or the continued pressure of any tumour upon this organ, may also predispose to it.

It occurs more frequently in males than females; it is rare till after the fiftieth or sixtieth year. In the majority of cases, rupture of the heart kills instantaneously. A patient has been known to survive some hours, however, the wound having become plugged by coagula, so that the extravasation of blood into the pericardium took place slowly and gradually.

ANGINA PECTORIS.

This is a paroxysmal disease, first described by Dr. Heberden,* who called it a *disorder of the breast*, remarking that "the seat of it and the sense of strangling and anxiety with which it is attended, may make it not improperly be called *angina pectoris*." "Those who are afflicted with it," he continues, "are seized whilst they are walking, and more particularly when they walk soon after eating, with a painful and most disagreeable sensation in the breast, which seems as if it would take their life away if it were to increase or to continue. The moment they stand still all this uneasiness vanishes. In all other respects the patients are, at the beginning of this disorder perfectly well; and in particular have no shortness of breath, from which it is totally different."

The duration of the seizure rarely exceeds a few minutes, though it may last for half an hour, or an hour, or even longer. The attacks occur at uncertain intervals of weeks or months; in confirmed cases the periods of recurrence approximate

* Transactions of the College of Physicians, vol. ii.

more and more with each successive paroxysm. The *prognosis* is very unfavourable; death sometimes takes place suddenly in the first or second seizure. The disease occurs most frequently in advanced life, and is much more common in men than in women.

Dr. Forbes has collected the histories of forty-five cases of angina pectoris, in which the body was examined after death. In two of the cases there was disease of the liver only; in four there was nothing morbid except an excessive coating of fat about the heart; while in the remaining thirty-nine there was found organic disease of the heart or great vessels. Of these latter cases, in ten there was organic disease of the heart alone; in three of the aorta alone; in one of the coronary arteries alone. But there was ossification, or cartilaginous thickening of the coronary arteries, combined with other disease, in sixteen instances; and there was disease of the valves of the heart in sixteen cases likewise. The aorta was diseased in twenty-four cases, and in twelve there was preternatural softness of the heart.

The Treatment during a paroxysm consists in the administration of antispasmodics, such as ether, opium, chloroform, hydrocyanic acid, &c. I have found Formula 29 exceedingly valuable. The patient should keep the medicine by him, in order that it may be taken on the least threatening of an attack. A belladonna plaster worn constantly over the præcordial region may do good.

The return of the seizure is to be guarded against by improving the general health; by great attention to diet; and by the avoidance of stimulants, strong exercise, and all mental excitement.

ANEURISM OF THE HEART.

Aneurism of the heart occurs in two forms; either there is simply dilatation of the wall of a ventricle, forming the improperly called *passive aneurism* of Corvisart; or a pouched fulness arises abruptly from the ventricle, constituting a tumour on the heart's surface. The sac often contains laminated coagula of blood, especially when its mouth is constricted.

The *symptoms* are uncertain and obscure. Death may result from rupture into the pericardium, or, if the pericardium be adherent to the heart—as it mostly is in these cases—into the pleura.

Aneurism of the coronary arteries sometimes occurs.

DISEASES OF THE ABDOMINAL VISCERA.

For convenience in the description of its diseases, the abdomen, like the chest, is arbitrarily divided into *regions*. In the middle, from above downwards, we have the epigastric, the umbilical, and the hypogastric regions; on either side of the epigastric region are the hypochondria; on either side of the umbilical, the iliac; while to the right and left of the hypogastric, we find the right and left inguinal.

In the diagnosis of abdominal diseases we resort especially to inspection, mensuration, palpation, auscultation, and percussion.

PERITONITIS.

The peritoneum may suffer from acute or chronic inflammation.

Acute Inflammation is characterised by pain—at first confined to parts but afterwards extending over the whole abdomen—increased on pressure, and attended with fever. It is sometimes preceded by chilliness and rigors, and a feeling of weakness; in other cases it comes on abruptly, with acute pain in some part of the abdomen, generally in the hypogastric or one of the iliac regions. The pain is generally very acute, soon spreads over the whole abdomen, and is aggravated by any movement which calls the abdominal mus-

cles into action, or by pressure—even the weight of the bedclothes being insupportable: the patient consequently lies quiet on his back, with his knees bent, and legs drawn up. The abdomen is tense, hot, and frequently tympanitic; the bowels are constipated; there is often nausea and vomiting; the skin is hot and dry; the pulse rapid and weak; the respirations hurried; the tongue furred; and the countenance is expressive of suffering, and great anxiety. After a time the belly ceases to be tympanitic, but remains somewhat enlarged from the effusion of serum. When a fatal termination is approaching, the abdomen often becomes much distended, the pulse very quick and weak, the countenance ghastly, and death occurs from exhaustion. The principal *causes* of peritonitis are cold and damp, perforation of the stomach, or intestines, the bursting of hepatic abscess, &c.

That fearful malady of women recovering from child-bearing, termed PUERPERAL FEVER, is very generally accompanied by peritonitis. It usually comes on about the third day after labour, but sometimes later. The inflammation commences in the uterine portion of the peritoneum, and spreads rapidly over the whole of its surface; in its symptoms it does not differ from common acute peritonitis. It seems to result from contamination or poisoning of the blood, either by putrefaction of part of the placenta left in the uterus, or by the absorption of some of the products of inflammation, or by contagion. There is, unfortunately, no doubt that this disease may be carried by a third person from one puerperal woman to another; hence a practitioner, when he has attended a woman with puerperal fever, is bound, I believe, to discontinue for a time his attendance upon cases of labour.

Changing his clothes, washing his hands with a solution of chlorine, wearing oil-silk gloves, will not—it is to be feared—prevent him from carrying the poison of this malignant disease about him; and I should therefore recommend, that he absent himself from the lying-in room for at least fourteen days from the last day of his exposure to the fever. In proof of the justice of these remarks it may be mentioned, as noticed by Dr. Armstrong, that in an epidemic of this disease which occurred in Sunderland, in 1813, forty-three women suffered; of these, forty were attended in their labours by one surgeon and his assistant.

In the **Treatment** of acute peritonitis, general blood-letting will seldom be necessary, but topical bleeding almost always. Leeches therefore, from thirty to forty, must be applied over the whole abdomen, followed by hot fomentations, or light poultices. At the same time the system must be mercurialized, and calomel and opium (Formula 173) should consequently be given every four hours. Inunction with mercurial ointment may also be employed. Opium will be necessary if there is any pain or restlessness after the bleeding; it often has a very beneficial effect. In puerperal cases, much caution is necessary in abstracting blood, which must often be omitted altogether. Hot fomentations, mercury, and especially opium in large and frequent doses, are the measures then to be relied upon. In all cases purgatives do harm. The diet must consist, at first, of slops only; should the patient become very low, great good may be effected by the judicious use of wine and strong beef-tea. In curing the inflammation, care must be taken not to let the sufferer die from exhaustion.

Chronic Peritonitis is sometimes the sequel of acute, but more frequently an independent affection.

M. Louis is of opinion that this disease, when not following acute inflammation, is always complicated with strumous tubercles. Dr. Hodgkin* says—"My own inspections would lead me also to the conclusion that chronic peritonitis is very frequently conjoined with tubercles; yet this concurrence has not been so uniformly supported by cases observed in this country, as it has been by Louis' cases. That form of peritonitis which is accompanied by copious effusion, and which might easily be regarded as ascites, occurs without any appearance of tubercles. The same may be said of other cases in which the concrete product of inflammation had been more considerable."

The symptoms are somewhat obscure, the abdominal pain being slight, and the constitutional symptoms variable. After a time, effusion of fluid takes place, the abdomen enlarges, and fluctuation is felt.

The Treatment must consist in attention to the bowels, in allowing a mild but nutritious diet, and in employing blisters or stimulating liniments to the abdomen; iodine paint and the iodine ointment (Formulæ 71, 287, &c.) may be recommended. I think I have seen benefit also, from the internal use of iodine, and from cod-liver oil. These cases are, however, very unpromising.

ASCITES.

Ascites, or dropsy of the peritoneum, may arise from chronic peritonitis; from cirrhosis, cancer,

* Lectures on Morbid Anatomy of Serous and Mucous Membranes, vol. i. p. 149.

obliteration of the portal vein, and scrofulous disease of the liver, causing obstruction to the free passage of the blood through the system of the vena portæ; from disease and enlargement of the spleen; from malignant disease of the omentum; and from a few other disorders. Cirrhosis is, however, the most common cause.

Diagnosis.—The extent of the abdominal enlargement will of course depend upon the quantity of liquid present, but the distension will always be uniform; fluctuation will generally be distinct; and there will, in most cases, be resonance over the higher parts of the belly on percussion, owing to the floating of the intestines, thus prominently distinguishing ascites from ovarian dropsy. I say, in most cases, for the distension may be so great that the breadth of the mesentery may be insufficient to allow the intestines to reach the surface of the fluid; dullness will then, of course, result. I have noticed, however, that where there is any difficulty in the diagnosis of ascites and ovarian dropsy, the mere fact of difficulty may be taken as presumptive evidence in favour of the case being one of ascites. Ovarian dropsy very rarely simulates ascites. In both diseases there will be dyspnœa, which will be urgent in proportion to the distension. The quantity of the effusion is sometimes remarkably large; a few days since I was obliged, owing to the severe orthopnœa which existed, to tap a patient in the Hospital for Women, when 460 ounces of a clear, urinous-looking fluid, loaded with albumen, were removed, the whole of which had been secreted in rather less than one month.

Treatment.—Attempts must be made to procure absorption of the fluid; hence diuretics, drastic

purgatives, and mercurials are to be carefully employed. Formulæ 84, 85, 88, 167, 171, 177, &c., may be advantageously tried. The muriate of ammonia, either singly or with taraxacum (Formulæ 116, 117), has been found useful in Germany. I have seen benefit also from the iodide of potassium, combined with the ammonio-citrate of iron (Formula 9), when there has been great debility.

When the distension gives rise to much distress, we must resort to paracentesis. The patient should lie upon the left side, along the edge of the bed, and the trocar and canula should be introduced midway between the umbilicus and pubes. The horizontal position is preferable, since it is the most comfortable to the patient, no pressure is required upon the abdomen, and especially because syncope is much less likely to follow the evacuation of the fluid. After the operation I tightly bandage the abdomen, and generally continue the use of compression for two or three weeks, and longer where it seems to be beneficial. In spite of all treatment, however, the fluid is usually—but by no means always—re-secreted; in such cases the disease ultimately proves fatal.

OVARIAN DROPSY.

The most frequent disease of the ovarium is encysted or—as it is termed—ovarian dropsy, which consists in the conversion of this organ, or of parts of it, into cysts, generally perhaps by enlargement of one or more of the Graafian vesicles. Under the same name, simple serous cysts formed in the broad ligaments, and dropsy of the Fallopian tubes arising from closure of their extremities, have been included.

It would be quite out of place to treat of this

disease—which I have only mentioned at all since reference is made to it in the preceding section—at any length in this work; to consider it fully, a volume would be required. I shall therefore merely make a few plain observations.

An ovarian cyst may be single or multilocular; that is to say, it may consist of one sac only, or it may be made up of a variable number of small cysts. All ovarian tumours run their course much more rapidly than is generally supposed. Cases of fibrous tumours of the uterus, which often exist for years without any suffering, are repeatedly mistaken for ovarian tumours. Mr. Paget has remarked that ovarian cysts are the only unexceptionable instances of the transformation of innocent into malignant tumours. Adhesions often form between these tumours and the peritoneum; I believe that they may be distinguished by every physician possessing the *tactus eruditus*.

Treatment.—As regards the treatment of ovarian tumours, nothing can be more absurd and more reprehensible than the practice which some gentlemen adopt of administering hydragogue cathartics, diuretics, emetics, mercurials, iodine, iodide of potassium, liquor potassæ, bromide of potassium, muriate of lime, &c. Equally injurious are the local applications which the same practitioners employ, such as leeches, blisters, iodine ointment, friction with stimulating liniments, electricity, &c. It is only necessary to examine a single ovarian tumour, to see that such agents cannot by any possibility do good; consequently, as they are of a very powerful nature, they must be productive of harm. That such is really the case I know too well; and I am led to speak thus plainly, from the painful examples which

have come under my notice at the Hospital for Women, of health entirely ruined, and death hastened, by violent medical treatment. The only way in which relief or cure can be effected is by paracentesis, followed by pressure and the administration of mercury, as recommended by Mr. I. B. Brown; or by paracentesis and leaving an elastic catheter in the wound to withdraw the fluid as it is re-secreted; or by ovariotomy. Nature sometimes effects a cure by rupture of the cyst, extrusion of its contents into the sac of the peritoneum, and subsequent absorption.

My first rule in these cases is this: when the tumour is not increasing in size, is not affecting the patient's health, and is unproductive of any unpleasant symptoms beyond those resulting from its weight, I do nothing at all, merely directing the patient to see me in the event of any change; these cases are unfortunately very rare. In deciding between paracentesis and ovariotomy, regard must be had to the patient's health, constitution, age, condition, and nature of tumour; presence or absence of adhesions, &c. Where there is any hope of cure from paracentesis, it is of course to be resorted to, in preference to removal of the tumour. For further observations, see Dr. Druitt's "Surgeon's Vade-Mecum," sixth edition; and papers by the author in *Lancet*, 18th September and 21st November, 1852, and in *Medical Times and Gazette* for 1853, vol. vi. pages 16, 392, 526.

GASTRITIS.

Gastritis, or inflammation of the mucous membrane of the stomach, may be acute or chronic.

Acute Gastritis arising idiopathically is a very rare disease; it is, however, a frequent result of

poisoning by any of the irritants, as by the mineral and vegetable acids, caustic alkalies, arsenic, &c.

The Symptoms consist of burning pain in the epigastrium, aggravated by the slightest pressure; great thirst, with as contant desire for cold drinks, which are vomited as soon as taken; dyspnœa; constant distressing nausea; and extreme prostration, denoted particularly by faintness, feebleness of the pulse, great pallor, cold clammy extremities, and great anxiety of countenance. When the inflammation continues, the tongue becomes red, glazed, and smoothed, unless it has been injured by the action of the poison; the bowels are constipated; the urine is scanty and high coloured; there is great restlessness and hiccup; and the prostration increases, till death takes place from exhaustion.

The Morbid Appearances usually found are redness, softening, sloughing, and—when one of the powerful escharotics has been taken—perforation. Redness alone is by no means evidence of the previous existence of inflammation, since it may be produced after death by gravitation of the blood to the most dependent parts; when death occurs, too, from any cause during the process of digestion the stomach will be found red. So also with softening and perforation; we must remember that these may occur from the *post-mortem* action of the gastric juice—from the stomach actually digesting its own tissues—as was first pointed out by John Hunter. This is not an uncommon occurrence when death occurs soon after a meal, and when the body is kept in a warm situation.

The Treatment of acute gastritis will depend in a great measure upon the cause. In most cases I should rely on purgative enemata at the onset, followed by opium, the sucking of Wenham Lake

ice—which will frequently relieve the vomiting, as well as lessen the inflammation; and perhaps I might allow a little cold arrow-root or gruel. It will be better to nourish the patient, however, by nutritious enemata (Formula 251), than by food given by the mouth. Leeches may be applied to the epigastrium, if the depression be not too great. When any of the corrosive poisons have been taken, emetics will very rarely be necessary, since these agents themselves induce severe vomiting; the stomach-pump should never be used. During convalescence great care will be required in regulating the diet, farinaceous substances and broths being chiefly allowed, and only in small quantities at a time.

Chronic Gastritis is more common than the previous disease, but its symptoms are much less severe, the most prominent being dyspepsia, and cardialgia or heart-burn.

Ulceration of the stomach is sometimes the result of chronic inflammation; it is not uncommon in chlorotic women. Ulcers of the stomach have been divided into three varieties: 1, slight erosions of the mucous membrane, which is red and inflamed; 2, minute ulcers with red margins, scattered over the mucous membrane, which is pale; and, 3, circular or oval ulcers, penetrating the muscular and even the peritoneal coats, and appearing as if they had been punched out. The symptoms produced by these ulcers are very distressing, the most prominent consisting of great pain on taking any food, and vomiting. We endeavour to heal them by keeping the stomach quiet, allowing very small quantities of food, and in severe cases supporting life by injections. As a rule, the patient may be allowed

half a teacupful of arrow-root, made with milk and water, every six hours; if this causes pain, the quantity must be diminished even to a table-spoonful every three hours. A few leeches to the epigastrium, frequently repeated, often give great relief; I have seen much benefit, too, from friction with the croton-oil liniment. Medicines, particularly opium, hydrocyanic acid, creasote, &c., may perhaps aid the cure, but attention to the diet is the main point. The same plan of treatment is to be adopted in chronic gastritis without ulceration.

HÆMATEMESIS.

Hæmatemesis, signifying strictly vomiting of blood, is generally employed to denote hæmorrhage from the stomach. The blood is usually vomited in large quantities, is not frothy, and is of a dark colour, from admixture with the hydrochloric acid of the gastric juice (all acids blacken the blood); thus presenting marked differences from the blood in hæmoptysis.

This kind of hæmorrhage may take place by exhalation, that is to say, by oozing through the mucous membrane, or it may be caused by the opening of a blood-vessel by ulceration. It may arise without any appreciable cause; or it may be vicarious of some other hæmorrhage, especially of the catamenia; or it may result from changes in the blood itself, as in scurvy; or it may be owing to congestion of the stomach from some impediment to the free passage of the blood, such impediment being due to disease of the heart, liver, &c. When it results from disease of the liver there is generally intestinal hæmorrhage also, and blood is then passed by stool, causing the evacuations to resemble tar; this condition is known as *melæna*.

Hæmatemesis is generally preceded by a feeling of oppression and weight, by dull pain in the epigastric and in the hypochondriac regions, as well as by a sense of anxiety and faintness. Directly the blood flows into the stomach, it seems to act as an emetic, and vomiting results; generally, also, some of it passes downwards into the intestines, and comes away in the evacuations.

Treatment.—Abstinence from food, rest, the horizontal posture, cold acidulous drinks, and gallic acid, are the means generally adopted. The oil of turpentine (mxx. to ʒss) is thought by some to be a specific. In cases of melæna, active purging will be neeessary; a full dose of calomel should be given, followed by the common black draught (Formula 37).

CARCINOMA OF THE STOMACH.

The most frequent form of cancer of the stomach is scirrhus, and the part most frequently attacked is the pyloric orifice; medullary cancer of this viscus is not, however, very uncommon.

The Symptoms will vary with the situation of the disease; when it is in—or near—the cardiac orifice, there will be merely pain and some difficulty in passing food into the stomach; if in the pylorus, pain and sickness, when, a few hours after eating—digestion being completed—the chyme has to pass into the duodenum; while, when either the greater or lesser curvature is the seat of the disease, the suffering will often be very slight.

Speaking generally, the principal symptoms may be described thus:—pain in the epigastrium, of a burning, lancinating, or gnawing character, augmented after eating; bitter eructations; constant nausea and vomiting, at first of ingesta and

mucus, subsequently of a bloody, sanious fluid, sometimes of dark grumous matter, having a coffee-ground appearance; constipation; and extreme and increasing emaciation and debility. Occasionally a pulsating tumour is felt in the epigastrium when the cancerous mass lies over the aorta; in almost all cases, the countenance will present the peculiar hue and expression so characteristic of the cancerous diathesis.

The Treatment can only be palliative. Opium, administered either by the mouth or rectum, will be necessary. When the vomiting is very severe, nourishment must be given by means of enemata; where it can be borne, however, a milk diet will be serviceable. The extract of belladonna, or a piece of lint soaked in hot tincture of opium, applied to the epigastric region, will often prove grateful to the patient's feelings; a small blister may even be applied, and its raw surface afterwards dusted with a little morphia—one or two grains.

DYSPEPSIA.

Dyspepsia, or indigestion, is one of the most common diseases we have to treat.

Symptoms.—The symptoms vary, but the most constant are anorexia or loss of appetite, a sensation of weight and fulness at the epigastrium, flatulence and belching, nausea and vomiting, costiveness, furred tongue, foulness of breath, palpitation of the heart, pain in the loins, aching of the limbs, dull headache, and hypochondriasis. Occasionally the patient complains much of CARDIALGIA, or heart-burn; or of GASTRODYNIA, or cramp in the stomach; or of the frequent eructation of a thin, watery, acid, or tasteless

fluid, constituting what is termed PYROSIS, or the water-brash. Pyrosis occurs more frequently in women than in men, is not uncommon in advanced life, and often exists in connection with some derangement of the nervous system, or in some instances, with organic disease of the stomach, pancreas, or liver.

Causes.—The most frequent cause of dyspepsia is the use of food in too large a quantity, or of an improper nature. Want of exercise, imperfect mastication, and disease of the stomach, liver, or pancreas will also give rise to it. Dr. Beaumont clearly proved, in his well-known experiments on Alexis St. Martin, that spirituous liquors were most injurious to the stomach; hence persons in the habit of using them often suffer from indigestion. Another common cause is an error frequently committed, of not allowing a sufficient interval between the meals, to permit of the stomach doing its work and resting: Abernethy's rule, that six hours at least should intervene between each meal, cannot be long broken with impunity.

Treatment.—The first point is to regulate the diet. During an attack this can hardly be too low; subsequently, the patient should live for a time chiefly upon sago, arrow-root, mutton, and stale or unfermented bread; avoiding vegetables, pastry, cheese, and especially spirits, wine, and beer. If any stimulant be needed, a little sherry, or weak brandy and water, will be the least injurious, and in some instances may be even beneficial. The medicines which will be most likely to give relief are effervescing draughts with or without a few drops of diluted hydrocyanic acid (Formula 22); alkalies—such as the carbonate of soda, or magnesia, or liquor potassæ, or bismuth,

or lime-water and milk in equal proportions, if much acidity be present; creasote, or the dilute hydrocyanic acid, if the sickness be urgent; bismuth combined with magnesia, or the pulvis kino compositus of the Phar. Lond., if pyrosis exist; together with, in all instances, mild mercurial purgatives to regulate the bowels. (See Formulæ 18, 22, 163, 196, &c.)

