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NOTES

OF

LECTURES

ON THE

THEORY AND PRACTICE OF MEDICINE,

DELIVERED IN THE

JEFFERSON MEDICAL COLLEGE,

AT

PHILADELPHIA.

SECOND EDITION, CORRECTED.

BY JOHN EBERLE, M. D.

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“By JOHN EBERLE, M. D.”

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D. CALDWELL,

Clerk of the Eastern District of Pennsylvania.

PREFACE.

This little work is published expressly for the use of the students attending the author's lectures on the Theory and Practice of Medicine. It embraces little more than the main propositions and facts, which form the ground-work of the lectures; in other words,—the *text* upon which he enlarges and comments in extemporary discourse; and which, especially, the student ought to impress upon his memory. The practice of taking notes, though attended with some advantages, is nevertheless, on the whole, calculated to lessen the benefits to be derived from oral instruction. The train of thought and reasoning is interrupted; and the mind irregularly hurried along the current of the speaker's observations—seizing sometimes upon remarks that are comparatively unimportant, at the expense of others of a more useful and interesting import; and losing in a great measure the general spirit and scope of the speaker's discourse,—more especially when the subject is one of general disquisition. These disadvantages, it is believed, will be diminished, if not wholly obviated, by works constructed on the plan of the present one. Being secure of the *text*, or propositions, the student may yield his mind, without embarrassment, to the explications and discussions of the lecturer. His efforts, too, in recalling to his mind the observations he may have heard from the

speaker, will be greatly favored, by looking over, in private, the sketch which is thus placed in his hands.

The author acknowledges, that this manual does not come up to the idea he has formed, of the proper construction of a *text book* of this kind; but, such as it is, he flatters himself, that it will in some degree answer the intentions for which it was composed; and with this hope, he respectfully dedicates it to those students of medicine, who do him the honor of attending his lectures.

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NOTES OF LECTURES.

CHAPTER I.

OF FEVER IN GENERAL.

Idiopathic—(seldom.)

Symptomatic,—dependant on:

local irritation

—**inflammation**,

generally seated in the mucous tissues;—frequently in the serous.

PROXIMATE CAUSE:

located in the capillary system of blood vessels. (See Practice of Med. Chap. I.)

The morbid actions of the heart and arteries are mere sympathetic phenomena, dependent on a primary local irritation of a part or the whole of the sanguiferous capillary system.

The proximate cause consists:

in a deranged condition of the vital properties of the capillary system—whence result irregular actions from the impression of normal and innormal irritants.

Remote causes of fever: divided into;
predisposing and exciting;

There exists, however, no essential distinction between the predisposing and exciting cause. Every predisposing cause may become an exciting cause, by continued or intense action.

PREDISPOSITION consists for the most part in:

local, and rarely in mere

general debility. (See Pract. Med. p. 28.)

The origin of all possible cause of fever is quadruple.

1. Retained recrementitious materials, in consequence of the accidental torpor of one or more of the emunctories.
2. Substances generated in the system, independent of *organic* actions, worms, acid, &c.
3. Materials generated out of the body: miasmata, heat, cold, &c. &c.
4. Substances generated by diseased organic actions—contagious. (See Pract. of Med. p. 31.)

General nature of these causes.

They are irritants:

Some of them invariably produce the same disease, as the contagious.

Certain distinct febrific causes cannot develop their morbid effects at one and the same time in the same system: measles and small-pox.

All morbid agents act primarily on the nervous system.

Through the lungs and respiratory passages,

The stomach and intestinal canal,

The skin, and

The blood.

It is highly probable that all æriform morbid agents act on the system through the respiratory organs. Some of them may be absorbed into the circulation, and act upon the nervous extremities of the blood; others may act directly on the nerves of the mucous membrane of the respiratory passages. The former mode of acting, is, I presume, generally, if not always the case.

The causes of fever are divided into three classes.

1. Sensible properties of the atmosphere: heat, cold, moisture, electricity, &c. &c.
2. Contagious,—the result of organic actions.
3. Miasmata,—the result of physical changes.

HEAT. Specific temperature of the human body, 98°.

Most agreeable temperature of surrounding air, 65°.

Atmospheric heat not a deleterious agent; *predisposes* to the influence of morbid causes; increases the secretion of bile; indirect cause of disease, by favoring the generation of miasmata.

Dr. Johnson observes, that solar heat only produces the *pre-disposition*; while terrestrial exhalations, and vicissitudes of temperature, call into action the principal diseases of warm climates. (See Pract. Med. p. 39.)

COLD. No positive existence—a mere relative degree of temperature; lessens the action of the heart and arteries; causes a shrinking of the surface of the body; diminishes sensibility and contractility; produces irresistible disposition to sleep; and depresses the moral and physical energies of the system, when long and intensely applied. Suddenly or transiently applied, it excites the nervous system. In alternation with heat, a fertile cause of disease; the diseases resulting from its influence, mostly pneumatic, catarrhal, or rheumatic; *cold* water externally applied, or received into the stomach when the body is heated and in a *free state of perspiration*, often proves suddenly fatal. Always more injurious in its influence, when accompanied by moisture. (See Pract. Med. p. 35.)

MIASMATA. Heat and moisture essential to the production of miasmata.* *Moisture need not be abundant*; inundated grounds extricate little or no miasmata; hence the rainy seasons of tropical countries are the most healthy. Miasmata are seldom generated at a temperature below 80°; their precise nature unknown; there is reason to believe, that they consist of particles of putrid vegetable and animal matter, *dissolved in aqueous vapour*. Chemical analysis can detect no difference between the air of marshes and atmospheric air. *Gaspard's experiments on putrid matters received into the body, support the opinion that marsh miasmata consist of putrid vegetable and animal matter suspended in the air.*

Miasmata possesses greater specific gravity than atmospheric air; they are conveyed to a considerable

*It has lately been contended, that moisture is not essential to the generation of miasmata: but, as I believe, without good grounds. (Ferguson.)

distance by currents of wind; the distance at which they are capable of infecting, by being thus carried, is from two to three miles (Bancroft says, but one fourth of a mile;) storms and violent blasts disperse and render them innocuous; more danger in miasmatic atmosphere at night than during day; most danger about the setting or rising of the sun; situations are protected from the effects of miasmata, by interposing obstacles, as houses, walls, wood, hills, &c.; long and gradual exposure to miasmata, destroys the susceptibility of the system to their more violent influence. Persons unaccustomed to them seldom escape disease, when subjected to their action. They produce intermittents and remittents, of various grades of violence. (See Pract. Med. p. 40.)

CONTAGION. A deleterious agent, generated by the living body in a state of disease. The diseases produced by this class of causes, preserve a determined or specific character; contagious diseases divided into chronic and acute; the later seldom affect the same person more than once;—the former may affect repeatedly; in the acute, there can be no relapse. Contagious matter either a palpable substance, or an imperceptible effluvia; chronic contagious affections always produced by the former, and by actual contact; some *acute* contagious diseases communicated both by contact and through the medium of the air; that is, both by a palpable virus and an effluvia. Typhus fever, under certain circumstances, contagious; appears to be propagated by effluvia only.

Contagious effluvia extend but a short distance, sufficiently concentrated to produce disease. The experiments of Dr. O'Ryan make it but a few feet—four or five feet; currents of air will convey it much further; contagions rendered harmless by diffusion in the air; hence the utility of free ventilation; contagion attaches itself to various substances; the substances most

apt to receive and retain it, are, wool, hair, cotton, wood, cloths, &c.; contagion influenced by certain occult conditions of the atmosphere; contagious diseases communicated from the inferior animals to the human species.

Disinfecting means; cleanliness; free ventilation; muriatic and nitrous vapors; lime; fumes of sulphur, and heat. (See Pract. Med. p. 56.)

CHAPTER II.

GENERAL DIAGNOSIS.

Diagnostic signs divided into those exhibited by the *countenance*; the *attitude*; the *nervous system*; the *digestive organs*; the *circulatory system*; the *respiratory organs*; the *circular surface*; the *lymphatic system*; the *secretions*.

THE COUNTENANCE. The features to be particularly examined, are: the *eyes* the *prolabia*; the *nostrils*; the *lips*; the *brows*.

In *acute simple fever*; eyes and face red; respiration hurried; motions of the nostrils rapid. In *acute sympathetic fever*, these signs are absent. (Hall.)

Acute pain, from inflammation in the chest: features much contracted; the alæ nasi acute and elevated, the nostrils contracted and expanded by the acts of respiration, sometimes a vivid flush terminating abruptly—heat inconsiderable.

Dull pain in the chest: less constriction of the features;

an expression of great anxiety; nostrils widely dilated before inspiration.

Effusion into the lungs: countenance livid, anxious, turgid, with great dyspnœa, and dilation of the nostrils on inspiration.

The phthisical countenance.

Acute pain in the abdominal viscera: features acute; forehead wrinkled; brows knit; nostrils drawn up and acute; under lip drawn down, exposing the teeth.

Organic affections of the heart: countenance anxious; vividly flushed; prolabia livid: face turgid, œdematous. cold. In hydrothorax, the face has a *pale-livid* aspect,

Soporose affections: flushed, livid, tumid, eyes closed or open and fixed, mouth frequently drawn to one side.

In syncope: pale, shrunk, cold, and death-like.

In chlorosis: pale, exsanguinous; icterode; puffy; a peculiar darkness occupying the eyelids, and extending towards the temples and cheeks, and sometimes surrounding the mouth.

Distinction between the *icterode* appearance, and the different shades of *icterus*, (Hall) the yellowish tinge in the latter is particularly seen in the albuginia of the eyes; in the former, the eyes remain untinged. The tinge of icterus depends on bile; that called *icterode*, on a morbid action of the cutaneous capillaries. (Hall.)

Chronic irritation of the bowels: puffy countenance; upper lip pale and swollen; occurs in verminous affections and in scrofula.

ATTITUDE. The healthy attitude:

Advantages to be obtained from position, in the treatment of diseases.

Preternatural determination to a part, diminished by elevating such part: the head to be raised, in apoplexy; the extremities, when affected with inflammation.

Supine position, with tremulous motion, indicates much muscular debility.

Fever from acutelocal inflammation; not attended with muscular prostration.

Characteristic position in hydrothorax: in slight cases, head and shoulders elevated when in bed; in severe cases, inability to lie down. The erect position more urgent, when complicated with organic affection of the heart. When sitting up, hands forcibly pressed on the chair on which the patient sits; or leaning back, with the arms and hands placed behind the back. (Hall.)

Thoracic effusion, distinguished from mere organic disease of the heart and lungs, by the effects of firm pressure on the epigastric region, and bodily exertion. Effects of pressure, *in effusion*: general agitation, cough and a sense of suffocation; not so, or but slightly, in organic affections of the heart and lungs; bodily exertion excites more dyspnœa, and distress in effusion, than in organic affections.

Position assumed by the patient, in abdominal inflammation, with acute pain: fixed, carefully avoiding all motion and pressure; generally on the back, knees drawn up, and head and shoulders a little elevated.

Position assumed in spasmodic pains of the abdomen. constantly changing posture, desirous of pressure on the abdomen, recumbent on the belly, &c.

Position on the back, with knees constantly elevated, in the latter stage of acute diseases, a sign of retention of urine.

THE TONGUE. Attention to be paid to its colour, its surface, its shape, and the manner in which it is protruded.

A white and slightly loaded tongue, indicative of slight gastric derangement and moderate febrile excitement.

A clean, deep red, smooth tongue, indicates inflammation or high irritation of the mucous membrane of the stomach and intestinal canal.

Tongue seldom much affected in acute symptomatic fevers, from wounds or external inflammations.

Florid papillæ protruding through a layer of white fur, characteristic of scarlatina. (Hall.)

Diagnosis, from the appearance of the tongue, between phthisis, and hectic with cough, from hepatic and gastric affections: tongue natural in the former; covered with brown fur in the latter.

A pale and tumid tongue, with large papillæ, indicative of gastric debility—met with in *chlorosis*.

A contracted and pointed tongue, frequently an attendant on cerebral or meningeal inflammation.

A flabby and dilated tongue occurs in congestive states of fever. (Miner.)

A yellow and bitter tongue, indicative of biliary derangement.

MORBID STATES OF THE NERVOUS SYSTEM.

Disturbed Sleep. *Coma* always denotes oppression of the brain.

Wakefulness, a sign of great irritation or exhaustion.

Sudden starting in sleep—intestinal irritation from worms, &c.

Hurried wakings, with a horrific sense of suffocation, a sign of organic diseases of the heart.

Strabismus, double-vision, signs of cerebral affection.

Torpor of the sense of touch.

Morbid sensations.

In strumous disease of the mesentery, an unusual sensibility to cold constitutes a peculiar and very early symptom. (Hall.)

PAIN may arise from inflammation, from spasm, and from nervous irritation. They have each their peculiar character.

Inflammatory pain: tenderness of the part, increased by pressure; throbbing or burning continuous, and attended by febrile excitement.

Spasmodic pain: paroxysmal, not throbbing, nor burning, relieved by pressure, and seldom attended with fever.

Neuralgic pain: transient but violent paroxysms, darting along the nerves with the rapidity of lightning; no swelling, no heat, and readily renewed by the slightest touch.

Inflammatory pain, modified by the nature of the structure in which the inflammation exists. Diagnostic inferences. Pain referred to parts remote from that in which the primary affection resides.

ALIMENTARY CANAL.

Nature and appearances of the alvine discharges.

Clay-coloured fæces indicate deficiency of bile—met with in jaundice. Diagnosis between infantile remittent and hydrocephalus—the alvine discharges in the former are dark brown, or mud-like, and very fetid—in the latter, *glairy dark-green, like chopped spinage.* (Cheyne.)

Watery and reddish stools, like the washings of flesh.

Mucous and bloody stools.

RESPIRATORY ORGANS. Accelerated respiration always attended with frequency of the pulse. Irregular and unequal respiration indicates cerebral oppression;—slow, irregular, and sterterous breathing, attends a *high* degree of cerebral compression.

Abdominal respiration, indicates pneumonic inflammation.

Breathing with the intercostal muscles, without the accessory action of the abdominal muscles, indicates abdominal inflammation.

Peculiar respiration in hydrothorax: inspiration quick, and with *great effort*; respiration slower, *without effort.* (Hall.)

The effects of corporeal exertion on respiration: produces great dyspnœa in hydrothorax, and still more in organic cardiac affections.

Wheezing respiration—in asthma, cyananche trachealis. Hurried, panting, and heaving respiration, with sighing,

often attends intestinal irritation and exhaustion from hæmorrhage. (Hall.)

COUGH. When the efforts of coughing are anxiously *repressed*, there is probably inflammation in the chest or abdomen.

Spasmodic cough—in pertussis—sometimes from irritation of the stomach.

SPUTA. White cream-like, in chronic bronchitis.

Effects of full inspiration and expiration, as a diagnostic.*

CUTICULAR SURFACE. Its temperature; its colour; its state of dryness or moisture; its fulness or construction; its roughness or smoothness.

A *yellowish tinge* indicates biliary derangement; not to be confounded with the sallowness which occurs in cancer and chlorosis.

A *purple or bluish* colour occurs in infants, from pervious foramen ovale.

Dark coloured or purple spots,—extravasations of blood.

A *pale, semi-transparent skin*, particularly of the prolabia and face, manifests paucity, or very serous, blood—after profuse bleedings and from *anæmia*.

Cold skin, with a feeling of internal heat, denotes internal congestions.

Calor mordax—in typhus.

Permanently dry and husky skin, indicates torpor or chronic disease of the liver.

URINE. Small in quantity, and red in inflammatory affections; copious and limpid in nervous diseases.

Bilious urine.

The various sediments—lithates; phosphates; the former are red or purple—the latter, white or pale yellow.

CHAPTER III.

THE PULSE.

The pulse varies with the age of individuals; at birth, it beats from 130 to 140 in a minute: mean rate for the first month, is 120; limits during the first year, are 106 to 120; for the second year, from 90 to 100, for the third, from 80 to 90—nearly the same for the fourth, fifth, and sixth years; in the seventh year, pulse about 78; from the twelfth year, it differs but little from that of adult age, which is estimated at from 60 to 80, according to individual constitutions, &c. (Heberden.) The common standard of frequency may be placed at from 70 to 75 beats in a minute. (Falconer.) From the 45th to the 60th year, the pulse gradually becomes slower; after this period, it again rises in frequency. (Floyer.) Generally more frequent in women than in men. (Falconer.) *Climate* influences pulse; more frequent in hot than in cold countries. *The time of day*: slower in the morning than at other times; most frequent soon after dinner; slower during sleep than in the waking state. Bodily exercise accelerates the pulse; varies according to the *position* of the body; slowest while lying down; slower when sitting than when standing. (Dr. Robinson.) Mental excitement influences the pulse; joy, and anger, render it fuller and more frequent; grief, sorrow, and fear, depress it.

Mode of examining the pulse. (Celsus, Rush.) Not to be examined immediately on entering the patient's room;—the examination to be repeated at short intervals; should be felt in both wrists, the arm having its muscles relaxed by proper positions; two or three fingers to be applied to the artery; thirty or forty pulsa-

tions are to be felt at each examination; examined in different positions of the body: talking must be forbidden.

PATHOLOGICAL CONDITION OF THE PULSE; considered in relation:

1. To the force of the pulsations.
2. To the rythm or mode of the pulsations.

The most prominent and useful pathological states of the pulse, consist in: *frequency, quickness, strength, fullness, hardness, and irregularity.*

A FREQUENT PULSE is one in which the pulsations succeed each other with preternatural rapidity; a pulse beating more than 160 in a minute, is scarcely to be counted; great frequency of pulse always connected with great prostration of the vital energies; *frequency*, with *fulness* and *strength* of pulse, more dangerous than the *same* degree of *frequency*, with *softness* and *moderate fullness*. When it rises above 120, in inflammatory fevers, much danger is to be apprehended, (Heberden.)

SLOW PULSE: occurs from cerebral compression, — internal venous congestions, and impairment of the vital energies; as in apoplexy, congestive fevers, and malignant fevers.

QUICKNESS OF PULSE: often confounded, improperly, with *frequency*. *Quickness* refers to the suddenness with which *each individual pulsation* is made—*frequency* has reference to the number of pulsations in a given time. *Quickness*, however, is generally attended by *frequency*.

A STRONG PULSE is one which gives the sensation of preternatural resistance to the finger, during the *diastole*; not to be confounded with a *hard* pulse. It is *hard*, when the artery is felt firm under the finger like a *tense cord*, both in its systole and diastole—sometimes called corded. *Strength* and *great frequency*

never united, a strong pulse seldom exceeding 115 beats in a minute; a *strong* pulse indicates energy of the vital powers, and is therefore favorable.

A **FEEBLE PULSE**, the reverse of a *strong* pulse: it is *feeble*, when the artery produces a weak impulse against the finger, during its diastole. *Feebleness* and *softness* of pulse, not synonymous—the artery may resist pressure, and yet pulsate very feebly. The pulse is *soft*, when the artery appears to be filled, and yet offers no resistance, vanishing by slight pressure.

A **VERY SOFT PULSE** seldom attended with *great frequency*, or with *irregularity*; occurring in the advanced stages of fevers, favourable, when joined with great difficulty of respiration, and suffused countenance, in pneumonic inflammation, indicative of much danger.

FULL PULSE. Never very *frequent*; sometimes much *slower* than natural.

SMALL PULSE—the diameter of the artery is smaller than natural; in inflammations seated above the diaphragm, the pulse is generally full—when seated below it is small. (Borden.)

DEPRESSED PULSE: *small*, and apparently *feeble*, and occasionally *quick*, does not depend on actual debility or exhaustion, but on internal venous congestion.—Blood-letting will raise this pulse; distinguished from a *small* and *weak* pulse—by attending to the prevailing diathesis,—by suffering a few ounces of blood to flow, and watching its effects,—and by observing the period of the disease in which it occurs; if it is small and obscure in the *beginning* of acute diseases, we may presume it is depressed.

INTERMITTENT PULSE: when not attended by other alarming symptoms, not in general a dangerous sign; pulse sometimes habitually intermits; it is said to be of dyspeptic origin; occurs frequently in old age, and then probably depends commonly on some affection of the heart; occurs also in affections of the brain; a very

unfavorable sign, in the advanced stage of fevers, with great prostration; is said frequently to precede a critical diarrhœa. (Senac, Solano, Coxe.)

UNEQUAL PULSE: synonymous with *irregular* pulse.— Characterized by a constant variation of the pulsations, in frequency, quickness, size, hardness, &c. More dangerous than an intermittent pulse. *Dicrotus pulse*, twice-beating.

GASEOUS PULSE: *tumid—inflated—soap-bubble*: always indicates much prostration.

UNDULATING PULSE: a wave-like rising and falling of the pulse; generally large, soft, and feeble. When very small, it is termed *creeping*; highly dangerous.

A MORBIDLY NATURAL PULSE: occurs in malignant fevers; exceedingly unfavourable; can only be distinguished from a healthy pulse by the concomitant symptoms.

SHATTERED PULSE: pulse feels like a shattered quill under the finger—occurs in opium eaters.

OBSTRUCTED PULSE: artery remains equally full during its diastole and systole.

THE COMPOUND PULSES. The principal are the *synocha*; *synochus*; *synochula*; *typhoid*; and *typhus*.

1. *Synocha*: hard, full, frequent, and strong; indicates high inflammatory excitement.
2. *Synochus*: full, round, active, but *not* hard: occurs in the hot stage of intermittents; in remittents, &c.
3. *Synochula*: quick, tense, small, hard, vibrating: occurs in sub-acute rheumatism—inflammation of the intestines, peritoneum, &c. *It is the hectic pulse*.
4. *Typhoid*: quick, small, slightly tense, *not* hard, and somewhat frequent: in the advanced stages of billious fevers—the result of irritation in an exhausted state of the system.