We must afterwards endeavour to give tone and strength to the stomach by the careful administration of tonics, especially the mineral acids—the nitro-muriatic, or quinine, iron, zinc, according to Formulæ 5, 7, 16, 189, 192, &c.

DILATATION OF THE STOMACH.

Dilatation of the stomach is a curious disease, to which attention has lately been directed. It is due generally to some affection of the pyloric orifice, which, causing contraction, prevents the food from readily passing into the duodenum. Hence the stomach slowly and gradually dilates, until at last it comes to occupy almost the whole of the abdominal cavity, giving rise to appearances as if a tumour were present. These appearances are the more deceitful when the stomach is full, because fluctuation may then be present; when this viscus is empty, there will be a tympanitic sound on percussion. The patient suffers severely from cardialgia, gastrodynia, pyrosis, flatus, constipation, and vomiting—the vomited matters being sometimes very large in quantity, intensely acid, and often resembling yeast in appearance; they are found, when microscopically examined, to contain large quantities of those vegetable parasites first described by Goodsir, the *Sarcinæ ventriculi*, together generally with torulæ,

undistinguishable from the yeast plant. Dr. Todd has found the sarcinæ in ulceration of the stomach with contraction of the pylorus, and he suggests that these vegetable organisms result from the long detention of food in the stomach. There is but little doubt that this explanation is correct; but it is also probable that the intensely acid fluid in which the sarcinæ are found may itself irritate and close the pylorus spasmodically; in such cases consequently, if we check the formation of these growths we shall cure the disease. Thanks to Dr. Jenner and Professor Graham, we are enabled readily to accomplish this latter object by the administration of the sulphite of potash, or by the sulphite of soda, which is perhaps preferable, since it is a more stable salt, and is less liable to be decomposed by keeping than the sulphite of potash. The beneficial action of either of these salts depends upon their being decomposed in the stomach by the acids generated therein, sulphurous acid gas being liberated, which destroys the fungi. (See Formula 126.) The patient's diet should be regulated, and he should be allowed the unfermented in the place of the common bread.

ENTERITIS.

Enteritis, or inflammation of the intestines, varies much in severity, being sometimes so slight as hardly to attract notice, but often so severe as to threaten—or even rapidly destroy—life. It is generally preceded by rigors, hot skin, thirst, hard and frequent pulse. The patient then begins to complain of severe pain in the abdomen, especially around the umbilicus, and of distressing nausea and vomiting, these symptoms being followed by great restlessness, high fever, prostration of strength,

anxiety of countenance, costiveness, and, in severe cases, delirium. As regards the pain, it must be remembered that it is increased on pressure; in colic, on the contrary, pressure gives relief.

Enteritis sometimes occurs in young children from six to eight months old. The child is hot and restless in the early stages, and complains of thirst; the tongue is dry, or covered with a brownish crust; there is frequent screaming, disturbed sleep, vomiting, pain in the abdomen increased on pressure, and in some cases diarrhœa, the fæces being often discharged with considerable force. Thus far the disease does not differ much from common diarrhœa. Severe constitutional symptoms, however, soon set in, such as severe febrile oppression, thirst, vomiting, dryness of the tongue, &c., followed by rapid and unexpected exhaustion; sometimes by coma, with a peculiar pale, waxen appearance of the body. These symptoms may come on before the disease has lasted any considerable time, and whilst it can scarcely be distinguished from the ordinary bowel complaints of children. It should be observed that an erythematous redness is generally observed around the anus.

The Treatment of this disease in the adult, when severe, consists in general bleeding or the application of several leeches to the abdomen, and the administration of calomel and opium (Formula 173). All purgatives are to be rigidly avoided; but attempts may be made to empty the lower parts of the intestinal canal by simple enemata, especially by warm water thrown up in large quantity, gradually and slowly, by means of a long flexible tube, as the tube of the stomach-pump. After the inflammation has ceased, mild aperients,

such as castor oil, may be resorted to. When there is a disposition to collapse, stimulants must be resorted to.

In children the use of a few leeches may also be necessary, followed by the hydrargyum cum cretâ combined with Dover's powder, in small, frequently repeated doses (Formula 184). The warm bath, and hot fomentations or linseed-meal poultices to the abdomen, will give relief. If the child is at the breast, no other food should be allowed; otherwise the diet must be very mild, consisting chiefly of milk, with a little broth.

OBSTRUCTION OF THE BOWELS.

This fearful disorder may arise from several conditions, which I shall briefly consider. It may be first mentioned that when there is obstruction with fæcal vomiting the disease is called *ileus*. *Strangulated hernia* is perhaps the most frequent cause of obstruction; consequently, in every case of obstinate constipation, the practitioner should make a careful examination of those parts of the abdomen, thigh, and hip, and, in women, of the vagina, at which the intestine may descend. *Intestinal concretions* or *calculi* will also produce obstruction, and so will *polypi*. In the museum of the Westminster Hospital there is a preparation, showing a polypus entirely blocking up the jejunum. *Intussusception*, which consists of a slipping of a superior portion of the intestinal tube into an inferior, will also give rise to it. A part of the bowel may become strangulated by *preternatural bands*, the result perhaps of previous peritonitis, or by *elongations of the peritoneum*. Dr. Watson says he has twice seen the appendix vermiformis prove the cause of fatal internal hernia. In one

case, the free end of the appendix became adherent to the mesocolon, forming a loop, through which a portion of the gut passed and became constricted. In the other instance the appendix was literally tied round a piece of the intestine. In a case which I saw at King's College Hospital, a diverticulum from the small intestines was connected with the abdominal parietes close to the umbilicus, forming a ring, through which part of the ileum had passed and become strangulated. A part of the bowel may likewise become *strictured*, either from simple thickening of its coats, or from malignant disease; or *the uterus may become retroflexed*, or *retroverted*, and by pressing upon the rectum materially diminish its calibre; and, lastly, *the muscular fibres of the intestine may become paralysed* from over and long-continued distension, just as sometimes happens, in the case of the urinary bladder.

Symptoms.—The principal symptoms are constant vomiting, which is at first simple—consisting of the contents of the stomach and mucus, but which in a few days becomes stercoraceous or fæcal; pain varying in degree, often very severe; great mental depression; and the pathognomonic symptom—constipation. The lower the obstruction is situated the less urgent will be the vomiting; if, for instance, it is in the duodenum, the vomiting will be incessant from the beginning; if in the colon, it may be absent for some time. It might be thought that the ilio-cæcal valve would prevent the return of the contents of the colon into the ileum; the preliminary dilatation, however, renders this valve quite patulous. When urine is freely secreted, the obstruction cannot be very high up.

In the **Treatment** of obstinate constipation, we

at first resort to the use of purgatives and purgative enemata (Formulæ 37, 244, 245). Directly we are convinced, however, that there is some mechanical obstruction, our plan must be altered, for, under such circumstances, purgatives are poisons. Opium is then our sheet-anchor, and it must be given in large and often repeated doses; in some cases calomel may be combined with it (Formula 172), but I should prefer, as a rule, trusting to the opium alone. At the same time we may throw up large quantities of soap and water, or any other simple enema, by means of a long flexible tube, which is to be passed as far as possible without the use of any force. If there be no tympanitis, air may be injected, cases being recorded in which such treatment has overcome the obstruction. At the same time the patient must abstain as much as possible from food and fluids, being assured that the more he takes the more his sufferings will be increased. When these means fail, the obstruction may sometimes be overcome by a surgical operation. Thus, the abdomen may be opened in the middle line and attempts made to discover and remove the cause of stricture; or the distended gut may be cut down upon, punctured, its edges secured to the sides of the wound, and an artificial anus made. In a hopeless case I should certainly resort to one or other of these proceedings, taking care not to delay too long, lest the patient die from exhaustion. As I should never resort to the use of crude mercury in doses of one or two pounds, or of small shot, or of tobacco injections, these agents need not be further noticed.

COLIC.

Colic is characterised by pain in the belly, espe-

cially about the umbilicus, occurring in paroxysms and relieved by pressure; by constipation; and often by vomiting. There is no fever, no quickness of pulse, and no anxiety, as in enteritis.

In LEAD COLIC, or COLICA PICTONUM, so called from its former frequency among the Pictones or inhabitants of Poictou, there are superadded to the former symptoms, a twisting pain around the navel, with retraction of the abdominal integuments towards the spine, and pain in the back. We are indebted to the late Dr. Burton for pointing out a pathognomonic symptom of the presence of lead in the system, namely, the existence of a blue line around the edges of the gums. Painters most frequently suffer from this disease, in this country; they often have several attacks before the muscles of the arms become affected, causing *drop wrist*.

In the **Treatment**, our first object must be to get the bowels to act. This may generally be best accomplished by administering a large dose of calomel and jalap, and then placing the patient in a warm bath and injecting part of the water into the bowels. Should these means fail, an ounce of castor oil must be given, or a full dose of sulphate of magnesia with sulphuric acid, according to Formula 39. Opium will afterwards be necessary to remove all the pain, and the patient should be purged for a few days by Formula 38, administered every morning. In lead colic the treatment should be commenced with calomel and opium (Formula 172), followed by castor oil, and the use of a hot sulphur bath. Benefit will be derived from frequently repeating the latter.

TABES MESENTERICA.

Tabes mesenterica is the name given to a tubercular or strumous degeneration of the mesenteric glands; it might be termed abdominal phthisis.

The Symptoms consist of pain in the bowels, more or less constant, sometimes severe, causing the child to keep his legs drawn up towards his belly. The lips are of a deep red, and the angles of the mouth are covered with small ulcers, or the whole lip is fissured. The bowels are variable, though generally relaxed; the motions are often unhealthy, and extremely fœtid. The abdomen is swollen and tense; while the other parts of the body waste away, until an extreme degree of emaciation exists; there is great pallor, and general debility, which increases rapidly. Symptoms of pulmonary consumption may supervene, or the child may die worn out by the abdominal disease, unless remission takes place; recovery is generally slow.

The Treatment must consist in the use of mild nourishing food adapted to the child's age and strength, asses' milk and farinaceous preparations being very useful. Cod-liver oil will be of much use in all cases, especially when given with tonics, and sometimes with small doses of the iodide of potassium and the ammonio-citrate of iron (Formula 101). In some cases benefit seems to have been derived from alterative doses of hydrargyrum cum cretâ combined with Dover's powder, or with the compound chalk powder with opium of the Phar. Lond. Change of air, especially to the seaside, will often work wonders.

DIARRHŒA.

In most works on practical medicine many

varieties of diarrhœa are described, such as the fæculent, the bilious, the mucous, &c. These subdivisions are, however, unnecessary; I would apply the simple term of diarrhœa to all cases of purging, that is to say, to all cases in which the alvine evacuations are frequent, loose, or liquid.

Causes.—The causes of diarrhœa are numerous, the most common being over-feeding, or the use of improper food, or exposure to cold, or to great heat. From the latter cause relaxation of the bowels is common during the summer months; it has been termed summer or English cholera. Diarrhœa is often, also, a symptom of many diseases, as of phthisis, &c.

Symptoms.—In addition to the purging there is generally some degree of nausea, a furred tongue, foulness of the breath, flatulence, griping pains, tenesmus, and the stools are unhealthy. In summer cholera the evacuations are often composed chiefly of bile, the pains in the abdomen are violent, there are cramps in the legs, and the depression is often great.

The Treatment will of course depend upon the cause. When the purging arises from the presence of some offending matter in the intestinal canal, the expulsion of such matter may be aided by administering a dose of rhubarb or of castor oil, combining a few drops of the tincture of opium with it, if there be much pain. If no such cause exist, we may endeavour to relieve the symptoms by opium, or by calomel and opium, or by the chalk mixture with catechu, &c., or by the pulvis cretæ compositus cum opio of the Phar. Lond., or by logwood, sulphuric acid, kino, or Dover's powder, according to Formulæ 129, 131, 132, or 136. The enema opii of the Phar. Lond., or a supposi-

tory of opium will often give great relief. Attention must be paid to the diet, liquid nourishment only being allowed for a few days after the attack.

CHOLERA.

Cholera, or Malignant or Asiatic or Algide Cholera (this latter term referring to the diminution of the animal heat), is probably the most fatal disease known in the annals of medicine. The last two —and according to some the only two—epidemics of this disease in England (1831-32, 1848-49) continued each fifteen months. They began in October, spread gradually, increased, and then as spring advanced gradually subsided, to burst out afresh with the hot weather. It is worthy of notice, that in both epidemics the cholera entered England after the wheat harvest was over, at the close of the hot season, and that it was most fatal during and after the wheat harvest of the following year. In 1848-49 there were 52,293 deaths from this disease in England alone.

Symptoms.—The cholera usually manifests itself in three stages. In the first, there is diarrhœa and vomiting, which are considered by Dr. Stevens as efforts of nature to expel the morbid poison from the blood and from the body; in the second stage, there are in addition, cramps, spasms, coldness of the body, and sinking of the pulse; while in the third and last stage, there is collapse. Considered somewhat more in detail, the chief *symptoms* may be described as copious vomiting, with purging of a peculiar rice-water kind of fluid, not containing a trace of bile; severe cramps in the lower extremities and abdomen, rendering the muscles as hard as wood, or drawing them into knots, as it were; sweating; suppression of urine; thirst,

generally urgent; diminished circulation, and impeded respiration, causing great prostration, coldness of the tongue, breath, and surface of the body; lividity or blueness of the lips and skin generally; alteration of the voice; shrinking and pinching of the countenance, and indeed of the whole body; gradual lessening of the breathing; diminution or absolute disappearance of the pulse; and at last complete arrest of the circulation. In all cases the intellect remains clear until the last. Death generally takes place in from three to fifteen hours. Patients who survive beyond this period generally show signs of amendment, but often subsequently die poisoned by their own secretions—by the continuance of the suppression of urine. In more favourable cases a mild febrile exacerbation follows, which subsides gradually in a few days; or the patient may sink into a low typhoid condition, from which, under proper treatment, however, he slowly recovers. The attack is sometimes preceded by slight diarrhœa, but more frequently comes on suddenly without any warning.

Causes.—The only explanation which can be given of the cause of cholera is, that it is due to some *materies morbi*, some septic agent in the atmosphere. As far as I can glean from the recorded evidence—and I have carefully studied the subject—it certainly appears to me to be contagious. We must remember, however, that cholera, like other contagious diseases, can only be taken by a person predisposed to disease: we may indeed compare a contagious or infectious disease to a seed, which, unless put into a fit soil, undergoes no change, does not grow or take root. The predisposing causes of cholera are undoubtedly—

bad, unwholesome food, such as stale meat or fish, shell-fish, high game, bad vegetables, unripe fruit, &c.; intemperance, bad water, imperfect sewerage, uncleanliness, vitiated air, are prolific sources. So, again, anything which lowers the vital powers will predispose, as great fatigue, too long abstinence from food, diarrhœa, &c. Hence in cholera-times, it is most important to live by rule, and to be careful to check any tendency to looseness of the bowels by astringents, opiates, and aromatics, since such looseness causes debility, and thus predisposes a person to receive the choleraic poison; not, I believe, that common diarrhœa ever runs into cholera, as many imagine.

Post-mortem Examinations have thrown no light on this disease; the most characteristic appearance is found in the blood, which is usually of a tarry appearance and consistence. Very remarkable muscular contractions of the voluntary muscles are sometimes noticed shortly after death from this disease. In the *Cholera Gazette* for 1832, it is mentioned that in India the dead bodies of the soldiers were so violently convulsed, that their comrades, "in order to calm the timid, bound the limbs to the bed-frame."

Treatment.—Every article of the Materia Medica has been tried in this disease; large doses of calomel, opium, brandy, sulphuric acid, cajeput oil, acetate of lead, logwood, emetics, oxygen gas, hot-air baths, venæsection, &c., having been the favourite remedies. Directly a case recovers, the sanguine practitioner imagines that he has cured it, and immediately sets goose-quill to paper to record his success; the consequence is that the medical journals and even the daily papers, in cholera-times, are filled with letters and

communications recommending the most opposite and useless remedial agents.

The only plan of treatment deserving of notice, since it is the only one based upon a scientific foundation, is that by salines, as suggested by Dr. Stevens; consequently, and knowing, too, the common results of medical practice in this disease, I should certainly wish—were I ever unhappily to suffer from cholera—to be treated by this method. The following is an outline of it, as most successfully used on a large scale, in the prison of Coldbath-Fields, in 1832.* Patients presenting the premonitory symptoms—diarrhœa and vomiting—were removed into an observation ward, where an even temperature was constantly maintained. A Seidlitz powder was immediately administered; if sinking was felt without purging, three or four teaspoonfuls of Epsom salts were added to the powder. On these agents acting, plenty of thin beef-tea, well seasoned with salt, was given; if there was any pain, a sinapism was applied to the gastric region; and thirst was relieved with seltzer, soda, or pure water *ad libitum*. Most of the cases were thus cured. If, however, cramps, coldness, or sinking of the pulse came on, the patients were considered as cholera cases in the second degree. The following was then administered about every half-hour:—Sodii chloridi ℈j, Sodæ carbonatis ʒss, Potassæ chloratis gr. vij, dissolved in water. If there was much irritability of stomach, a large sinapism was applied; if much heat or burning pain, an additional quantity of carbonate of soda was added to the mixture. In cases in the stage of collapse, a strong solution of the same salts, dissolved in hot

* Stevens on Asiatic Cholera. London, 1853.

water, 100° Fahr., was thrown into the bowels, and repeated every two or three hours. Sinapisms were also applied to the stomach, between the shoulders, &c.; and in the cold stage, frictions with warm towels were used. A pure air for the patient to breathe was considered of the greatest importance.

In addition to the above, I should try the effect of hot salt-water baths; heat to the surface by hot blankets, bottles of hot water, &c.; and when the vomiting was severe, would allow Wenham Lake ice to be continually sucked. The greatest caution will subsequently be required for many days as to diet. As a rule, broths and farinaceous food only should be allowed, without any solids whatever.

DYSENTERY.

Dysentery consists chiefly in inflammation of the mucous membrane of the colon, especially perhaps of the lower part of this gut and the rectum; hence it has been sometimes termed colitis. Cases, however, are occasionally seen in which the ulceration does not stop at the ilio-cæcal valve, but extends for many inches up the small intestines.

The Symptoms are at first uneasiness and pain of the abdomen, of a griping character, with a frequent inclination to go to stool, which is followed by relief. As the disease becomes developed, the desire to go to stool is more frequent, and the ease which succeeds more transient; the evacuations are thin, mucous, and bloody, mixed with small, hard, separate lumps of fæces, termed *scybala*. The scanty evacuations soon produce distress rather than relief; the patient is constantly tormented

with tenesmus and griping; the stools become fœtid, dark coloured, and mixed with shreds of lymph; and the bladder sympathises with the rectum, causing frequent micturition, the urine being high coloured, and causing scalding when passed; sometimes there is strangury. In all cases there is more or less fever and constitutional disturbance; the tongue is furred, and the papillæ prominent; pulse quick and small; skin harsh, hot, and dry; thirst urgent; no appetite; dyspnœa; and great prostration. In fatal cases, the abdomen becomes tense, full, and tender, especially on pressure; the pulse gets weaker; the tongue dry, red, glazed, and aphthous; the evacuations are extremely offensive and watery; hiccup comes on, with great exhaustion and emaciation; and death soon follows.

Dysentery is now a very rare disorder in this country. In tropical regions it is at times very prevalent, and is often very fatal to our soldiers and sailors. It has been ascribed to wet and cold, to contagion, to malaria, polluted water, bad food, drastic purgatives, &c. It often leads to abscess of the liver. After death ulceration of the large intestines and enlargement of the intestinal glands are the appearances most commonly found.

Treatment.—Blood-letting, both by the lancet and by leeches applied in the track of the colon, is usually recommended, followed by warm fomentations and poultices, which give great relief. A dose of castor oil should be given to prevent the lodgment of scybala. Opium, especially opiate enemata (Formula 250), will relieve the tenesmus. When—as Sir James M'Grigor has pointed out—the dysentery is complicated with disorder of the liver, mercury will be necessary; either the

hydrargyrum cum cretâ with Dover's powder (Formula 181) may be given, or calomel and opium, in the usual form. When the sanguineous discharge is abundant, many authorities recommend the acetate of lead. The warm bath may be frequently employed with great advantage. The diet must be of the lightest kind, such as farinaceous food, milk, and thin broths.

INFLAMMATION OF THE LIVER.

Inflammation of the liver may be acute or chronic; both forms are rare in this country, but are common in tropical climates; their diagnosis is often very difficult.

In **Acute Hepatitis** the symptoms are fever; pain, more or less severe, in the region of the liver, increased on pressure, deep inspiration, or cough; inability to lie on the left side; a yellow tinge of the conjunctiva, sometimes jaundice; dyspnœa; cough; vomiting; and hiccup. When the pain is of a sharp lancinating character, it is supposed to indicate inflammation of the serous covering of the gland; when dull and tensive, the parenchyma is the part affected; when the convex surface of the organ is the seat of the inflammation, the chest symptoms will predominate; when the concave, the stomach symptoms will be the most marked. It is well known that in hepatic affections the right clavicle and shoulder become the seats of sympathetic pains; sometimes also—probably when the left lobe of the liver suffers—pain is referred to the left shoulder. Andral has noticed that in some cases the only pain has been in the head, which has been sufficiently intense, constant, and long continued, to attract exclusively the patient's attention.

The most favourable termination of acute hepatitis is resolution. When this happens the pain and fever gradually abate, and the patient is soon well. The inflammation may, however, go on to diffused suppuration, or to the formation of circumscribed abscesses, or even to gangrene.