5. *Typhus*: small, very frequent, somewhat quick: occurs in the advanced stages of jail, hospital, and other varieties of typhoid fevers.
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CHAPTER IV.

GENERAL PROGNOSIS.

The evidence of a *single* symptom not sufficient to give a *decisive* prognosis; the cause, the concomitant phenomena, the temperament and habits of the patient, &c. must be carefully estimated.

The Countenance. The more it varies from its natural expression, the more unfavourable. *Hippocratic countenance*—nose pointed, eyes sunk, temples hollow, ears cold and shrivelled, the lobes everted; skin on the forehead hard, tense, and dry, countenance pale, livid, or leaden: a fatal symptom, in the last stage of acute diseases. One eye becoming smaller than the other, a bad sign; still worse (Stoll) when objects appear less to *one* eye; lividity of eyelids, lips, and *alæ nasi*, unless in chills, very unfavorable;—pointed nose, and much motion of the nostrils during inspiration, bad.

Attitude. Constant position on the back, and sliding towards the foot of the bed, unfavourable; it betokens great prostration: same position, with open mouth, dilated pupils, or involuntary discharges, still worse. Insensibility, with mouth firmly closed and eyes fixed, a forerunner of convulsions; great desire to sit up, with dyspnœa, and livid countenance, fatal in pneumonic diseases; still more certainly fatal, when attended with

a *good pulse*. (Baglivi.) Most favorable posture, that which approaches nearest to health; reaching into the air, and picking the bed-clothes, bad; always unfavorable, when visceral inflammations supervene to simple fevers; tumefaction of the abdomen, and tenderness to pressure indicate danger; laborious breathing, with short, irregular, and interrupted acts of *inspiration*, is a bad sign; a still more dangerous sign, is exclusive abdominal respiration, attended with strong motion of the *alæ nasi* by the respiratory act; sterterous breathing, attended with a rattling in the upper part of the chest, is highly dangerous, though not invariably a fatal sign; short and very accelerated breathing, always a bad sign; free and easy respiration, favourable; hiccough, in the advanced stages of fevers, indicates danger.

Constant wakefulness, or somnolency, is unfavourable—when great pain in the head, pulsation of the carotids, and a puffed red countenance attend the latter, there is much danger. Unequal distribution of temperature—a sensation of cold externally, and of heat internally, are bad signs;— still more unfavorable, when a sense of *burning* heat on the surface is attended by a feeling of cold internally.

Intellectual and moral habits. When these are changed; when old associations are interrupted; new antipathies formed; when the moral become profane and loose in their language, it is a dangerous sign.

Partial insensibility of the sensorial functions, more favorable than great acuteness in this respect. Intolerance of light, with involuntary flow of tears, filmy, protruded, or very sunken eyes, very bad.

The excretions. Urine: black, chocolate-coloured, fetid— or watery and fetid, highly unfavorable; a good sign, when after having been crude and watery, it deposits a reddish sediment—still more favorable, when attended with a moist skin, of natural warmth. Sup-

pression of urine, in protracted and violent cases of fever, a very bad sign.

Perspiration: when general, with no very low or high temperature of the skin, favorable; profuse and cold sweats, about the head, face, and on the arms and legs, highly dangerous; partial sweat, appearing in large drops, a bad sign; profuse, clammy and cold, always dangerous; and when attended with a very small and frequent pulse, fatal.

A'vine discharges: very liquid, frothy, green—bad signs; watery reddish discharges, resembling the washing of flesh, and attended with tympanitic swelling of the abdomen, a most unfavorable sign. The expulsion of wind *with crepitus*, a good sign. (Rush.) Bloody stools without tenesmus, in the latter periods of bilious, malignant, or other violent typhoid fevers, highly unfavorable; less dangerous in strictly *inflammatory* fevers. Involuntary discharge of fæces, among the most unfavorable signs.

Vomiting. Black *flocculent* discharges, from the stomach, exceedingly dangerous;—less dangerous, when the black or porracous matter is not flocculent but uniformly mixed with the other fluids thrown up. A rumbling noise in the stomach, when liquids are swallowed, a bad sign—never occurs in the early periods of fever, and generally attended with *meteorism*. Sudden and very forcible ejection from the stomach is unfavorable—it occurs in yellow fever. (Rush.) Very frequent vomiting, with great tenderness in the epigastrium, in fevers, a very unfavorable sign.

The tongue: covered with a brown or black crust, with deep cracks in it, dangerous; black and dry, with black sordes adhering to the teeth, highly unfavorable; a dark brown, contracted, hard, and shrivelled tongue, almost always fatal; tongue soft, moist, and light red, favorable; secretion of saliva, a good sign; difficulty of putting out the tongue, and then keeping it between the teeth a long time, without retracting it, is a bad

sign—a total inability to protrude it, alike unfavorable; a red, smooth, and shining, or a pointed, dry and red (round the edges) tongue, indicates considerable danger—it is a sign of strong gastro-enteritic inflammation. Total absence of thirst, with a dry and rough tongue, is a bad symptom.

Besides the appearance enumerated above, a variety of other circumstances demand attention, in forming an opinion as to the probable event of diseases. Thus, inflammatory fevers are generally less dangerous than remitting fevers; and these latter, less dangerous than typhus and malignant fevers. In general, the more a fever is connected with local inflammations—or rather, the more serious the local inflammations are, from the importance of the parts they attack, the more danger is to be apprehended. The type, too, must be taken into view. As a general rule, intermittents are less dangerous than remittents, and remittents less than continued fevers. The more irregular the type of typical fevers, the more unfavorable. The appearance and progress of what are termed the *crises* will also aid in forming a prognosis. Unusual or contradictory phenomena are unfavorable; when a patient declares himself well, at the same time that the symptoms indicate considerable disease, it is a bad sign.

CRISIS—CRITICAL DAYS.

The ancients observed certain regular periods in the course of many febrile diseases, at which prominent changes are wont to occur, accompanied by *certain evacuations*, and followed generally by temporary or permanent abatement of the symptoms. These evacuations, and their associated phenomena, are termed:

Crises. No febrile or noxious matter, as was once supposed, thrown off by these critical evacuations. Critical discharges *the effect*, not the *cause* of the melioration of disease which follows, or attends their occurrence. The doctrine of critical days generally discredited at present; there is probably good foundation for the doctrine. Crises divided into *simple* and *compound*; in the simple, the evacuation is made through one emunctory only—in the compound, through several. The most prominent precursory phenomena (*perturbationes criticae*) of

crises are: an increase of all the symptoms—watchfulness, chills, and rigors—tremor of the whole body—anxiety and jactitation—quick and irregular respiration—obtuseness of hearing—vertigo—coma, &c. There are certain days in the course of fevers upon which crises are particularly apt to occur. These are the critical days; crises occur however occasionally on other days. The critical days, according to Hippocrates, are the 3d, 5th, 7th, 9th, 11th, 14th, 17th, 21st, 27th, and 31th. According to Cullen, the 20th, not the 21st day, is the critical day—he acknowledges no critical day beyond the 20th. Critical days divided into *perfect*, *secondary*, and *intercurrent*. GALEN regarded the 7th, 14th, 21st, 28th, or the *septenary* periods as the *true* critical days;—the *secondary*, are the intermediate days between these septenary periods, i. e. the 4th, 11th, 18th, 25th, &c. The *intercurrent* days are the 5th, 9th, 13th. (Galen.)

All forms of fever appear to have a tendency to some one of the principal types. A *single tertian* may be regarded as fever in its elementary form. In this form a paroxysm and crisis occur on every odd day. Now if we consider a *continued* fever as made up of tertian paroxysms, protracted and running into each other, we perceive from its tendency to the original type, how the phenomena of crisis should occur on the odd days.

Salutary may be distinguished from *insalutary* discharges by the following circumstances.

To be salutary, they must be neither too copious, nor too scanty; they must correspond with the nature of the fever,—hæmorrhage is most salutary in inflammatory, and diarrhœa, in bilious fevers—perspiration is more beneficial in *catarrhal* fevers than diarrhœa. A discharge from *one* emunctory only, seldom beneficial; perspiration is never salutary unless the urine at the same time becomes charged with a sedimentous matter; and *vice versa*.

The evacuations (critical) which usually attend the commencement of convalescence, are:

Critical hæmorrhages: generally preceded by increase of arterial action; and salutary, partly from the loss of the blood, and chiefly by the new arterial excitement by which they are attended.

It is owing to the previous excitement of the arterial system, essential to this kind of critical evacuation, that it cannot be substituted by an artificial abstraction of blood. This fact proves, that such evacuations do not, strictly speaking, produce the amendment which follows, but that they are *effects* or manifestations, of a previous salutary change in the vital actions.

Crisis by hæmorrhage is chiefly confined to inflammatory fevers; occurs sometimes in typhus fevers; epistaxis, the most common critical hæmorrhage—usually preceded by flushed face, red and suffused eyes---sneezing, ringing in the ears, &c.

Critical sweat. The most common crisis; must be general over the body, attended with a warm skin and turbid urine. Its approach indicated by: a soft, full, wave-like pulse; a stinging, or itching sensation on the surface, red, warm skin and scanty urine.

Critical discharge of urine: must be copious; the morning urine best for inspection; critical urine exhibits at first, a cloud, floating in the upper part of the vessel---then a globular body about the middle---and finally a sediment; (Vogel, Richter, &c.) should be attended with a soft or moist skin; preceded by pains in the loins; frequent inclination to urinate; uneasy or burning sensation in the genital organs, dry, harsh skin; thirst, and a soft and active pulse.

Critical alvine discharges: most frequent in bilious fevers---occur during the remission of fevers---are copious; signs of approach, a peculiar trembling of the under lip---stammering---a full, active pulse, pain and noise in the bowels; discharge of wind---moist tongue ---paucity of urine. (Richter.) *Critical emesis,* very uncommon.

By crisis, in the most general acceptance of the term, is understood that period in the course of a fever, at which a determination either to death or convalescence takes place, and in which therefore the fate of the patient is determined. This decision must necessarily always occur in the ultimate point of violence of the disease.

CHAPTER V.

OF THE GENERAL COURSE, TYPE, AND STAGES OF FEVER.

Fevers divided in relation to their course into:

Acute, and
Chronic.

The former generally make their attack suddenly, and proceed through their course in a comparatively short period.

The latter commence less violently, and pass slowly through their course.

In general, the more violent the disease, the more rapid its progress.

The course of a fever may be divided into five periods. (See Pract. Med. p. 61.)

1. *The forming stage*—the period between the impression of the febrific cause and the development of the fever;—distinguished by certain phenomena, called *premonitory* symptoms. Its duration very various; not always attended by signs of deviation from health. In general, the more protracted the premonitory signs, the more protracted, or slow, will be the course of the subsequent fever, &c.

It is during the struggle between the system and the morbid cause—while the former is gradually yielding to, and passing under the dominion of the latter, that the premonitory symptoms occur.

The most common premonitory symptoms are: loss of appetite: irregular bowels; yawning, stretching; *mal aise*; interruption of ordinary habits and appetites, such as disgust for tobacco, coffee, &c., thirst, nausea, eructations, dry skin, slight chills, healing up of old ulcers, &c. These symptoms show that the nervous system, the digestive organs, and the skin, are the first to suffer in the evolution of fever.

Some diseases have peculiar premonitory symptoms, as the measles. A morbid cause may produce the *premonitory* symptoms, without being adequate to the full development of the disease.

2. *The cold, or second stage*: a sensation of cold almost invariably introduces a febrile reaction; frequently no real subduction of temperature in the febrile chill; it depends therefore often on an altered state of sensibility to heat. Symptoms attending this stage:—skin pale, contracted, dry—shrinking of the surface---respiration irregular, oppressed, anxious---a small dry cough---tongue dry---head confused, pulse small and frequent---nausea and vomiting; the sensation of cold may be generally or partially diffused over the body. The relation between the violence and duration of the stage, to the ensuing stage of reaction, is direct; the former being violent and short, the reaction will most probably be vigorous; weak and protracted chills usually followed by feeble reaction.

A chill occurring in an advanced period of a *remittent*, indicates that it is about altering its *type* or form; occurring in the advanced period of visceral inflammations, indicates the occurrence of suppuration; crises and metastases sometimes preceded by chills.

Hot, or third stage of fever: characterized by: increased heat of the skin; return of the natural fulness and color of the surface; pulse full, vibrating, and vigorous; pain and throbbing in the head; eyes prominent, and very sensible to light; a dry skin; urine small, and high colored.

The fourth period, or sweating stage: profuse and general perspiration; sedimentous urine; diminution of pains in the head, loins, &c; pulse soft and full, &c.

The fifth period, or the period of convalescence:

The course of every fever is either:

1. *Continued:* very slight evening exacerbations, and morning remissions. Total absence of remissions and exacerbations very rare, if ever.

Remitting: prominent and regular remissions and exacerbations.

3. *Intermitting:* regular paroxysms and perfect intermissions.

One paroxysm, with its intermission, constitutes its *revolution*. According to the *duration* of the *revolution*, fevers are divided into:

1. *Quotidian*, occupying 24 hours.

2. *Tertian*, do. 48 do.

3. *Quartan*, do. 72 do.

The *form* which fevers assume in this respect, is called their *type*. There are therefore three principal types: i. e. the quotidian, the tertian, and the quartan types. Quotidians generally come on in the morning; tertians about noon; and quartans in the afternoon.

Tertians divided into *simple* and *double*.

Double tertians: paroxysms occur daily; but the paroxysms of the alternate days are similar in violence, time of occurrence, and duration, and differ in these respects from those which occur on the intervening days.

Intermittents rarely are of the *double tertian* type, *from their commencement*; they generally commence as *simple tertians*, and duplicate their type afterwards; the new or accessory paroxysms generally milder than the original; double tertians generally return to the simple type, before they terminate; a change from the simple to the double type, is unfavorable.

Other variety of compound types: *tertiana duplicata*; ---*hæmitritæus*; ---*tertiana triplex*.

The quartan type is also susceptible of duplication. The double quartan has two paroxysms every fourth day. Authors mention triple quartans, three paroxysms occurring on every fourth day---these are very uncommon.

The difficulty of arresting the course of an intermittent, in general, is proportionate to the time occupied by each paroxysm.

Intermittents are said to be *anticipating*, when the paroxysm comes on earlier every succeeding recurrence---and *postponing*, when it occurs later at each return. When the paroxysm is postponed to about eight o'clock in the evening, it frequently does not come on until the next morning. In like manner, the paroxysm of an anticipating ague, occurring at eight o'clock in the morning, will have its next paroxysm on the evening of the day preceding that on which it should happen. (Wilson.) Favorable, when the paroxysms are *postponed*; unfavorable, when *anticipated*.

Atypic, or erratic fevers: no regular type; rheumatism---catarrhal fever.

Fevers often change their type---the conversion of type seldom suddenly effected.

CHAPTER VI.

PARTICULAR FEVERS.

OF INTERMITTING FEVERS

General Character. A succession of regularly recurring febrile paroxysms---commencing with chills, and terminating in profuse perspiration, with intervals of perfect remission from fever.

Types: the quotidian, the tertian, the quartan, and complications of these primary types.

Stages: the cold, the hot, and the sweating stages.

Symptoms---Of the cold stage: lassitude, yawning; skin pale and shrunk; pulse small and frequent; rigors more or less strong; mind confused and inattentive---when violent, comatose; urine pale and crude; thirst great; respiration quick and anxious; lasts from fifteen minutes to several hours.

Hot stage: at first, nausea and bilious vomiting; skin hot and dry; face flushed and full; pulse full, frequent, and strong; respiration free and regular; head-ache---urine high colored and scanty.

Sweating stage: profuse perspiration; pulse soft and moderately full; urine copious and *sedimentous*; a gradual abatement of all the symptoms of the previous stage, until it terminates in the state of *intermission*, or *apyrexia*.

Anomalous symptoms: the cold stage has been absent; sweat sometimes absent in the third stage, being substituted by other evacuations.

Masked Agues, (Febres Intermittentes Larvatae.) Intermittents under various assumed forms: as epilepsy,

mania, hemicrania, tooth-ache, cramp in the stomach, dysentery, cholera, &c. *Diagnosis* of masked agues: their periodioity; the cotemporaneous prevalence of intermitting fevers; slight sensations of cold, preceding the attacks; gentle perspiration, with *turbid* urine attending their disappearance. (See Pract. Med. p. 74.) In infants, the paroxysm sometimes commences with *convulsions*. *Distinct rigors* are not common in infants. Intermittents divided into the:

Inflammatory,
Congestive,
Gastric, and
Malignant.—(See Pract. Med. p. 73.)

1. *Inflammatory Intermittents*: of frequent occurrence: quotidians more apt to assume this character than tertians, and tertians than quartans. Occur most commonly in young and plethoric subjects, and in the spring and winter seasons; rigors strong in the first, and action intense in the second stage; intermission imperfect, the pulse retaining a preternatural quickness and tension, and the thirst and heat of the surface remaining greater than natural; often slight pectoral affections. The *primæ viæ* seldom much loaded with bile and saburral matter; little or no manifestation of intestinal irritation.
2. *The congestive variety*: not common; occurs in persons of debilitated habits of body---in the irritable and nervous. *Cold stage*, very protracted, attended with deep-seated pain in the head, vertigo, syncope, a sense of weight in the breast, coma, and a small, trembling, weak, pulse. *Hot stage*, imperfectly developed---the system remaining oppressed; the surface cool; the breathing confined and anxious; countenance pale; pulse frequent, small, and somewhat tense; and a sense of heat internally. (Pract. Med. p. 75.)
3. *The Gastric variety*: the majority of our autum-

nal intermittents are of this character: they are attended with strong marks of irritating matters in the *primæ viæ*; there is nausea, bilious vomiting, bitter taste; weight and fulness in the epigastrium; great pain in the forehead; foul tongue; quivering of the under lip; countenance, and tunica albuginea, tinged with yellow; urgent desire for acid drinks.

4. *Malignant Intermittents*. Rapid in their course ---sweat, in the third stage, generally very copious and fetid; hæmorrhages from the nose, bowels, gums, &c.; petechia; and other symptoms denoting malignity. (Alibert.)

Intermittents occasionally cure other affections; such as cutaneous eruptions, hysteria, gout, asthma, hypochondriasis, and epilepsy. (Fordyce, Vogel.)

In relation to the natural duration of intermittents, it would appear, that quotidians, when left to themselves, have a tendency to terminate on the 14th; tertians on the 21st; and quartans about the end of the 6th week.

Prognosis. When simple intermittents prove fatal, it is generally in the *cold* stage---death then occurs in the way of apoplexy; most dangerous in *weak* and *cachectic* habits of body. Postponing more favorable than anticipating agues; scabby eruptions, re-appearance of suppressed discharges, &c. favorable; integrity of the digestive functions, a good sign; change from the quotidian to the tertian favorable. *Delirium* more unfavorable than mere *coma*; occurs in the worst forms of the disease. Tumid and painful abdomen, with oppressed respiration, hiccough, &c.; colliquative diarrhœa; bloody urine, red and suffused eyes---are bad signs. Great debility during the intermission, with œdem of the legs and feet, restlessness, languor, sighing, dry tongue, or bilious vomiting, very unfavorable. (Pract. Med. p. 77.)

Circumstances peculiar to the various types: Cold

stage longer in tertians than in quotidians---hot stage longer in the latter than the former; &c. &c.

CAUSES OF INTERMITTENTS,

The principal---almost exclusive---cause of intermittents, is *marsh miasmata*, called by the Italians, *mal aria*.

Intermittents are the first grade of miasmatic fevers---most common during the autumnal months, in the marshy districts of temperate climates. The operation of miasmata is favored, by sudden changes of weather, dampness, and whatever debilitates the body.

Miasmata often remain dormant in the system for a long time.

Other causes:---worms and other irritating substances in the intestines; suppressed habitual discharges, &c. (Pract. Med. p. 79.)

PROXIMATE CAUSE.

Spasm of the extreme vessels (Cullen's doctrine) objected to.

Irritation and inflammation of the mucous membrane of the intestinal tube, objected to. (Broussais.) (Pract. Med. p. 80.)

TREATMENT.

Treatment divided into that which is proper during *the paroxysm*, and that which is to be used in *the intermission*.

The former is *palliative*, the latter *curative*.

Treatment in the paroxysm. Cold stage: mild and warm diluent drinks. In debilitated and nervous subjects, external and internal stimulants, particularly artificial heat. In vigorous subjects, however, such practice is by no means proper. *An emetic* given in this stage, one of the best means to shorten its duration. *Opium* administered just before or soon after the accession of the paroxysm, often highly useful in moderating the fit. [Trotter.]

Compression by the tourniquet, has been found useful to put a stop to this stage. [Kellie.] Its *modus operandi* explained.

Treatment in the hot stage. The object is to moderate the violence of the febrile reaction, and to hasten the supervention of the sweating stage. The remedies employed for this purpose are: bleeding in cases of violent reaction, cool diluent drinks, and the usual anti-phlogistic remedies. A draught of *cold* water, when the skin is very dry and hot, is both grateful and beneficial, predisposing to perspiration. Emetics not proper in this stage. Excessive vomiting best checked by opium and the effervescing draught. Opium highly recommended in this stage, by Dr. Lind; injurious in intermittents of a marked phlogistic character; highly useful in cases of feeble reaction. Not often necessary to use remediate treatment, in this stage. [Pract. Med. p. 32.]

Treatment during the Intermission. It is in this stage, that the *radical* cure of the disease is to be attempted. In prescribing with this view, attention must be paid to the four modifications described above.

In inflammatory intermittents, the febrifuge tonics are not to be used, until the phlogistic state of the system has been reduced by a strict anti-phlogistic treatment. (Pract. Med. p. 84.)

In the congestive and malignant modifications, stimulants and tonics must be resorted to, early and freely. (Pract. Med. p. 75.)

In the gastric modification, emetics and cathartics are important preliminary remedies.

CINCHONA—the most efficacious tonic febrifuge we possess—must be employed during the *apyrexia*. Not to be employed, where a phlogistic diathesis prevails—that is, where the pulse is tense and quick, with a feeling of general uneasiness, head-ache, dry and warm skin, are present in the intermission; in such case, anti-

phlogistic measures must be premised. The bark to be promptly and largely given, in cases of great weakness, or in such as are of a malignant character. Authors express contradictory opinions, with regard to the necessity of purgatives and emetics, as measures preparatory to the use of the cinchona. They are very generally useful, and should be premised; not always indispensable, however—more essential in the young and plethoric, than in the infirm and aged. The cinchona has no peculiar tendency, as was once, and by some is still supposed, to produce visceral indurations; these are consequences of the *improper* use of the bark—in other words, of its employment in a prominent phlogistic state of the system—other tonics will do the same. The existence of visceral obstructions form an objection to the use of the bark; a mild mercurial course must be premised—or the bark may be given in conjunction with mercury. From an ounce to an ounce and a half, will in general suffice for a cure—when it purges, give opium or kino. When much acidity exists in the primæ viæ, combine it with an alkali. The bark often advantageously combined with aromatics, as *serpentaria*, *cloves*, *calamus aromaticus*, black pepper, capsicum, &c. &c.

Sulphate of Quinine, a most valuable preparation of cinchona; given in doses of from one to three grains, every one or two hours; sometimes purges, for which opium is the proper remedy. A variety of other vegetable tonics have been recommended in this disease; as *Augustura bark*, *cornus florida*, *Leriodendron tulipifera*, *aristologia serpentaria*, oak bark, the various species of willow, horse chesnut, and the officinal tonic bitters. *Coffee*, recommended by Richter and Grindel. *Tela araneorum*, a useful remedy. *The Muriate of Ammonia* in combination with tonic bitters, highly useful, according to Richter, in agues attended with visceral obstructions.

Arsenic, highly efficacious; best adapted to cases attend-

ed with rather a full, robust, and unirritable habit,—a moderately full, but soft and regular pulse,—and unaccompanied by local congestions. In debilitated, cachectic or scorbutic habits, often injurious; improper also in phthisical habits. Should be given in as large doses as the stomach will bear; apt to produce dropsical swellings. From ten to fifteen drops of Fowler's solution, with ten or fifteen drops of laudanum, every four hours.

Prussiate of iron has been given with considerable success. Dose from five to eight grains every two hours, for an adult.

Sulphate of zinc, an article of very considerable efficacy, in the treatment of this disease. In combination with *capsicum*, I have found it almost as certain a remedy as the *quinine*. I give it according to this formula:
 ℞ Sulph. zinci, gr. x. Pulv. capsici, ꝑ. j. Conserv. rosar. q. s. M. in pil. No. xl. dividend. S. one every two hours.

The power of the imagination over the system, is often strikingly illustrated in its effects on this disease;—the source of the occasional efficacy of all the various charms, amulets, &c. so frequently resorted to against this disease, by the ignorant and superstitious.

Intermittents exceedingly apt to relapse; relapses particularly favored by exposure to a damp and cool air; by errors in diet; the depressing passions, &c.

Intermittents apt to give rise to secondary affections, the most common of which are: œdema of the feet; enlargement and induration of the spleen and liver; jaundice, dropsy;—sometimes hemicrania, vertigo, epilepsy, and phthisis. *See Practice of Med. vol. 1.*

CHAPTER VII.

REMITTING FEVER.

Character. Fevers whose symptoms suffer regular *exacerbations* and *remissions*, but no perfect *intermissions*.

Symptoms: Symptoms of the forming stage, similar to those of intermittents. When the disease is fully developed, there are, pains in the head, back, and lower extremities; an icterode tinge of the eyes; nausea; sometimes bilious vomiting; fulness and tension in the præcordia; pulse full, frequent, and rather soft; tongue foul, at first white, afterwards brownish; taste bitter. In the course of about twenty-four hours, a *remission* of these symptoms takes place; after a short remission, the febrile symptoms rise again; and after a certain period, again suffer more or less remission. This answers to the mild form of the disease. See Pract. of Med. p. 97.

The type of remittents is generally the double tertian; sometimes the quotidian. The exacerbations of quotidian remittents commonly begin about nine or ten o'clock in the morning; those of tertians considerably later.

Remittents sometimes assume a very violent and even malignant character: the febrile heat is intense; thirst excessive; head-ache, and pains in the loins, very violent; great anxiety of feeling; distressing sense of fulness in the epigastrium. In twenty-four hours, nearly a complete intermission ensues. A second and more violent paroxysm soon comes on; the eyes become red and watery; the epigastric distress is horrible; there is nausea, with constant retching or bilious vomiting. Another remission occurs, followed by a third exacerbation.

tion, which often terminates in death, or a favorable crisis. The disease sometimes assumes more of a chronic character; and in this case, great prostration ensues, with almost constant delirium; a quick, irregular, and frequent pulse: in some instances, the pulse becomes almost natural—a sign of great danger. Besides the foregoing symptoms, the following occur, in violent cases of this form of fever: tongue clammy, fetid, black; eyes red, watery, or dry; urine brown, blackish, offensive—sometimes wholly suppressed; alvine discharges watery, red, black, or bloody; abdomen tympanitic, petechiæ, hæmorrhages.

In the temperate climates, and in situations not abounding in materials for the production of miasmata, remittents are generally mild and regular in their course. In proportion as we approach the tropical regions, we find the disease assuming a more violent and anomalous character.

REMOTE CAUSE. Marsh miasmata the principal cause of this form of fever; other causes may produce it,—as worms, and other irritants, acting on the alimentary canal.

PROXIMATE CAUSE. Irritation, or sub-acute inflammation of the mucous membrane of the intestinal tube, with prominent hepatic derangement.

In some cases, prominent intestinal irritation is connected with an abundant secretion of bile; in others, the intestinal irritation is connected with great congestion and *torpor* of the liver, little or no bile being thrown into the bowels during the early period of the disease. To the former class of remittents, we may therefore apply the term **GASTRIC**; and to the latter that of **HEPATIC**.

GASTRIC MODIFICATION; characterized by: bitter or putrid taste; tongue covered with a thick yellowish slime, which by degrees becomes dry, cracked, and blackish; disgust for every kind of food; urine *jumentose*; distress and weight in the stomach; abdomen tense and tender; pain in the loins and knees; intense pain in the

forehead; distinct remissions and exacerbations.—
Pract. of Med. p. 100.

HEPATIC MODIFICATION: the most rapid and dangerous form of the disease; characterized by: intense febrile heat during the exacerbations; delirium, fulness, tension, and pulsation in the right hypochondrium; tongue at first clean, great irritability of the stomach; continued vomiting of a glairy fluid; the skin becomes *icteric*; towards the termination of the disease, the liver, in most instances, pours out an abundance of dark colored bile, which is evacuated by stool, and sometimes by vomiting. The stools, in such instances, are black and pitchy.

The diathesis of remittents always essentially *inflammatory*, though in some violent instances much nervous depression and debility exists. Dr. Good calls these *asthenic remittents*,—I prefer the term *typhoid*.

TREATMENT. The indications are: 1. To moderate the action of the heart and arteries. 2. To remove the irritating contents of the bowels, and moderate intestinal irritation. 3. To restore the healthy functions of the liver. To answer these intentions, we employ:

1. *Bleeding.* Not often necessary, in the milder cases of our autumnal remittents. Indispensable when the pulse is full, vigorous, and hard, the skin very hot and dry, and the head-ache intense.
2. *Purgatives.* Mild mercurial purgatives, of primary importance. In *mild* cases, with little gastric irritability, an emeto-cathartic often useful in the commencement; inadmissible, however, in the higher grades of the disease.

There are no remedies more useful in the treatment of remittents, than purgatives; and yet there are perhaps no other medicines so frequently employed to an injurious extent. *Violent* and *irritating* cathartics, when frequently administered, seldom fail to excite a degree of irritation in the mucous membrane of the alimentary canal, which but too often brings on a train of symptoms of the most dangerous and fatal charac-

ter. The thin watery stools, of a muddy or reddish color; the tympanic state of the bowels; the abdominal tenderness; the suppression of urine, &c. which are sometimes observed in the advanced stages of this disease, are generally the result of the imprudent employment of *active* cathartics. Although I would strenuously protest against the frequent employment of active cathartics during the course of remitting fever, I would by no means proscribe them wholly (as is done by Broussais) as remediate means in this form of fever. In the commencement of the disease, one or two active purgatives are not only admissible, but, according to general experience, decidedly useful. Subsequently, however, the *milder laxatives* only ought to be employed; and these are indispensable, throughout the whole course of the disease.—*See Pract. of Med. p. 108.*

DIAPHORETICS, &c. Nitre in combination with tartarized antimony and calomel, generally useful in the early stage of mild remittents; improper where there is great irritability of the stomach; injurious, also, when it excites much purging. *The saline effervescing draught* an excellent medicine; *spiritus mindererii* also useful: these two latter articles, particularly useful to allay gastric irritability.

CALOMEL. An important remedy in remitting fevers. In the commencement given with a view both to its purgative and constitutional effects; should be early and regularly given, until its specific operation becomes manifest; never to be continued until ptyalism comes on; strong mercurial excitement, injurious. In the advanced periods of the disease, the mercurial influence generally detrimental.

In the high or malignant grades of this disease—that which I have termed *hepatic*, from the engorged and inactive state of the hepatic system—emetics, emetocathartics, and strong purgatives, useful in the commencement of the milder forms of the disease, are altogether inadmissible. The first object is to allay gastric irritability, which is generally very great. For this purpose, *blood-letting* is the most important measure; sinapisms to the region of the stomach, are good; a draught of cold water has been recommended; the warm bath after venesection; potio *Riverii*.

When the irritability of the stomach is in some degree subdued, *Calomel* is an important remedy; it should be given in doses of from ten to twenty grains every four or five hours, until the evacuations become bilious. If the calomel do not prove purgative, mild laxatives must be occasionally given with it. Two or three alvine evacuations daily are indispensable, so soon as the liver has been excited to action by the calomel. *Nitre*, and the *antimonial* preparations, are objectionable. Acidulated drinks are salutary. Physicians do not agree with regard to the propriety of using tonics during the remissions. Lind, Clark, Balfour, and others, strenuously contend for the vigorous employment of *bark*. Johnson, Burnet, and others, condemn this practice as pernicious. *Pract. Med. p. 112.*

My own views on this subject are, that the cinchona may be used with advantage, during the remission, when there are no violent visceral congestions, and where the liver has resumed its proper action. As long, however, as the liver remains engorged and inactive, the employment of the bark can seldom fail to do injury. After the bile makes its appearance in the alvine evacuations, and a complete remission occurs, the liberal use of the sulphate of quinine will generally prove decidedly beneficial.

YELLOW FEVER.

Synonymes. *Typhus Icterodes; Maladie de Siam; Bulam Fever; Vomito Prieto; Causes.*

Symptoms. First stage: faintness, giddiness, slight chills; then sudden evolution of intense febrile reaction, with severe pain in the head, inflamed eyes; intolerance of light; dry and burning skin; great thirst: pain in the loins and lower extremities; tongue covered with a whitish mucus, or but little altered from its healthy aspect; nausea and vomiting; transient and partial sweats. This stage lasts from twenty-four to sixty hours.

The disease sometimes commences with sudden loss of muscular power, and depression of nervous energy—the patient falling down, as if stunned by a blow.

Second Stage. With the exception of vomiting, all the symptoms abate; the pulse sinks to the natural standard, the heat of the skin becomes reduced, and the patient expresses himself much relieved. The vomiting however continues, the fluid ejected containing membranous flocculi; the desire for cold water is urgent, but when swallowed, *is immediately rejected*; the albuginia, and the skin of the neck and breast, acquire a yellow tinge. This stage lasts from twelve to thirty-six or forty-eight hours.

Third stage. Pulse sinks; frequent and forcible vomiting; matter thrown up of a black color, resembling coffee-grounds suspended in a glairy fluid; *an acrid or burning sensation in the stomach*; diarrhœa of green or black matter; whole surface of a dirty yellow;* hæmorrhages violent; delirium; hiccough, coma, insensibility, convulsions, death.

“Soreness in the œsophagus; heat and acrid sensation in the stomach; urgent thirst; hunger; violent delirium; despondency; enlargement of the blood-vessels and red-yellow color of the white of the eye, either singly or collectively, indicate extreme danger.” (Johnson.)

Appearances on dissection. A black viscid fluid in the stomach; mucous membrane of this organ inflamed, and covered with gangrenous spots; sometimes large portions sphacelated; small intestines inflamed; colon generally sound, but often contracted; concave surface of liver inflamed.

Cause. The effluvium generated by animal and vegetable matters, in a state of putrefactive decomposition, its common remote cause—hence its almost continued prevalence in the marshy districts of intertropical regions.

This opinion is disputed by many; but a great majority of those

* Many cases are not attended by this yellow hue of the skin.

whose knowledge on this point is derived from personal observation, maintain its correctness. (Pract. of Med. p. 118.)

Europeans arriving in hot climates, where the disease is endemic, almost exclusively obnoxious to it. Persons having once had the disease, lose in some degree their susceptibility to a subsequent attack.

The influence of the remote cause is promoted by, intemperance, excessive fatigue in the sun; exposure to the damp and cool night air, &c.

Not contagious. Many assert that under *certain* circumstances, this disease is not contagious:---some maintain its unconditional and essentially contagious character.

Black Vomit: not bilious matter;---appears to proceed from sanguineous transudation in the stomach. The *liver* is torpid and congested, the biliary secretion being deficient. The *yellow color* of the skin is probably the result of a vicarious secretion of a bilious matter into the subcutaneous texture. Different opinions on this subject. Pract. Med. p, 117.

TREATMENT. Much diversity of sentiment in relation to the treatment of this disease. It appears, however, that the weight of good authority is in favor of: *full bleeding*; mercurial purgatives; cold affusions, and applications to the head; the free use of mild diaphoretic or acidulated drinks---*in the first period of the disease.* Prompt and decisive bleeding is particularly beneficial in the commencement of violent cases, where the pulse is full and hard. In the milder cases, it may commonly be advantageously omitted.

In the second stage, mild aperients; diaphoretic and cooling drinks; enemata; calomel, with a view to its constitutional and aperient effects; cool affusions, with tonics and stimulants, if the pulse becomes feeble.

In the third stage, stimulants and tonics; enemata; mild drinks.

The usual saline diaphoretics are of little or no service, in this form of fever. The vigorous employment of

cinchona, or quinine, is strongly recommended by some, during the remissions.

CHAPTER VIII.

CONTINUED FEVER.

Continued fevers are either:

*Sthenic, or
Asthenic.*

The former are diseases with irritated vascular excitement—the *vital energies being unimpaired or increased*; these are usually called inflammatory, or fevers with a phlogistic diathesis.

The latter are diseases *with irritated vascular excitement*, and an *impaired state of the vital energies*; these are the typhous fevers. See Pract. of Med. p. 125.

INFAMMATORY FEVER

Synonymes. *Ardent fever; febris irritativa; synocha; febris vasorum.*

Character. Vascular excitement vigorous; pulse full, hard, and strong; heat of the skin intense; urine scanty and high colored: thirst great; eyes red, incapable of bearing the light; pulsating pain in the head; sensorial powers little affected.

This form of fever is seldom introduced by a long train of premonitory symptoms; and in this, it differs essentially from typhus. The heat of the surface, of the kind

called *burning*. Delirium not a common symptom. The pulse seldom beats more than 110 in a minute. The blood, when drawn, separates rapidly into its constituent parts—the crassamentum contracting into a firm mass, on the top of which a yellowish mass of fibrine collects, forming what is termed the buffy coat, or inflammatory crust. Pract of Med. p. 129.

A somewhat similar covering is sometimes formed on the blood of typhous patients. The *inflammatory buff* has a uniformly *yellowish white* appearance. That which is sometimes seen on the blood of typhous patients, presents an *iridescent* appearance—reflecting the colors of the rainbow, when held in certain positions. It is also much more brittle in its texture, than the former. [Richter.]

Inflammatory fever never very protracted in its course; generally terminates in some manifest critical discharge; hæmorrhage from the nose, and increased flow of sweat the most common. Most apt to occur in persons of robust and vigorous constitutions, and between the ages of twenty and forty.

Cause. The most common causes are: Atmospheric vicissitudes; violent passions; wounds and other injuries; *a peculiar atmospheric constitution*. Sudden suppression of perspiration by cold, is however the most common sporadic cause. Hence, inflammatory fevers most prevalent in cold and variable climates, or during the spring of temperate latitudes; more prevalent also in elevated, dry, and sandy situations, than in localities of an opposite character. Pract. of Med. p. 140.

Diagnosis between sthenic and asthenic fevers sometimes very difficult.

The constitution and habits of the patient, the nature of the predisposing and exciting causes, will aid us in the diagnosis. In very doubtful cases, we must have recourse to the *indices ex nocentibus et juvantibus*—the indications drawn from the effects of immediate agents.

Prognosis. *Simple* inflammatory fever, the least dan-

gerous variety of continued fevers; when attended with visceral inflammation, dangerous; the danger being proportionate to the violence of the local inflammation, and the importance of the organ inflamed. When protracted, it is apt to assume a *typhoid* character. A sudden and copious discharge of *limpid* urine, or thin watery alvine discharges, are unfavorable. Slight hæmorrhage from the nose, a moist and soft skin, pale and *turbid* urine, are favorable signs. Delirium not generally a bad sign.

TREATMENT. The principal indications are: to moderate the action of the heart and arteries, and to restore the healthy functions of the cutaneous exhalents. The remediate measures are: [Pract. of Med. p. 140.]

Blood-letting: this is the most important remedy. It should be *early* employed, and to the extent of producing a *decided impression on the system*. One decisive bleeding will do more good than double the same quantity of blood drawn at several smaller bleedings. To produce a proper impression, without too great an expenditure of blood, the bleeding should be from *a large orifice*. Repeated small bleedings, during the course of a fever, are more apt to prostrate the system, than the same quantity of blood drawn at one or two bleedings in the beginning. The pulse must be our principal guide, as to the quantity and repetition of bleeding. The inflammatory character of the blood, *generally*, an indication of the further necessity of bleeding. This indication cannot *always* be relied on—it is fallacious in rheumatism, in which the blood will often exhibit the buffy coat, after bleeding has been carried to the utmost allowable extent.

Cathartics. Useful not only by evacuating the irritating contents of the bowels, but also by their direct depletory effects. The *saline* cathartics are the best; besides their evacuating effects, they have an antiphlogistic operation, analogous to nitre. *Violent* and very frequent catharsis, injurious.

Emetics: seldom proper in inflammatory fevers.

Diaphoretics are important remedies in this variety of fever. Of these, *nitre* and *antimony* are the most valuable—they are best given in combination; 10 grains of nitre with 1-10 of tart. ant. every hour or two. When the bowels are torpid, a grain or two of calomel may be added. Care must however be taken, not to continue the calomel so as to produce ptyalism—this effect could not fail to do harm. When the nitre excites gastric pain and watery purging, a few grains of pulv. ipecac. compos. may be advantageously combined with it. These effects are also lessened by giving the nitre in some mucilage.

Antimony, peculiarly beneficial in febrile diseases; independent of its diaphoretic effects, it has a direct sedative operation; it appears, also, to act as an alterative, that is, to change the action of the capillary system generally. Its good effects in fevers are independent of the nausea which it is apt to create. Cullen, however, was of a different opinion. The Italians employ it in large doses, as a *contra-stimulant*; in other words as a sedative.

Other diaphoretics employed in sthenic fever, viz. the saline effervescing draught; spiritus minderiri; muriate of ammonia; sweet spirits of nitre. These are useful, after the febrile excitement has been somewhat subdued.

During the whole course, an antiphlogistic regimen must be rigidly observed.

The antiphlogistic plan of treatment consists not only in the application of such remedies as are calculated to reduce the actions of the system, but also in the careful removal of every thing which has a tendency to irritate or excite in an inordinate degree. In inflammatory fevers, the irritability of the nervous and sanguiferous systems is morbidly increased; and hence, even the ordinary stimulants of light, sound food, &c. become a source of increased irritated action. The influence of these must therefore be avoided, as much as circumstances will allow.

CATARRHAL FEVER.

Character. A sthenic fever, with prominent irritation of the mucous membrane of the respiratory passages.

Symptoms. At first, lassitude and slight chills; then more or less febrile reaction,—attended with a frequent, quick, and somewhat tense pulse; severe pain in the head, face, or jaws; sneezing, dry cough, and hoarseness; a watery discharge from the eyes and nose; eyes red and painful; transient stitches through the chest; often rheumatic pains in the back and extremities. There are considerable remissions in the morning, and exacerbations in the evening. During the first three or four days, the urine is high colored and free from sediment. About the fourth or fifth day, the febrile symptoms begin to decline; the urine then becomes pale and turbid, and the skin uniformly moist; the discharge from the nose and bronchia becomes thicker and yellowish.

The existence of the latter cause is inferred from the circumstance of this form of fever occasionally prevailing epidemically,—extending itself over whole continents, and even passing from one continent to another.

Causes. Atmospheric vicissitudes—a specific miasma, or a peculiar constitution of the atmosphere.

Prognosis. Not in general a dangerous form of fever; most dangerous in infants and in very old people; apt to excite *phthisis* in those who are predisposed to it.

Proximate Cause. Irritation and inflammation in the mucous membrane lining the respiratory passages, with disordered action of the cutaneous capillaries.

TREATMENT. Moderate bleeding, in the young and robust; in the aged and in infants, generally unnecessary, and often improper. *Mild laxatives* useful in all cases. *Mild diaphoretic* drinks, such as infusion of eupatorium, sage, camomile, &c. together with pulvis antimonalis, spiritus mindereri, or spir. nit. dulc. are impor-

tant remedies. Blisters to the breast, when the pneumonic symptoms are severe.