Abscesses of the liver sometimes attain a great size, and, in extreme cases, may contain several pints of pus. They may burst into the peritoneum, and give rise to fatal peritonitis; most frequently, however, when the matter gets near the surface of the gland, adhesive inflammation is set up in the portion of peritoneum immediately above it, and lymph is poured out, which glues the organ to adjacent parts—to the abdominal parietes, the diaphragm, stomach, or some part of the intestines; the pus is then discharged externally, or into the lung or pleura, or stomach, &c.

Hepatic suppuration and dysentery often occur together. We are indebted to Dr. George Budd* for proving—contrary to the opinion formerly entertained—that the dysentery is the primary disorder, the abscess the secondary; the latter being caused by the fœtid gaseous and liquid contents of the large intestine, or by the pus resulting from its ulceration, being absorbed and conveyed immediately to the liver. Abscess of this gland may also occur from other causes besides those already mentioned, the most common being ulceration of the rectum, bladder, vagina, &c.

Very rarely the inflammation terminates in gangrene, or gangrene may follow suppuration. In a patient in the Dreadnought, mortification resulted from opening an abscess.

The Treatment must be commenced by blood-

* Budd on Diseases of the Liver. Second Edition.

letting and the use of purgatives; the repeated use of the neutral salts (Formulæ 38, 48) will be useful. When the violence of the inflammation has been thus subdued, most authorities recommend that attempts should be made to get the system under the influence of mercury. Repeated blisters over the region of the liver appear to be beneficial.

When we infer that suppuration has taken place all lowering measures must be stopped. Nourishing food, with tonics—such as quinine and iron, the nitro-muriatic acid and bark, &c.—will then be necessary; the bowels must be regulated by rhubarb, or by rhubarb and aloes, and habits of strict temperance inculcated. If we can be quite sure that the surface of the abscess is adherent to the abdominal parietes, we may open it with the knife, but great judgment and caution must be exercised. On the whole, Dr. Budd seems to be in favour of allowing the abscess to burst of itself.

Chronic Hepatitis may be the sequel of acute, or it may arise from disease of the liver, such as cancer, tubercles, &c. The *symptoms*, according to Cullen, are some fulness and weight in the right hypochondrium; shooting pains felt at times in that region; uneasiness or pain on pressure; discomfort from lying on the left side; perhaps some degree of jaundice; and sometimes a certain amount of fever, combining itself with more or fewer of these symptoms. Intemperance and the repeated use of alcoholic liquors are the most frequent causes of chronic hepatitis; this is more especially the case in hot climates. The most efficacious remedies are saline purgatives and mercury, repeated in small doses, for a long period. Five grains of blue pill may be given every night,

with a draught of salts and magnesia (Formula 38 or 43) every morning for some weeks, taking care not to lower the patient too much. Iodine is sometimes employed, especially locally; the unguentum iodinii compositum, or the unguentum hydrargyri iodidi may be rubbed over the region of the liver every night. Taraxacum (Formula 116 or 118) and the hydrochlorate of ammonia (Formula 117) are often recommended.

CIRRHOSIS.

Deep-seated adhesive inflammation of the liver and its capsule gives rise to different effects, according to the parts principally involved. When the effused lymph is found surrounding the large branches of the portal vein and the small twigs separating the lobules, the substance of the liver is rendered tough by this new fibrous tissue, which—on slicing the gland—is seen to form thin lines between irregular masses of lobules. At the parts on the surface corresponding to these lines, the capsule is drawn in, so that the surface has a "hob-nailed" appearance; the tissue of the liver is also paler than natural, owing to the presence of this fibrous tissue, and it is often yellowish from accumulation of biliary matter in the cells. Hence, a section of the liver has the greyish-yellow colour of impure bees-wax, and this disease has, in consequence, been called by the French *cirrhosis*.* The most common cause of it is spirit drinking; this has led English practitioners to call it the *gin-drinker's* liver.

The Symptoms are generally few and obscure, until the effused fibrine has caused impediment to the flow of the portal blood, and to the secretion

* See Budd, op. cit.

and escape of bile. Slight enlargement of the liver, pain in the right hypochondrium, and indigestion are the most prominent symptoms. When relief has been obtained, the patient fancies himself well, and pursues his usual occupations, though he finds that he gets weaker and thinner, and that his complexion remains sallow. At the end of some months, or perhaps years, the belly becomes enlarged by dropsical effusion, which gradually increases so as to cause great distension. The veins on the surface of the abdomen enlarge—showing that the current of the portal blood is impeded, and hæmorrhage occurs occasionally from the stomach and intestines. When ascites has once occurred, it continues, increases, and in some twelve months or so the patient dies from exhaustion.

Treatment.—At the commencement of the disease, most benefit will be derived from cupping or leeches over the liver; from saline purgatives, such as the sulphate of magnesia, or bitartrate of potash; from a regulated and rather low diet; and from the avoidance of all alcoholic drinks. If the patient will not bear the loss of any blood, repeated blisters may be employed. Iodide of potassium, inunction with the iodine ointment, and small doses of mercury, so as slightly to affect the mouth, will often do good. When ascites has taken place, mild diuretics, purgatives, tonics, and sedatives are the remedies to trust to. When there is urgent dyspnœa, we must remove the fluid by tapping.

FATTY DEGENERATION OF THE LIVER.

Fatty liver, or fatty degeneration of the liver, is of frequent occurrence in pulmonary consumption,

and in fatty degeneration of other internal organs, as the kidney, &c. In such cases, the gland is found large, pale, of a kind of buff colour—with brown spots interspersed, soft, and more greasy than natural, owing to the interstitial deposit of oil-globules. If we examine a small portion of the lobular substance microscopically, numerous oil-globules are readily distinguished. This disease gives rise to no important symptoms; there is no pain, jaundice, or dropsy; occasionally, however, it produces a little inconvenience, from the increased bulk of the gland. Persons who live well, who indulge in alcoholic drinks, and lead indolent lives, most frequently suffer from it.

CANCER OF THE LIVER.

Every variety of cancer, except perhaps gelatiniform or colloid cancer, has been met with in the liver; medullary or soft cancer is perhaps more common than the scirrhous or hard kind.

Symptoms.—When a liver contains numerous masses of cancer, it is generally much enlarged, extending far below the false ribs, even to the brim of the pelvis. These masses do not give rise to inflammation of the hepatic tissue; but when superficial, they often cause peritonitis, which is generally very partial, and of the adhesive kind, so that after death the tumours are found adherent to the diaphragm or to the abdominal walls. The remaining symptoms are very obscure, constant diffused pain and tenderness, with disorder of the digestive organs, being generally the most prominent.

Causes.—Malignant disease of the liver is often a secondary affection, that is to say, it results from the transfer of cancer-cells by lymphatics and veins

from the breast, stomach, kidney, &c. When primary, it does not occur before the age of thirty-five.

The Treatment can only be palliative. Relief to the pain must be given by sedatives—especially by opium, conium, and belladonna, and the digestive organs should be strengthened by mild tonics, and by a light nourishing diet.

HYDATID TUMOURS OF THE LIVER.

Hydatid tumours occur in the liver more frequently than in any other organ. They consist of a sac, lined by a thin bladder or cyst, and filled with a limpid colourless fluid, floating in which, numerous small cysts, similar to the cyst lining the sac, and varying in size from a pea to a pigeon's egg, are usually found. To these cysts or bladders Laennec gave the name Acephalocyst —a bladder without a head. The acephalocyst lining the sac is composed of finely laminated, friable coats, about the firmness of coagulated albumen. Sometimes it contains no floating hydatids, or very few; in other cases it is literally crammed with them; and these again, it is said, may contain another generation. To distinguish these different kinds, as well as to mark the mode of their increase, naturalists have divided these productions into two species: 1st, the *acephalocystis endogena* of Kuhn, likewise called *socialis, vel prolifera* by Cruveilhier, the *pill-box hydatid* of Hunter, which is the kind most commonly developed in the human subject, and in which the fissiparous process of generation takes place usually from the internal surface of the parent cyst, the progeny being sometimes successively included; and, 2nd, the *acephalocystis exogena* of Kuhn,

eremita, vel sterilis of Cruveilhier, which developes its progeny generally from the external surface, and is found in the ox and other domestic animals. The true nature of these acephalocysts has long been a subject of investigation. M. Livois seems, however, to have settled the question by his discovery that they are the dwelling-place of those minute animalcules, to which Rudolphi gave the name *echinococcus*, from the cylinder of hooks surrounding the head. M. Livois states that echinococci exist in all acephalocysts, and this observation has been confirmed by Dr. Budd and other observers.

Symptoms.—When an hydatid tumour forms in the liver, its growth is generally slow. It gives rise to little inconvenience beyond a sensation of weight, so that its presence is often not suspected until found after death. When the tumour is of large size, it may then be easily felt; sometimes it compresses the portal vein or vena cava, causing ascites and œdema of the legs. It may burst into the peritoneum—causing fatal peritonitis, or into the lung, or into the intestines, or through the abdominal wall; in the two latter cases, the contents will often be entirely discharged, and the sac ultimately closing up, will leave the patient well. When the tumour opens into the lung, the patient becomes so worn out with the constant expectoration of hydatids and puriform matter, and the constitutional disturbance is so severe, that he generally sinks under it.

Sometimes an hydatid tumour gets well without opening, namely, by the secretion of a thick putty-like matter within its sac, owing either to the destruction, or at all events causing the destruction, of the hydatids.

Treatment.—Two agents, iodide of potassium

and common salt, are supposed to possess the power of stopping the growth of these tumours. Confirmatory evidence is still required, however, to prove conclusively the value of these remedies. When we can be certain in our diagnosis, and are sure that the tumour is adherent to the abdominal wall, we may effect a cure by puncturing the sac. It is needless to say that the greatest caution will be necessary.

JAUNDICE.

Icterus, or jaundice, is rather a symptom of some affection of the liver than a separate disease. It consists of a yellow colour of the conjunctiva and skin, the urine having the colour of saffron, and the fæces being whitish. It may be produced in two ways, says Dr. Budd: 1st, by some impediment to the flow of bile into the duodenum, and the consequent absorption of the retained bile; and, 2d, by defective secretion on the part of the liver, so that the principles of the bile are not separated from the blood.

The most common impediment to the flow of bile into the duodenum, is the impaction of a *gall-stone* in the ductus communis choledochus. These concretions consist of inspissated bile, and chiefly perhaps of cholesterine—a peculiar substance, which exists in a state of solution in healthy bile, but which, under certain circumstances, becomes released from its solvent, and assumes its natural crystalline form. In all cases the nucleus of the concretion consists of a small piece of solid biliary matter, or of inspissated bile cemented by mucus. As many as 3000 gall-stones have been counted in a single bladder. Sedentary occupations and free living tend to their formation. When the ob-

structing stone or stones have passed into the duodenum, they are voided with the fæces, and the cause of the jaundice being removed, the skin gradually assumes its natural colour. The other causes of jaundice from obstructed gall-ducts are, cancer of the liver or pancreas, closure of the ducts from adhesive inflammation of the liver, from spasm of the ducts, and from constipation, the loaded intestine pressing upon the duct, and so impeding the flow of bile. The secretion of bile may be suppressed or rendered defective by congestion and inflammation of the liver; by mental shocks, or grief, or dissipation; by certain poisons in the blood; and by certain disorders of the stomach.

The Treatment must of course be guided by the cause. When the jaundice is due to some obstruction, leeches or cupping, fomentations, warm baths, saline purgatives, and low diet will be called for. When from suppressed secretion, we may perhaps cautiously try mercury, or taraxacum, or the nitro-muriatic acid (Formulæ 116, 118, 175); but in most instances, as we shall be merely working in the dark, it will be better to rest contented with saline purgatives, diaphoretics, baths, rest, and regulated diet.

NEPHRITIS.

Nephritis, or inflammation of the kidney, may arise without any appreciable cause, or from cold, from the formation of calculous matter, from various injuries, or from the administration of cantharides or oil of turpentine. It gives rise to neuralgic pains in the loins—especially in the region of the kidney, the pain sometimes extending along the ureter to the neck of the bladder, or to the groin, scrotum, or testicle, and being increased

by pressure or by exercise; there is often numbness of the thigh, and, in men, retraction of the testicle, with frequent micturition. When this pain arises from other causes besides inflammation, as from a "fit of the gravel"—the passage of a small calculus from the pelvis of the kidney along the ureter to the bladder—it is termed *nephralgia*. In addition to the above symptoms, there is much constitutional disturbance, fever, nausea, and vomiting; great thirst; pulse hard, frequent, and full; constipation; tympanitis; and though the desire to pass urine is frequent and urgent, yet the secretion is scanty, high coloured, and often contains blood. The inflammation may terminate in resolution, or—if it continue long—in suppuration, which again will lead frequently to ulceration, the formation of renal fistulæ, and the establishment of a purulent discharge, followed by hectic fever, which often ends fatally. In more favourable cases, however, the pus passes out by the natural passages, and is found in the urine. Sometimes the disease proves fatal at an earlier stage, by inducing coma, owing to the retention of urea in the blood, which thus acts as a poison. Sometimes, also, typhoid symptoms appear early, and death occurs from pure exhaustion.

The Treatment must consist in cupping or the use of leeches to the loins, warm fomentations, the warm bath, mild purgatives, and diaphoretics—especially those containing opium, such as Dover's powder. Our object, indeed, must be to rest the inflamed gland, and to get its work done by the skin and mucous membrane of the bowels.

ACUTE DESQUAMATIVE NEPHRITIS.

This disease has already been considered in the section on Scarlatina, p. 54.

CHRONIC DESQUAMATIVE NEPHRITIS.

For our knowledge of this disease we are entirely indebted to the able researches of Dr. George Johnson; the following remarks are consequently a mere epitome of his observations.*

Chronic desquamative nephritis is characterised by a long-continued shedding of epithelium, which appears in the urine in a more or less disintegrated state. The tubes gradually lose their epithelial lining, and subsequently become atrophied or filled with a new material; or they may continue to be nourished, secrete serum into their cavities, and so become dilated into cysts. Meanwhile the renal blood-vessels undergo changes, and the kidney becomes wasted and indurated. The urine is, for the most part, albuminous; it is usually greater in quantity and of a less density than in health, varying from 1005 to 1015. If we examine it microscopically, we shall find abundant amorphous granular matters, either scattered or in the form of cylinders, which have evidently come from the renal tubes, and which are known as *granular epithelial casts*. The disease is frequently a consequence of chronic gout, or of some allied disorder of the general health. It produces great changes in the blood, and many and various constitutional disorders consequent upon these changes, amongst which the most frequent are anasarcâ, dropsy of one or more serous cavities, inflammation of the serous membranes, hypertrophy of the heart—with or without disease of the valves—and, lastly, either structural changes, or great functional disturbance of the nervous centres.

* See Johnson on Diseases of the Kidney; and Medico-Chirurgical Transactions, vol. xxx.

The Treatment, for the most part, resolves itself into the adoption of means for the removal of the morbid state of the blood and constitution generally, of which the renal disease is only a result and a manifestation. When the disease is the result of gout, we must regulate the diet—disallowing sugar and all fermented liquors, attend to the various excretory functions, and employ such remedies as are indicated by the patient's general condition and state of health. Great benefit will always be derived from keeping the skin warm, and from the occasional use of the warm-water, air, or vapour bath; diaphoretic medicines (Formulæ 77, 197) are also useful. Gentle aperients; dry cupping over the loins frequently repeated, or counter-irritation to the same part by sinapisms, tartar-emetic ointment, or ammonia liniments; quinine, iron, and other tonics, are remedies which often afford considerable relief. Mercurials, and especially all diuretic medicines, are strictly to be avoided. In cases attended with dropsy, we may use those purgatives which produce copious watery stools, such as elaterium, gamboge, jalap, &c. (Formulæ 167, 169, 180, &c.) Sometimes there is spontaneous diarrhœa; this is not to be checked, unless it produces exhaustion. In all cases we must get the skin to act freely by diaphoretics, and especially by the use of the hot-air bath, repeated every night, or on alternate nights. In these cases the diet must be generous, and a small quantity of wine may often be allowed with advantage.

FATTY DEGENERATION OF THE KIDNEY.

In 1827, Dr. Bright first pointed out the frequent connection of anasarca and other dropsical

affections with a peculiar disease of the kidneys, the prominent character of which is the appearance of albumen in the urine, and the deposition of a peculiar granular matter in the substance of the renal gland, together with the gradual atrophy of its cortical and tubular structure. Hence this affection is commonly known as *Bright's disease*, or as *granular degeneration of the kidney*. The investigations thus commenced have now been perfected by Dr. George Johnson, and I again have to avail myself of his labours.

The appearances in the urine which characterise this disease are, a scanty secretion, which is highly albuminous, and of low specific gravity ; it is generally, in the early stages, free from sediment, and when examined by the microscope, is found to contain neither renal epithelium, nor casts of tubes, or, if any, only small waxy casts. After a period, variable in different cases, while the general characters of the urine remain unaltered, there appears a light, cloudy sediment, which is usually found to contain some of the small waxy casts, in which are entangled one or more globular or oval cells, enclosing a variable number of oil-globules ; some of the cells being completely filled with oil, and presenting the appearance of dark opaque masses. Some of the casts have adhering to their surface a variable number of oil-globules, which have probably escaped from ruptured cells ; while numerous cells, containing oil, together with detached oil-globules are scattered over the field of the microscope.

The chief **symptoms** produced by this disease are gradually increasing debility, inflammation of the serous membranes, anasarca and dropsy of the different cavities, and ultimately coma, which soon ends in death. It is often the consequence of

acute desquamative nephritis, or it may arise from scrofula, bad living, constant exposure to cold and wet, intemperance, &c.

In the **Treatment**, we can do little more than relieve symptoms. The diet should be regulated, and abstinence from intoxicating drinks, starch, sugar, and fatty articles of food insisted upon. In other respects, the rules laid down in the preceding section must be attended to.

GRAVEL.

Gravel may be defined as the discharge of gritty powder or sand, or of small calculi, with the urine, occasioning pain and irritation in the kidneys, ureters, bladder, and urethra.

When a patient experiences "a fit of the gravel," the suffering is most severe, especially during the passage of the calculus down the ureter; as soon as this substance reaches the bladder, however, all pain ceases; and if it be true, as some philosopher has observed, that the height of happiness is sudden relief from suffering, the patient is indeed happy. When there is merely gritty matter or sand, no pain whatever is experienced.

The most common forms of gravel are the urates of lime, potash, and soda, with small quantities of ammonia; it is often called lithate or urate of ammonia, but Dr. Hassall has clearly proved that the quantity of ammonia present is always very small, and is probably only derived from the decomposition of urea. Next in frequency we find lithic or uric acid, or red sand; then a deposit, consisting mainly of the triple phosphate of ammonia and magnesia, mixed with amorphous phosphate of lime; next a deposit of oxalate of lime; and, lastly, one of cystic oxide.

Urinary calculi are composed of either urate of lime and potash, &c.; or of uric acid; cystic oxide; carbonate of lime; oxalate of lime; triple phosphate of ammonia and magnesia; phosphate of lime; or of silica.

The Treatment will vary with the species of gravel. In the lithic-acid diathesis, a vegetable diet, avoidance of alcoholic drinks, the free use of simple diluents, gentle exercise, attention to the bowels, and the use of alkaline aërated waters—as those of Vichy or Carlsbad—will be beneficial. Alkalies often give relief, and none can be employed so advantageously as the salts of potass; since soda often combines with the lithic acid, and forms a hard, insoluble salt, and magnesia in large doses is very apt to cause intestinal concretions. The bicarbonate of potass may be freely given, without any of these disadvantages; the liquor potassæ in large doses (ʒss in water ℥ij) is also an agent possessing valuable properties, which appear to have been generally overlooked.

In the phosphatic diathesis a directly opposite course of treatment will be necessary. The diet must be generous, a moderate allowance of wine must be allowed, and tonics—such as bark, iron, and the mineral acids, especially the nitro-muriatic—administered. Opium is also a valuable drug in these cases: complete mental relaxation must be insisted upon.

In the oxalic-acid diathesis, all articles of food containing this agent—such as the common garden rhubarb—must be avoided; saccharine substances should also be disallowed. The nitro-muriatic acid will generally prove useful, and tepid or cold bathing, change of air, &c., should be recommended.

The suffering caused by the passage of a calculus down the ureter will be most readily relieved by the warm bath, by the free use of emollient diluents—especially by barley-water containing a couple of drachms of the spiritus ætheris nitrici—and by large doses of opium. Its subsequent passage from the bladder will be facilitated by introducing a large silver catheter with an open extremity, and washing out this viscus with warm water.

SUPPRESSION OF URINE.

Suppression of urine, or ischuria renalis, usually occurs in corpulent persons advanced in life; it is also a frequent and often fatal result of cholera and other morbid poisons in the blood. It must not be confounded with retention of urine.

If no urine be separated from the blood, urea accumulates in this fluid, circulates with it to every part of the body, and acts a a poison—especially upon the brain—inducing coma, which soon ends in death.

The Treatment is generally difficult. Cupping over the loins, friction with stimulating liniments, the hot bath, purgatives, and diaphoretics, are the remedies I should trust to. Some practitioners have recommended diuretics; in the majority of cases, it appears to me that that these agents would merely increase the difficulty, but instances may occur in which they would be beneficial, when probably the tincture of cantharides (Formulæ 106, 107) would be the best suited to our purpose.

DIABETES.