Mild Expectorants, to relieve the cough.

TYPHUS.

Typhus is by no means so common a disease as is generally supposed. The term *typhous* is frequently applied to fevers essentially distinct from typhus. Synochous and catarrhal fevers are often improperly denominated *typhous*.

Typhous divided into four periods, viz, the *forming* stage, the stage of *invasion*, the stage of *excitement*, and the stage of *collapse*.

SYMPTOMS—*Of the forming stage.* Lassitude, giddiness, and dull pain in the head; a peculiar uneasy sensation in the stomach, nausea, and sometimes vomiting; want of appetite; thirst, pale and shrunken countenance; tremor of the hands; eyes dull and heavy; muscular debility. This stage lasts from three to seven days.

Stage of Invasion. Slight chills, alternated with flushes of heat; tongue whitish or clammy; entire disgust of food; nausea and vomiting; a sense of weight and anxiety in the præcordium. This stage lasts from six to twenty-four hours.

Stage of Excitement. Face full and flushed; pulse full, somewhat resisting, and accelerated; skin dry and warm; lips parched; thirst urgent, bowels constipated; eyes red and watery; slight and transient delirium; vigilance; obtuseness of hearing; weight and oppression in the chest; tenderness and fulness of the hypochondria; catarrhal and peripneumonic symptoms; mind, about the *third* day, confused, as if stunned; great reluctance to mental and corporeal action. About the fourth day, a *red milliary eruption* often makes its appearance. Hildebrand regards this as an essential exantheme of this disease. The voice is at first rather

plaintive, but in the advanced periods of bad cases, it becomes guttural, and "at last, truly sepulchral." The body exhales a peculiar odour, in this disease. This stage lasts usually about seven days; at the end of this period, it terminates in the

Stage of Collapse. This stage is characterized by: great prostration of muscular power; torpor of the sensorial functions; a very frequent and feeble pulse; tongue brown, dry, at last black; incrustation of the teeth with a blackish matter; short and feeble respiration; difficult deglutition; almost constant delirium; coma; tongue tremulous, and put out with difficulty; subsultus tendinum; hiccough; heat of the skin intense and *acid*; unequal distribution of the animal temperature; diarrhœa, with pain in the bowels, in the latter periods of severe cases; urine pale; tympanitic bowels; sometimes petechiæ.

The foregoing sketch applies to typhus in its *regular* and *simple* form. In this form, there are manifest morning remissions, and evening exacerbations. Typhus is subject to various important modifications. In some instances, *local inflammations* supervene, forming what Dr. Armstrong calls

Inflammatory Typhus. The organs most liable to become the seat of inflammation are, the lungs, the brain, the intestinal canal, the liver, and the peritoneum.—The mucous membrane of the alimentary canal and the arachnoid of the brain, the most commonly affected. The theories of Broussais and Clutterbuck referred to. In some instances, the stage of *excitement* does not become developed, the stage of oppression continuing throughout the whole course of the disease. This variety constitutes Dr. Armstrong's.

Congestive form of typhus. This modification is characterized by: a want of reaction; great prostration and sinking, from the commencement; deep pain in the head, and in vertigo; face pale and dingy; respiration anxious and oppressed; pulse small and variable; skin

cool, damp, and relaxed; countenance bewildered or vacant; eyes dull, watery, and red, or glairy and staring, without redness; bowels at first constipated—towards the conclusion, copious involuntary stools; tongue pale and tremulous, becoming at last brown and rough; petechiæ; passive hæmorrhages; coma; sometimes, from the beginning, complete torpor and insensibility.

Dr. Armstrong's opinion that the depressed and prostrated state of the system depends on internal venous congestion, refuted.

The internal congestions are most probably the *consequence*, and not the *cause*, of the *impaired* or *depressed* condition of the vital energies. When the remote cause of typhus acts with great intensity upon the system, the vital powers are suddenly prostrated; in consequence of which, the heart and the capillary system act feebly—the blood recoils from the surface to the central vessels, and gives rise to internal congestions, which the enfeebled heart is now unable to overcome. *Pract. of Med.* p. 151.

Causes of Typhus. Typhus almost peculiar to the cold seasons of the temperate climates. Smith, Ferriar, and Wedekind, have seen it during the hottest weather in summer. Propagated by a specific contagion: evidence adduced in support of this assertion. Typhus occasionally originated by other causes than contagion—deficient and unwholesome food, and the contaminated air of confined and crowded apartments, the most common causes of this kind.

Upon the subject of the *origin* and *mode of propagation* of this disease, physicians are by no means unanimous. Some regard typhus as always and essentially a contagious disease, while others deny that it is ever communicated in this manner. The weight of good testimony is in favor of the occasional *generation* of the disease, by causes entirely distinct from contagion. When once generated, it may, and frequently does, spread from the sick to the healthy, in the manner of a contagion.

PROGNOSIS. Free and spontaneous vomiting, in the beginning, particularly when it relieves the giddiness, generally indicates a mild course of the disease. *Hæ-*

morrhage from the nose, about the seventh day, is favorable. Very manifest *remissions* in the morning, are always a good sign. Moderate *diarrhœa*, during the first days, is favorable; but when it occurs in the latter periods of the disease, it is a very bad sign. Great thirst, in the stage of collapse, is favorable; so also is a moist tongue, in this stage. The absence of important or violent local inflammations, always a good sign. Diminution of the *frequency* of the pulse, and of the *acrid heat* of the skin, is favorable. Among the symptoms which are particularly *unfavorable*, are: great change of the expression of the countenance, in the beginning of the disease; entire absence of thirst; constant and violent delirium; early petechiæ; strong peripneumonic symptoms; swelling of the parotids. The most dangerous signs, in the last stage, are: blindness, involuntary flow of tears; difficult deglutition; palsy of the tongue; constant low murmuring; and entire abandonment of himself; a very frequent and small pulse; pain in the region of the bladder; tenderness and tumefaction of the abdomen; *floccitatio*; continued motion of the hands and fingers; diarrhœa; insensibility to the vesicating effects of cantharides; hiccough; aphthæ in the mouth; suppression of urine, &c. Pract. of Med. p. 159.

TREATMENT. The first object is to remove as much as possible the remote cause, or to lessen its activity. With this view, the patient is to be removed from the confined and contaminated air in which the disease was contracted; or if this cannot be done, the apartment in which he lies must be freely ventilated. Diversity of opinion, in relation to the treatment of typhus. Many physicians maintain, that no remedial treatment is adequate to interrupt the course of the disease, when once completely formed. (Smith, Hildebrand.) This I believe to be an erroneous opinion. Attention to the several stages of the disease, all-important in its remediate treatment.

In the forming stage, the indications are: to overcome the torpor of the external capillaries; to determine the circulation to the surface; and interrupt the morbid sympathetic actions throughout the system. For this purpose, *emetics* are highly serviceable; given soon after the attack of the disease, they will often interrupt its course. After the operation of the emetic, *Mild purgatives* should be employed. Two or three alvine evacuations should be procured daily.

Diaphoretic ptisans, beneficial in this and the subsequent stage; such as infusions of eupatorium, catnip, sage, &c.

Calomel: In the early periods of the disease, this article is often decidedly useful. Slight mercurial influence, the most effectual means of arresting typhus in its *early* stage; two grains of calomel may be given every four hours, until the gums become slightly inflamed. The constitutional influence of mercury generally pernicious after the disease is fully developed—its benefits being restricted to the first five or six days. *Calomel* no less beneficial, in the early stages of *congestive* fevers. (Armstrong.) It has a powerful tendency to equalize the circulation; it raises the pulse, restores warmth to the skin, and increases the general energy, in such cases.

In the stage of excitement, a more or less antiphlogistic treatment becomes necessary. *Mild cathartics* particularly useful in this stage—they moderate at once the general excitement, the heat of the skin, and the force of the pulse.

Cold Affusions. When the skin is hot and dry, in this stage of typhus, the affusion of *cold water* is often highly beneficial. As the stage of collapse approaches, the temperature of the water should be raised. Cold affusions are *improper*, when the skin is below the natural temperature, and a sense of chilliness is present, or when there is profuse perspiration. Common salt may be advantageously added to the water, parti-

cularly when there is much prostration. When the heat of the body is unequally distributed, neither *cold* nor *tepid* affusions are proper: local inflammations also form an objection to cold affusions. In such cases, sponging the body with *tepid* water will sometimes do good.

Diaphoretics, of the refrigerant class, useful during the stage of excitement.

Bleeding, very rarely called for, in cases of simple typhus.

Stage of Collapse. In this stage, stimulants and tonics are the appropriate remedies. Wine, serpentaria, calamus aromatics, ammonia, opium, æther, phosphorus, camphor, and musk, are the most useful. Of these, *wine, ammonia, camphor, and opium*, are the best. When stimulants render the pulse fuller and slower, and the skin moist and cooler, they may be continued with confidence; but when the pulse becomes more frequent and corded, the countenance flushed, with an increase of restlessness and delirium, under their use, they are doing injury, and must be discontinued. *Camphor* particularly serviceable, where there is much delirium; combined with nitre and calomel, useful even in an earlier period, when the disease is complicated with peripneumonic symptoms. Small doses of opium, with infusion of serpentaria, beneficial in pneumonic typhoides. Musk said to be particularly useful, in typhus of habitual drunkards. *Opium* serviceable, when in the last stage, where there is much restlessness, delirium, and other symptoms of nervous irritation; combined with calomel and chalk, excellent to check the diarrhœa, which sometimes supervenes in this stage.

Distinction between *true* and *false* debility. In the former, there is an actual impairment of the vital powers; in the latter, the powers of the system are *oppressed*, generally, in consequence of intestinal irritation. *False* debility sometimes occurs before the supervention of the stage of *collapse*—if, through mistake of its nature, stimulants are given, injury will be done. The diagnosis between *true* and *false* debility. In *false* debility,

or prostration from intestinal irritation, there are, generally, much jactitation; flushed countenance; eyes suffused; extremities cold; pulse irregular and very small; hurried and anxious respiration; stupor; little or no delirium: it generally comes on suddenly. In debility, or sinking from an *impaired* state of the vital powers, the prostration usually comes on gradually; delirium is almost constant; skin hot, the heat being of the acrid kind, (*calor mordax*;) the countenance is sunken and inanimate, with subsultus tendinum, &c. Observations on the use of *laxatives*, in the stage of collapse. They are often highly serviceable. They should be given in conjunction with stimulants, such as ammonia, wine, alcohol, &c. One or two stools should be procured daily.

Cinchona not in general of much use; when in the latter stage, the tongue and skin are dry, and there is much delirium, coma, and subsultus tendinum, the bark is improper.

Blisters seldom serviceable, in simple typhus.

Diet. Solid food injurious: farinaceous and mucilaginous substances, the only nutriments admissible. Barley water, and thin oat-meal gruel, should be freely allowed, in the stage of collapse.

In typhus complicated with local inflammation, *bleeding*, in the second stage, is often indispensable: *it must be early employed*; delayed beyond the thirty-sixth hour after the beginning of the inflammation, it will most commonly do harm. Sufficient blood should be drawn at once, to make a decided impression on the system. Small bleedings, however frequently repeated, afford no permanent advantage. *Cupping* or *leeching* may be beneficially employed, when *general* bleeding is contra-indicated,

Calomel with *Opium*, a valuable remedy after proper depletion, in typhus with pneumonic systems. One grain of each may be given every four hours. This

remedy is hurtful, when the inflammation is seated in the brain.

In prescribing depletory measures in typhus, even when connected with inflammation, it should be kept in mind, that there is always lurking at the bottom a radical tendency to a state of exhaustion or prostration.

Typhus in which reaction does not take place, or Congestive Typhus. *Bleeding* recommended by Armstrong and others. Objections stated against this practice, and reasons given in favor of the employment of *stimulating frictions, warm applications* to the external surface, and *warm and gently stimulating drinks.*

Applications of this kind not only cause a determination to the surface, and thereby relieve the heart and arteries, but they also tend to invigorate and support the general energies of the system, by the stimulus they impart to the nervous extremities of the surface.

Blisters, purgatives, calomel, and opium, are important remedies in this modification of the disease. Further observations on the beneficial influence of calomel, in congestive states of fever. While this remedy is given, with a view both to its purgative and constitutional effects, warm and stimulating applications should be made externally. A blister to the epigastrium will often do much service in such cases. (Armstrong.)

CHAPTER IX.

INFLAMMATION IN GENERAL.

PHENOMENA. Pain, increased heat, redness, and swelling. Pract. Med. p. 172.

1. *Pain.* Not always, though generally, present; generally, the looser the structure, the less pain; sometimes absent, in peripneumonia, gastritis, pericarditis, &c.; inflammatory pain always increased on pressure, and may be thus distinguished from spasmodic pain. The nature of the structure inflamed modifies the character of the pain. The violence of the general febrile reaction, proportionate to the intensity of the pain.
2. *Increased heat.* Not always present; actual degree of heat never raised above 98°. The sensation of heat depends on the altered state of the sensibility of the inflamed part.
3. *Redness.* Almost an invariable phenomenon of inflammation; arises from the intromission of blood into the serous capillaries; *generally* remains after death; redness, by itself, no certain sign of previous inflammation; the serous capillaries may become injected with red blood in *articulo mortis*, although sound before; importance of this knowledge, in autopsic examinations.
4. *Swelling.* The effort of effusion into the surrounding cellular tissue; the firmer the structure, the less swelling.

Inflammation is located in the capillary system. The more abundant the capillaries of a part, the more apt is it to become inflamed. The mucous, serous, cellular, and dermoid systems, being very vascular, are very

subject to inflammation; the contrary obtains with the osseous, the cartilaginous, and the tendinous structures.

(Bichat.)

Ætiology. Inflammation may be produced—1. By the *direct* operation of irritants on a part. 2. By the *indirect* operation of irritants on parts, through the medium of the nervous system. 3. By general irriated vascular excitement. 4. By *metastasis*.

Whatever be the exciting cause of inflammation, the following changes take place in progress of its evolution: viz, *irritation*; then *alteration of the vital properties*; and finally, *an afflux of blood* to the part. These changes often succeed each other so rapidly, that they seem to arise simultaneously. A change of the vital properties is essential to inflammation; preternatural determination to a part, without altered sensibility and contractility, constitutes *congestion*, or local plethora—not inflammation. (Bichat.)

Are the capillaries of an inflamed part in a state of *debility*, and is the velocity of the blood circulating in them diminished—or, are they in a state of *increased action*? Vacca, Lubbock, Allan Phillip, and Hastings, have written in support of the former opinion; but the subject is still *sub judice*.

My own view on this subject is, that the inflamed capillaries ought to be regarded as being in a state of *irritated excitement*; and that this *irritated condition* may be connected either with an *increased* or with *decreased* power of action. In this respect, local inflammation corresponds with that general irriated vascular excitement, which constitutes fever. The heart and arteries are in a state of irriated action, *with increased power of acting* in synocha. In typhus, there is also general irriated excitement; but it is connected with a *fundamental debility of the vital powers*. There is therefore, according to my apprehension, a typhous and a synochal state of inflammation; and this corresponds with the results we obtain from remedial applications. May we not explain these different *diatheses* of inflammation, by the greater or less degree of *organic injury* sustained by the nervous filaments of the inflamed capillaries? When a part is irriated, so as merely to exalt the sensibility of the capillaries, by exciting their nervous tex-

ture, the consequent inflammation will probably be one of *increased* capillary action, and demand sedatives for its cure: When, on the contrary, the irritating cause acts with such violence as to cause structural lesion in the nervous extremities, the inflammation resulting from its action will, I conceive, be characterized by debility, and stimulating applications, as is the case in scalds and burns.

Termination of inflammation. These are quadruple:—
Pract. of Med. p. 175.

1. **Resolution.** Inflammation is said to terminate in resolution, when it declines and disappears without any structural lesion, or perceptible discharge. Resolution is more prompt, in proportion as the organ affected possesses a higher degree of vitality; in the serous membranes, the progress of inflammation is particularly rapid. (Bichat.) Resolution is often accompanied by an increase of the natural secretions of the part: this is particularly noticed in the mucous and serous membranes; also, in rheumatic inflammation.
2. **Effusion.** The effusion may be blood, lymph, or serum. The termination by effusion of *blood*, most common in the mucous membranes; effusions of *lymph* and *serum*, almost peculiar to the *serous* membranes—the former fluid forms a bond of union between the serous membranes. Such adhesions never occur in the mucous membranes. Serum seldom abundantly exhaled, until the inflammation has assumed a chronic or sub-acute character. Dropsies are the consequence of this mode of termination. Effusion of lymph into the substance of the solid viscera, result in induration.
3. **Suppuration.** The cellular, serous, and mucous tissues, are most prone to this termination; the bones and tendons never suppurate. The mode of suppuration different in the different structures; in the mucous membranes, it is a morbid secretion, the pus having a whitish, cream-like appearance. In the serous membranes, pus is formed by a kind of exhalation, and is a thin whitish, or *whey-like* fluid, sometimes mixed with

flakes. In the cellular tissue, pus collects in circumscribed cavities, called *abscesses*, and is of thick and uniform consistence and pale yellow colour, exhibiting to the microscope minute globules suspended in a serous fluid. *Symptoms* denoting the occurrence of suppuration, in the inflammation of external organs: a sensation of weight in the inflamed part; change from the acute to a dull throbbing pain; rigors; pulse losing its tension and hardness, and becoming soft and full; night sweats, and other symptoms of hectic.

4. *Gangrene*. Never occurs in the cartilages, nerves, or bones. The cellular, mucous, and serous tissues, are most prone to it; more common in the peritoneum, than in any of the other serous membranes; of the *mucous* membranes, than lining the alimentary canal is most subject to it. The occurrence of gangrene is denoted by, sudden cessation of pain; sinking pulse; cold extremities; cold sweat; delirium; and cadaverous countenance.

There exists in the different forms of inflammation, an "original disposition to terminate in one mode, rather than another: thus, in boil and whitlow, it is to suppurate; in carbuncle, to slough; and in mumps, to resolve: and this disposition is so strong, that it is very difficult to procure any other termination."

Varieties of inflammation. Inflammation occurs under five prominent modifications, corresponding to the five elementary tissues— viz. the *cellular* membrane and *parenchyma* of the solid viscera; the *serous* membranes; the *mucous* membranes; the *skin*, or *dermoid* tissue; and the *fibrous* membranes.

1. *Inflammation of the cellular membrane, or phlegmonous inflammation.* Characterized by, great swelling, throbbing pain, and by its mode of suppurating; the pus being collected in *circumscribed cavities*. Diffuse cellular inflammation.
2. *Inflammation of the serous membranes, or serous inflammation.* Pain very acute and lan-

cinating—rapid in its course; no tumefaction; much sympathetic excitement of the general sanguiferous system, terminating in the exudation of coagulable lymph or serum, or the secretion of a whey-like pus; adhesions are peculiar to this variety of inflammation; it rarely terminates in gangrene.

3. *Inflammation of the mucous membrane, or mucous inflammation.* Almost always produced by sudden atmospheric vicissitudes, in consequence of the close sympathy which subsists between these membranes and the skin. Sometimes prevails epidemically. Pain not very severe; unattended with swelling of the subjacent cellular tissue; concomitant fever not intense; never terminates without an increase of mucous secretion. No adhesions ever formed.
4. *Inflammation of the skin, or erysipelatous inflammation.* Pain of the stinging or burning kind; spreading; forming vesicles; never suppurating in circumscribed cavities; dependent on a specific cause.
5. *Inflammation of the fibrous membranes, or rheumatic inflammation.* Pain intense and aching; does not terminate in abscess or suppuration; terminates by an exudation of a gelatinous matter; or by earthy depositions; is wandering, accompanying fever always synochal; rarely proves fatal, except by metastasis to organs essential to life.

Diagnosis of internal inflammations. The existence of internal inflammation is ascertained by: the continuance of the pain; the appearances of the blood; the state of the general vascular excitement; the effects of external pressure; the effects of position; the character of the functional derangements; the temperature of the skin; and the nature of the exciting causes.

CHRONIC INFLAMMATION.

Chronic Inflammation is generally, though not always, the consequence of *acute* inflammation. Doctrines concerning its nature.

The effects of Chronic Inflammation,—dropsical effusions, and tuberculated accretions in the serous membrane; phthisis, diarrhœa, dyspepsia, and various other affections in the mucous membrane, &c.

TREATMENT. The indications in the treatment of acute inflammation, are—1. To diminish the momentum of the general circulation; 2. To drive the blood from the inflamed part; 3. To alter the action of the inflamed capillaries; and 4. To change the inflammatory condition of the blood.

CHAPTER X.

INFLAMMATION OF THE BRAIN.

Encephalic Inflammation is divided into two varieties—viz. *Phrenitis* and *Arachnitis*.

PHRENITIS.

In *Phrenitis*, the *substance* of the brain, as well as its membranes, are involved in inflammation.

Symptoms. Synocha; fixed and intense throbbing pain in the head; face full and flushed; eyes inflamed; intolerance of light; hearing at first morbidly acute, at last

almost complete deafness; *furious delirium* from the commencement, and constant wakefulness.

Causes. Insolation. Distinguished from mere *synocha*, with high cerebral excitement, by the following circumstances. In *phrenitis*, there is always prominent derangement of the *organs of sense*—in *synocha*, hearing and vision are but little affected. In *phrenitis*, the internal functions are always much disturbed—in *synocha*, this is rarely the case. In *synocha*, the pulse is *hard, full, frequent*, and *vibrating*, from the beginning—in *phrenitis*, it does not become so until the inflammation is fully formed.

Prognosis. Hæmorrhage from the nose is favorable,—from the *bowels*, in the advanced stage, unfavorable; *coma* supervening to delirium, a fatal sign.