Diabetes, or diabetes mellitus, as it is some-

times termed, to distinguish it from chronic diuresis—an increased flow of urine—which has been improperly termed diabetes insipidus, is characterised by the presence of sugar in the urine. (See Appendix.) The quantity of urine secreted in this disease is sometimes enormous, being increased from the healthy standard of three or four pints in the twenty-four hours, to forty, fifty, or even more. The urine has a sweetish taste and odour, and is of a high specific gravity, varying from 1030 to 1050; the worse the disorder the higher will be the specific gravity. As so much water is thus got rid of by the kidneys, we can imagine that the most prominent *symptoms* will be great dryness and harshness of the skin; hardness of the fæces, with constipation; urgent and constant thirst, which it is difficult to allay; pain in the loins; coldness of the extremities, with burning pain in the hands and feet; great emaciation and debility; sponginess of the gums; mental depression; together with a constant feeling of sinking at the stomach, inducing a voracious appetite. This disorder generally progresses slowly and insidiously, and often ends in—or becomes associated with—pulmonary consumption. It almost always proves fatal.

This disease can hardly be called a disease of the kidneys, since in it the sugar is likewise found in the blood and in the fæces. From the researches of Bernard we learn that the blood from the hepatic vein always contains sugar; that it is the result of the digestion of food, for if an animal be starved it disappears; it is found also independently of the nature of the aliment taken. Section of both pneumogastric nerves, as well as any violent shock to the nervous system, destroys the power of the liver to form sugar. Irritation of

the root of the pneumogastrics in the fourth ventricle of the brain, increases the formation of sugar and causes it so to abound in the blood that it is secreted with the urine—in short, artificial diabetes is produced. When the respiratory function is violently stimulated, sugar appears in the urine; or when ether or chloroform is given, a temporary diabetes is produced.

Treatment.—The first point is to regulate the diet, which should be nutritious, and free from all articles containing sugar, or materials for the formation of this substance. Of all kinds, animal food is the best, and the patient may take his choice of different kinds of meat, poultry, game, and eggs. Cabbage, spinach, water-cresses, and celery may also be allowed; but fruit, and especially potatoes—which contain a large quantity of starch—must be forbidden. Patients would be better without bread; when used, care should be taken that it is well fermented and stale, and it will be better toasted. The thirst will be best appeased by a drink containing the diluted phosphoric acid, as recommended by Dr. Paris (Formula 161). Weak beef-tea, or mutton-broth, will also often allay thirst better than other kinds of drink. Beer, wine and spirits, and tea should be avoided.

Amongst the medicinal remedies opium is the most important, since under its use the patient is not only comforted, but his symptoms are mitigated, and the specific gravity of the urine lowered; it may be advantageously given in the form of Dover's powder. The hot-vapour bath will often excite the skin to action, when other means fail, and thus be productive of much comfort; and so also with the warm-water bath. Creasote has also been thought beneficial, especially by Dr. Watson, who

believes that it tends to check the conversion of the food into sugar (Formula 185).

CANCER OF THE KIDNEY.

Cancer is probably the rarest form of renal disease. Dr. Walshe has collected forty cases of cancer of the kidney from different sources. In thirty-one of these, pure encephaloid—or one of its varieties—was the species of cancer observed, while there were only five cases of scirrhus. The disease affected both organs sixteen times, the right alone thirteen times, the left alone six. Cancerous degeneration, like many other forms of renal disease, commences usually in the cortical substance, and thence extends to the medullary cones and to the walls of the pelvis and ureters. In one case of renal cancer about which I was consulted by Dr. Greenhalgh, the gland was enlarged to such an extent, that it simulated in many respects a solid ovarian tumour, and had indeed been diagnosed as such. When I saw the patient she was pregnant; consequently—as only an incomplete examination could be made—no positive opinion was given, though I was certainly inclined to regard the tumour as ovarian.

In the **Treatment**, we can only do good by supporting the patient's strength, and by relieving pain with opium or other sedatives.

HÆMATURIA.

Hæmaturia, or hæmorrhage from the mucous membrane of the urinary passages, may proceed from the kidneys, bladder, or urethra. It is common in the early stages of those forms of renal disease which arise from a morbid state of the blood; hence, as we have seen, it is a frequent re-

sult of acute desquamative nephritis. It may also arise from malignant disease of the kidney, or bladder; from the presence of a calculus either in the kidney, ureter, bladder, or urethra; or it may be, though rarely, vicarious of some other hæmorrhage—as of the catamenia.

Urine, containing blood, will be found of a dark red or even black colour, and loaded with albumen, for the detection of which see Appendix. Dr. Prout states that when the "blood is derived from the *kidney*, it is in general equally diffused throughout the whole urine; on the contrary, when derived from the *bladder*, the blood, for the most part, comes away in greater or less quantity at the termination of the discharge, the urine having previously flowed off nearly pure." Dr. Watson has also remarked that the expulsion of slender, cylindrical pieces of fibrin, which have evidently been moulded in the ureter, is characteristic of hæmorrhage from the kidney, or commencement of the ureter. When the blood comes away in drops or in a stream, unmixed with urine, the urethra is in all probability its source.

The Treatment will vary with the circumstances under which the hæmorrhage occurs. Where there is malignant disease, or a calculus present, astringents may be resorted to, the best being the tincture of the sesquichloride of iron, gallic acid, the diluted sulphuric acid, or the acetate of lead with opium (Formulæ 133, 135, 205). Sometimes the oil of turpentine, in fifteen or twenty minim doses, will check the discharge. Where there is some morbid poison in the blood, cupping over the loins, and purgatives, will prove the most effectual; while hæmorrhage from the urethra may often be checked by the application of ice, or by passing a large

bougie, and leaving it in the passage for some hours. Lastly, in vesical hæmorrhage, a solution of alum (℈j to ℈ij to the pint of water) may be injected into the bladder.

DISEASES OF THE PANCREAS.

We know so little of these diseases, and they are so rare, that I shall do no more than enumerate them.

The pancreas, then, is liable to suffer from congestion, inflammation, induration, transformation into a fatty tissue, according to Cruveilhier—from the formation of serous and hydatid cysts in it, from the formation of calculi in the pancreatic duct and its branches, and from malignant or cancerous degeneration. These various affections are generally accompanied by enlargement of the gland, and they often give rise to pain in the epigastrium, fulness, nausea and vomiting, and emaciation. Fatty stools have also been noticed in connection with certain diseases of the pancreas, but whether due to the pancreatic disease or not, is at present uncertain.

The Treatment of supposed pancreatic disease can only be conducted on general principles, that is to say, by chiefly alleviating the most prominent symptoms.

DISEASES OF THE SPLEEN.

The spleen may suffer from congestion, inflammation, suppuration, gangrene, from the formation of serous and hydatid cysts in it, and from enlargement.

Enlargement of the spleen is readily diagnosed by the situation of the tumour in the left hypochondrium, by its general appearance, and by the

history of the case. It results most commonly from intermittent fever or ague. In a patient under the care of my colleague Dr. Protheroe Smith, in the Hospital for Women, this gland was enlarged to such an extent that it filled the entire abdominal cavity.

Treatment.—When the enlargement is the result of ague, purgatives, with bark or quinine, will be necessary. In other cases steel, or the bromide of potassium (Formula 111), will prove the most efficacious remedies.

WORMS FOUND IN THE HUMAN BODY.

In considering the parasites of the human body, it will be best to arrange them according to the textures they severally inhabit. Thus, we have in the—

Brain	Acephalocystis multifida.
Eye	Filaria oculi.
	Cysticercus cellulosæ.
Liver	Acephalocystis endogena, or pillbox hydatid.
	Echinococcus hominis.
Gall-bladder	Distoma hepaticum, or liver fluke.
	Distoma lanceolatum.
Spleen and Omentum	Echinococcus hominis.
Kidney	Strongylus gigas.
Ovary	Polystoma pinguciola.
Small Intestines	Ascaris lumbricöides, or round-worm.
	Tænia solium, or common tape-worm.
	Bothriocephalus latus, or broad tape-worm.
Large Intestines	Tricocephalus dispar, or long thread-worm.
	Ascaris vermicularis, or common thread-worm.
Urinary Bladder	Diplosoma crenata.
	Dactylius aculeatus.
	Spiroptera hominis.
Areolar Tissue	Filaria Medinensis, or Guinea-worm.
Muscular Tissue	Trichina spiralis.
	Cysticercus cellulosæ.
Bronchial Glands	Filaria bronchialis.

A few only of these parasites are here deserving of attention. Having already noticed the formation of hydatid tumours in the liver, we may proceed to the consideration of the INTESTINAL WORMS, of which there are five kinds.

The *Ascaris lumbricöides*, or round-worm, resembles very much in appearance the common earth-worm, and varies from five or six to about twelve inches in length. It is found in the small intestines; it may pass into the stomach, however, or downwards into the colon, and consequently be vomited in the one case, or passed with the stools in the other. Sometimes these worms are very numerous; thus Dr. Hooper has recorded an instance in which a girl voided upwards of 200 in one week.

The *Tænia solium*, or common tape-worm, has a small hemispherical head, and a long flat body, of a white colour, composed of many square-shaped pieces curiously articulated together; it often measures upwards of twenty feet in length. It is common in England, Germany, and Holland.

The *Bothriocephalus latus*, or broad tape-worm, is shorter than the preceding, and its segments are broader. It is never seen in this country, but is frequently found in Russia, Poland, and Switzerland. In France both species are common.

The *Tricocephalus dispar*, or long thread-worm, is generally about two inches long, and is frequently met with in great numbers; it is most commonly found in the cæcum.

The *Ascaris vermicularis*, or common thread-worm, is only half an inch or less in length. It lives chiefly in the rectum, where vast numbers are sometimes found. It is common in children.

Symptoms.—The most common symptoms pro-

duced by these worms are, colicky pains and swelling of the abdomen; picking of the nose; itching of the rectum and fundament; foulness of the breath; irregular bowels; grinding of the teeth at night; and voracious or impaired appetite. The most conclusive symptom is the passage of some of the worms or of joints of them in the fæces.

Treatment.—We have several remedies for the round and tape-worms, such as the oil of turpentine, scammony and jalap, compound jalap powder with calomel, the bark of the pomegranate root, the kousso, and the oil of male fern. I am in the habit of trusting to the latter, which I thus administer. On the first morning I commence with a dose of castor oil, or a Seidlitz powder, and during the day keep the patient on very low diet, only allowing a little good beef-tea. At night the purgative is repeated, and thus the worm or worms get thoroughly uncovered by the removal of the contents of the alimentary canal, and therefore receive the full benefit of to them poisonous dose of oil of male fern, which is taken the first thing on the following morning, according to Formula 123. By this means, perhaps twice repeated, I seldom fail to remove the whole worm, including the head. To prevent its re-formation, tonics should be given, especially the mineral acids in infusion of quassia. The patients should also be directed to take plenty of salt with their food.

The ascarides may generally be killed by enemata of infusion of quassia, or of common salt, or of lime-water, or of the tincture of the sesquichloride of iron—in the proportion of half an ounce to half a pint of water.

APPENDIX.

Healthy Human Urine is a limpid, pale, amber-coloured fluid, free from any deposit, of acid reaction, unaffected by heat, nitric acid, liquor potassæ, &c., and having an average specific gravity of 1018. Dr. Prout estimates the normal quantity of urine secreted in the twenty-four hours to be from thirty ounces in the summer, to forty in the winter. A distinction is usually drawn between the *urina potus*, or that passed shortly after taking fluids; the *urina chyli*, or that passed soon after the digestion of a full meal; and the *urina sanguinis*, or that which is voided on first awaking in the morning, and which may generally be taken as a fair specimen of the renal secretion. The solid matters in the urine may be said to consist of urea, uric acid, hippuric acid, vesical mucus and epithelium, ammoniacal salts, fixed alkaline salts, earthy salts, and animal extractive.

To estimate the solid contents, as well as the weight of an ounce of urine, of any specific gravity between 1010 and 1040, Dr. Golding Bird has constructed the following very useful table:—

Specific gravity.	Weight of one fluid ounce.	Solids in one ounce.	Specific gravity.	Weight of one fluid ounce.	Solids in one ounce.
		Grains.			Grains.
1010	441.8	10.283	1025	448.4	26.119
1011	442.3	11.336	1026	448.8	27.188
1012	442.7	12.377	1027	449.3	28.265
1013	443.1	13.421	1028	449.7	29.338
1014	443.6	14.470	1029	450.1	30.413
1015	444.	15.517	1030	450.6	31.496
1016	444.5	16.570	1031	451.	32.575
1017	444.9	17.622	1032	451.5	33.663
1018	445.3	18.671	1033	451.9	35.746
1019	445.8	19.735	1034	452.3	36.831
1020	446.2	20.792	1035	452.8	37.925
1021	446.6	21.852	1036	453.2	38.014
1022	447.1	22.918	1037	453.6	39.104
1023	447.5	23.981	1038	454.1	40.206
1024	448.	25.051	1039	454.5	41.300

Urine containing an excess of Urea may be known by its high specific gravity—1020 to 1030—and by crystals of nitrate of urea forming on adding nitric acid to a portion of the urine in a test-tube. If the urea be only slightly in excess, the urine should be concentrated, by evaporation, to about one-third its bulk, before adding the acid.

Urine containing an excess of Urate (or Lithate) of Lime, Soda, &c., will be distinguished by its high colour, increased density, and turbid appearance when cold, somewhat resembling pea-soup. On applying heat with a spirit-lamp, it immediately becomes bright and clear.

Urine containing an excess of Ammoniacal and Fixed Alkaline Salts is generally of a pale colour,

and rather low specific gravity. On the application of heat, a deposit is produced resembling albumen, from which it is distinguished, however, by its being dissolved on the addition of a few drops of nitric acid. Sometimes, when the quantity of albumen present is small, the cloudiness produced by heat will be dissolved by a drop or two of nitric acid, but will reappear on continuing to add this agent; but the phosphatic cloud remains permanently dissolved. Liquor potassæ and liquor ammoniæ also produce deposits.

Mode of Testing for Albumen in the Urine.—Two tests must be used, heat and nitric acid. On applying heat to albuminous urine in a clean test-tube, the albumen coagulates and produces a cloud, varying in density. This only happens, however, when the urine is acid; alkaline urine may be loaded with albumen, yet heat will produce no deposit. We must then render the urine acid by nitric acid, and apply heat. So, also, urine containing an excess of earthy phosphates, as mentioned in the preceding paragraph, will become cloudy on the application of heat; for this reason, therefore, we also employ nitric acid, which dissolves the phosphates. Nitric acid alone will give a deposit with albuminous urine, but it must not be trusted to, since it also often produces a whitish amorphous precipitate of uric acid, when the urine contains a large quantity of urates; this precipitate, which might be mistaken for albumen, is distinguished by its not being produced by heat. We may be sure therefore that the urine is albuminous, if we obtain a deposit by both heat and nitric acid.

Mode of Testing Purulent Urine.—On adding liquor potassæ to urine containing pus, it is ren-

dered viscid, so that we can hardly pour the mixture from one test-tube to another.

Urine containing Sugar.—Diabetic sugar differs from cane-sugar; it has the same chemical composition as that contained in most kinds of fruit, commonly known as grape-sugar, or glucose.

Diabetic urine has a sweetish taste and odour, is generally of a pale colour, is secreted in very large quantity, and is of a high specific gravity, varying from 1025 to 1050. It was at one time thought that torulæ were developed only in saccharine urine; Dr. Bence Jones and others have proved the incorrectness of this view. Dr. Hassall* has shown, however, that a distinct species of fungus, identical with the yeast plant, is developed in saccharine urine, and in this urine only, when it is acid, is freely exposed to the air, and is kept at a moderate temperature. The presence of this sugar-fungus indicates the vinous fermentation, its development being accompanied by the disengagement of carbonic acid and the formation of alcohol. The Penicilium glacum is also sometimes met with in saccharine as well as in acid albuminous urine.

Several tests have been proposed for the detection of sugar in urine.

Moore's Test.—Add to the suspected urine, in a test-tube, about half its volume of liquor potassæ, and boil the mixture gently for a few minutes. If sugar be present, the liquid will assume a dark brown tint. If, on the contrary, the urine be healthy, it will only be slightly darkened.

Fermentation Test.—Mix a few drops of fresh yeast, or a little of the dried German yeast, with the suspected urine, and then fill a test-tube with

* Medico-Chirurgical Transactions, vol. xxxvi.

the mixture. Put some of the urine also into a saucer, and then invert the tube and stand it upright in this vessel, taking care that the tube is full and free from bubbles of air; set aside in a warm place, having a temperature of 70°, for twenty-four hours. If sugar be present, it begins very shortly to undergo the vinous fermentation, by which it becomes converted into carbonic acid and alcohol; which change will be recognised by the bubbles of carbonic acid causing gentle effervescence, and afterwards collecting in the upper part of the tube. If the urine is free from sugar, no gas will be formed.

Trommer's Test.—A little of the suspected urine is to be placed in a test-tube, and a drop or two of a solution of sulphate of copper added, so as to give the mixture a slight blue tint. A solution of potash is now added, in quantity equal to about half the volume of urine employed; this will throw down a pale blue precipitate of hydrated oxide of copper, which, if there be any sugar, will immediately redissolve, forming a purplish-blue solution. We must then cautiously warm the whole over a spirit-lamp, without boiling it; when, if sugar be present, a yellowish-brown precipitate of sub-oxide of copper will be deposited. If there is no sugar, a black precipitate of the common oxide of copper will be thrown down. This test is very delicate, and will detect very small quantities of sugar.

Bile in the Urine.—The colouring matter of the bile, when it exists in the urine, is readily detected, by the dark yellow colour it gives to the secretion, by the yellow colour it communicates to a piece of white linen dipped in it, or by the dark green and afterwards purple colour which the

urine assumes when a sufficient quantity of sulphuric acid is added to it in a test-tube.

Iodide of Potassium in the Urine may be detected by adding, first, starch to the cold secretion, and then a few drops of nitric acid (or solution of chlorine); the blue iodide of starch will be formed if an iodide be present.

Dr. Garrod's Plan of ascertaining the Presence of an Abnormal Quantity of Uric Acid in the Serum of the Blood.—Take about ʒiss of the serum and place it in a flat glass dish or watch-glass. To this add fifteen drops of acetic acid of the London Pharmacopœia, and put in two or three threads of cotton, or one or two ultimate fibres from a piece of unwashed huckaback. Allow the glass to stand on the mantel-piece, or on a shelf in a warm room, for from 24 to 48 hours, until its contents set, from evaporation. If the cotton fibres be then removed and examined microscopically with an inch object-glass, they will be found covered with crystals of uric acid, if this agent be present in the serum. The crystals form on the thread somewhat like the crystals of sugar-candy on string.

A TABLE SHOWING THE QUANTITY OF ACID REQUIRED TO DECOMPOSE ℈j OF CERTAIN ALKALINE SALTS.

		Lemon juice.		Citric Acid.
Bicarbonate of Potash ℈j	requires	ʒiiiss	..	gr. xiv
Bicarbonate of Soda ℈j	,,	ʒiv	..	gr. xvj
Sesquicarbonate of Ammonia ℈j	,,	ʒvss	..	gr. xxiij

PROPORTIONS OF ACTIVE INGREDIENTS IN THE FOLLOWING PREPARATIONS.

MERCURIAL PREPARATIONS.

		Of Mercury.
Hydrargyrum cum Cretâ	contains	gr. iij in gr. viij.
Pilula Hydrargyri.....	,,	gr. j in gr. iij.
Linimentum Hydrargyri.....	,,	gr. x in ʒj.
Ceratum Hydrargyri Compositum	,,	ʒiij in ʒvij.
Unguentum Hydrargyri.....	,,	ʒj in ʒij.
		Of Calomel.
Pilula Hydrargyri Chloridi Composita	,,	gr j in gr. v.
		Of Bichloride of Mercury.
Liquor Hydrargyri Bichloridi..	,,	gr. ½ in ʒj.

PREPARATIONS OF OPIUM.

		Of Opium.
Confectio Opii.....	,,	gr. j in gr. xxxvj
Enema Opii.....	,,	gr. iss in ʒiv.
Linimentum Opii	,,	gr. xij in ʒij.
Emplastrum Opii	,,	ʒj in ʒxiss.
Pilula Saponis Composita	,,	gr. j in gr. v.
Pilula Styracis Compositæ.....	,,	gr. j in gr. v.
Pilula Ipecacuanhæ cum Scilla	,,	gr. ½ in gr. x.
Pulvis Cretæ Compositus cum Opio	,,	gr. j in ℈ij.
Pulvis Ipecacuanhæ Compositus	,,	gr. j in gr. x.
Pulvis Kino Compositus.....	,,	gr. j in ℈j.
Tinctura Camphoræ Composita	,,	gr. ij in ʒj.
Tinctura Opii.....	,,	gr. j in ♏xix.
Unguentum Opii	,,	℈j in ʒj.
Vinum Opii.....	,,	gr. j in ♏xix.
Godfrey's Cordial	,,	gr. j in ʒij.
Dalby's Carminative.....	,,	gr. ¼ in ʒij.

	Of Morphia.	
Liquor Morphiæ Acetatis.....	contains	gr. j in ʒj.
Liquor Morphiæ Hydrochloratis	,,	gr. j in ʒj.

PREPARATIONS OF ANTIMONY.

	Of Tartar Emetic.	
Vinum Antimonii Potassio-tartratis.....	,,	gr. ½ in ʒj.
Unguentum Antimonii Potassio-tartratis.....	,,	ʒj in ʒv.

PREPARATIONS OF ARSENIC.

	Of Arsenious Acid.	
Liquor Potassæ Arsenitis	,,	gr. iv in ʒj.
Liquor Arsenici Chloridi.....	,,	gr. iss in ʒj.

PREPARATIONS OF CANTHARIDES.

	Of Cantharides.	
Acetum Cantharidis.....	,,	ʒiv in ℥v.
Emplastrum Cantharidis	,,	ʒj in ʒij.
Ceratum Cantharidis.....	,,	℥j in ℥vij.
Tinctura Cantharidis	,,	ʒj in ℥x.

DILUTE ACIDS.

	Of strong Acid.	
Acidum Aceticum Dilutum.....	,,	℥iss in ℥xij.
Acidum Hydrochloricum Dilutum	,,	℥j in ℥iv.
Acidum Nitricum Dilutum.....	,,	℥iss in ℥x.
Acidum Sulphuricum Dilutum	,,	℥j in ℥xj.
Acidum Hydrocyanicum Dilutum (Phar. Lond.)	,,	2 per cent.
Scheele's Acid	,,	4 or 5 per cent.

FORMULÆ.

In prescribing a medicine, attention must be paid to the following points: Age, Sex, Temperament, Habit, Condition of Stomach, and Climate. The succeeding formulæ are for adults, except when the contrary is stated; the doses may, however, be reduced by attention to this table:—

For an adult, suppose the dose to be 1				or	ʒj.
Under	1	year, will require only	.....1-12th	or	gr. v.
,,	2	,, ,,	.....1-8th	or	gr. viiss.
,,	3	,, ,,	.....1-6th	or	gr. x.
,,	4	,, ,,	.....1-4th	or	gr. xv.
,,	7	,, ,,	.....1-3rd	or	℈j.
,,	14	,, ,,	.....1-half	or	ʒss.
,,	20	,, ,,	.....2-3rds	or	℈ij.

Above 21, the full dose.

,, 65, the dose must be diminished in the inverse gradation of the above.

Children bear larger doses of mercury than adults; but they are much more susceptible to the influence of opiates. Consequently, opium must be given in very minute doses to them.

MIXTURES, DRAUGHTS, &c.

Formula 1. Tonic Acid Draught.

℞. Tincturæ Calumbæ, ʒj,
Acidi Sulphurici Diluti, ♏xv,
Syrupi Aurantii, ʒss,
Infusi Calumbæ, ʒx. Misce, fiat haustus ter die sumendus.

2. Acid Draught, with Bark.

℞. Acidi Sulphurici Diluti, ♏x.
Syrupi Aurantii, ʒj,
Infusi Cinchonæ, ʒx,
Tincturæ Cinchonæ Compositæ, ʒj. Misce, fiat haustus ter die sumendus, ante cibum.

3. Bark and Liquor Potassæ.

℞. Liquoris Potassæ, ʒss,
Tincturæ Cinchonæ Compositæ, ʒj,
Decocti Cinchonæ, ʒx. Misce, fiat haustus bis die sumendus.

In debility, attended with the lithic-acid diathesis.

4. Quinine and Iron.

℞. Quinæ Disulphatis,
Ferri Sulphatis, āā gr. xij,
Acidi Sulphurici Diluti, ʒj,
Tincturæ Hyoscyami, ʒiss,
Infusi Quassiæ, ℥vj. Misce. Sumat ʒj ter die.

5. Quinine and Acid.

℞. Tincturæ Quinæ Compositæ, ℥j,
Acidi Sulphurici Diluti, ʒj,
Infusi Aurantii Compositi, ℥vij. Misce. Capiat ʒj ter die.

Amongst other purposes, this mixture may be used to check the night-sweats in phthisis.

6. Quinine and Ammonia.

℞. Quinæ Disulphatis, gr. ij,
Spiritûs Ætheris Compositi,
Spiritûs Ammoniæ Aromatici, āā ʒss,
Tincturæ Opii, ♏v—x,
Infusi Cinchonæ, ʒxj. Misce, fiat haustus ter quaterve in die sumendus.

In cases of great exhaustion, with low muttering delirium, restlessness, &c.

7. Quinine and Acid Draught.

℞. Quinæ Disulphatis, gr. ij,
Acidi Sulphurici Diluti, ♏v,
Tincturæ Aurantii,
Syrupi ejusdem, āā ʒj,
Infusi Gentianæ Compositi, ℥j. Misce, fiat haustus ter die sumendus.

8. Bark and Ammonia.

℞. Ammoniæ Sesquicarbonatis, ʒss—ℨij,
Syrupi Zingiberis, ℥ss,
Infusi Cinchonæ, ℥viiss. Misce. Dosis, pars sexta ter quaterve in die.

9. Steel and Ammonia.

℞. Ammoniæ Sesquicarbonatis, ʒj,
Ferri Ammonio-citratis, ʒj—ij,
Tincturæ Hyoscyami, ʒij,
Infusi Quassiæ, ℥xij. Misce. Sumat ℥j ter die.

10. Quinine and Iodide of Iron.

℞. Syrupi Quinæ et Ferri Iodidi, ʒss,
Infusi Calumbæ, ℥j. Misce, fiat haustus ter die sumendus.

This triple syrup is prepared by Mr. Davenport, chemist, of Great Russell Street. It is especially useful in strumous affections.

11. Steel and Acid Mixture.

℞. Tincturæ Ferri Sesquichloridi, ʒiij,
Acidi Hydrochlorici Diluti, ʒij,
Tincturæ Hyoscyami, ʒiss,
Misturæ Camphoræ, ℥xij. Misce. Sumat ℥j ter die.

12. Quinine and Steel.

℞. Ferri et Quinæ Citratis, gr. v,
Infusi Calumbæ, ℥j. Misce, fiat haustus ter die sumendus.

An excellent tonic where there is debility, with a weak and irritable stomach.

13. Quinine Mixture for Children.

℞. Quinæ Disulphatis, gr. j,
Acidi Sulphurici Diluti, ♏j,
Syrupi Aurantii, ʒss,
Aquæ, ʒiv. Misce. Ter die sumendus.

Very useful in strumous ophthalmia, and all cases of debility.

14. Griffith's Mixture with Aloes.

℞. Misturæ Ferri Compositæ,
Decocti Aloes Compositi, āā ℥ss. Misce, fiat haustus ter die sumendus.

Very useful in anæmia, and general debility.

15. Nitro-muriatic Acid Drops.

℞. Acidi Nitrici, ʒj,
Acidi Hydrochlorici, ʒiss,
Tincturæ Gentianæ Compositæ, ʒxiv. Misce. Capiat guttæ xxx ter quaterve indies.

In oxaluria, dyspepsia, &c.

16. Nitro-muriatic Acid Mixture.

℞. Acidi Nitrici Diluti, ʒj,
Acidi Hydrochlorici Diluti, ʒiss,
Infusi Gentianæ Compositi, ℥vj. Misce. Sumat ʒj ter die.

In dyspepsia, with sluggish action of the liver.

17. Ammonia and Rhubarb.

℞. Spiritûs Ammoniæ Aromatici, ♏xv,
Tincturæ Rhei Compositæ, ʒss,
Infusi Rhei, ℥j. Misce, fiat haustus ter die sumendus.

In dyspepsia, with constipation.

18. Stimulant Draught.

℞. Spiritûs Ammoniæ Aromatici, ♏xx,
Spiritûs Myristicæ, ʒss,
Tincturæ Cardamomi Compositæ, ʒj,
Infusi Caryophylli, ʒx. Misce, fiat haustus ter die sumendus.

In debility, with nausea and flatulence.

19. Stimulant and Antispasmodic Drops.

℞. Tincturæ Assafœtidæ, ʒij,
Tincturæ Castorei,
Tincturæ Moschi, āā ʒj,
Tincturæ Opii, ʒss. Misce. Sumat ♏xxx ex Aquæ Menthæ Piperitæ ℥j, secundis horis.

In hysterical paroxysms.

20. Valerian Draught.

℞. Spiritûs Ammoniæ Fœtidi, ♏xv,
Tincturæ Valerianæ, ʒss,
Infusi Valerianæ, ℥j. Misce, fiat haustus pro re natâ sumendus.

In hysteria.

21. Effervescing Draught.

℞. Sodæ Sesquicarbonatis, ℈j,
Syrupi, ʒj,
Tincturæ Hyoscyami, ♏xv,
Aquæ, ℥j. Misce, et fiat haustus effervescens cum Succi Limonis ℥ss. Ter quaterve indies sumendus.

22. Stimulant Effervescing Draught.

℞. Ammoniæ Sesquicarbonatis, gr. xviij,
Acidi Hydrocyanici Diluti, ♏iij,
Tincturæ Cardamomi Compositæ, ʒss,
Liquoris Opii Sedativi, ♏v,
Aquæ, ℥iss. Misce, et fiat haustus effervescens cum Acidi Citrici gr. xv. Ter die sumendus.

In irritable stomach, with nausea or vomiting, and depression.

23. Ammonia, Potash, and Bark.

℞. Ammoniæ Sesquicarbonatis, ʒj,
Potassæ Chloratis, ʒij,
Extracti Opii, gr. xij,
Decocti Cinchonæ, ℥xij. Misce. Capiat ʒj ter die.

In debility, with acid secretions.

24. Sedative and Stimulant.

℞. Extracti Opii, gr. ss—j,
Misturæ Spiritûs Vini Gallici, ʒj. Misce, fiat haustus quartâ quâque horâ sumendus.

25. A Stimulant Mixture.

℞. Spiritûs Ammoniæ Aromatici, ʒj,
Tincturæ Castorei, ʒiij,
Spiritûs Lavandulæ, ʒij,
Aquæ Pimentæ, ℥j. Fiat mistura, cujus drachmæ duæ, pro re natâ, ingerantur, contra languorem et deliquium.

Dr. Pereira.—*In some cases of hysteria.*

26. Vel,

℞. Tincturæ Assafœtidæ, ʒij,
Ammoniæ Sesquicarbonatis, ℈j,
Aquæ Pulegii, ℥iv. Fiat mistura, de quâ capiat cochleare unum vel cochleariæ duo in languoribus.

27. Stimulant Mixture for Children

℞. Spiritûs Ammoniæ Aromatici, ʒj,
Spiritûs Ætheris Compositi, ♏xl,
Aquæ ad ℥ij. Misce. Capiat ʒj vel ʒij secundâ quâque horâ.

Useful in infantile diseases attended with great exhaustion.

28. Stimulant and Antipsasmodic.

℞. Spiritûs Ammoniæ Aromatici, ♏xv,
Acidi Hydrocyanici Diluti, ♏iij,
Tincturæ Cardamomi Compositæ, ʒj,

Syrupi Croci, ʒj,
Aquæ Carui, ℥j. Misce, fiat haustus bis terve die sumendus urgente flatu aut languore.

In dyspepsia or debility, with irritable stomach.

29. An Antispasmodic Mixture.

℞. Spiritûs Ætheris Compositi, ʒiss,
Liquoris Opii Sedativi, ʒss—j,
Misturæ Camphoræ, ℥iij. Misce. Sumat ʒj omni quadrante horæ donec dolor exulaverit.

In spasmodic diseases, such as angina pectoris, &c.

30. An Antispasmodic Mixture.

℞. Tincturæ Valerianæ Compositæ,
Tincturæ Assafœtidæ, āā, ʒij,
Misturæ Camphoræ, ℥vss. Misce. Sumat quartam partem quartâ quâque horâ.

In hysteria, flatulent colic, and similar cases.

31. Stimulant and Antispasmodic?

℞. Acidi Nitrici Diluti, ʒxij,
Tincturæ Cardamomi Compositæ, ʒiij.
Syrupi Simplicis, ℥iiiss,
Aquæ, ʒj. Misce. Sumat ʒj—ij secundâ quâque horâ.

Since the preceding pages were put in type, Dr. Gibb *has written a work to prove that Nitric Acid is a specific in the treatment of hooping-cough, curing the disease in from two to fifteen days. He recommends the above formula.*

32. Ammonia and Senega.

℞. Ammoniæ Sesquicarbonatis, ϑij,
Tincturæ Scillæ, ʒiss,
Decocti Senegæ, ℥viij. Misce. Sumat ℥j omnibus sextis horis.

A good stimulant expectorant in some cases of bronchitis.

33. Stimulant Expectorant Mixture for Children.

℞. Ammoniæ Sesquicarbonatis, gr. ij,
Tincturæ Scillæ, ♏v,
Decocti Senegæ, ℥ss,
Sacchari fæcis, ʒss. Misce, fiat haustus secundâ quâque horâ sumendus.

An excellent stimulant expectorant for young children recovering from croup.

34. Anti-flatulent Mixture.

℞. Spiritûs Ætheris Compositi, ʒij,

Tincturæ Cardamomi Compositæ, ʒiv,
Spiritûs Anisi, ʒvi,
Olei Carui, ♏xij,
Syrupi Zingiberis, ʒiv,
Misturæ Camphoræ, ℥ij,
Aquæ Menthæ Piperitæ, ʒiv. Misce. Sumat cochlearia ij ampla urgente flatu.

35. An Acid Stimulant.

℞. Acidi Hydrochlorici Diluti, ♏iv,
Spiritûs Ætheris Compositi, ♏viij,
Misturæ Camphoræ, ʒiij. Misce, fiat haustus omnibus sextis horis sumendus.

Recommended by Dr. Stieglitz, *of St. Petersburgh, as a stimulant for a child, aged about five, suffering from fever.*

36. The Common Black Draught.

℞. Magnesiæ Sulphatis, ʒij,
Mannæ, ʒj,
Tincturæ Sennæ Compositæ, ʒij,
Infusi Sennæ Compositi ad ℥iss. Misce, fiat haustus cras mane sumendus.

37. An Active Purgative.

℞. Hydrargyri Chloridi, gr. v.
Pulveris Jalapæ, gr. xv. Misce, fiat pulvis statim sumendus, cum haustu sequente post horas tres.

℞. Magnesiæ Sulphatis, ʒij,
Mannæ Opt., ʒj,
Tincturæ Sennæ Compositæ, ʒij,
Infusi Sennæ Compositi ad ℥iss. Misce.

38. The White Mixture of Hospitals.

℞. Magnesiæ Sulphatis, ʒij,
Magnesiæ Carbonatis, ℈j,
Aquæ Menthæ Piperitæ, ℥j. Misce, fiat haustus omni mane sumendus.

39. Epsom Salts and Sulphuric Acid.

℞. Magnesiæ Sulphatis, ℥iss—iij,
Acidi Sulphurici Diluti, ʒiij,
Tincturæ Hyoscyami, ʒij,
Infusi Quassiæ, ℥xij. Misce. Sumat ℥j bis vel ter in die.

Very useful in painter's colic.

40. Aloes, Senna, and Jalap.

℞. Tincturæ Sennæ Compositæ,

Tincturæ Jalapæ, āā ʒij,
Infusi Sennæ Compositi, ℥ij,
Decocti Aloes Compositi, ℥vss. Misce. Sumat ʒj nocte maneque:

41. Rhubarb, Gentian, and Senna.

℞. Tincturæ Rhei Compositæ, ʒij,
Misturæ Gentianæ Compositæ, ʒx. Misce, fiat haustus omni mane sumendus.

A mild purgative in dyspepsia, &c.

42. An Alkaline Aperient.

℞. Decocti Aloes Compositi,
Infusi Gentianæ Compositi, āā ʒiij,
Liquoris Potassæ, ʒij. Misce. Sumat cochlearia ij majora omni mane.

Useful in bilious headache.

43. A Warm Aperient.

℞. Extracti Rhei, gr. x,
Sodæ Phosphatis, ʒj,
Decocti Aloes Compositi, ℥ss,
Aquæ Pimentæ, ℥j. Misce, fiat haustus hora somni sumendus.

Dr. Gairdner.—*Useful in some cases of gout.*

44. Aloes, Senna, and Epsom Salts.

℞. Vini Aloes, ʒij,
Infusi Sennæ Compositi, ℥iss,
Magnesiæ Sulphatis, ʒiv. Misce. Hujus capiat unciam, horâ septimâ matutinâ; et circiter horam decimam, partem reliquam sumat, si opus fuerit.

45. Tonic and Aperient.

℞. Infusi Gentianæ Compositi, ℥vj,
Acidi Sulphurici Diluti, ʒj,
Magnesiæ Sulphatis, ℥j. Misce. Capiat cochlearia tria magna post jentaculum et post prandium quotidie.

Useful in habitual constipation with flatulence.

46. Purgative Draught.

℞. Tincturæ Sennæ, ℥j,
Tincturæ Jalapæ, ʒij,
Aquæ Pimentæ, ℥ij. Misce. Capiat dimidium statim, et semihorâ elapsâ, quod reliquum est.

47. Rhubarb and Magnesia.

℞. Magnesiæ Carbonatis, ʒij,
Pulveris Rhei, ʒj,
Aquæ Menthæ Piperitæ, ℥vj. Misce. Capiat ℥j omni mane.

48. An Alkaline Purgative.

℞. Sodæ Sulphatis, ℥iss,
Sodæ Phosphatis, ʒj,
Syrupi Rhamni, ℥ss,
Aquæ Menthæ Piperítæ, ℥vj. Misce. Sumat unciam statim, et repetatur dosis post horas duas, nisi alvus prius responderit.

49. A Warm Stomachic Aperient.

℞. Tincturæ Rhei, ℥j,
Tincturæ Gentianæ, ℥ss,
Syrupi Croci, ʒj,
Aquæ Pimentæ, ℥iv. Fiat mistura, cujus sumat æger cochlearia duo, urgente ventriculi dolore, flatu, nauseâ, vel languore.

50. Purgative Mixture for Infants.

℞. Pulveris Rhei, gr. xv,
Magnesiæ Carbonatis, ʒj,
Aquæ Anethi, ℥iss. Misce, fiat julepum, cujus unum cochleare minimum infantulo lactenti detur, secundis horis.

51. Epsom Salts and Taraxacum.

℞. Magnesiæ Sulphatis, ʒij,
Decocti Taraxaci, ℥iss. Misce, fiat haustus omni mane sumendus.

In constipation with deficient secretion of bile.

52. A Ferruginous Purgative.

℞. Magnesiæ Sulphatis, ʒij,
Ferri Sulphatis, gr. iv,
Acidi Sulphurici Diluti, ♏xv,
Infusi Quassiæ, ℥iss. Misce, fiat haustus, cras primo mane sumendus.

Dr. Rigby.—*In constipation with general debility.*

53. Saline Purgative.

℞. Vini Antimonii Potassio-tartratis, ʒiss,
Magnesiæ Sulphatis, ℥ss,
Syrupi Papaveris, ʒiij,
Liquoris Ammoniæ Citratis, ℥iss,
Misturæ Camphoræ, ℥ivss. Misce. Capiat ℥j bis terve indies.

54. Potash and Aloes.

℞. Potassæ Bicarbonatis, ʒss,
Tincturæ Aurantii, ʒiij,
Decocti Aloes Compositi, ʒviij. Misce. Capiat cochlearia tria magna omni mane.

In chronic gout.

55. Aperient and Sedative.

℞. Misturæ Acaciæ, ʒij,
Aquæ Cinnamomi, ʒiij,
Olei Ricini, ʒiss,
Tincturæ Rhei, ʒvj,
Tincturæ Opii, ʒss,
Syrupi Aurantii, ʒvj. Misce. Sumat unciam tertiis horis.

In dysentery.

56. Aperient Mixture.

℞. Potassæ Tartratis, ʒj,
Tincturæ Jalapæ,
Tincturæ Sennæ Compositæ, āā ʒiv,
Syrupi Rhamni, ʒij,
Infusi Sennæ Compositæ, ʒv. Sumat partem quartam, quartâ quâque horâ donec alvus plene soluta sit.

57. Saline Mixture.

℞. Spiritûs Ætheris Nitrici, ʒiv,
Liquoris Ammoniæ Citratis, ʒiij,
Tincturæ Opii, ʒss,
Misturæ Camphoræ ad ʒviij. Misce. Sumat ʒj quartâ quâque horâ.

58. Saline Draught with Antimony.

℞. Vini Antimonii Potassio-tartratis, ♏xv—xxv,
Spiritûs Ætheris Nitrici, ♏xx,
Misturæ Camphoræ ʒj. Misce, fiat haustus, quartâ quâque horâ sumendus.

The large dose of antimonial wine is to be given only when it is desirable to produce nausea.

59. Vel,

℞. Vini Antimonii Potassio-tartratis, ʒij—iij,
Tincturæ Opii, ʒss,
Liquoris Ammoniæ Acetatis, ʒij,
Misturæ Camphoræ, ʒiv. Misce. Sumat ʒj ter die.

60. Saline Draught.

℞. Oxymellis Scillæ, ʒss,
Spiritûs Ætheris Nitrici,
Tincturæ Camphoræ Compositæ, āā ʒj,
Misturæ Amygdalæ, ʒj. Misce, fiat haustus omnibus sextis horis sumendus.

Dr. Watson. —*In influenza.*

61. Vel,

℞. Potassæ Nitratis, gr. x,
Liquoris Ammoniæ Citratis, ʒij,
Misturæ Camphoræ, ʒvj. Misce, fiat haustus, quartâ quâque horâ sumendus.

62. Chronic Catarrh Mixture.

℞. Tincturæ Tolutanæ, ʒiv,
Syrupi Tolutani, ʒj,
Tincturæ Camphoræ Compositæ, ʒiij,
Misturæ Acaciæ ad ʒviij. Misce. Capiat ʒj ter die.

Useful in old people where the mucous secretion is excessive.

63. Cough Mixture.

℞. Vini Ipecacuanhæ, ʒij,
Syrupi Tolutani, ʒvj,
Tincturæ Opii, ʒss,
Misturæ Acaciæ, ʒj. Misce. Sumat ʒj omni horâ.

64. An Antispasmodic Draught.

℞. Spiritûs Ætheris Compositi, ʒss,
Liquoris Opii Sedativi, ♏xx,
Tincturæ Castorei, ♏xv,
Aquæ Menthæ Piperitæ ad ʒiss. Misce, fiat haustus pro re natâ sumendus.

65. Tartar Emetic Mixture for Children.

℞. Vini Antimonii Potassio-tartratis, ʒiij,
Vini Ipecacuanhæ, ʒij,
Syrupi Papaveris, ʒj,
Liquoris Ammoniæ Citratis, ʒj,
Misturæ Camphoræ, ʒiij. Misce. Sumat ʒss omni horâ.

An excellent mixture in croup, for children two or three years of age.