Autopsic Phenomena. Flakes of coagulable lymph, pus, and serum between the membranes; sometimes adhesions; abscesses in the substance of the brain; erosions of the *dura mater*.

Treatment. Vigorously antiphlogistic. Prompt and decisive *bleeding*, both general and local; cold applications to the shaven scalp; cathartics; the refrigerant diaphoretics; blisters to the nape of the neck, after the febrile excitement has been moderated by depletion. The head should be kept in an elevated position, and the chamber dark, noiseless, and cool. *Digitalis* and nitre, after the disease has been in some degree subdued. *Pract. of Med.* p. 257.

ARACHNITIS, OR HYDROCEPHALUS ACUTUS.

This is a much more common form of encephalic inflammation than the preceding one. It has of late years been extensively investigated, by Martinet and Duchatelet, of Paris, whose pathological researches, in relation to it, are highly interesting and valuable. I treat of *hydrocephalus* and *arachnitis* under the same head; for it is now placed beyond all doubt, that the malady

known and described under the name of *hydrocephalus*, is neither more nor less than arachnoid inflammation. The term hydrocephalus is indeed altogether inappropriate to the disease; for instead of directing the mind to the *primary* and *essential* affection, it has reference only to *one* of the occasional *consequences* of the disease. Pract. of Med. p. 262.

Symptoms. Often very gradual in its approach. In this case, there are transient pains in the head and abdomen; the patient is dull, fretful, restless, and discontented; countenance pale, with an occasional flush on the cheek; the brows contracted, appetite variable; bowels torpid, or mucous diarrhœa; starting and grinding the teeth during sleep. After these symptoms have continued for an indefinite time, those which characterize the disease in its full development come on: these are—severe pain in the head, nausea and vomiting; deep sighing, occasional somnolency, and slight delirium; very dilated or contracted pupils; an expression of surprise and stupor in the countenance; slight redness of the conjunctiva; *paralysis of the upper eyelids*; squinting; eyes turned up, so as to hide the cornea under the upper lid; towards the last, constant somnolency, interrupted by spells of great anxiety and restlessness, or fits of violent and frightful screaming, paralysis of one side; convulsions; death. The patient can seldom be induced to utter more than monosyllables. The pulse is at first irritated, frequent, and tense; when somnolency comes on, it becomes *slower*; towards the termination, it again becomes very frequent.

The disease is sometimes ushered in by convulsions. I have seen it come on without any febrile excitement, the countenance remaining pale, with cold hands, deep sighing, a peculiar expression of surprise, vomiting, and constipation. It sometimes comes on in the shape of a remitting fever. After a few day's languor and drooping, fever ensues, attended with head-ache, flushed countenance, tenderness of the abdomen, stupor du-

ring the exacerbations, the patient screaming and starting up in great alarm, great irritability of the stomach, obstinate constipation, &c.

Predisposition. Hereditary, in some instances; the scrofulous diathesis predisposes to it.

Exciting causes. External injuries; dentition; *intestinal irritation*; suppression of serous discharges of cutaneous eruptions, particularly about the head; frequently the consequence of *cholera*, whooping cough, measles, and scarlatina.

Diagnosis. *Arachnitis* to be distinguished from *infantile remittent*, by the regularity of the remissions in the latter, and the character of the stools. In infantile remittents, the stools are fetid, and of a dark-brown or mud-like appearance—in *arachnitis*, they are dark-green and glairy.

The connexion between *arachnitis* and *cholera infantum* pointed out.

Prognosis. Always highly dangerous; deep somnolency, paralysis, blindness, strabismus, and convulsions, indicate a fatal termination.

Autopsic phenomena. Commonly, general redness of the arachnoid membrane; sometimes it is opaque and thickened, with a purulent, sero-purulent, or sero-gelatinous effusion on the surface, more or less *serous* effusion into the ventricles, and between the lamina of the arachnoid.

TREATMENT. The indications are—1. To moderate the general febrile excitement; 2. To subdue the local encephalic inflammatory affection of the brain; and 3. To remove those causes which tend to keep up a preternatural determination to the brain.

For this purpose are employed:

Bleeding, copious and prompt, both general and local. The blood should be suffered to flow, until an approach to syncope is induced;—leeching on the crown of the head. (Duchatelet.) General always to be premised to local bleeding.

Purgatives are of great importance. Calomel the best purgative, on account of the torpor of the liver in the early period of the disease. Where worms are suspected, spigelia and senna should be used,

In cases depending on *intestinal irritation*,—and the majority of cases in infancy are of this kind,—*violent purging* is improper. Mild laxatives, however, are of the utmost importance. Where the disease has been brought on by external injuries to the head, or where the arachnoid inflammation is idiopathic, the more active purgatives may be employed with advantage.

Revulsive applications. Cold applications to the head; blisters; pediluvium; cupping. Blisters are usually applied to the shaven scalp—I prefer placing them behind the ears, or on the nape of the neck, while ice or other cold applications are made to the scalp, and sinapisms laid on the soles of the feet.

Mercury: with a view to its constitutional influence, one of our most useful remedies in this disease. Percival, Dobson, Rush, Cheyne, and others, mention cases which yielded to it.

James's Powder. Dr. Stocker states, that this article has a decided tendency to diminish the circulation to the head; and of the truth of this observation, I have had repeated evidence. It is best given in combination with calomel, in this disease.

Dover's Powder. Drs. Brooke, Percival, Cheyne, and Crampton, speak highly of the efficacy of this article in hydrocephalus. In cases depending on intestinal irritation, after adequate depletion, it may sometimes prove serviceable. In the idiopathic form of the disease, however, all opiates are injurious.

Digitalis has been recommended; and, from its tendency to lessen the action of the heart and arteries, it may undoubtedly be employed with occasional advantage.

ERETHISM OF THE BRAIN. (Dr. Nicholl.*)

Infants are subject to a morbid condition of the cerebral structures, which appears to consist in a highly irritable or sensitive state of the nervous centre; being unattended by inflammation, or increased momentum of blood in the cerebral vessels. I have frequently witnessed this affection, and think it a subject of sufficient importance and interest, to introduce it to the attention of the medical student. It is characterized by: wakefulness; irritable temper; retina very sensible to light; contracted pupils, much action of the limbs; head often moved from side to side, extreme fretfulness; frequent crying, without any apparent cause—the little patient being “soothed only by tossing it, by carrying it about, putting it to the breast, or letting it suck the cheek of the nurse, or its own fingers;” increased secretion of tears; bowels generally relaxed, without a disordered state of the stools. When sleeping, the child often starts, and is readily awakened; when awake, it starts at the slightest noise, or on being slightly touched; often shrieks out, as if it were pricked with a pin; the fists are frequently clenched, the thumb being bent in, and the fore-arms bent upwards on the arms. Sometimes the child presents, for a short time, a state of *opisthotonos*, “its legs being drawn up, and the head thrown backwards.”

In adults, this erethismal state of the brain shows itself by “irritability of temper,” inability to bear the effects of the most trifling sounds, wakefulness, restlessness, febrile symptoms,” &c.

Subjects of a scrofulous diathesis are particularly predisposed to this morbid cerebral irritability.

* Practical Remarks on Disordered States of the Cerebral Structures, occurring in infants. By Whillock Nicholl, M. D. &c. &c. London, 1821.

Causes: dentition; gastric irritation, from various causes; torpor of the liver, &c.

Treatment. Exercise in the open air; small doses of ipecac, compos.; a mild unirritating diet; leeches to the temples; lancing the gums; mild aperients and diuretics; pediluvium.

SOFTENING OF THE BRAIN.

This form of cerebral disease has of late been abundantly noticed by the French pathologists. Recamier, Bayle, Cayol, Brichereau, Rostan, and Lallemand, have published numerous interesting observations, concerning its symptoms and pathology. The disease consists in a *softening*, or kind of liquefaction, of a *portion* of the brain, with vascular injection of the rest of its substance. Rostan divides the disease into two periods.

The symptoms of the *first period* are: *a fixed and violent pain* in the head, often continuing for several months; vertigo; *obtuseness of the mental faculties, the memory being weak, and the ideas confused*; questions are answered after long hesitation; dejection; querulousness; indifference to surrounding occurrences; drowsiness; tingling and numbness in the fingers; frequently perverted vision, and occasionally total blindness; dull hearing,—sometimes very acute; frequently nausea and bilious vomiting; tenderness of the epigastrium; constipation; pulse variable, sometimes hard and full; occasionally there is delirium, with fever, and much agitation.

The *second period* is characterized by a gradual or sudden paralysis of *one* limb, sometimes of half the body; consciousness and intellect remain; questions are answered with very great difficulty, the patient generally expressing his desires by automatic movements; some-

times perfect coma; death commonly follows, in two or three days.

The *corpora striata*, and *thalami opti-
corum*, have been most frequently found the seats of this softening.

The inflammatory nature of this disease has been much doubted by some; but the facts and arguments adduced by Lallemand, render the opinion of its being of an inflammatory character exceedingly probable. This writer thinks that the *softening* is "the effect of inflammation arrested in its course by death, *before* purulent suppuration has had time to take place."

Diagnosis. A contraction of the flexor muscles of the limb, is particularly characteristic of this disease.— "Sometimes," says Lallemand, "this amounted only to simple rigidity of the limbs; at others, it was carried so far, that the patient's fist was kept rigidly applied to the shoulder, and the heel to the buttock." Contrary to what takes place in apoplexy, *the mouth is drawn towards the paralyzed side.*

TREATMENT. General and local bleeding; sinapisms to the feet; cold applications to the head; cathartics; blisters to the back of the neck; calomel, with a view to its salivant effect.

CHAPTER XI.

ACUTE GASTRITIS,

Symptoms. Burning and lancinating pain in the stomach; frequent vomiting, particularly on swallowing fluids; urgent desire for *cold* drink; constipation; fever,

with a small, hard, and frequent pulse. After a draught of cold water, a temporary mitigation of the gastric pain occurs; difficulty of swallowing; disgust of warm drinks; great prostration of strength from the beginning. Pract. of Med. p. 106.

Diagnosis. Distinguished from spasm and flatulent pains, by the following circumstances. In *gastritis*, the pulse is small and tense—in *cramp*, it is generally natural. In the former, there is violent and frequent vomiting—in the latter, this rarely occurs. Warm drinks excite instantaneous vomiting, in *gastritis*—in *spasm*, they do not. The pain of *gastritis* is continuous—that of *spasm* is paroxysmal or intermitting. In *gastritis*, the patient lies on his back, without moving, with his knees drawn up—in *cramp*, he sits up, with his body bent forward, or writhes about during the violence of the pain. In *gastritis*, the skin is hot and dry—in *cramp*, it is generally cool and moist. Hiccough is a common symptom in *gastritis*—in *spasm*, it seldom occurs.

Autopsic phenomena. The inner coat of the stomach thickened and red, with gangrenous, eroded, or ulcerated spots.

Causes. Mechanical irritants; poisons; cold water, swallowed while the body is in a state of free perspiration; over-distention with food or drink; the sudden application of cold to the surface; suppression of habitual discharges, &c.

TREATMENT. *Bleeding*; the smallness of the pulse and prostration in the beginning of the disease, no objection, but on the contrary a strong indication of the necessity of prompt and copious depletion. The pulse becoming fuller and less frequent, is an evidence that the disease is yielding.

Blisters over the epigastrium, are next in importance to bleeding; they are to be preferred to leeching, and should be early applied. Costiveness must be obviated by *enemata*. *Cathartics*, and the usual internal anti-

phlogistics wholly inadmissible. Copious draughts of bland, mucilaginous drinks, beneficial.

Opium, a valuable remedy in this disease: after the violence of the local and general inflammatory excitement has been moderated by depletory measures, I know of no remedy that is so useful in allaying the vomiting and gastric pain, and producing a general and salutary diaphoresis, as opium in *large doses*. I have given two grains of this narcotic, in some exceedingly violent cases, with the happiest effect.

CHRONIC GASTRITIS.

Chronic inflammation of the mucous membrane of the stomach, is of much more frequent occurrence than is generally supposed. The worst forms of dyspepsia, and all that host of inveterate gastric and bilious derangements, of which so much is heard, and the true nature of which is so often misunderstood, are, in nine cases out of ten, the consequence of a more or less phlogosed condition of the mucous membrane of the stomach. We are indebted to the French pathologists, and more especially to Broussais, for much new and valuable information, in relation to this variety of phlegmasial disease. *Pract. of Med.* p. 191.

Symptoms. A pricking, lancinating, or burning pain in the epigastric or hypochondriac region; the pain is constant and harassing, generally confined to a very circumscribed spot, and often attended with a feeling of constriction; sometimes a sensation is felt, as if a ball were pressing on the diaphragm; at others, as if a bar were fixed across the stomach, impeding deglutition; depraved and impaired appetite, often general abhorrence of food; indigestion, vomiting, or nausea; load at the stomach after eating; pulse but little excited, and heat of the surface natural, except during digestion, when they are a little elevated; great costiveness during the first period, but mucous diarrhœa after the

disease has become inveterate; the patient becomes irritable, dejected, taciturn, discontented; tongue of the color of logwood, with a strip of thin fur along its centre. In inveterate cases, emaciation, *with the skin drawn tight over the muscles*, so that it cannot be pinched up. This tightness of the skin is the most constant diagnostic sign of the disease. Mere gastric debility may be distinguished from it by the effects of an emetic: when fever, pain, and anorexia, become increased after the operation of an emetic, we may be sure of the existence of high irritation, or phlogosis, in the mucous membrane of the stomach.

Mr. Barras has published some interesting observations, in the *Revue Medicale*, for November and December 1825, on *gastralgia*, and the frequency with which it is mistaken for *gastritis*. He gives the following, among others, as diagnostic symptoms between those two affections.

1. "In *chronic gastro-enteritis*, the pain is generally *obtuse*; often felt only on pressure; is never absent. *Gastralgic* pain, on the other hand, is often extremely violent; is often, when most violent, relieved, rather than increased by pressure. It often radiates from the epigastrium towards the thoracic parietes, the back, and the shoulders; is of an intermittent character, sometimes entirely disappearing, to return with more or less violence.
2. In *chronic gastritis*, the tongue, which is generally red on the sides and at the top, is covered in the middle with a kind of dry mucous crust, resembling a false membrane, the breath is fetid, with a bitter taste in the mouth; there is thirst. In *gastralgia*, the tongue is white; saliva abundant, no thirst, but sometimes a repugnance even to liquids.
3. In *gastritis*, the appetite is *always* bad, and sometimes amounts to a universal disgust towards every kind of food. In *gastralgia*, the appetite is variable, null, slight, natural, often greater than in health.
4. In *chronic gastritis*, the ingestion of a small quantity of food renews the patient's sufferings; excites a febrile movement in the system, and the digestion is always imperfect. There is often rejection of the food by vomiting, a little time after eating; or if there be no vomiting, the patient is oppressed during the digestive process, with a sense of weight, distention,

nausea, acid or acrid eructations, and irritation of the bowels, or diarrhoea, in the advanced stages. In some cases of *gastralgia*, the pain is relieved, at least for a time, by eating food in considerable quantity, and the digestion is complete, or even too quick. In the generality of cases, however, of *gastralgia*, the presence of food in the stomach renews the pain; but not fill some time after eating, generally one, two, or even three hours; at which time the patient experiences weight and malaise at the epigastrium, as if there was a foreign body in the stomach. There are nausea, borborygmi, flatulent colic, eructations of air, but without fetor or causticity. Sometimes indeed, patients will taste the aliments that they have swallowed in the air which they eructate, but digestion is completed, and diarrhoea is very rare. Constipation is generally obstinate, and the urine, especially when the *gastralgia* is in a high degree, is usually pale, voided frequently, and in small quantities at a time.

5. Chronic gastritis never fails to impair the process of nutrition, inducing hectic fever, characterized by hardness and frequency of the pulse, heat of the skin, and evening exacerbations, with loss of flesh and strength, sallowness of the countenance, with a peculiar dark tinge, and finally death.
6. In some violent and prolonged cases of *gastralgia*, the patients experience difficulty of breathing, palpitations of the heart, wandering pains, and peculiar sensations of coldness, and especially in the arms, loins, and lower extremities. The sleep is sometimes good, sometimes agitated, sometimes null; yet, in the mornings, the patient gets up refreshed, and feels quite well, till breakfast renews the gastric sensibility. Nothing of this kind obtains in latent *gastritis*.
7. Those who are affected with chronic inflammation of the digestive tube, are melancholy, morose, and impatient; but this is nothing to the state of moral depression and anxiety which obtains in *gastralgia*. In this last, there is ineffable despondency; disgust of life, or fear of death in the extreme; the slightest sensation in the stomach, awakens the patient's terrors; he is tremblingly alive to every look of his physician—to every word which is spoken by his friends respecting his complaint; he is afraid of taking any thing into his stomach, as he knows, by doing so, he will aggravate the complaint; he is convinced that his disease is mortal—becomes entirely absorbed by his own sensations, and indifferent to every thing else. But any diminution or cessation of the *gastralgia*, immediately changes the scene from despair to sanguine hope—to be again reversed on the slightest accession of the pain.”

Causes. Indigestible and irritating diet; acrid medicines received into the stomach; the abuse of spirituous liquors; exposure to a cold and damp atmosphere; frequently the consequence of acute gastritis.

TREATMENT. Almost the whole remediate management depends on the proper regulation of the diet, together with the employment of leeches or blisters to the epigastrium. The food must be chiefly liquid, and as mild as possible; mucilaginous fluids, such as decoctions of barley, rice, or thin gruels, are the best articles of food; animal jellies are proper—so is boiled milk, with water. I have found small doses of ipecacuanha and calomel in combination, decidedly advantageous;—one-eighth of a grain of the former, with one fourth of a grain of the latter, may be administered three times daily. A weak emulsion of bals. capaiva has also been found serviceable: this article, though irritating, has a peculiarly beneficial operation in chronic phlogosis of the mucous membranes.

ACUTE ENTERITIS.

Symptoms. Fixed, burning pain in the abdomen, generally about the umbilical region; obstinate constipation, nausea and vomiting, the latter being sometimes so severe, as to communicate inverted action to the intestines, and produce stercoraceous discharges by the mouth; fever, with a small, frequent, and tense pulse; very rarely, the pulse is full and hard; dry and red tongue, urgent thirst; dry and hot skin; urine high colored, and small in quantity; respiration short, and performed by the intercostals exclusively; position on the back, with the knees and shoulders elevated.

When the upper part of the colon is affected, acute enteritis is often attended by symptoms of pleuritic or hepatic inflammations.

Diagnosis. In pleurisy, the pulse is *full* and *hard*—in enteritis it is small and tense; abdominal respiration in

pleurisy—not so in enteritis; abdomen tender, and painful to pressure, in enteritis—not so in pleurisy.

Spasmodic pain distinguished from enteritis, by: the paroxysmal character of the pain; the constant change of position; the ease obtained by pressure on the abdomen; natural temperature and moisture of the skin, and the want of thirst, which characterize spasm of the intestines. The reverse, in all these circumstances, obtains in enteritis.

The only favorable termination is in resolution; suppuration is rare; gangrene is more common, and is always fatal. The disease would seem sometimes to prove fatal, without any of the usual terminations of inflammation. Pract. of Med. p. 199.

Prognosis. Always very uncertain; an almost imperceptible pulse, with cold hands and feet, indicate great danger; diffusion of the pain throughout the abdomen dangerous; tumid and tympanitic abdomen, a bad sign; frequent vomiting, in the latter stage, highly unfavorable.

TREATMENT. Copious depletion in the early stage. Difference of opinion concerning the propriety of employing active cathartics; *mild laxatives* very useful; *drastic purgatives*, however, are improper; decisive bleeding an essential preliminary to the use of laxatives; calomel, or castor oil, in conjunction with opium, good articles for the purpose. *Opium* an important remedy in the latter period of the disease, after the violence of the local and general inflammatory excitement has been moderated by depletory remedies. It promotes the operation of purgatives, determines to the surface, produces diaphoresis, and relieves the distressing pain suffered in this disease. When opium is given, *it should be in large doses.* Two grains may be given every two hours. Pract. of Med. p. 201.

Large doses of opium have a much less tendency to increase or support the inflammatory diathesis, than small ones. The sensibility and irritability of the system are greatly reduced, by a large dose of this valuable narcotic; and with them, all those

morbid phenomena which depend on, or are influenced by, a preternaturally sensible state of the system, are moderated.

Blisters to the abdomen are indispensable. *Leeching*, and *fomentations* are recommended; *blistering*, however, is preferable.

The ordinary internal antiphlogistic remedies frequently do harm. *Mild diluents*, of the mucilaginous kind, very useful; great attention to the diet, necessary during convalescence; the most unirritating food is alone admissible.

In the variety of enteritic inflammations noticed above, the inflammation is seated chiefly, if not exclusively, in the *peritoneal coat* of the intestines. Obstinate costiveness is an essential symptom of this form of the disease. There is another variety of *acute* enteritis, in which the *mucous membrane* of the intestinal tube is the exclusive seat of the inflammation; and which is essentially attended by *mucous stools*, *more or less mixed with blood*, and by *tenesmus*. This latter form of the disease constitutes:

DYSENTERY.

Character. In inflammation of the mucous membrane of the intestinal canal, attended by fever, frequent bloody or mucous stools, griping, and tenesmus. Pract. of Med. p. 206.

Symptoms. The fever generally becomes developed, before the enteritic symptoms—sometimes the reverse takes place. The violence of the tenesmus, a pretty correct criterion of the violence of the disease; tormina most severe, just before the calls to stool; constant soreness of the abdomen; evacuations sometimes wholly mucous; more commonly mixed with blood—occasionally, altogether blood; smell of the stools, at first, disagreeable, but not fetid—towards the last, of a cadaverous, penetrating fetor. In violent cases, colliquative

diarrhœa sometimes come on, a few days before death. Tongue at first white, afterwards brown, rough, and dry along the middle, with *a red and moist border*; clean and florid along the edges and tip, or smooth, clean, and deep red over its whole surface, in protracted cases. In some very protracted cases, the tongue and fauces become aphthous. *The stools are never colored with bile.* The skin is always dry.

Autopsic appearances. The traces of inflammation are sometimes confined entirely to the colon; more commonly, however, marks of inflammation appear throughout the whole intestinal canal; but even where this is the case, the colon and rectum exhibit *much stronger marks of disease* than the other portions of the intestines. Very frequently, the mucous membrane of the colon and rectum is found ulcerated, thickened, soft, pulpy. The *liver* is frequently found to have suffered structural derangement; it is most commonly enlarged, and in a state of great sanguineous congestion. Pract. of Med. p. 208.

Causes. Checked perspiration, by the application of cold. Analogy between dysentery and catarrh, founded on the similarity of their ætiology. Suppressed perspiration always among the first morbid phenomena of dysentery. Deranged function of the liver and the skin are invariably present. (Johnson.) "The period most favorable for the production of dysentery, is when a cold and moist autumn succeeds a warm and dry summer." (O'Brien.) Dysentery appears often to be the production of the joint influence of atmospheric vicissitudes and marsh miasmata, *Sporadic* causes, such as, unripe fruit; indigestible and unwholesome food; irritating substances received into the bowels. *Not contagious.* *Scybala* have been much accused of giving rise to dysentery; the correctness of this accusation is denied by Dr. Johnson, and I believe very justly. I have seen a very great number of dysenteric patients; and yet the number of cases in which I have

noticed the discharge of these hardened balls of fæces, is exceedingly small.

Prognosis. Cases in which the stools consist almost entirely of blood, are generally more tractable than when the discharges are principally mucous. Colloquative diarrhæa, at an advanced period, very unfavorable; stools of a penetrating and cadaverous smell, a very bad sign. Tympanitis, with small mucous stools, or with fetid sanious discharges from the bowels, highly unfavorable. A small, frequent pulse, with a sunken and cadaverous countenance, hiccough, and cold extremities, indicate a fatal termination. Bile appearing in the stools, is a favorable sign.

TREATMENT. The indications are—1. To moderate the febrile excitement, when excessive; 2. To restore the functions of the skin and liver; 3. To subdue the local inflammatory affection of the bowels.

In estimating the comparative importance of these indications, it is necessary to recollect, that suppression of the cutaneous exhalation, and consequent torpor of the liver, with an engorged state of the portal circulation, is antecedent to and causative of the intestinal phlogosis, and that the reaction of the heart and arteries is consecutiv to this local inflammation.

From these circumstances, therefore, it seems evident that the restoration of the cutaneous and hepatic functions, constitutes the most important indication in the treatment of this malady; for in proportion as we succeed in the fulfilment of this indication, so do we equalize the circulation, lessen the determination to the bowels, and consequently moderate the local inflammation upon which the peculiar symptoms of the disease depend.

Bleeding. A very important and often indispensable *auxiliary* remedy, though rarely in itself sufficient to cure the disease. Analogy between dysentery and rheumatism, in this respect. Vide Pract. of Med. p. 213.

Purgatives. Constant and active purgation, injurious; *mild laxatives*, however, should be repeated almost daily; *calomel*, succeeded by a dose of *castor oil*; or this latter article alone, are excellent laxatives in this disease. Purgatives advantageously given in conjunc-

tion with *opium*. Spirit. tereb. given with ol. ricini, often renders the operation of the latter more certain and less painful. (Cheyne.) This is confirmed by my own experience. *Cream of tartar* recommended as a purgative. (Cheyne.) *Modus Operandi of purgatives in the cure of dysentery.*

Emetics too much neglected in dysentery. Most writers recommend tartrate of antimony. I regard ipecacuanha as the best emetic in this disease. Emetics not useful or proper in the *latter* period of the disease; their beneficial operation confined to its commencement.

Diaphoretics are among the most valuable curative means in this disease. The bowels having been adequately evacuated by *mild* laxatives, and bleeding having been practised, where the violence of the febrile symptoms demanded, *diaphoretics*, in conjunction with *calomel*, is the sheet-anchor of our hopes. *Dover's powder*, a peculiarly excellent diaphoretic in this complaint, on account of its conjoint anodyne and diaphoretic operation. Six grains of this article, with three or four grains of calomel, may be given every six hours. A combination of *calomel*, *opium*, and *antimonial powder*, an excellent diaphoretic anodyne. (O'Brien.) Cullen's objections to *opium*, in this disease, noticed and refuted, *Observations on the great usefulness of this narcotic in dysentery.*

Dr. Cheyne states, that, in the epidemic dysentery which prevailed in Ireland a few years ago, he met with many cases in which the ordinary plan of treatment by diaphoretics, purgatives, and calomel, made no impression on the disease. These cases were attended by intolerance of slight pressure on the abdomen, agonizing pain, unceasing tenesmus, the *great pyrexia*. In these cases, he derived the greatest advantage from opium, in four or five grain doses, in conjunction with bleeding, and scruple doses of calomel.

Calomel, with a view to its specific or constitutional operation, a valuable remedy in this disease. *Ptyalism* only proper in very protracted or chronic cases. Its beneficial operation chiefly dependent on its powers to

excite the various secreting organs, particularly the liver, which is always torpid and congested in dysentery; and on its tendency to equalize the circulation.

Blisters, leeches, or emollient poultices to the abdomen, often highly beneficial.

Anodyne Enemata, relieve the distressing tenesmus and tormina. The *warm bath* is also a very useful auxiliary remedy.

Balsam capaiva, a valuable medicine in chronic dysentery. (Pemberton, Cheyne, and Johnson.)

Astringents may, under certain circumstances, be advantageously employed; generally speaking, however, they do more harm than good. Other remedies mentioned, and their merits discussed.

CHRONIC ENTERITIS.

This modification of enteric inflammation, is of frequent occurrence. Its symptoms are often obscure and equivocal. Most of the cases usually termed marasmus, consist of chronic inflammation of the mucous membrane of the bowels. Chronic diarrhœa also generally depends on this grade of internal phlogosis. Pract. of Med. p. 221.

SYMPTOMS. No distinct abdominal pain; obtuse pain on firm pressure on the abdominal parietes; a sense of soreness also is felt; muscular debility; pulse small and weak; cold hands and feet; slight febrile exacerbations in the evening; pain in the bowels, or nausea, after taking food; frequently constant diarrhœa; in *inveterate* cases, the skin is dry and sallow; sleep interrupted; tongue smooth and red round the edges, and brown in the middle; great emaciation; painful diarrhœa, alternating also with costiveness; appetite variable, being sometimes voracious, at others entirely gone; the food is often evacuated from the bowels, in an imperfectly digested state; the alvine evacuations vary in appearance; sometimes slimy and small in quantity, at others

copious, liquid, and dark. The disease continues for many months, and even for several years.

Causes. Sometimes the consequence of acute phlogosis of the mucous membrane of the bowels; irritating and indigestible food; the influence of a cold and damp atmosphere; drastic cathartics, and other irritating substances, whether received from without, or generated in the bowels.

Treatment. Leeches, or blisters to the abdomen; the former are generally thought the most valuable. Almost every thing depends on proper dietetic regulations. The food should be of the mildest kind, and "such as leaves the least feculence to pass along the intestines." A liquid *farinaceous* diet must be enjoined; *animal* food, in a solid form, is improper. Barley, rice, oatmeal, tapioca, &c. are to be used in the form of soup, or gruel. Over-distention of the stomach, even by the mildest food, is highly injurious. *Mild laxatives* are to be occasionally given; *active* articles of this kind, injure; castor oil will answer.

Balsam copaiva, a very valuable remedy.

Spir. terebinth. given in emulsion, often highly useful.

It may appear inconsistent to recommend *balsam copaiva* and *spirits of turpentine*, in this affection after having declared that the most unirritating diet is a *sine qua non* on its treatment, and that *active* cathartics are injurious, on account of the irritation they produce in the phlogosed structure.

Whatever may be the conclusions of *reason*, on this subject, *experience*, which is always our best instructor, teaches, that both the articles in question are often decidedly beneficial in the present variety of intestinal phlogosis. There is nothing more extraordinary in this, than in what is observed in the treatment of some other varieties of inflammation. In *catarrhal ophthalmia*, soothing applications are undoubtedly proper; yet the application of a weak solution of lunar caustic, or of small portions of precipitate ointment, will very frequently produce an immediate amendment in the disease, whilst astringent washes seldom fail to do mischief.

Opium, with *calomel*, in small doses. The pulv. ipecac. composit.; mucilaginous drinks; and minute doses of pulv. ipecac., may be employed with benefit.

CHAPTER XII.

INFLAMMATION OF THE LUNGS, AND THEIR
APPENDAGES.

ACUTE PLEURITIS.

Symptoms. Pungent pain in the chest, much increased by inspiration; cough dry, or attended with a glairy and nearly colourless sputa; pulse full and hard; difficulty of lying on one side; respiration chiefly performed by the abdominal muscles. When the inflammation extends to the substance of the lungs, there is generally bloody expectoration.

Causes. Sudden exposure to cold, when the body is in a state of free perspiration; atmospheric vicissitudes; metastases of gout, erysipelas, acute and chronic cutaneous affections, suppressed catamenia, rheumatism. It appears sometimes to depend on epidemic causes.

Autopsic phenomena. The pleura is red, and punctuated with an infinite number of red points; frequently covered with an immense number of milliary tubercles; false membranes sometimes adherent to its internal surface; adhesions between the pleura costalis and pleura pulmonalis; occasionally, effusions of sero-purulent, or serous fluid, into the chest. Pract. of Med. p. 280.

Prognosis. Acute pleurisy not a very dangerous disease; its consequences to be dreaded, in persons *predisposed to phthisis*; the more the inflammation extends to the lungs, the more danger; the supervention of diarrhæa, a fatal sign; convulsions and coma no less unfavorable.

PERIPNEUMONY.

In peripneumony, the inflammation is seated principally in the *substance* of the lungs. It is characterized by the following

Symptoms. Difficult and oppressed breathing; *dull* pain in the chest; cough, with viscid sputa, mixed frequently with blood; pulse at first hard; afterwards weak, soft, obstructed, and irregular; inability to lie on the *sound* side; the sputæ are of yellowish, or greenish white; exceedingly tenacious; somewhat diaphanous, and intermixed with bubbles of air. (Lænnec.)

Autopsic phenomena. The structural changes classed under three heads.

1. *Engoument, or choked lung.* Lungs partially crepitous, of a livid color, containing an abundance of frothy, serous fluid, in its substance.

2. *Hepaticized lung.* Lungs not crepitous; resembling the liver in weight, consistence, and color, having entirely lost its cellular structure, and acquired a granulated appearance, *with no extravasated fluid in its substance.*

3. *Hepaticized and granulated structure,* with an abundance of an *opaque, yellowish, viscid matter,* in its substance. This fluid is the result of pulmonary suppuration. (Lænnec.)

Diagnosis. Peripneumony, distinguished from pleuritis, by: (Pract. of Med. 236.)

Percussion. In peripneumony, the sound of the *diseased* side is *obscure*, and differs from that produced on the *sound* side, which is more clear. In pleurisy, percussion produces the same sound on both sides. *Pressure* made on the abdomen, *in pleurisy,* does not aggravate the pleuritic pain; in peripneumony, strong abdominal pressure immediately excites distressing involuntary cough, oppression, and a sense of suffocation. *Position.* In pleurisy, the patient lies on the affected side;

in peripneumony, on the sound side. Pressure on the intercostal spaces, produces pain in pleurisy, but not in peripneumony; the pain in the former is lancinating, in the latter it is dull.

Prognosis. *Favorable signs:* a copious expectoration of a thick yellowish matter; increased discharge of urine; general, but not profuse perspiration, with an abatement of the pain, oppression, and cough. *Unfavorable signs:* pain and oppression diffused, dry cough; or thin dark colored expectoration; countenance livid; great dyspnœa; weak, soft, and frequent pulse; delirium; coma; internal feeling of cold, while the surface is hot; a copious and limpid urine in the commencement; rattling in the chest; disposition to elevate the head and shoulders, and bare the breast.

TREATMENT. *Bleeding;* all important; to be employed more cautiously in the advanced periods of peripneumony, than in pleurisy. *Blisters* to the thorax, indispensable; more efficacious than leeches; should be early applied. *Cathartics*, of the *drastic* kind, improper; *mild laxatives* beneficial. *Emetics* seldom useful. *Diaphoretics* of considerable advantage; nitre, with tart. antimony, commonly employed; *muriate ammonia*, instead of nitre, recommended by Richter; I have often found it decidedly beneficial. *Expectorants* very useful, after the general febrile excitement has been moderated; the mildest and least stimulating articles of this class, should at first be used. I have found the following a most excellent expectorant, R. extract. glycyrr.: ʒj. Kermes mineralis, gr. xv. tinct. thebaic. gr. xl.; infus. polygalæ seneg. ʒviii. M. dose, a table-spoonful every two hours. *Opium*, in conjunction with *calomel*, a most valuable medicine in *peripneumony*, after the disease has continued three or four days. When the expectoration is copious, and of a proper consistence, *opium* should be given in very small quantities. The pills of Pariset answer a good purpose, under such circumstances—they consist of a fourth of a grain of

opium, with a twelfth of a grain of tart. antimony—one to be taken every four hours. In pneumonic inflammation, from repelled cutaneous eruptions, measles, or scarlatina, *camphor* is, according to Richter, a valuable remedy—particularly when combined with pulv. ipecac. compos. Mucilaginous drinks, &c.

PNEUMONIA BILIOSA.

This variety of pneumonia [is produced by the combined agency of marsh miasmata, and sudden atmospheric vicissitudes. Pract. of Med. 283.

Symptoms. Along with the ordinary pectoral symptoms of pneumonia, there are others, indicative of much functional derangement of the hepatic system, such as: fulness in the right hypochondrium; pain in the back and limbs; yellowness of the tunica albuginea and skin; sometimes mucous and bloody discharges from the bowels, with tenesmus and acute head-ache. These symptoms generally precede the occurrence of the thoracic affection, for several days. The [attending fever is somewhat remittent; bilious vomiting is frequent; tongue covered with a brown fur; pulse commonly small, quick, frequent, and slightly tense.

TREATMENT. Great discrepancy of opinion on this subject; some recommend *very copious bleeding*—others condemn it, and I think with propriety.

Emetics are of primary importance. *Gentle laxatives* are to be daily employed—for this purpose, *calomel*, with *ipecacuanha*, answers exceedingly well; from ten to fifteen grains of the former, and six or eight grains of the latter, generally vomits once or twice, and procures several bilious stools afterwards. *Blisters* less serviceable in this than in the preceding varieties of pneumonia. *Opium*, in conjunction with *calomel*, a remedy of great value. Expectorants, useful; diaphoretics of minor consequence.

ACUTE BRONCHITIS.

This variety of pulmonary inflammation is generally described under the name of *peripneumonia notha*. It consists of *acute inflammation of the mucous membrane of the bronchia, with great sanguineous congestion of the lungs*. Much of the peculiar character of the disease depends on this congestion. Old people and infants most subject to it.

Symptoms. Great oppression and tightness in the breast; cough; *severe pain in the forehead, greatly increased by coughing*; expectoration; at first, a viscid, and frothy white mucus, becoming mixed with blood, as the disease advances; sometimes vomiting; febrile excitement not violent; pulse, and heat of the surface, not much above the natural standard; tongue moist and white; *countenance pallid*; little or no pain in the chest; the pain is dull, and attended with very oppressed breathing; vertigo; delirium seldom; *wheezing respiration*.

There is in this disease a particular tendency to effusion into the substance of the lungs; and it is generally from the occurrence of this circumstance, that the disease proves fatal.

Autopsic phenomena. The lungs do not collapse; bronchia filled with a tough mucus, mixed with bloody serum and pus; a frothy fluid escapes from the substance of the lungs, when cut into; capillaries of the mucous membrane, red and enlarged; sometimes the pulmonary structure is more or less hepatized. The mucous membrane of the bronchia is manifestly the principal and primary seat of the disease.

Prognostic observations. Ratio Symptomatum. Diagnostic phenomena.

TREATMENT. Moderate bleeding, *in the commencement*, often beneficial—hazardous, after the disease has made some progress; cathartics of the *active kind*, in-

jurious—not so, *mild* aperients. *Emetics* among the most useful remedies, in this disease; they may often be advantageously repeated two or three times. *Expectorants* of the stimulating kind, such as polygala senega, and *gum ammonia*, are beneficial. Active stimulants must be given with the expectorants, when the pulse becomes very small, frequent, and soft. Camphor, and carbonate of ammonia, are the most valuable for this purpose. *Opium*, less serviceable in this than in the preceding varieties of pneumonic disease. In the commencement of the disease, small doses of opium and calomel allay the cough, and promote expectoration; but after expectoration is fully established, opium tends to produce dangerous engorgement of the bronchial cells, by allaying the desire to cough, and consequently to expectorate the mucus so copiously secreted by the bronchial glands. *Blisters* can never be omitted with propriety. I have seen much benefit derived from large emollient poultices applied to the thorax. *Diaphoretics*, of the mildly stimulating kind, are useful remedies in this disease—such as: infusions of *eupatorium*, *sage*, *balm*, the spiritus mindireri, with laudanum, pulv. ipecac. compos. &c. The inhalation of the steam of warm vinegar and water.

CHRONIC PLEURITIS, AND CHRONIC BRONCHITIS.

As these two varieties of pulmonary inflammation are generally attended with symptoms similar to those which occur in phthisis pulmonalis, I shall treat of them under the general head of *Pulmonary Consumption*.

CYNANCHE TRACHEALIS.

Character. An inflammation of the glottis, larynx, and upper part of the trachea, attended with a hoarse and ringing cough, sonorous respiration, and a sense of suffocation.

Symptoms. It commonly comes on gradually:—At

first, a hoarse cough, with slight difficulty of breathing; afterwards fever, respiration becoming more and more difficult, each *inspiration* being attended with a *peculiar ringing sound*; countenance full and flushed, during the first stage. The dyspnœa becomes at last exceedingly great; the head is thrown back, and the mouth kept open; the eyes are prominent, and the countenance pale, livid, and expressive of great agony; the breathing becomes wheezing, in the latter period of the disease; expiration is quick, inspiration difficult and slow; cough sometimes attended with a rattling sound, and the expulsion of very tough mucus. Insensibility and stupor generally close the scene. The symptoms occasionally remit for a short time.

Causes. Exposure to a cold and damp air, the most common cause; most prevalent in spring and autumn; children between the ages of one and seven years, almost exclusively the subjects of this disease—it very rarely occurs in adults. Proximate cause.

Ratio Symptomatum. The suffocated respiration may depend on one or more of the following circumstances:—1. Tumefaction and inflammation of the glottis; 2. Obstruction of the glottis by coagulable fluid, in the form of a false membrane or a concrete mass; 3. From the inflammation extending to the minute ramifications of the bronchia, and giving rise to effusion into the air-cells.

Prognosis. The disease is always to be regarded as highly dangerous. The more the inflammation extends into the bronchia, the greater the danger. When the attack comes on suddenly, with high febrile excitement, there is more danger than when its approach is gradual. Very shrill sounding cough and respiration, unfavorable. In general, however, it is difficult to form a correct prognosis. Pract. of Med. p. 305.

SPASMODIC CROUP, essentially distinct from inflammatory croup. They may be distinguished by the following circumstances—viz. *Spasmodic Croup* is sudden in

its attack, and *unattended with fever*—*Cynache Trachealis* generally comes on gradually; when its attack is sudden, it is always with fever. In the former there are *intermissions*, in the latter *remissions* only. *Cough*, with a *discharge of viscid mucus* from the trachea, always present in inflammatory croup—in spasmodic croup, coughing is rare and *always dry*. In the latter, no shrillness of voice—the pulse small and contracted.

Treatment. Bleeding, *to syncope or an approach to it*, in the early period, of the utmost importance; during bleeding, the feet should be placed in warm water. The advantages of bleeding almost entirely confined to the first stage. *Emetics* next in importance to bleeding. *Calomel*, with a small portion of *tart. antimon.* an excellent article for this purpose—preferable, I think, to *tart. antimon.* alone. Emetics often operate with great difficulty, after the disease has continued for some time—the cause of this explained. The warm foot bath, the bleeding, promote this operation. Emetics do good, by discharging the viscid mucus from the trachea, and by equalizing the circulation. • *Cathartics* are valuable remedies, in this disease. *Calomel* is the best article for this purpose—*large doses*, by exciting vomiting as well as purging, peculiarly beneficial. *Pract. of Med.* p. 306.

From ten to fifteen grains may be given to children of from two to five years old. This quantity hardly ever fails to excite active purging and vomiting. The *nausea*, consequent relaxation produced by calomel, are generally of much longer duration than that which is caused by the usual emetics; and in general, the impression made on the disease by this medicine, is much more permanent than that which results from the operation of other emetic and cathartic substances.

The tincture of *lobelia inflata*, very useful as an emetic, in this disease. *Errhines* employed with benefit. *Calomel*, with a view to its constitutional influence, highly recommended by some. *Blisters* and *rubifacients*

to the throat, never to be neglected—the latter are preferable, from the suddenness of their effects. Spir. turpentine, with spir. camphor, excites inflammation in a few minutes. The *warm bath*, a very useful auxiliary remedy. *Polygala senaga*, useful in slight cases, and for the sequelæ of violent cases, such as a dry and hoarse cough, with slight difficulty of breathing.

Kali sulfuratum strongly recommended, of late in this disease. (Double, Mesner, Senff, Albers, Jurine.)