66. Infantile Fever Mixture.

℞. Vini Antimonii Potassio-tartratis, ʒiss,
Vini Ipecacuanhæ, ʒij,
Syrupi, ʒss,

Tincturæ Camphoræ Compositæ, ʒiij,
Liquoris Ammoniæ Citratis, ℥ss,
Misturæ Camphoræ ad ʒij. Misce. Sumat ʒj—ij secundâ vel tertiâ quâque horâ.

In infantile fever, croup, pneumonia, bronchitis, &c.

67. An Expectorant Mixture.

℞. Syrupi Tolutani, ℥ss,
Tincturæ Castorei, ʒj,
Tincturæ Camphoræ Compositæ, ʒiij,
Misturæ Ammoniaci,
Aquæ Cinnamomi, āā ℥iiss. Misce. Sumat ℥j ter die.

In the chronic bronchitis of elderly people.

68. Expectorant and Stimulant.

℞. Tincturæ Scillæ, ʒiss,
Ammoniæ Sesquicarbonatis, ʒss,
Syrupi Zingiberis, ʒiij,
Tincturæ Camphoræ Compositæ, ʒij,
Infusi Serpentariæ, ℥vss. Misce. Sumat ℥j ter indies.

In chronic catarrh.

69. Expectorant and Tonic.

℞. Tincturæ Scillæ, ʒj,
Acidi Nitrici Diluti, ʒss,
Extracti Hyoscyami, ℈j,
Syrupi Papaveris, ℥ss,
Infusi Cinchonæ, ℥iv. Misce. Sumat ℥j bis terve die.

In chronic catarrh with restlessness.

70. Cascarilla and Squills.

℞. Tincturæ Scillæ, ʒiss,
Acidi Sulphurici Diluti, ʒj,
Tincturæ Opii, ʒss,
Infusi Cascarillæ, ℥vj. Misce. Sumat ℥j ter die.

In chronic bronchitis with profuse expectoration.

71. Infantile Cough Mixture.

℞. Vini Ipecacuanhæ, ʒij,
Syrupi Papaveris, ʒiij,
Misturæ Acaciæ, ʒxij. Misce. Capiat ʒj tertiâ quâque horâ.

72. Astringent in Infantile Hooping-cough.

℞. Aluminis, gr. xvj,
Syrupi Rhœados, ʒij,

Aquæ, ℥ij. Misce. Sumat ʒj secundâ vel tertiâ quaque horâ.

Useful where the secretion from the bronchial tubes is excessive.

73. Sedative in Asthma.

℞. Spiritûs Ammoniæ Aromatici, ♏xv,
Tincturæ Lobeliæ,
Spiritûs Ætheris Compositi, āā ♏xx,
Misturæ Camphoræ, ʒxj. Misce, fiat haustus ter die sumendus.

74. Dr. Guy's Cough Mixture.

℞. Acidi Sulphurici Diluti, ♏xx,
Tincturæ Digitalis, ♏x,
Tincturæ Opii, ♏v,
Infusi Quassiæ, ℥j. Misce, fiat haustus ter die sumendus.

75. Stimulant and Expectorant.

℞. Ammoniæ Sesquicarbonatis, ʒss,
Tincturæ Scillæ, ʒiss,
Tincturæ Camphoræ Compositæ, ʒiiss,
Syrupi Tolutani, ʒiv,
Decocti Senegæ, ℥vij. Misce. Capiat ℥j quartâ quâque horâ.

In the chronic bronchitis of old people.

76. Expectorant and Sedative.

℞. Tincturæ Scillæ, ♏xv,
Tincturæ Camphoræ Compositæ, ʒss,
Syrupi Simplicis, ʒss,
Infusi Lini Compositi, ʒvij. Misce. Ter die sumendus.

77. A Narcotic Saline Draught.

℞. Spiritûs Ætheris Nitrici, ℥ss,
Tincturæ Opii, ♏xv.
Liquoris Ammoniæ Acetatis,
Aquæ Puræ, āā ℥ss. Misce, fiat haustus, quartâ quâque horâ capiendus. Mitte haustus quatuor.

Useful in fever, or common catarrh, with restlessness.

78. Opiate Draught.

℞. Tincturæ Opii, ♏xx,
Aquæ Cinnamomi, ℥j. Misce, fiat haustus horâ somni sumendus.

79. Ammonia and Æther Draught.

℞. Spiritûs Ætheris Compositi, ʒss,
Spiritûs Ammoniæ Aromatici, ♏xv,
Misturæ Camphoræ, ʒj. Misce, fiat haustus, quartâ quâque horâ sumendus.

To relieve dyspnœa and great depression.

80. A Narcotic for Infants.

℞. Tincturæ Opii, ♏j,
Mucilaginis Acaciæ,
Syrupi Simplicis, āā ʒij,
Misturæ Camphoræ, ʒiv. Misce. Capiat ʒj bis terve indies.

81. Sedative in Cardiac Disease.

℞. Tincturæ Digitalis, ♏x—xv,
Acidi Hydrocyanici Diluti, ♏iij,
Tincturæ Opii, ♏v,
Misturæ Camphoræ, ʒj. Misce, fiat haustus bis terve die sumendus.

82. Antispasmodic Draught.

℞. Spiritûs Ammoniæ Fœtidi, ʒss,
Tincturæ Opii, ♏x,
Misturæ Camphoræ, ʒj. Misce.

83. Sedative in Irritable Cough.

℞. Acidi Hydrocyanici Diluti, ♏xxv,
Liquoris Morphiæ Acetatis, ʒss,
Syrupi Altheæ, ℥j,
Misturæ Acaciæ,
Misturæ Camphoræ, āā ℥iiiss. Misce. Capiat ℥j quartâ quâque horâ.

84. Broom, Squills, and Potash.

℞. Potassæ Acetatis, ʒss,
Aceti Scillæ, ʒss,
Spiritûs Ætheris Nitrici, ♏xx,
Tincturæ Digitalis, ♏v,
Decocti Scoparii Compositi, ℥iss. Misce, ter die sumendus.

Diuretic in ascites, dependent upon disease of heart, liver, or peritoneum.

85. Acetate of Potash and Digitalis.

℞. Tincturæ Digitalis, ♏x,
Potassæ Acetatis, gr. x,
Syrupi Croci, ʒss,

Infusi Digitalis, ʒij,
Misturæ Camphoræ, ʒvj. Misce, fiat haustus ter die sumendus.

A useful diuretic in cardiac dropsy, &c.

86. Digitalis and Nitre.

℞. Potassæ Nitratis, gr. v,
Syrupi Aurantii, ʒss,
Infusi Digitalis,
Liquoris Ammoniæ Acetatis, āā ʒiv. Misce, fiat haustus bis die sumendus.

Dr. Paris. *Diuretic and sedative.*

87. Broom and Squills.

℞. Tincturæ Scillæ, ʒij,
Tincturæ Camphoræ Compositæ, ʒvj,
Liquoris Ammoniæ Acetatis, ℥ij,
Decocti Scoparii Compositi, ℥v. Misce. Sumat ℥j ter die.

A diuretic and laxative, useful in dropsies unaccompanied by acute inflammation, or dependent upon disease of the kidneys.

88. Broom and Potash.

℞. Potassæ Bitartratis, ʒiij,
Decocti Scoparii Compositi, ℥vj. Misce. Sumat ℥j ter die.

Diuretic and aperient.

89. Cantharides and Nitre.

℞. Tincturæ Cantharidis, ♏xv,
Spiritûs Ætheris Nitrici, ʒss—j,
Syrupi Zingiberis, ʒj,
Misturæ Camphoræ, ʒx. Misce, fiat haustus ter die sumendus.

May be cautiously tried in some cases of suppression of urine.

90. Urea.

℞. Ureæ, gr. x—xv,
Syrupi, ʒj,
Aquæ, ℥j. Misce, fiat haustus omnibus sextis horis sumendus.

Recommended by the Author as a diuretic in cases of cardiac dropsy. See Medical Times and Gazette, May, 1852.

91. Sarsaparilla Mixture.

℞. Syrupi Sarsæ, ʒvj,
Extracti ejusdem, ʒij,
Decocti Sarsæ Compositi, ℥xj. Misce. Capiat ℥ij bis die.

92. Sarsaparilla and Corrosive Sublimate.

℞. Liquoris Hydrargyri Bichloridi, ʒss,
Extracti Sarsæ Liquidi, ʒj,
Decocti Sarsæ Compositi, ℥iss. Misce, fiat haustus ter die sumendus.

93. Iodine and Sarsaparilla.

℞. Liquoris Potassii Iodidi Compositi, ʒj—℥ss,
Decocti Sarsæ Compositi, ℥iss. Misce, fiat haustus ter die sumendus.

A useful mode of exhibiting iodine in some forms of bronchocele, &c.

94. Iodide of Potassium Mixture.

℞. Potassii Iodidi, ʒj,
Tincturæ Hyoscyami, ʒj
Infusi Quassiæ, ℥vj. Misce. Sumat ℥j ter die.

95. Iodide of Potassium and Liquor Potassæ.

℞. Potassii Iodidi, ʒj,
Liquoris Potassæ, ʒij,
Tincturæ Opii, ʒss,
Infusi Quassiæ, ℥vj. Misce. Sumat ℥j ter die.

In chronic rheumatism with copious secretion of lithates.

96. Iodide of Potassium and Colchicum.

℞. Potassii Iodidi, gr. ij,
Vini Colchici, ♏xv,
Tincturæ Hyoscyami, ♏x,
Infusi Quassiæ, ʒj. Misce, fiat haustus ter die sumendus.

In chronic gout.

97. Iodide of Potassium and Steel.

℞. Potassii Iodidi, gr. xij,
Ferri Ammonio-Citratis, ʒss—j,
Tincturæ Hyoscyami, ʒj.
Misturæ Camphoræ, ℥vj. Misce. Sumat ℥j ter die.

In cases of debility, where iodine is required.

98. Sarsaparilla and Iodide of Potassium.

℞. Decocti Sarsæ Compositi, Oj,
Potassii Iodidi, ʒj. Misce. Sumat poculum (uncias quatuor) bis terve indies.

In gonorrhœal rheumatism, secondary syphilis, certain skin diseases, &c.

99. Vel,

℞. Potassii Iodidi, gr. ij—iv,
Extracti Sarsæ Liquidi, ʒj,
Decocti Sarsæ Compositi, ℥j. Misce. Ter die sumendus.

100. Steel and Iodine.

℞. Syrupi Ferri Iodidi, ʒss,
Infusi Calumbæ, ℥j. Misce, fiat haustus ter die sumendus.

In strumous affections, chronic rheumatism, &c.

101. Iodide of Potassium and Steel, for Children.

℞. Potassii Iodidi, gr. iij,
Ferri Ammonio-Citratis, ℈j,
Syrupi Papaveris, ʒij,
Infusi Quassiæ, ℥iij. Misce. Sumat ℥ss ter die.

In tabes mesenterica, scrofula, etc.

102. Donovan's Triple Solution.

℞. Liquoris Hydriodatis Arsenici et Hydrargyri, ʒss,
Tincturæ Zingiberis, ʒss,
Aquæ, ℥j. Misce, fiat haustus bis die sumendus.

Useful in lepra, psoriasis, &c. It should be taken with the meals.

103. Arsenical Mixture.

℞ Liquoris Potassæ Arsenitis, ♏v,
Tincturæ Hyoscyami, ♏x,
Infusi Quassiæ, ℥j. Misce. Ter die sumendus.

To be taken at meal-times. Very useful in many obstinate cutaneous diseases. The dose of the arsenic should be diminished directly the system appears at all affected.

104. Arsenical Mixture.

℞. Liquoris Potassæ Arsenitis, ♏iij,
Liquoris Potassæ, ♏vi,
Vini Colchici, ♏v,
Aquæ, ℥j. Misce. Ter die sumendus.

Mr. Startin.—*In chloasma, &c.*

105. Steel and Iodine.

℞. Tincturæ Ferri Sesquichloridi,
Tincturæ Io inii Compositæ, āā ♏v,
Aquæ, ℥j. Misce, fiat haustus ter die sumendus.

In tuberculosis, mesenteric disease, &c.

106. Cantharides and Steel.

℞. Tincturæ Cantharidis, ♏xv,
Misturæ Ferri Compositæ, ℥j. Misce. Ter die sumendus.

In debility of the generative organs.

107. Vel,

℞. Tincturæ Cantharidis,
Tincturæ Ferri Sesquichloridi, āā ℥iss,
Tincturæ Capsici, ℥j,
Syrupi Croci, ℥iij.
Aquæ ad ℨvj. Misce. Sumat ℥j ter die.

108. Ammonia and Gentian.

℞. Spiritûs Ammoniæ Aromatici, ℥ij,
Tincturæ Hyoscyami, ℥iss,
Misturæ Gentianæ Compositæ, ℨvj. Misce. Capiat ℥j ter die.

In phosphuria with constipation.

109. Stimulant and Antacid.

℞. Potassæ Bicarbonatis, ℥ij,
Spiritûs Ammoniæ Aromatici, ℥iij,
Tincturæ Lupuli, ℨss,
Infusi Lupuli, ℨvij. Misce. Capiat ℨj ter die.

In cardialgia.

110. To prepare Chlorine for Internal Administration.

Put eight grains of chlorate of potass in a strong pint bottle, and pour upon them one drachm of strong hydrochloric acid. Close the mouth of the bottle until the violent action ceases, when add one ounce of water, and agitate well; add another ounce, again shake, and continue this process until the bottle is full. ℨss or ℨj may be taken frequently, according to the age. An adult may use the whole pint in one day.

111. Bromide of Potassium.

℞. Potassii Bromidi, gr. iij—viij,
Aquæ, ℥j. Misce. Ter die sumendus.

Efficacious, according to the late Dr. Robert Williams, *in reducing enlarged spleens.*

112. Guaiacum Mixture.

℞. Tincturæ Guaiaci Compositæ, ℥iij,
Tincturæ Opii, ℥ss,
Misturæ Guaiaci, ℨvj. Misce. Capiat ℥j ter die.

In chronic skin diseases. It has also been highly extolled in cynanche tonsillaris.

113. Senega and Guaiacum.

℞. Tincturæ Guaiaci Compositæ, ʒvj,
Misturæ Acaciæ, ℥j tere simul et adde
Decocti Senegæ, ℥v. Misce. Sumat ℥j ter die.

Diaphoretic, diuretic, stimulant, and expectorant. Useful in the latter stages of bronchitis, tonsillitis, &c.

114. Alkaline Mixture.

℞. Magnesiæ Carbonatis, ʒj,
Tincturæ Opii, ʒj,
Spiritûs Ætheris Compositi, ʒiss,
Aquæ Menthæ Sativæ, ℥vj. Misce. Sumat cochlearia duo, dum flatus infestat.

115. Vel,

℞. Magnesiæ Carbonatis,
Sodæ Carbonatis, āā ℈j,
Infusi Serpentariæ, ℥j. Misce. Bis terve die sumendus.

In chronic urticaria.

116. Muriate of Ammonia and Taraxacum.

℞. Ammoniæ Hydrochloratis, ℈j,
Extracti Taraxaci, ʒss,
Misturæ Camphoræ, ℥j. Misce, fiat haustus ter die sumendus.

In some cases of ascites dependent on cirrhosis, in jaundice, diminished secretion of bile, &c.

117. Hydrochlorate of Ammonia.

℞. Ammoniæ Hydrochloratis, ʒss,
Misturæ Camphoræ, ℥j. Misce. Ter die sumendus.

Said by Dr. Watson *to be of benefit in some cases of faceache, and pains about the jaw.*

118. Taraxacum and Nitric Acid.

℞ Acidi Nitrici Diluti, ʒj,
Extracti Taraxaci, ʒij,
Decocti Taraxaci, ℥vj. Misce. Sumat ℥j ter die.

Laxative, diuretic, and alterative. Especially useful in disease of the liver, unaccompanied by inflammation.

119. Cream of Tartar and Taraxacum.

℞. Potassæ Bitartratis, ʒss,
Decocti Taraxaci, ℥iss. Misce. Ter die sumendus.

In jaundice, independent of hepatitis, or of obstruction of the duct of the gall-bladder.

120. Catechu and Tormentilla.

℞. Tincturæ Catechu Compositæ, ʒij,
Decocti Tormentillæ, ℥vj. Misce. Sumat ʒj ter quaterve indies.

In chronic diarrhœa, and dysentery.

121. Turpentine Anthelmintic.

℞. Olei Ricini, ʒss,
Olei Terebinthinæ, ʒj. Misce, fiat haustus primo mane sumendus.

In tape-worm, &c.

122. Pomegranate Anthelmintic.

℞. Decocti Granati Radicis, ʒj. Omni semihora sumendus usque dosis vj.

123. Oil of Male Fern.

℞. Olei Filicis Maris, ʒiss,
Syrupi Zingiberis, ʒij,
Misturæ Acaciæ, ℥iss. Misce, fiat haustus primo mane sumendus.

An excellent anthelmintic, especially for tape-worms.

124. Copaiba and Liquor Potassæ.

℞. Balsami Copaibæ, ʒiij,
Misturæ Acaciæ, ʒvj,
Liquoris Potassæ, ʒiss,
Syrupi Aurantii, ℥ss,
Aquæ Destillatæ, ℨivss. Misce. Capiat cochlearia duo vel tria, quartis horis.

125. The Acetate of Strychnia.

℞. Strychniæ Acetatis, gr. j,
Acidi Acetosi, ♏xx,
Alcoholis, ʒij,
Aquæ Destillatæ, ʒvj. Misce. Sumat guttæ x ter die.

Recommended by Dr. Marshall Hall *as a tonic in cases of nervous exhaustion, &c. Ten drops contain about the fiftieth part of a grain.*

126. Sulphite of Soda.

℞. Sodæ Sulphitis, ʒss—j,
Infusi Quassiæ, ℥iss. Misce, fiat haustus ter die sumendus.

Dr. Jenner.—*In diseases of the stomach, accompanied by the formation of the sarcinæ ventriculi.*

127. Turpentine Mixture.

℞. Olei Terebinthinæ Rectificati, ℥j,
Vitelli Unius Ovi; tere simul, et adde gradatim
Misturæ Amygdalæ, ℥iv,
Syrupi Aurantii, ℥j,
Tincturæ Lavandulæ Compositæ, ʒiv,
Olei Cinnamomi, guttæ iv. Misce. Sumat cochlearia magna ij ter die.

CARMICHAEL.—*Recommended in iritis, where use of mercury is contraindicated.*

128. Disinfectant Mixture.

℞. Liquoris Sodæ Chlorinatæ, ♏xxx,
Aquæ, ℥ij. Misce, fiat haustus quartis vel sextis horis sumendus.

Useful in low fever, in gangrene of the lung, and in the mesenteric affections of children, in doses of ♏v—x. *It cleans the tongue, promotes the secretions of the skin and kidneys, corrects the offensiveness of the evacuations, and rouses the patient.*

129. Rhatany Mixture.

℞. Infusi Krameriæ, ℥vj,
Tincturæ Opii, ʒj. Fiat mistura, cujus sumantur cochlearia tria magna post singulas liquidas dejectiones.

A useful astringent in common diarrhœa.

130. Bismuth Mixture.

℞. Bismuthi Nitratis, ʒj,
Misturæ Acaciæ, ℥vj. Misce, fiat mistura. Sumat ʒj ter die.

Recommended by DR. THEOPHILUS THOMPSON *as very useful in checking the diarrhœa of phthisis.*

131. Astringent Mixture.

℞. Tincturæ Catechu Compositæ, ʒiij,
Confectionis Aromaticæ, ʒiss,
Tincturæ Opii, ʒss—j,
Misturæ Cretæ, ℥vj. Misce. Capiat ℥j post singulas liquidas sedes.

Very efficacious in checking simple diarrhœa. In some instances a dose of castor oil (℥ss) *should be given four hours before commencing this mixture.*

132. Vel,

℞. Acidi Sulphurici Diluti, ʒij,
Tincturæ Opii, ʒss,
Infusi Quassiæ, ℥vj. Misce. Sumat ℥j ter die.

133. An Astringent in Hæmaturia.

℞. Tincturæ Ferri Sesquichloridi, ♏xv,
Infusi Calumbæ, ℥j. Misce, fiat haustus quârta quâque horâ sumendus.

134. In Passive Hæmatemesis.

℞. Mucilaginis Acaciæ, ℥ss,
Sodæ Sesquicarbonatis, gr. x,
Olei Terebinthinæ, ♏xv,
Aquæ Destillatæ, ℥j. Misce, fiat haustus ter die sumendus.

135. Astringent in Hæmorrhage.

℞. Acidi Gallici, gr. x—xv. Ex aquâ ℥iss quartâ quâque horâ sumendus.

136. Astringent in Diarrhœa.

℞. Tincturæ Catechu Compositæ, ʒss,
Confectionis Aromatici, gr. xv,
Infusi Catechu Compositi, ℥j. Misce, fiat haustus ter die sumendus.

137. Dr. Stevens's Saline Mixture.

℞. Sodii Chloridi, ℈j,
Potassæ Chloratis, gr. vij,
Sodæ Carbonatis, ʒss,
Aquæ, ℥iss. Misce. Omni semihora sumendus.

In cholera.

138. Cinnamon and Sulphuric Acid.

℞. Tincturæ Cinnamomi Compositæ, ʒiij,
Acidi Sulphurici Diluti, ʒv. Misce. Sumat guttas xx ter quaterve in die ex cyatho aquæ.

A very useful astringent in passive hæmorrhages from kidneys, bladder, uterus, &c.

139. Cinnamon Draught.

℞. Tincturæ Cinnamomi Compositæ, ʒj,
Aquæ Cinnamomi, ℥j. Misce, fiat haustus ter in die sumendus.

In menorrhagia especially, but also in other varieties of passive hæmorrhage. See a Paper by the Author, in Lancet, 15th October, 1853.

140. Matico and Rhatany.

℞. Tincturæ Matico, ʒvj,
Infusi Krameriæ, ℥vij,
Syrupi Croci, ʒij. Misce, fiat misturæ cujus capiat semunciam tertiis vel quartis horis.

Neligan.—*In the diarrhœa of phthisis, &c.*

141. Acetate of Morphia Draught.

℞. Liquoris Morphiæ Acetatis, ♏xv—xxx,
Syrupi Limoni, ʒj,
Misturæ Camphoræ, ℥j. Misce, fiat haustus omni nocte sumendus.

142. Chloroform and Opium.

℞. Chloroformyli, ♏iv,
Tincturæ Opii, ♏xv—xxx
Syrupi Rhœados, ʒj,
Aquæ Destillatæ, ℥j. Misce.

In severe colic and other spasmodic diseases.

143. Bromide of Mercury and Sarsaparilla.

℞. Hydrargyri Bromidi, gr. ss,
Decocti Sarsæ Compositi, ʒiss. Misce. Ter die sumendus.

In syphilitic lepra and secondary syphilitic eruptions.

144. An Antacid Draught.

℞. Spiritûs Ammoniæ Aromatici, ♏xv,
Tincturæ Aurantii, ʒij,
Infusi Chirettæ, ℥j. Misce, fiat haustus mane meridieque sumendus.

Useful in dyspepsia with acid eructations.

145. A Substitute for Quinine.

℞. Berberinæ Sulphatis, gr. xvj,
Acidi Sulphurici Diluti, ♏x,
Syrupi Florum Aurantii, ℥ss,
Aquæ Destillatæ, ℥iiiss. Misce. Capiat cochlearia ampla duo sextis horis.

In neuralgic affections assuming a periodic character.

146. Sulphate of Manganese and Colchicum.

℞. Manganesiæ Sulphatis, ʒiv,
Vini Colchici, ♏xxv,
Misturæ Camphoræ, ℥j. Misce, fiat haustus.

A useful purgative in gout, chronic rheumatism, &c.

147. Colchicum and Magnesia.

℞. Vini Colchici, ʒiss,
Magnesiæ Carbonatis, ʒij,
Misturæ Camphoræ, ℥vj. Misce. Sumat ℥j nocte maneque.

148. Colchicum and Chlorate of Potash.

℞. Vini Colchici, ʒiss,
Potassæ Chloratis, ϑij—ʒj,
Liquoris Ammoniæ Citratis,
Misturæ Camphoræ, āā ʒiij. Misce. Sumat ʒj ter die.

In gout.

149. Borax Mixture.

℞. Sodæ Biboratis, ʒj,
Spiritûs Ætheris Nitrici, ʒij,
Syrupi Papaveris,
Syrupi Aurantii, āā ʒiij,
Infusi Lini Compositi ad ʒvj. Misce. Sumat ʒj quartâ quâque horâ.

150. Cotyledon Umbilicus.

℞. Succi Cotyledonis Umbilici, ʒj—iv,
Misturæ Camphoræ, ʒj. Misce, fiat haustus ter die sumendus.

Said to be useful in epilepsy.

151. Bicarbonate of Potash.

℞. Potassæ Bicarbonatis, ʒss,
Aquæ, ʒiss. Misce, fiat haustus secundâ quâque horâ sumendus.

Dr. Garrod *uses this draught in all cases of acute rheumatism, continuing it until the joints are free from pain. It generally renders the urine alkaline in twenty-four hours.*

152. Iodide of Iron and Cod-liver Oil.

℞. Syrupi Ferri Iodidi, ʒiij.
Mucilaginis Acaciæ, ʒj,
Olei Morrhuæ, ʒivss. Misce. Sumat ʒss bis terve indies.

In some forms of phthisis, scrofula, &c.

153. Chiretta and Acid.

℞. Acidi Hydrochlorici Diluti, ♏x,
Acidi Hydrocyanici Diluti, ♏iij,
Infusi Chirettæ, ʒj. Misce, fiat haustus ter die sumendus.

As a stomachic, especially in the dyspepsia of gouty subjects.

154. Common Linctus.

℞. Tincturæ Camphoræ Compositæ, ʒij,
Oxymellis Scillæ, ʒvj. Misce. Sumat ʒj tussi urgente.

155. Morphia Linctus.

℞. Syrupi Rhœados,
Aceti Scillæ, āā ʒss,
Morphiæ Acetatis, gr. ss. Misce. Sumat ʒj tussi urgente.

156. The Cheltenham Waters.

℞. Ferri Sulphatis, gr. x,
Sodæ Sulphatis,
Magnesiæ Sulphatis, āā ʒj,
Sodii Chloridi, ʒij,
Aquæ, Oj. Misce. Sumat ʒij in aquâ calidâ ʒx primo mane.

In debility with constipation.

157. Bicarbonate of Potass Drink.

℞. Potassæ Bicarbonatis, ʒij—iv,
Aquæ, Oiss—ij. Misce, pro potu omni die sumendus.

Very useful in the uric-acid diathesis. A drink called "constitution-water" owes its efficacy to the bicarbonate of potash it contains.

158. Refreshing Drink.

℞. Potassæ Bitartratis, ʒj,
Olei Limonis, guttas xv,
Sacchari Purificati, ʒij,
Aquæ Bullientis, Oij. Misce, pro potu communi.

An excellent drink when the thirst is intense.

159. Acid Drink.

℞. Acidi Hydrochlorici Diluti, ʒij,
Mellis, ʒj,
Decocti Hordei, Oj. Misce. Sumatur quotidie quasi potus familiaris.

Dr. Paris.

160. Vel,

℞. Acidi Sulphurici Diluti, ʒss,
Decocti Hordei, Oj. Misce, pro potu.

161. Phosphoric Acid Drink.

℞. Acidi Phosphorici Diluti, ʒij,
Decocti Hordei, Oj. Misce, pro potu.

Recommended by Dr. Paris *as very efficacious in assuaging the thirst of diabetes, &c.*

162. Fever Drink.

℞. Potassæ Chloratis, ʒj,
Aquæ, Oj. Misce fiat potus.

Recommended by Dr. Watson *as a daily drink in cases of fever.*

PILLS AND POWDERS.

163. Rhubarb and Blue Pill.

℞. Pilulæ Hydrargyri,
Pilulæ Rhei Compositæ,
Extracti Hyoscyami, āā gr. iij. Misce, fiant pilulæ duæ alternâ quâque nocte sumendæ.

164. Colocynth and Blue Pill.

℞. Pilulæ Hydrargyri,
Pilulæ Colocynthidis Compositæ,
Extracti Hyoscyami, āā gr. iij, Misce, fiant pilulæ duæ pro re natâ sumendæ.

165. Colchicum and Blue Pill.

℞. Extracti Colchici Acetici, gr. j,
Pilulæ Hydrargyri, gr. iij. Misce, fiat pilula omni nocte sumenda.

In gout with deficient action of the liver.

166. Aloes and Galbanum.

℞. Pilulæ Aloes cum Myrrhæ,
Pilulæ Galbani Compositæ, āā gr. v. Misce, fiant pilulæ ij nocte maneque sumendæ.

In hysteria with flatulence.

167. A Drastic Purgative.

℞. Extracti Elaterii, gr. ¼,
Extracti Gentianæ, gr. iij. Misce, fiat pilula omni nocte sumenda.

In dropsical effusions, and in cases where we wish to produce copious watery stools.

168. Vel,

℞. Pilulæ Cambogiæ Compositæ, gr. v—x. Omni nocte sumendæ.

169. Vel,

℞. Pulveris Jalapæ Compositæ, ℈j—ij. Omni mane sumendus.

170. Colocynth and Assafœtida.

℞. Pilulæ Colocynthidis Compositæ, gr. vij,
Assafœtidæ, gr. iij. Misce, fiant pilulæ duæ pro re natâ sumendæ.

In constipation with flatulence. A useful purgative for hypochondriacs.

171. Gamboge and Blue Pill.

℞. Pilulæ Cambogiæ Compositæ, gr. v,
Pilulæ Hydrargyri, gr. iij. Misce, fiant pilulæ duæ nocte maneque sumendæ.

In ascites, &c., where a drastic purgative is required.

172. Calomel and Opium.

℞. Hydrargyri Chloridi, gr. x,
Pulveris Opii, gr. ij. Misce, fiat pulvis.

In intestinal obstruction, &c., as a purgative.

173. Calomel and Opium.

℞. Hydrargyri Chloridi, gr. ij,
Pulveris Opii, gr. ¼,
Confectionis Rosæ, q. s. ut fiat pilula quartâ quâque horâ sumenda.

As an alterative, when we wish to get the system quickly under the influence of mercury.

174. Calomel and Jalap.

℞. Hydrargyri Chloridi, gr. ij,
Pulveris Jalapæ, gr. iij,
Sacchari Purificati, gr. iv. Misce, fiat pulvis.

A purgative for children, in head affections, or where there are worms.

175. Calomel and Rhubarb.

℞. Pulveris Rhei, ℈j,
Hydrargyri Chloridi, gr. v,
Syrupi Altheæ, quantum sufficit ut fiat bolus horâ somni sumendus.

176. Anthony White's Gout Pill.

℞. Hydrargyri Chloridi,
Extracti Colchici Acetici,
Extracti Aloes Purificati,
Pulveris Ipecacuanhæ, āā gr. j. Misce, fiat pilula quartâ quâque horâ sumenda.

177. Mercury, Squills, and Digitalis.

℞. Pilulæ Hydrargyri, gr. iij,
Pulveris Scillæ, gr. iss,
Pulveris Digitalis, gr. ss. Misce, fiat pilula bis vel ter die sumenda.

Dr. Baillie.—*Recommended as an alterative and diuretic.*

178. Colocynth and Tartar Emetic.

℞. Pilulæ Colocynthidis Compositæ, ℈ij,
Pulveris Antimonii Compositi, ℈j,
Extracti Hyoscyami, gr. vj. Misce. Divide in pilulas xij. Sumat j omni nocte.

A useful purgative pill in persons threatened with apoplexy.

179. Croton Oil.

℞. Olei Crotonis, ♏j—ij,
Olei Caryophylli, ♏j,
Micæ Panis, quantum sufficit ut fiat pilula statim sumenda, et horis duabus repetenda, si opus sit.

180. Croton Oil, Colocynth, and Galbanum.

℞. Olei Crotonis, ♏j vel ij,
Pilulæ Colocynthidis Compositæ, ʒss,
Pilulæ Galbani Compositæ, ʒj. Misce et divide in pilulas xviij. Sumat pilulæ iij omni nocte.

Sir Charles Bell *and others have cured some obstinate cases of neuralgia with these pills.*

181. Mercury, Chalk, and Dover's Powder.

℞. Hydrargyri cum Cretâ,
Pulveris Ipecacuanhæ Compositi, āā gr. v. Misce, fiat pulvis omnibus sextis horis sumendus.

In dysentery.

182. An Alterative and Purgative for Children.

℞. Sodæ Sesquicarbonatis,
Hydrargyri cum Cretâ, āā gr. ij,
Magnesiæ Carbonatis, gr. iij. Misce, fiat pulvis omni nocte sumendus.

183. Calomel and Scammony.

℞. Hydrargyri Chloridi, gr. ij—iij,
Pulveris Scammonii Compositi, gr. iv,
Pulveris Zingiberis, gr. j. Misce, fiat pulvis.

A valuable purgative in the head affections of children, and in intestinal worms.

184. A Mercurial for Children.

℞. Hydrargyri cum Cretâ, gr. ij,
Pulveris Ipecacuanhæ Compositi, gr. ss. Misce, fiat pulvis omnibus sextis horis sumendus.

In inflammation of the serous membranes in children from six to twelve months old. In younger infants, the quantity of compound ipecacuanha powder must be diminished.

185. Creasote Pills.

℞. Creasoti, ♏x,
Pulveris Glycyrrhizæ, ʒj,
Mucilaginis Acaciæ, quantum sufficit ut fiant pilulæ xx. Sumat pilulas duas ter die.

In some forms of neuralgia, chronic bronchitis, vomiting, when unconnected with inflammation or organic disease, as sea-sickness, &c.

186. Gallic Acid and Opium.

℞. Acidi Gallici, gr. xij,
Pulveris Opii, gr. ¼. Misce, fiat pulvis omnibus sextis horis sumendus.

A valuable astringent in hæmoptysis.

187. Sulphur and Magnesia.

℞. Magnesiæ Carbonatis, ℈j,
Sulphuris Præcipitati, ℈ss. Misce, fiat pulvis primo mane ex lacte vel aqua sumendus.

A useful purgative for delicate females.

188. Steel and Aloes.

℞. Ferri Sulphatis, gr. ij,
Pilulæ Aloes cum Myrrhæ, gr. iij. Misce, fiat pilula ter die sumenda.

In amenorrhœa, chlorosis, hysteria with debility, &c.

189. Oxide of Silver.

℞. Argenti Oxydi, gr. ss—j,
Confectionis Opii, gr. iij. Misce, fiat pilula ter die sumenda.

In dyspepsia, pyrosis, hæmoptysis, menorrhagia, &c.

190. Quinine and Belladonna.

℞. Quinæ Disulphatis, gr. j,
Extracti Belladonnæ, gr. ¼,
Camphoræ, gr. iij. Misce, fiat pilula ter die sumenda.

Useful in neuralgia.

191. Phosphorus Pills.

℞. Micæ Panis, ʒj,
Aquæ Destillatæ, quantum satis sit ut fiat massa idoneæ crassitudinis ; dein adde Phosphori granum unum. Misceantur bene, et divide in pilulas viginti. Sumat una ter quaterve indies.

In extreme debility, after cholera, &c.

192. Valerianate of Zinc.

℞. Zinci Valerianatis, gr. j,
Confectionis Rosæ, q. s. ut fiat pilula ter die sumenda.

In epilepsy, neuralgia, hysteria, &c. The valerianate of quinine and of steel may be employed in the same manner.

193. Iodide of Iron.

℞. Ferri Iodidi, gr. ij,
Extracti Gentianæ, gr. iij. Misce, fiat pilula ter die sumenda.

194. Quinine and Iron.

℞. Quinæ Disulphatis,
Ferri Sulphatis, āā gr. iss,
Extracti Hyoscyami, gr. ij. Misce, fiat pilula ter die sumenda.

195. Sulphate of Zinc.

℞. Zinci Sulphatis, gr. j,
Extracti Gentianæ, gr. iv. Misce, fiat pilula ter die sumenda.

In epilepsy and cases requiring a gentle tonic.

196. Bismuth Powders.

℞. Bismuthi Nitratis,
Magnesiæ Carbonatis, āā gr. x. Misce, fiat pulvis ter die sumendus.

Very useful in pyrosis, gastrodynia, &c.

197. Dover's Powder and Antimony.

℞. Pulveris Ipecacuanhæ Compositi, gr. v,
Antimonii Potassio-tartratis, gr. ¼. Misce, fiat pulvis omnibus sextis horis sumendus.

198. Indian Hemp.

℞. Extracti Cannabis Indicæ, gr. v. Vespere ante somnum sumenda.

199. Sedative in Asthma.

℞. Extracti Stramonii, gr. ¼ to gr. ss,
Extracti Hyoscyami, gr. iv. Misce, fiat pilula horâ somni sumenda.

200. Sedative in Neuralgia.

℞. Extracti Aconiti, gr. ss—j,
Pilulæ Hydrargyri Chloridi Compositæ, gr. iij. Misce, fiat pilula omni nocte sumenda.

201. Sedative and Alterative.

℞. Camphoræ, gr. v,
Pilulæ Hydrargyri, gr. iv,
Pulveris Opii, gr. j. Misce, fiant pilulæ duæ horâ somni sumendæ.

202. Seidlitz Powder.

℞. Sodæ Carbonatis, ℈j,
Sodæ Potassio-tartratis, ʒij. Misce, et fiat haustus effervescens cum
Acidi Tartarici, gr. xviij,
Aquæ, ℥ij.

203. Astringent in Obstinate Diarrhœa.

℞. Cupri Sulphatis,
Pulveris Opii, āā gr. ss,
Extracti Gentianæ, gr. iij. Misce, fiat pilula ter die sumenda.

204. Vel,

℞. Argenti Nitratis, gr. ¼,
Extracti Opii, gr. ij. Misce, fiat pilula nocte maneque sumenda.

205. Acetate of Lead and Opium.

℞. Plumbi Acetatis, gr. j—ij,
Pulveris Opii, gr. ⅛,
Extracti Hyoscyami, gr. ij. Misce, fiat pilula omnibus sextis horis sumenda.

In hæmoptysis, hæmatemesis, &c. Dr. Graves *recommends that this pill should be taken every half hour in cases of Asiatic cholera.*

206. Phosphate of Iron.

℞. Ferri Phosphatis, gr. xxx,
Pulveris Myrrhæ, gr. xij,
Sacchari albi, gr. vj. Misce. Divide in pulveres sex, quorum sumatur unus nocte maneque.

In rickets and other strumous diseases of children.

207. Terchloride of Gold.

℞. Sodii Auro-terchloridi, gr. ij, solve in aquæ destillatæ, q. s.
Extracti Aconiti, gr. v,
Extracti Dulcamaræ, ʒss,
Altheæ radicis in pulvere, q. s. Misce. Divide in pilulas xl, quarum capiat unam ter in die.

GRÖTZNER.—*Said to be very efficacious in venereal skin affections.*

208. Ammonia with Ox-gall.

℞. Ammoniæ Sesquicarbonatis, gr. xxiv,
Fellis Bovini Inspissati, ʒss,
Mucilaginis Acaciæ, q. s. Misce, fiant pilulæ duodecim. Capiat unam ter in die.

In dyspepsia with vomiting, constipation, and deposit of lithates in the urine.

209. Assafœtida and Rue.

℞. Pilulæ Assafœtidæ Compositæ, ℈ij,
Olei Rutæ, ♏xv. Misce, fiant pilulæ duodecim. Capiat duas vel tres pro re natâ.

In flatulent colic, and all cases of flatus.

210. A safe Infantile Opiate.

℞. Pulveris Ipecacuanhæ Compositi, gr. j,
Sacchari albi, ℈j. Misce bene et divide in pulveres iv. Sumat unum pro re natâ.

For infants from one to four weeks old.

211. Conium and Dover's Powder.

℞. Extracti Conii, ℈j,
Pulveris Ipecacuanhæ Compositi, ʒss. Misce. Divide in pilulas x. Sumat unam tertiâ quâque horâ.

To relieve the pain arising from cancer, &c.

212. A Diaphoretic Powder.

℞. Pulveris Opii, gr. j,
Pulveris Ipecacuanhæ, gr. j,
Potassæ Nitratis, gr. viij. Misce, fiat pulvis hora somni sumenda.

213. Conium and Hyoscyamus.

℞. Extracti Hyoscyami, gr. iij,
Extracti Conii, gr. ij. Misce, fiat pilula omni nocte sumenda.

214. Conium, Digitalis, and Calomel.

℞. Extracti Conii, ʒj,
Pulveris Digitalis,
Hydrargyri Chloridi, āā gr. v. Tere optime simul et divide in pilulas xv æquales, quorum sumat unam ter die.

As a sedative and diuretic in dropsy from heart disease, &c.

215. Strychnia Pills.

℞. Strychniæ, gr. j,
Confectionis Rosæ Gallicæ, ℈j. Misce, secundum artem, et divide in pilulas xij. Sumat unam nocte maneque.

In partial paralysis, amaurosis, &c., when the acute symptoms have subsided.

216. Opiate Suppository.

℞. Pulveris Opii, gr. ij—iv,
Saponis, gr. iij. Misce, fiat suppositorium.

To procure sleep and allay pain, when opium cannot be taken by the mouth.

217. Confection of Opium.

℞. Confectionis Opii, ℈j. Pro re natâ sumatur, si diarrhœa permaneat.

218. Opiate Pill.

℞. Pulveris Opii, gr. ij vel iij,
Confectionis Rosæ, q. s. ut fiat pilula horâ somni sumenda.

In delirium tremens, great restlessness, &c.

219. Morphia Pill.

℞. Morphiæ Acetatis, gr. ¼ to gr. j,
Extracti Hyoscyami, gr. ij. Misce, fiat pilula omni nocte sumenda.

In delirium tremens, mania, and similar affections.

220. Ward's Paste.

℞. Confectionis Piperis,
Confectionis Sennæ, āā ʒss. Misce, omni mane sumendus.

In constipation with hæmorrhoids.

221. Purgative Electuary.

℞. Confectionis Sennæ, ℥iss,
Pulveris Jalapæ, ʒss,
Sulphuris Præcipitati, ℥ss,
Syrupi Sennæ, q. s. ut fiat electuarium. Sumat ʒj nocte maneque.

222. Steel Electuary.

℞. Ferri Sesquioxydi,
Theriacæ, āā ℥ij. Misce. Capiat ʒj ter die.
In chorea, &c.

EMETICS.

223. Depressing Emetic.

℞. Antimonii Potassio-tartratis, gr. j,
Vini Ipecacuanhæ, ʒij,
Aquæ, ℥iss. Misce, fiat haustus vomitum excitare.

224. Vel,

℞. Antimonii Potassio-tartratis, gr. j,
Pulveris Ipecacuanhæ, ℈j. Misce, fiat pulvis statim sumendus.

225. Vel,

℞. Vini Ipecacuanhæ, ℥j. Statim sumendus.

226. Stimulant Emetic.

℞. Pulveris Sinapis, ℥ss,
Aquæ, ℥iij. Misce. Sumat dimidium statim et quod restat post horas duas si opus sit.

227. Vel,

℞. Cupri Sulphatis, gr. x,
Aquæ, ℥iij. Misce. Statim sumendus.

228. Vel,

℞. Zinci Sulphatis, ʒss.
Aquæ, ℥iij. Misce.

229. An Emetic for Children.

℞. Vini Ipecacuanhæ, ʒj. Statim sumendus.