This remedy does not deserve the praise bestowed upon it by some late continental writers. It appears nevertheless, to be useful in slight cases, and is said to be particularly beneficial only about the period when the exudation of the coagulable fluid occurs. (Raiman.) Our success in the treatment of this disease, depends almost wholly on being able to subdue the tracheal inflammation before the exudation of the viscid mucus takes place; a *vigorously* antiphlogistic treatment, in the commencement upon which any reliance can be placed. After the exudation has taken place, our principal objects should be, to expel the mucus from the trachea before it has time to concrete, by the occasional use of emetics.

The application of a solution of lunar caustic to the upper part of the larynx, and about the tonsils, has lately been recommended as useful in separating the false membranes which form in and about the glottis, in this disease.

CYNANCHE TONSILLARIS.

Character. Inflammation of the tonsils, soft palate and fauces, with synocha fever.

Symptoms. Tonsils, and soft palate, red and much swollen; deglutition very painful and difficult,—sometimes impossible; more difficulty in swallowing liquids than solids; respiration impeded; speech indistinct; hearing dull; tongue swollen; white, and covered with a thick layer of transparent mucus; pulse full, hard, and frequent; copious secretion of a ropy saliva.

Cause. Cold and damp air; or cold in any manner applied, so as to cause a sudden check on the perspiration, may be regarded as the exclusive cause of this disease. Persons become predisposed to the disease, by suffering an attack of it. The principal danger arises from the swelling of the tonsils, which may proceed to the extent of entirely interrupting respiration. When it does not end in resolution, it almost always terminates in suppuration. Frequent attacks of the disease are apt to produce permanent enlargement of the tonsils. The inflammation has been known to extend into the larynx, in which case the danger is greatly increased.

TREATMENT: strictly and actively antiphlogistic. Scari-
fying the tonsils; emollient and acidulated gargles;
warm pediluvium; blisters and leeches to the throat;
emetics; nauseating doses of antimonials.

PAROTITIS.

Character. Inflammation and tumefaction of the parotid glands, occasionally epidemic, and manifestly contagious.

Symptoms. Hard swelling of one or both parotids—the swelling increasing till the fourth day, and then declining gradually. Skin over the tumour seldom red or inflamed; the breasts in females, and testicles in males, often swell, about the period of the declension of the parotid tumefaction; a *sudden* metastasis often takes place from the parotids to these parts. *Fever* generally mild, sometimes violent.

Children, and young persons are most subject to this disease—it rarely occurs in old age. It is most common during cold and damp weather.

Prognosis. Not in general a dangerous affection; becomes more or less dangerous, by being translated to other parts—as the genital organs, the lungs, the brain, the stomach. I have known a case terminate fatally

in less than an hour, by metastasis to the brain; when transferred to the testicles, they occasionally suppurate—an occurrence always exceedingly painful, and sometimes fatal.

TREATMENT. In mild cases, little more is necessary than keeping the bowels open, and using gentle diaphoretics. The parts should be kept warm—great care must be taken, to avoid taking cold. When the inflammatory symptoms are violent, an active antiphlogistic treatment is necessary. When the swelling disappears in the neck, and shows itself in the testicles, a blister should be laid on the parotids, and every effort made to excite a general diaphoresis. To discuss the hard swelling which sometimes remains after the inflammatory symptoms have disappeared, frictions on the tumour, with mercurial ointment, spirits of camphor, or rubifacient liniments, should be used.

CHAPTER XI.

ACUTE PERITONITIS.

Symptoms. At first, lassitude, pain in the limbs; chills; then, head-ache, a sense of weight in the epigastrium; an acute pain in some part of the abdomen, at first confined to a small space, but soon extending itself over the whole belly: the pain is acute and constant—sometimes fixed, and at others wandering from one part to another. As the disease proceeds, *the abdomen becomes tumid, and exceedingly painful to pressure.* The patient's position is on his back, with the knees

and shoulders raised, carefully avoiding all motion of his body. The bowels are constipated, and moved with much difficulty; pulse commonly small, hard, and quick; tongue white and moist, the edges and raphe being sometimes very red; *nausea and vomiting, in the early stage*; the face is generally pallid, exhibiting a peculiar sharpness of feature. Constant wakefulness throughout the whole course of the disease; delirium, except towards the end of fatal cases, rare; breathing, in the latter period, laborious—*inspiration* being particularly difficult, and attended with an expression of pain in the countenance; suppression of urine, a common occurrence. When the disease occurs in the puerperal state, the lochia cease, and the breasts become flaccid. Peritonitis is rapid in its course. Pract. of Med. p. 226.

Causes. Mechanical injuries of the abdominal viscera; violent and long continued corporeal exertions; stricture of the colon and rectum; extravasations of blood, bile, urine, fæces, chyle, &c. into the cavity of the abdomen; *the action of cold on the surface of the body*; wet and cold feet; drinking cold water, when the body is in a state of free perspiration; *perspiration*; sudden suppression of hæmorrhoidal discharge of lochia, &c.

Prognosis. Favorable symptoms. Abatement of the pain. Ability to bear abdominal pressure; a soft, moderately full, and not very frequent pulse; moist and warm skin; free alvine evacuations; power of changing the position, and resting easy on either side; free discharge of urine; restoration (if in the puerperal state) of the lochia; refreshing sleep. *Unfavorable signs* Suppuration, or effusion, is indicated by, diminution of abdominal pain; a feeling of weight in the hypogastric region; *irregular chills*; coldness of the extremities, a soft and *feeble* pulse. *Gangrene*, by sudden and entire cessation of pain; extreme smallness and frequency of the pulse, with great prostration; Hippocratic countenance.

Autopsic phenomena. Redness and thickening of the peritoneum; false membranes. A collection of fluid, sometimes turbid or whey-like, at others limpid and reddish—rarely blood. Adhesions between the bowels are common. Gangrenous spots, and red flakes adhering to the peritoneum.

The dissections of Broussais, Abercrombie, and others, show, that the peritoneum investing the stomach, intestines, liver, &c. may be inflamed, and *even gangrenous*, whilst the structures of these organs themselves remain perfectly sound.

TREATMENT. Prompt and *very copious* depletion in the commencement, is the principal remediate measure to be relied on. From thirty to forty ounces of blood, drawn soon after the development of the disease, will often subdue it so much as to secure a speedy success in removing it. The benefit of bleeding is confined chiefly to the first twenty-four hours; during this period, the bleeding may be repeated, two, three, or even four times, according to the violence of the inflammatory symptoms.

Leeching the abdomen, highly beneficial; after the leeches are removed, emollient poultices or fomentations should be applied.

Purgatives, of the *active* kind, do much good; they should not be given, until *decisive* bleeding has been practised. From the torpor of the bowels, *large doses* are required: the more *active* the purgative, the more good will it do. *Calomel*, followed by *castor oil* and *spirits of turpentine*, decidedly the most valuable purgatives in peritonitis. Calomel and jalap will often answer.

After the local and general inflammatory symptoms have been somewhat reduced by the foregoing means, *opium*, in combination with *calomel*, is a remedy of great efficacy. Cathartics may be effectively employed, at the same time that *opium* is used. *Large doses* of opium in this disease, as in enteritis, promote the op-

ration of cathartics. (Armstrong and Johnson.) The warm bath, a very useful auxiliary. *Blisters* to the abdomen, important. *Antimonials* seldom admissible, on account of the great gastric irritability. If *collapse* ensues, *wine* and *ammonia* must be given. *Diet* of the simplest and most unirritating kind.

CHRONIC PERITONITIS.

When not the consequence of the acute form of the disease, its approach is so gradual and insidious, that it rarely becomes the object of medical attention, until organic disorder or effusion has taken place. Pract. of Med. p. 233.

Symptoms. A constant feeling of uneasiness in the abdomen, with *soreness* to pressure, or sudden motions of the body, as coughing; sneezing; the skin and abdominal muscles often lie loosely over the peritoneum, giving a sensation to the touch, as if a tight bandage were underneath, over which the skin and muscles easily slide. (Pemberton.) Sometimes, a sensation as of a ball rolling about the abdomen, is experienced. (Broussais.) Pulse rarely affected, except towards the evening, when it becomes slightly accelerated. The duration of the disease very variable—from a few months to several years. Very rarely cured—Broussais, at first, thought it incurable. It always terminates either in effusion or disorganization of the peritoneum—most commonly, in both these ways. The effused fluid is either serous, limpid, whey-like, or reddish, with purulent flakes; the peritoneum is thickened, or covered with an infinite number of milliary tubercles; the intestines are often found agglutinated into one mass.

Most cases of incurable *Ascites* depend on chronic inflammation of the peritoneum, and consequent structural derangement. Indeed, it is not improbable, that in all cases of dropsy of the abdomen, the peritoneum is in a state of chronic or sub-acute inflammation. In treating of *Dropsies*, this subject will be fully discussed.

TREATMENT. External vesicating or rubefacient applications are of primary importance. *Blisters*, cupping, and frictions with *tartar emetic ointment*, are the best; *moxa* is a powerful agent. *Diuretics* are recommended. Dr. Johnson speaks highly of the following diuretic mixture. R. acid tartar. ℥j. Sodæ carbon. gr. xxiv. Infus. digital. ʒss. Spir. nit. dulc. ʒj. Tinct. scillæ gtt. iv. Aq. menthæ ʒjj. m. ft. This draught is to be taken two or three times daily.

Gentle laxatives, such as cream of tartar and acetate of potash are to be employed. Small doses of *calomel* and *diuretics* given conjointly; *diaphoretics* also; particularly antimony with minute portions of *opium* may be beneficially employed.

Perfect rest and quietness are of great importance. (Broussais.) *Anodynes*—particularly hyocyamus, and conium maculatum, are serviceable. A simple and unirritating diet indispensable.

ACUTE HEPATITIS.

Symptoms. Acute pain in the right hypochondrium, aggravated by external pressure, and generally by lying on the left side; pain in the shoulder and clavicle of the right,—sometimes the left side; commonly a dry cough, with difficulty of respiration; nausea and bilious vomiting; generally an *icteric* hue of the albuginea and skin; urine charged with bile; scalding of the urine; thirst great; heat of the surface intense; tongue white, or covered with a yellowish fur; pulse, hard, full, and strong; bowels costive. In hot climates, acute hepatitis is often attended from the beginning, with small liquid and slimy discharges from the bowels. These cases are violent and rapid in their progress, although the pain in the region of the liver is seldom very great. (Johnson.) Delirium more common in hepatitis, than in any other of the phlegmasial affections, except phrenitis

The symptoms vary according to the part of the liver principally affected; more pain in the thorax and shoulder when the *convex* surface is inflamed; when the *concave* part is the seat of inflammation, there is more gastric distress, vomiting, and nausea. Inflammation of the interior part, known by the great aggravation of the pain, on external pressure. Pract. of Med. p. 238.

Diagnosis. Distinguished from *pleurisy*, by the greater severity of the cough and dyspnoea in the latter. The easiest position in hepatitis, is on the *affected* side,—in pleuritis, on the *sound* side. In *hepatitis*, pressure on the right hypochondrium aggravates the pain; pressure on the intercostal space does not—the reverse obtains in pleuritis; often bloody expectoration in pleuritis,—in hepatitis seldom if ever. In *peripneumonia*, as in *hepatitis*, the patient lies easiest on the affected side, but in the *former*, respiration is principally performed by the abdominal muscles, whereas, in the latter, by the intercostal muscles exclusively. The diagnosis between hepatitis and gastritis not difficult—the extreme prostration—the immediate rejection by the stomach of every thing swallowed—the small and tense pulse, &c. which attend gastritis, distinguish it prominently from hepatitis. The absence of fever, and the intermitting character of the *pain*, distinguishes spasm of the gall ducts, and the passage through them of biliary concretions, from hepatitis. Pract. of Med. 242.

Hepatitis, if it does not end in resolution, generally terminates in *suppuration*. The degree of danger from suppuration, depends much on the situation of the abscess, and the nature of the contiguous parts. When the abscess points outwardly, it may be opened by an incision, and the matter discharged externally. It sometimes breaks into the bowels, the matter being discharged by stool; occasionally it bursts through the diaphragm into the cavity of the thorax, or into the substance of the lungs, in which latter case the matter is expectorated. Recoveries after this latter accident

exceedingly rare; always fatal when it bursts into the cavity of the abdomen.

Gangrene an exceedingly rare termination of hepatic inflammation. Doctrines of Saunders and Puchelt concerning the pathology of acute and chronic hepatic inflammation, introduced and discussed.

Causes. The influence of cold after profuse perspiration; violent exercise; contusions of the region of the liver; wounds and injuries of the cranium; the irritation of biliary concretions; suppression of hæmorrhoids; violent rage, or deep sorrow, excessive use of spirituous liquors. Dr. Johnson's *cutaneo-hepatic sympathy*, and its application to the ætiology of hepatitis, noticed. *Hepatitis* most common in *hot* climates; solar heat and miasmata prominent agents in the production of this disease—they powerfully *predispose* to, rather than *excite* the disease: *heat* excites the *skin*, and *miasmata* the *liver*, to inordinate action; the cold night air checks the former, and consecutively the latter; fever is evolved, and inflammation established in the liver.

TREATMENT. *Bleeding*, both with a view of reducing the general inflammatory condition of the system, and, by this effect, of promoting the operation of mercurial remedies. *Bleeding* and *mercurial purgatives*, with an *epispastic* to the right hypochondrium, constitute the important remedies during the first few days. Having reduced, by adequate depletory measures, the general febrile excitement, our *main object* must be to bring the system under the influence of mercury as speedily as possible. *Calomel* and *opium*, in combination, a very excellent article for this purpose.

Purgatives of primary importance throughout the whole course of this disease; *calomel* should form a part of them. *Antimonials*, with *nitre*, useful auxiliaries.

CHRONIC HEPATITIS.

Symptoms. Dyspeptic symptoms; countenance sallow contracted, and expressive of ill health; dull pain, with

uneasiness, tension, and sometimes tumefaction in the right hypochondrium; bowels irregular, commonly costive; sometimes diarrhœa alternating with costiveness; aching pain in the right shoulder; urine tinged with bile, and voided with a scalding pain; tongue white, rather dry; *gums unnaturally hard; a continued dryness and constriction of the skin*; difficulty of resting easy on the left side; a short and dry cough; slight febrile exacerbations, as the disease advances; emaciation, and finally, hectic with a puruloid expectoration.

Terminations: occasionally in suppuration; more frequently in induration and enlargement; sometimes the volume of the liver becomes contracted. Though indurated, and more firm in its substance than natural, it is often specifically lighter than in its healthy state. (Saunders.) The substance of the liver usually exhibits an ash or clay color.

Causes. Chronic hepatitis sometimes the consequence of the acute form of the disease. Most frequently the result of the *slow* operation of the same causes that produce acute hepatitis, i. e. the slow and constant operation of marsh miasmata, &c. The abuse of spirituous liquors, a common cause of chronic hepatitis. Protracted dyspepsia produces it,

TREATMENT. *A strictly antiphlogistic regimen*, aided by mild aperients, and blisters over the region of the liver, are important auxiliary measures for reducing slow hepatic inflammation. Without mercury, however, these remedies would be of little avail; it is upon this potent medicine that we must principally depend for success, in the treatment of hepatic inflammation, whether of an acute or chronic character. *Ptyalism must be avoided*; the slightest manifestation of the mercurial influence is sufficient. A mild and protracted course of mercury will do most good. The *nitro-muriatic acid bath*, much extolled by Dr. Scott; it is undoubtedly a remedy of considerable power in the cure

of chronic hepatitis. The nitric and muriatic acids, in the proportion of two drachms of each to a gallon of water, will make a bath of proper strength. It should be heated to the temperature of 96° , and the feet and legs immersed in it for half an hour, just before going to bed. Pract. of Med. p. 252.

NEPHRITIS.

Symptoms. Pain in the renal region; frequent and small discharges of high-coloured urine; nausea and vomiting; numbness of the thigh of the affected side; retraction of the testicle; pain relieved by bending the body forwards or towards the affected side; costiveness; skin hot and dry; pulse full and strong.

Diagnosis. In inflammation of the psoas muscle, bending the body forwards *increases* the pain; there is no nausea and vomiting, nor retraction of the testicles, in this affection, as in nephritis. Pract. of Med. p. 245.

Causes. The influence of cold; mechanical injuries; irritating substances absorbed into the circulation, as turpentine and cantharides; violent exercise, as jumping, lifting heavy weights; metastasis of gout and rheumatism; *calculous concretions*.

Unless *resolution* takes place before the seventh or eighth day, *suppuration* generally ensues. The pus sometimes discharged with the urine; the suppuration often continued for a long time—producing hectic and great emaciation, or what has been called *tabes renalis*. Sometimes the matter points externally; in which case, fistulous openings are apt to remain. A *puruloid* fluid in the urine not to be confounded with *pus*. The former may arise from mere irritation, from urinary calculi in the kidneys, or sub-acute inflammation of the neck of the bladder. *Puruloid* matter distinguished from *pus*, by the latter fluid sinking down and forming a close layer along the bottom of the vessel in which the urine is left standing;—*puruloid* fluid remains more or less suspended in the urine. *Gan-*

grene a very rare occurrence in renal inflammation. Pract. Med. 346.

Nephritis is apt to leave a] predisposition to lithic-acid calculi. (Prout.)

TREATMENT. Decisive, general, and local bleeding. Cupping over the lumbar region, particularly beneficial; active purgatives required; much relief obtained from emollient enemata, and constant fomentation to the region of the kidneys; warm bath; sinapisms; blisters generally condemned, on account of the tendency of cantharides to irritate the urinary organs; I have found them highly beneficial, and never injurious. *Anodyne enemata*, after the inflammation has been somewhat subdued, useful. For the pain and soreness left by an attack of nephritis, *uva ursi* is a valuable remedy—highly useful, also, when suppuration or ulceration exists. *Opium* advantageously given with *uva ursi*, in nephritic cases; one fourth of a grain of the former, with fifteen or twenty grains of the latter, should be given thrice daily. Nitre not a proper remedy in nephritis. Antimonial diaphoretics beneficial, if the stomach will retain them.

CYSTITIS.

Symptoms. Severe burning and throbbing pain, with a feeling of constriction in the hypogastric region;—pain greatly increased by pressure; constant and *ineffectual* desire to pass urine; pulse, frequent, hard, and full; skin dry and hot; thirst very urgent; great restlessness; nausea and frequent vomiting; *stilicidium* of the urine; as the disease proceeds, swelling in the loins; rigors; cold extremities; delirium, &c.

Causes. Mechanical irritation by the presence of foreign bodies in the bladder; retained urine; external injuries on the hypogastric region; irritation from acrid substances absorbed and conveyed to the bladder, as cantharides, turpentine, &c.; metastasis of rheumatism; ir-

ritating injections into the urethra; gonorrhœa; suppressed perspiration, from the sudden application of cold. Pract. Med. 353.

TREATMENT. Cystitis rapid in its course, and highly dangerous. The most prompt and decisive depletion is necessary; local bleeding, by leeches or cups, from the pubic region and perineum, of great importance; fomentations and emollient enemata, efficient auxiliaries; sinapisms after proper depletion. Internally, *opium* and *calomel*, in frequent and large doses. (Prout.) Blisters of doubtful propriety; bowels to be kept open by laxative enemata; cathartics seldom advantageous; the urine to be drawn off by the catheter, and emollient fluids injected into the bladder. *Nitre* is injurious.

CHAPTER XIV.

ACUTE RHEUMATISM.

Character. Inflammation in the fibrous structures about the joints, wandering, and attended with severe pain, more or less swelling, and synocha fever.

Symptoms. Chills, alternating with flushes of heat, total inappetency, general soreness of the flesh, and lassitude, introduce the disease. After some time, usually about twenty-four hours, the rheumatic inflammation manifests itself. One or more joints become swollen, red, and extremely painful, the pain being greatly aggravated by motion; pulse full, hard, and frequent; bowels constipated; skin hot, and often covered with profuse perspiration; remissions in the morning, and nightly

exacerbations. The inflammation generally passes from joint to joint. The blood is always buffy.

Rheumatism rare in infancy and old age. Most common between the ages of sixteen and forty-five. Very fat persons less subject to it than lean and muscular ones. A predisposition to rheumatism sometimes hereditary; derangement of the digestive functions sometimes predisposes to it—so does the excessive use of spirituous liquors, and the imprudent use of mercury. Pract. Med. p. 370.

Causes: The influence of variable temperature almost the only exciting cause.

Rheumatic inflammation seated in the fibrous textures of the body; essentially distinct from common inflammation; shifts its place like gout; metastases to important internal organs, always very dangerous; rarely terminates in suppuration; *never terminates in resolution, without the concomitance of general, but not profuse, perspiration, and the deposition of a lateritious sediment by the urine.* Neither of these occurrences to be regarded as critical, when they appear separately; a very copious sweat is no uncommon occurrence in this disease; but it is never attended by any marked abatement of the rheumatic symptoms, unless the urine at the same time deposits a red sediment. Rheumatism is seldom fatal, except by metastasis to important internal parts.

Acute rheumatism, occurring in persons exposed to the influence of marsh miasmata, assumes a modified character. There are, in such cases, conjoined with the rheumatic affection, prominent symptoms of derangement of the biliary organs—such as, an icteric hue of the tunica albuginea; a brown and bitter tongue; great head-ache; bilious vomiting, &c. After each act of vomiting, the pains remit. This variety of the disease has been called *bilious rheumatism*. Pract. Med. p. 371.

TREATMENT. *Bleeding*, an important *auxiliary* reme-

dy, though not by itself adequate to subdue rheumatic inflammation. Its employment necessary to moderate the general and local inflammatory action, and thus to prepare the way for the beneficial operation of other remedies. Buffy blood, no indication, in this disease, for further depletion. Excessive blood-letting favors metastasis to internal parts. (Johnson) An early translation of the disease to the diaphragm, heart, or other internal viscus, demands prompt and copious blood-letting, followed by full doses of *opium with calomel*.