230. A Lowering Emetic.

℞. Pulveris Ipecacuanhæ, gr. xxv,
Antimonii Potassio-tartratis, gr. j. Misce, fiat pulvis emeticus.

231. Tartar Emetic Mixture.

℞. Antimonii Potassio-tartratis, gr. vj,
Syrupi Rhœados, ʒj,
Aquæ puræ, ʒiv. Misce. Capiat cochleare minimum subinde, ad nauseam vel vomitum promovendum.

Useful in cases where it is necessary to lower the vital powers.

232. Warm Emetic.

℞. Pulveris Ipecacuanhæ,
Ammoniæ Sesquicarbonatis, āā ℈j,
Spiritûs Lavandulæ Compositi, ♏xv,
Aquæ, ʒiss. Misce, fiat haustus. Bibat æger postea infusi anthemidis tepidi octarium.

Dr. Druitt.—*In the incipient stage of fever, erysipelas, &c.*

GARGLES AND INHALATIONS.

233. Acid Gargle.

℞. Acidi Hydrochlorici Diluti, ʒiij,
Mellis, ℥j,
Aquæ, ℥viss. Misce.

In tonsillitis, after the acute stage, &c.

234. Borax Gargle.

℞. Sodæ Biboratis, ℥ss,
Mellis, ℥j,
Aquæ, ℥xss. Misce.

Useful in aphthæ and ulcerations about the fauces.

235. Tannin Gargle.

℞. Tanninæ, ℈j,
Spiritûs Vini Gallici, ℥j,
Misturæ Camphoræ, ℥v. Misce.

236. Myrrh Gargle.

℞. Tincturæ Myrrhæ, ℥j,
Aquæ, ℥vij. Misce, fiat gargarisma.

In mercurial salivation, ulceration about the mouth and fauces, &c.

237. Vel,

℞. Tincturæ Myrrhæ, ʒiv,
Aluminis, ʒij,
Aquæ, ℥viiss. Misce.

238. A Brandy Gargle

May be made by adding one part of brandy to four of water.

Dr. Watson *recommends it in mercurial salivation.*

239. Disinfectant Gargle.

℞. Liquoris Sodæ Chlorinatæ, ʒj,
Aquæ, ʒxj. Misce, fiat gargarisma.

In ulcerated sore throats, in profuse salivation, &c. It may also be used as a lotion to foul gangrenous ulcers. The Liquor Sodæ Chlorinatæ is not so commonly used as a disinfectant, sprinkled over the floor and bedclothes, as the Liquor Calcii Chloridi, since it is more expensive, without possessing any superiority.

240. Iodine Inhalation.

℞. Tincturæ Iodinii, ♏x—xv,
Aquæ tepidæ, ʒiv. Misce, et statim inhaletur vapor.

Used in phthisis, with much caution.

241. Turpentine Inhalation.

℞. Olei Terebinthinæ, ʒj,
Aquæ tepidæ, ʒxj. Misce. Inhaletur vapor.

In chronic bronchitis with excessive secretion.

242. Bichloride of Mercury Gargle.

℞. Hydrargyri Bichloridi, gr. iv,
Acidi Nitrici Diluti, ʒj,
Tincturæ Myrrhæ, ʒj,
Aquæ ʒxx. Misce, fiat gargarisma.

243. Creasote Gargle.

℞. Creasoti, ♏xx,
Mucilaginis Acaciæ, ʒss,
Aquæ ad ʒviij. Misce.

ENEMATA.

244. Turpentine and Castor-oil Enema.

℞. Olei Ricini,
Olei Terebinthinæ, āā ʒiss,
Tincturæ Assafœtidæ, ʒij,
Decocti Avenæ, Oj. Misce, fiat enema.

In obstinate constipation. It should be thrown up by means of a long tube; a stomach-pump tube will suffice.

245. Croton-oil Enema.

℞. Olei Ricini,
Olei Terebinthinæ, āā ʒj,
Olei Crotonis, ♏vj,
Decocti Avenæ, ʒiv. Misce, fiat enema.

In obstinate constipation. To be thrown into the rectum and retained there.

246. An Astringent Enema.

℞. Olei Terebinthinæ, ʒss,
Tincturæ Catechu Compositæ, ʒiij,
Tinctura Opii, ♏xv,
Decocti Amyli, ℥ij. Misce, fiat enema.

Recommended by Dr. Brinton *to check the purging in typhoid fever. It may be employed twice or thrice daily, if necessary.*

247. Simple Enema.

℞. Sodii Chloridi, ʒj,
Decocti Hordei, Oj. Misce, fiat enema.

In simple constipation, to destroy ascarides, &c.

248. Castor-oil and Rue Enema.

℞. Confectionis Rutæ, ʒj,
Olei Ricini, ℥j,
Decocti Avenæ, ℥vij. Misce.

Exceedingly useful in flatulent distension of the intestines.

249. Steel Enema.

℞. Tincturæ Ferri Sesquichloridi, ℥ss,
Aquæ, ℥viij. Misce.

To destroy ascarides, a dose of calomel and jalap being administered at the same time.

250. Sedative Enema.

℞. Tincturæ Opii, ʒj,
Decocti Amyli, ℥ij. Misce.

In tenesmus, &c.

251. An excellent Nutritious Enema

May be made by mixing together three ounces of very strong beef-tea, half an ounce of melted butter, and half an ounce of brandy, or one ounce of port wine. This may be administered twice or thrice in the course of the twenty-four hours, in cases of acute gastritis, carcinoma of the stomach, &c., where it is necessary to rest this viscus.

LINIMENTS AND LOTIONS.

252. Iodide of Potassium Liniment.

℞. Potassii Iodidi, ʒss,
Aquæ ʒij. Misce, et adde Glycerinii ʒvj.

Mr. Spencer Wells *recommends a liniment of this nature as useful in dispersing the chalk-stones of gout.*

253. Rubefacient Liniment.

℞. Camphoræ, ʒj,
Pulveris Capsici, ʒss.
Olei Macis, ♏xxx,
Olei Olivæ, ʒiss,
Liquoris Ammoniæ, ʒvj. Misce, fiat linimentum.

Recommended by Dr. Copland *as a liniment to the chest, in complications of bronchitis with scarlatina or measles.*

254. A Stimulating Liniment.

℞. Linimenti Saponis,
Linimenti Camphoræ Compositi, āā ℥ss,
Tincturæ Opii, ʒj. Misce, fiat linimentum faucibus externis applicandum.

In tonsillitis, common sore throat, &c.

255. Mercurial Lotion.

℞. Hydrargyri Bichloridi, gr. j,
Aquæ, ℥j. Misce, fiat lotio.

In chloasma.

256. Frigorific Mixture.

℞. Sodii Chloridi,
Potassæ Nitratis,
Ammoniæ Hydrochloratis, partes æquales,
Aquæ, quantum satis sit ad solvendas.

Useful as a local application when ice cannot be procured.

257. Compound Mercurial Liniment.

℞. Unguenti Hydrargyri, ℥j,
Camphoræ, ʒss,
Liquoris Ammoniæ, ℥j,
Olei Olivæ, ℥ij. Misce.

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258. Mercury and Iodine Liniment.

℞. Iodinii, ℥ij,
Glycerinæ, ℥j,
Unguenti Hydrargyri, ℥j,
Olei Olivæ, ℥ij. Misce.

259. Compound Lead Lotion.

℞. Liquoris Plumbi Diacetatis, ℥ij,
Glycerinæ, ℥ij,
Aquæ, ℥x. Misce, fiat lotio.

In pityriasis, &c.

260. Tartar Emetic Embrocation.

℞. Antimonii Potassio-tartratis, ℈ij,
Aquæ Rosæ, ℥ij. Solve dein adde
Tincturæ Cantharidis, ℥j. Misce, fiat embrocatio.

To be employed if the unguentum antimonii potassio-tartratis (Phar. Lond.) fails to produce the required eruption.

261. Prussic Acid Lotion.

℞. Acidi Hydrocyanici Diluti, ℥iv,
Plumbi Acetatis, gr. xv,
Alcoholis, ℥iv,
Aquæ, ℥vij. Misce, fiat lotio.

Recommended by Dr. A. T. Thomson *in impetigo.*

262. Creasote Lotion.

℞. Creasoti, ℥j,
Glycerinæ, ℥iij,
Aquæ, ℥ix. Misce, fiat lotio.

Useful in pityriasis, &c.

263. Cod-liver Oil Embrocation.

℞. Olei Morrhuæ, ℥iij,
Spiritûs Ammoniæ Aromatici, ℥j,
Pulveris Opii, gr. v,
Olei Lavandulæ, ℥ss. Misce.

Dr. Theophilus Thompson.—*Very useful in phthisis and other cases where the use of cod-liver oil is indicated, but where the stomach will not bear it. Half of the above should be well rubbed over the chest night and morning.*

264. Carron Oil.

℞. Olei Lini,
Liquoris Calcis, āā ℥vj. Misce, fiat lotio.

For irritable ulcers, burns, &c.

265. Soothing Lotion.

℞. Hydrargyri Bichloridi, gr. ij,
Acidi Hydrocyanici Diluti, ℥j,
Misturæ Amygdalæ, ℥vj. Misce, fiat lotio.

To check the itching in prurigo and other skin diseases.

266. Sulphurous Acid Lotion.

The solution of sulphurous acid used by Dr. Jenner in cases of tinea is made by passing a stream of the gas through water to saturation. Two ounces of this saturated solution is then added to six ounces of water to make the lotion. It may be obtained from most chemists.

267. Cold Lotion.

℞. Liquoris Ammoniæ Acetatis, ℥iij,
Spiritûs Vini Rectificati, ℥ij,
Aquæ Rosæ, ℥vij. Misce, fiat lotio.
A useful evaporating lotion in phrenitis, &c.

268. An Absorbent Lotion.

℞. Zinci Oxydi, gr. xv,
Aquæ Rosæ, ℥j. Misce, fiat lotio.
Useful in impetigo, crusta lactea, &c.

269. An Alkaline Lotion.

℞. Liquoris Potassæ, ℥ij,
Acidi Hydrocyanici Diluti, ℥j,
Misturæ Amygdalæ, ℥viiss. Misce.
An excellent lotion in pityriasis, &c.

270. Camphor Liniment and Opium.

℞. Linimenti Camphoræ Compositi, ℥iiss,
Tincturæ Opii, ℥ss. Misce.
To be rubbed over the scrobiculus cordis to check nausea and vomiting, pain, &c.

271. Iodine Paint.

℞. Iodinii, ℥j,
Potassii Iodidi, ℥ss,
Spiritûs Vini Rectificati, ℥j. Misce.
To be applied with a camel's hair pencil. Very useful in all chronic pains.

COLLYRIA.

272. A Strengthening Eye-wash.

℞. Zinci Oxydi, ℥i,
Aquæ Rosæ, ℥viij. Misce, fiat collyrium, nocte maneque utendum.

273. Astringent Collyria.

℞. Zinci Sulphatis, gr. ij—iv,
Vel, Aluminis, gr. ij—vj,
Vel, Cupri Sulphatis, gr. ss—iv,
Vel, Argenti Nitratis, gr. j—iv,
Vel, Liquoris Plumbi Diacetatis, ♏x,
Aquæ Destillatæ, ℥j. Misce.

274. Nitrate of Silver Collyrium.

℞. Argenti Nitratis, gr. iv,
Aquæ Destillatæ, ʒiv. Misce.
Useful in conjunctivitis.

275. Guthrie's Ointment.

℞. Argenti Nitratis, gr. x,
Adipis, ʒj. Misce, fiat unguentum.
In purulent and gonorrhœal ophthalmia.

276. Sulphate of Atropia.

℞. Atropiæ Sulphatis, gr. j,
Aquæ Destillatæ, ʒj. Misce.
Dilatation of the pupil is effected most speedily and is longest maintained by a solution of this kind. A full drop must be placed in the eye by means of a camel's hair pencil; the effect will be produced in from fifteen to twenty minutes, and will sometimes continue for seven or eight days.

OINTMENTS.

277. Sedative Ointment.

℞. Unguenti Conii,
Unguenti Opii, āā ʒss. Misce.

278. Vel,

℞. Acidi Hydrocyanici Diluti, ʒij,
Unguenti Cetacei, ʒj. Misce.
In cutaneous diseases attended with pruritus, or pain.

279. Vel,

℞. Aconitinæ, gr. j,
Adipis, ʒj. Misce.
In neuralgia, tic douloureux, &c.

280. Mercury and Opium.

℞. Unguenti Hydrargyri, gr. x,
Pulveris Opii, gr. ij. Misce, fiat unguentum.
Recommended by Dr. Watson *in cases of severe nocturnal pain around the orbit. It is to be rubbed into the temple just before the pain may be expected.*

281. As a Counter-irritant.

℞. Olei Crotonis, ♏x,
Adipis, ʒss. Misce, fiat unguentum. Infricetur ʒj

ad nucis bis terve in die donec appareat eruptio cutanea.

A useful counter-irritant in internal inflammations after the acute stage.

282. Veratria Ointment.

℞. Veratriæ, gr. iv,
In Alcoholi, ♏vj solutæ,
Adipis, ʒss. Misce optime, fiat unguentum.

In chronic rheumatism, neuralgia, gout, &c., a piece the size of a small nut may be rubbed in night and morning. Its strength may be gradually increased to double the above.

283. Diluted Citrine Ointment.

℞. Unguenti Hydrargyri Nitratis, ʒij,
Unguenti Cetacei, ʒvj. Misce. Hujus unguenti, pauxillum, ope penicilli camelini, oculo affecto applicetur nocte maneque.

To prevent the eyelids adhering in ophthalmia.

284. Cod-liver Oil Ointment.

℞. Olei Morrhuæ, ʒss,
Liquoris Potassæ, ʒss,
Adipis, q. s. Misce, fiat unguentum sæpe utendum.

In strumous sores and obstinate cutaneous diseases.

285. Peruvian Balsam Ointment.

℞. Balsami Peruviani, ʒj,
Unguenti Cetacei, ℥j. Misce.

286. Compound Belladonna Ointment.

℞. Extracti Belladonnæ, ʒiij,
Camphoræ, ʒij,
Spiritûs Vini Rectificati, q. s.,
Extracti Conii, ʒss,
Adipis recentis, ʒvij. Misce.

287. Compound Iodine Ointment.

℞. Unguenti Iodinii Compositi, ʒvj,
Cerati Cetacei, ʒij. Misce.

Useful when rubbed upon the throat in bronchocele, as well as when applied to scrofulous glands, unsuppurating buboes, and the tumid bellies of children with mesenteric disease.

BATHS.

288. Temperature of Simple Baths.

Bath.	Water.	Vapour.	
		Not Breathed.	Breathed.
Tepid Bath ...	85° to 92°	96° to 106°	90° to 100°
Warm Bath ...	92° — 98°	106° — 120°	100° — 110°
Hot Bath	98° — 106°	120° — 160°	110° — 130°

289. Nitro-muriatic Acid Bath.

℞. Acidi Nitrici, ℥iss,
Acidi Hydrochlorici, ℥iiss,
Aquæ calidæ, cong. xx. Misce.

To be prepared in a wooden bath. The patient should remain in it from ten to twenty minutes. Useful in cases where the liver is inactive.

290. Alkaline Bath.

℞. Sodæ Carbonatis, ℔ ¼,
Aquæ ferventis, cong. xxx. Misce.

In the lithic-acid diathesis, chronic rheumatism, &c.

291. Compound Conium Bath.

℞. Extracti Conii, ℥ij,
Pulveris Amyli, ℔ j,
Aquæ ferventis, cong. xxx. Misce, fiat balneum.

Pharmacopœia, Hospital for Skin Diseases.—*Useful in certain skin diseases attended with great irritability.*

292. Balneum Creasoti.

℞. Creasoti, ʒij,
Glycerinæ, ℥ij,
Aquæ ferventis, cong. xxx. Misce.

Pharmacopœia, Hospital for Skin Diseases.—*In cutaneous diseases attended with much irritation.*

293. Balneum Iodinii.

℞. Iodinii, ʒj,
Liquoris Potassæ, ℥ij,
Aquæ calidæ, cong. xxx. Misce.

In scrofula, chronic rheumatism, secondary syphilis, and certain skin diseases.

294. Sulphur Bath.

℞. Potassii Sulphureti, ℥iv,
Aquæ calidæ, cong. xxx. Misce.

Useful in scabies, lead colic, paralysis from lead, &c.

295. Compound Sulphur Bath.

℞. Sulphuris Præcipitati, ℥iv,
Sodæ Hyposulphitis, ℥j,
Acidi Sulphurici, ʒss,
Aquæ calidæ, cong. xxx. Misce.

296. Tepid Salt-water Sponging Bath.

℞. Salis Marini, ℔ ¼,
Aquæ tepidæ, cong. iv. Misce, fiat balneum omni mane utendum.

In general debility, chronic rheumatism, &c. The surface of the body should be well rubbed with a flesh-brush.

297. Acid Footbath.

℞ Acidi Nitrici, ℥j,
Acidi Hydrochlorici, ℥iss,
Aquæ calidæ (96°), cong. iv. Misce, fiat pediluvium.

In dyspepsia, with derangement of the liver and constipation. It must be used in a wooden or china vessel.

298. Mustard Footbath.

℞. Pulveris Sinapis, ℥ij—iv,
Aquæ calidæ, cong. iv. Misce, pro pediluvium.

In congestions of the head and chest, in some cases of amenorrhœa, &c.

CAUSTICS.

299. The Acid Nitrate of Mercury.

℞. Hydrargyri, ℥j,
Acidi Nitrici (sp. gr. 1040), ℥ij. Solve.

Pharmacopœia, Hospital for Cutaneous Diseases.—*A caustic paste for cancer or lupus.*

300. Compound Arsenical Caustic.

℞. Hydrargyri Chloridi, ℥v,
Hydrargyri Bisulphureti, gr. x,
Acidi Arseniosi, gr. xv. Misce, ut fiat pulvis.

Idem.—*Useful in similar cases to the preceding. It must be sprinkled on lint, and cautiously applied.*

301. Chloride of Zinc Paste.

℞. Zinci Chloridi, ʒss,
Muriatis Antimonii, ♏xv,
Farinæ, ʒj,
Aquæ Destillatæ, q. s. Fiat massa, quâ pars morbida exedatur.

302. Depilatory Powder.

℞. Calcis recentis, ʒiv,
Arsenici Sulphureti Flavi, ℈j,
Pulveris Amyli, ʒiij. Misce, fiat pulvis.

303. Nitric Oxide of Mercury Powder.

℞. Hydrargyri Nitrici Oxydi,
Aluminis, āā ʒj. Misce, ut fiat pulvis.

Sprinkled over exuberant and spongy granulations.

304. Carbonate of Copper Ointment.

℞. Cupri Carbonatis, ʒj,
Adipis preparatæ, ℥ss. Misce, fiat unguentum.

Devergie.—*In chronic eczema and impetigo of the scalp where stimulating applications are required.*

305. Dupuytren's Powder.

℞ Acidi Arseniosi, gr. xij,
Hydrargyri Chloridi, ℥j. Misce.

In ulcerated lupus.

306. Vienna Caustic.

℞. Potassæ Hydratis,
Calcis, singularum unciam. Tere simul.

This paste is diluted with alcohol, and applied with a spatula over a small surface. It is identical with the Potassa cum Calce of the London Pharmacopœia.

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Dysentery, sometimes termed colitis; *symptoms*, pain—frequent desire to go to stool—evacuations fœtid, thin, and bloody, mixed with scybala—great constitutional disturbance—dyspnœa—prostration; *treatment*, bleeding—hot fomentations—opium—calomel and opium, &c., 238—240.

Dysphonia Clericorum; *pathology*, often merely nervous—in other cases, mucous membrane of fauces becomes congested, inflamed, relaxed—tonsils and uvula enlarge—mucous follicles ulcerate; *symptoms*, uneasy sensation in throat—frequent inclination to swallow—hoarseness—sometimes aphonia, or loss of voice—unhealthy raw appearance of fauces; *treatment*, tonics—cold bathing—change of scene—iodide of potassium, zinc, or iron—bichloride of mercury—application of solution of nitrate of silver to interior of larynx, 43—46.

Dyspepsia; *symptoms*, loss of appetite—pain—sense of weight—flatulence—nausea—disordered bowels—heartburn—water-brash, &c.; *treatment*, attention to diet—farinaceous food—effervescing draughts—hydrocyanic acid—bismuth, &c., 223—225.

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Ecthyma, an inflammation of the skin with formation of pustules; *treatment*, laxatives—alteratives—acid drinks—spare diet—water-dressing—lotio plumbi, 92.

Eczema; *characterised by* eruption of vesicles, running together, and forming excoriations; *treatment*, thin gruel—water-dressing—glycerine—carron oil—warm baths—laxa-

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Epilepsy; *symptoms,* sudden loss of consciousness and sensibility—clonic spasm—coma—attack recurring at intervals; *treatment,* patient to be laid on bed—head raised—neckcloth loosened—piece of cork placed between teeth—cold affusion—tonics—stimulants—baths—nourishing diet—strychnia—chloroform, 155—159.

Epistaxis; either a remedy, warning, or disease; *treatment,* cold to nose or neck—plugging nostrils—raise one or both arms above the head, and hold them so—mercury, 33.

Erysipelas, idiopathic and traumatic, *symptoms,* fever—rigors—sore throat—nausea—diarrhœa—redness and swelling of skin, &c.; *treatment,* active purgative—wine—tonics—fomentations, 74—76.

Erythema; a slight superficial redness of skin—cured by laxatives—and quinine, 76.

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Farcinoma, similar to glanders in the horse; *symptoms,* fever—debility—pains in limbs—discharge from nose—formation of pustules and tumours—fœtid sweats—and death: *treatment,* stimulants—and salts of potash, 21, 22.

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Fatty Degeneration of Liver, occurs frequently in phthisis—gives rise to no important symptoms, 244, 245.

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