Cathartics always decidedly beneficial; they often subduct the general inflammatory excitement more effectually than bleeding. *Calomel*, followed by *sulphas sodæ*, or *sulphas magnesiæ*, the best purgatives. Violent purging not proper—being incompatible with that regular action of the cutaneous exhalants, which is indispensable to the removal of this affection.

Emetics. Recommended by Haygarth and Horn. I have known the operation of an emetic to produce immediate relief of three or four hours' duration. In *bilious rheumatism*, (*acute gastric rheumatism* of Richter,) emetics are, very generally, promptly and decidedly beneficial. Tart. antimon. the best emetic. Pract. Med. p. 376.

Sudorifics. Profuse perspiration is seldom beneficial, but often injurious. *Gentle diaphoresis*, however, is always serviceable. Antimonials, in small doses, with calomel, or pulv. ipecac. compos. so managed as to keep up a moderate action of the cutaneous exhalants, will assist very materially in subduing the disease. Tart antimony, in the proportion of two grains to eight ounces of water, given in doses of a table-spoonful every three hours, has been found very efficacious.

Opium, a valuable remedy under proper management—not to be used until the general inflammatory excitement has been moderated by depletory measures—to be used in *large doses*, conjointly with *tart. antim. ca-*

lomel, or *ipecac*. Large doses have less tendency to increase the phlogistic diathesis, than small ones. After proper depletion, three or four grains should be given at once. Calomel and opium, particularly valuable: two grains of the former, and one of the latter article, to be given every three or four hours, *until the gums become slightly affected*. *Ptyalism* to be avoided. In the sub-acute form of the disease, mercury is particularly beneficial.

Colchicum, a very valuable remedy, both in acute and chronic rheumatism. The vinous tincture generally employed, in doses of from thirty to forty drops every four hours, with a small portion of magnesia. I have known violent cases of the disease yield speedily to this remedy. Its effects are to be carefully watched; for given in over doses, or continued too long, it produces great prostration, violent vomiting and purging, cold sweats, syncope, and convulsions. The following formula for using the colchicum, is recommended by Scudamore: R Magnes. calc. gr. xx. Sulph. magnes. ʒj. Tinct. colchici. vinos. ʒj. Aq. fontanæ, q. s. To be taken at once, and repeated every four hours.—Pract. Med. p. 379.

Extract of Stramonium, a powerful and efficacious remedy in acute rheumatism, after the inflammatory symptoms have been moderated. (Marcet.) I have repeatedly employed it, with signal advantage. It is to be used with great caution, on account of its effects on the brain—the most singular and violent maniacal state of the mind being readily caused by it. Of the best extract, a quarter grain is sufficient to begin with, to be very gradually increased to one grain, and continued till vertigo is produced.

Local applications. Cold water, applied to the inflamed joints, generally gives temporary relief, but has a tendency to produce sudden translation of the disease to internal parts, and consequently to do mischief. *Scudamore's liniment*, composed of one part of alcohol,

with three parts of camphorated mixture, a valuable topical remedy. *Blisters*, after the inflammatory excitement has been moderated, often decidedly advantageous. *Leeching* too much neglected—I have frequently known the application of a large number of leeches to a joint, procure immediate and permanent relief.

Pressure and tight bandages recommended by Balfour. Observations on this practice—sometimes beneficial, in the sub-acute form of the disease.

CHRONIC RHEUMATISM.

Symptoms. Little or no swelling, or redness of the parts affected; no fever; *pain* sometimes confined to one or two joints—sometimes felt only on motion. In some instances, the rheumatic form is persistive; in others, after having continued for a time, it goes off, leaving the parts somewhat stiff and debilitated. The skin is generally dry and harsh.

Sequelæ. A thickened and knotty state of the tendons; hardness of the bursæ mucosæ; wasting of the muscles about the affected joints; rigidity and thickening of the ligaments, and consequent stiffness of the joints, are consequences of severe and protracted rheumatism.

Diagnosis. Chronic rheumatism in the muscles of the loins, (*lumbago*), distinguished from nephritis by the aggravation of pain on bending the body forwards, as well as by the absence of nausea and vomiting, retraction of the testicle, and urgent desire to pass urine, which characterize the latter complaint.

Mercurial or *sypilitic* rheumatism, distinguished from rheumatism produced by other causes, by the periosteum of the tibiæ, ulnæ or os frontis, becoming thickened and tender to pressure, together with the history of the case.

Causes. Frequently the result of the acute form of the disease; continued exposure to a damp and cold atmos-

phere; improper exposure, while under the influence of mercury; atmospheric vicissitudes.

TREATMENT. Though not generally indicated, *bleeding* is proper as a preliminary measure in robust and plethoric subjects.

Sudorifics are useless.

Diaphoretics are beneficial. *G. guaiacum* much recommended; best adapted to cases occurring in subjects of a *relaxed* or *phlegmatic habit* of body, and in old people. In young, vigorous, and plethoric subjects, it rarely does good, and sometimes harm.

Antimony, a useful article in this disease. I have derived much advantage from its use, in conjunction with infusion of the root of burdock, (*arctium lappa.*) A grain of tart. antim. dissolved in a pint of strong infusion of this root, should be taken daily.

Mercury, much recommended for its powers in this disease particularly useful, when the disease arises from cold, while the system is under the influence of mercury—the usual diaphoretic decoctions advantageously used along with it. I have derived much advantage from mercury, conjointly with the following decoction: ℞. Rad. sarsaparil. ʒijj. Fol. chymaphyl, ʒjss. Rad. mezer, ʒj. Cort. ulm. fulv. ʒj. Aq. bullient. ℥ijj. To be boiled down to three half pints. Dose, a wine-glass-full, four times daily. Dr. Otto, of this city, states that he has seldom been disappointed in curing the disease by salivation, continued for three or four weeks. *Calomel and opium.*

Stramonium, an efficacious remedy in this form of the disease. Scudamore speaks highly of extract of stramonium and lactucarium, in combination—a quarter grain of the former, with two grains of the latter may be given every four hours.

Colchicum, no less useful in this, than in acute rheumatism.

Spirits of turpentine, much and deservedly recommended, particularly when it is seated in the hips or loins.

(Home.) Dose, from twenty to forty drops, thrice daily.

Phytolacca decandra. The tincture of the berries has been used with advantage. *Zanthoxylum fraxin-um.*

Solanum dulcamara, in recent cases from suppressed perspiration.

Hyoeyamus. The extract a valuable palliative, in painful inveterate cases.

Compression by the tourniquet—acupunctuation—electricity—galvanism, have all been employed, with decided benefit. Exercise of the whole body, to a degree sufficient to excite perspirations, has performed remarkable cures. *Rubifacients.*

GOUT.

Gout is divided into the *acute*, the *chronic*, and the *retrocedent* varieties. Pract. Med. p. 386.

Symptoms. Of the acute form. Violent inflammation of the ball of the great toe of one foot, attended with excruciating pain, redness of the skin, distention of the neighboring veins, and, at the end of about forty-eight hours, œdema. The attack generally occurs between 12 and three o'clock at night. There are slight remissions in the morning, and violent exacerbations at night. The paroxysm seldom terminates before the sixth, or continues beyond the tenth day. The œdema continues some days after the inflammation has subsided. After the disease has disappeared in one foot, it sometimes makes an immediate attack on the other. The disease is generally preceded by a train of premonitory symptoms, most commonly indicative of gastric disorder.

Though in its first attacks confined exclusively to the feet, gout seizes upon many other parts, during the same paroxysm, after the system has become enfeebled by frequent recurrences of the disease. Pulse, in se-

vere attacks, full, hard, and strong; in slight cases, the constitutional symptoms not prominent; *the digestive functions always considerably disturbed*; bowels torpid; urine scanty, and of a deep red color, depositing a pink or lateritious sediment. The inflamed parts are exquisitely sensible to the slightest touch.

Sequelæ. Frequently, structural derangement of the liver; permanent debility of the stomach. Thickening and shortening of the ligaments, and distention and induration of the bursæ mucosæ, are the most common local consequences of gouty inflammation. Gouty concretions not very frequent.

Predisposition. The predisposition to gout *sometimes* hereditary, though *not so frequently* as is generally supposed. It is most commonly *acquired*, by the operation of the following, and perhaps other causes—viz. the depressing passions, severe and protracted study; the habitual use of high-seasoned animal food and *vinous liquors, with an indolent or inactive course of life.*

Gout rarely occurs before the 20th year of age—most apt to commence its attacks between the 30th and 40th years.

Exciting causes. Excessive intemperance;—redundancy of bile; an accumulation of acid in the stomach; cold and humidity; external injuries; fatigue, and mental anxiety; violent passions. *Pract. Med. p. 392.*

Proximate cause. Some writers regard the proximate cause of gout to consist in an excess of the elements of *uric acid*, (Brandt, Home,) and others, in an excess of *phosphoric acid*, (Bertholet.) Scudamore's objections to these doctrines, stated and assented to. Debility and disorder of the digestive organs, has been regarded as the proximate cause of gout:—objections stated to this doctrine. According to Broussais, the proximate cause of the disease consists in a *peculiar* irritation of the mucous membrane of the alimentary canal. I think it not improbable that derangement of

the assimilative functions, with general plethora, in conjunction with such a *peculiar* irritation in the alimentary canal, constitutes the fundamental pathological condition of gout. Pract. Med. p. 394.

TREATMENT. To obviate the recurrence of the disease, we must remove, as much as possible, the predisposing and exciting causes, and restore the healthy action of the digestive organs. A simple and digestible diet must be enjoined, and the use of wine and condiments interdicted. The occasional use of mild aperients, and some of the bitter tonics, is proper.

The treatment during the paroxysm. Bleeding, though highly recommended by some, is not in general a remedy of much importance in the paroxysm of gout, except when it is suddenly translated to the brain. Copious bleeding favors metastasis. *Emetics* proper only when the stomach is surcharged with indigestible aliment.

Cathartics and *diuretics* are decidedly beneficial, in the treatment of gout. Two or three evacuations should be procured daily. Calomel, with rhubarb, an excellent purgative in this disease. Scudamore recommends the following cathartic: R. Extract. colocynth. compos. ʒss. Calomel, gr. xv. Tart. antim. gr. i. M. Divide into 16 pills. Dose, two or three in the evening.

Diuretics and *purgatives*, exhibited conjointly, particularly useful. Thus: R. Magnes. calc. gr. xx. Sulphat. magnes. ʒjss. Vini. colchici. ʒjss. Aq. fontan. q. s. To be taken at once, and repeated every four or five hours. (Scudamore.) I have found this mode of exhibiting diuretics and purgatives in union, highly beneficial.

Colchicum—the ancient *hermodactylus*, a remedy of great powers in this disease. It seldom fails to cure the local symptoms speedily; but, according to some writers, it leaves the disposition to the disease much stronger, and leads more rapidly to the chronic form. I think it probable, that these evil consequences are

the result of the improper or inordinate use of this article, and that under judicious management, it is as safe as it is valuable. The latest and best authorities on this subject, recommend it to be given in conjunction with magnesia.

Eau medicinale, a celebrated French *nostrum*. The tincture of *white hellebore*, and *laudanum*, &c.

Opium is a valuable palliative in cases attended with extreme pain. It should be freely administered; one grain every hour or two, until the pain remits; it renders the pulse softer and less frequent, causes a gentle diaphoresis, and tranquillizes the nervous system. Its *modus operandi* explained.

Local remedies. *Leeches* increase rather than diminish the pain; *blisters* not useful, except to recal the disease to the extremities, when it has passed on to more important parts by metastasis; warmth, by the application of *flannel* or *cotton*, an old and popular practice, though attended with no advantages. *Cold* applications will speedily relieve the pain, but are apt to produce dangerous metastasis. *Evaporating lotions*, of a stimulating character, are frequently beneficial.

Treatment proper during convalescence. After slight attacks, and before the constitution has suffered much, little or nothing need be done during convalescence. But in violent and protracted cases—particularly after repeated attacks have impaired the constitution, medical treatment during convalescence is of the greatest consequence. In cases of this kind, it is necessary to restore the energies of the digestive organs, as well as of the liver, skin, and kidneys. For this purpose, small doses of blue pill, with the occasional use of rhubarb and magnesia, and a weak infusion of colomaba, &c., in general answer very well. Gentle exercise also must be enjoined. The application of a flannel roller to the affected parts, highly useful, when permanent swelling and debility remain.

Chronic Gout. A strong gouty diathesis, without suffi-

cient constitutional vigour to produce high inflammatory affection of the joints. It is characterized by prominent and harassing symptoms of dyspepsia; irritability of temper, and despondency and irresoluteness of mind; palpitations, with a sense of tightness at the pit of the stomach; cramps in the extremities, particularly at night; dull pain in some of the joints, attended with a sense of numbness and weight in the affected part; sleep unsound, and interrupted by sudden startings; permanent œdema left in the affected parts; tenderness and aching of the ancles, rendering progression difficult and painful; skin sallow, dry, and contracted; bowels costive, and in very bad cases much general debility, wasting of the flesh of the lower extremities, a dry and short cough, &c.

TREATMENT. The principal indications in the treatment of this form of gout are; *to strengthen the system in general, and the stomach in particular.* For this purpose, a mild and digestible diet, with gentle exercise, cold bathing, mild aperients, and the occasional use of the mercurial alterative pill, are our most useful remedial measures. To relieve the distressing nervous irritation, opium, lactucarium, stramonium, or hyoscyamus, are to be occasionally used. I have found a combination of opium, camphor, and nitre, an excellent anodyne in such cases. Tonics seldom serviceable. Pract. Med. p. 395.

Retrocedent Gout. The disease is called retrocedent, when the inflammatory affection of the joints suddenly and entirely ceases, at the same time that some internal part becomes affected. The part to which it is most apt to be transferred, is the *stomach*; sometimes it falls upon the *lungs*, at others the *brain*, and occasionally the *heart* becomes its seat. When the *stomach*, intense pain, anxiety, nausea, and vomiting, occur; when to the *lungs*, asthmatic symptoms supervene; when the *heart* becomes affected, pain in the cardiac region, with violent palpitation and syncope, ensue; metastasis

to the brain, produces insensibility, coma, apoplexy, or palsy. Any of these translations of the disease, are exceedingly dangerous.

Metastasis to internal organs most commonly produced by the application of cold to the inflamed joint; any thing which rapidly debilitates the system, as bleeding, violent purging, sudden fright, &c., may cause metastasis.

TREATMENT. When the disease attacks the stomach, warm brandy, or laudanum joined with aromatics, must be freely administered, and a sinapism laid over the epigastrium. Opiates, antispasmodics, and sinapisms or blisters to the chest, when the *lungs* are affected. Metastasis to the brain, to be treated by prompt and copious bleeding, cold applications to the head, sinapisms to the feet, and stimulating purgative enemata. The gouty diathesis predisposes to: *apoplexy, asthma, hydrothorax, ascites, erysipelas.*

CHAPTER XV.

EXANTHEMATA.

SMALL-POX.

Small pox is divided into two varieties, the *confluent* and *distinct*. The distinctive character of the former is: pustules confluent, depressed, irregularly circumscribed, the intervening spaces being pale, and the fever continuing after the eruption is completed. The distinctive character of the latter is: pustules distinct, elevated,

distended, circular; the intervening spaces being red, and the fever ceasing, when the eruption is completed.

Description of the distinct kind. At first aching pain in the back and lower extremities, lassitude and loss of appetite, slight chills, nausea and vomiting, with some soreness in the fauces, and finally, fever. Towards *the end of the third day* of the fever, the eruption makes its appearance, first on the face and neck, and successively on the inferior parts.

Just before the eruption appears, adults generally perspire freely; and sometimes become comatose. Children frequently suffer convulsions at this period; the fever ceases by the fifth day. At first the eruption consists of small red spots, rising, by degrees, into pimples, then becoming vesicular on the top, with a small pit in the centre, and finally about the eighth day, becoming pustular, and of a spheroidal shape. About this period, the face and eye-lids swell; the tumefaction subsiding again about the eleventh day. The pustules are at their full and perfect state on the twelfth day; from this date they begin to shrink and dry, the matter forming crusts of a brown colour; in a few days more, these crusts fall off, leaving the skin underneath of a brownish red color.

The pustules are surrounded by an areola, of a damask-rose color. When the pustules are numerous, some degree of fever occurs on the tenth or eleventh day. In these cases, there is usually some soreness of the throat, hoarseness, and a copious discharge of a thin fluid from the mouth. The eruptive fever is of the synochus, and not unfrequently of the synocha grade.

The confluent variety. In this variety, all the above-mentioned symptoms of the early stage are severer. The accompanying fever at first synocha, then typhoid; pain in the loins, in the forming stage very severe; the severer this pain, the more certainly will the disease assume the confluent character. (Richter.) Seldom any profuse perspiration just before the appearance of

the eruption, as in the *distinct* kind; instead of this, *diarrhœa* often occurs at this period. Great soreness and redness of the fauces, and generally a copious flow of saliva. The pustules appear earlier than in the *distinct* kind—seldom later than the beginning of the third day—very rarely as late as the fourth or fifth day. The pustules not surrounded by an inflamed margin, where they are separated—the intervening skin remaining pale and flaccid; the face is always much swollen—the swelling coming on earlier than in the *distinct* variety, and declining about the tenth day. The matter in the pustules is never thick and yellow, as in the *distinct* variety; but of a whitish brown, and sometimes dark color.

About the eleventh day, the pustules break, and pour out a fluid which hardens into brown or black crusts. When these fall off, the skin underneath desquamates, producing small and permanent depressions, or pits, in the skin. The fever does not cease, but *remits* on the appearance of the eruption, increasing again about the sixth day, and continuing throughout the whole course of the disease.

The regular course of small-pox includes therefore four distinct stages, viz: 1st. The *eruptive fever*, including a period of from two to four days: 2d. The *period of eruption*, of about two days continuance: 3d. The *period of maturation*, or *filling*, which occupies about three days; 4th. The *period of exsiccation*, or drying of the pustules, which terminates about the fifteenth day from the commencement of the disease.

Chrystalline small-pox. In this variety, the fluid in the pustules is colorless, having no purulent appearance. The pustules, though not confluent, are never surrounded by a florid areola; the swelling of the face is often suddenly transferred to the hands and feet; fever typhoid; pustules, pale or lead-colored.

Small pox often remarkably modified by the influence of

the contagion of measles. These two diseases cannot go on at one and at the same time, in the same system. Hunter's doctrine of the incompatibility of two kinds of morbid action, referred to. Its applicability to the explanation of the *modus operandi* of medicines, in the cure of diseases. Remarks on the power of this, and other forms of exanthematous diseases, of destroying the susceptibility of the system to a second infection.

Autopsic phenomena. In violent cases, pustules in the larynx, trachea, and bronchia, *inflammation of the mucous membrane of the alimentary canal*, is invariably found.

Prognosis. The more the disease retains the distinct form, the safer. The confluent form, always dangerous; and the danger is greater, according as the fever assumes more of a typhous character.

Observations on the origin of small-pox. The opinion maintained, that the disease often originates spontaneously without the immediate agency of contagion.

TREATMENT. The heating plan of treatment, pursued formerly, did much injury. An anti-phlogistic treatment is all-important; by moderating the eruptive fever, the eruption is rendered more scanty; and the whole disease, consequently, more mild. Moderate bleeding should be practised, when the febrile excitement is violent; copious bleeding being very rarely demanded. *Mild cathartics*, highly useful through the whole course of the eruptive fever. *Violent purging* improper, in the distinct variety of the disease,—not so in the more malignant and confluent kind, where they will often do much good. (Mead, Friend, Cleghorn, Huxham.)

The supervention of a spontaneous diarrhœa, in the early stage of confluent small-pox, is almost always followed by a less numerous crop of pustules, and by an abatement of the febrile excitement, and of the swelling of the face and hands.

Calomel is the best purgative in small-pox; many main-

tain that it possesses a peculiar power of moderating the violence of the disease.

Emetics, sometimes useful in the beginning of the disease, particularly in the confluent variety.

Diaphoretics, of the refrigerant class, are beneficial, as nitre, antimonials, saline draught, spir. mindereri.

Cool air. The free admission of cool air into the apartments of small-pox patients, together with the use of *cooling acidulated drinks*, light and *cool coverings*, is one of the most important improvements in medicine that has ever been made. The patient should be laid on a mattress, and the temperature of his apartment so regulated, as to communicate to him rather a sensation of coolness than warmth.

When the eruption of the confluent variety of the disease is attended by fever of a typhous grade—which is sometimes, though rarely, the case, the diet, instead of being cooling and diluent, must be stimulating and nourishing. Wine, here, is a very useful remedy; the carbonate of ammonia also answers well. When delirium attends a weak grade of reaction in this disease, *camphor* is the best stimulant. *Cinchona*, a valuable remedy during the suppurative stage of confluent small-pox, with typhoid fever. *Opium*, in combination with camphor, very beneficial, when the pustules are slow in filling up, or the fluid in them remains watery.—Warm fomentations to the feet, and leeches or blisters to the scalp, useful, when the brain becomes much affected. Diarrhœa, *in the secondary fever* of confluent small-pox, is unfavorable, and must be checked by prepared chalk, suspended in some astringent vegetable infusion. *Opium and camphor*, an effectual means of checking obstinate vomiting—an occurrence always dangerous in small-pox. Epileptic convulsions, just before the eruption, not particularly dangerous in *distinct* small pox—more dangerous in the confluent variety.

The use of *lunar caustic*, as a local application to the

pustules, has of late been recommended and successfully practised, in France, for the purpose of lessening the number of pustules, and by so doing, rendering the disease milder and less dangerous.

Cauterization of the pustules, on the first or second day, will destroy them.

In 1825, M. Velpeau read a memoir before the Royal Academy of Medicine, of Paris, tending to prove, that, if the pustules of small-pox are cauterized, during the first two days, with lunar caustic, the progress of the pustules will be arrested. This practice was fully tested some time after, by Dr. Meyreux. According to his report, it appears, that if the variolous pustules are opened with a lancet, and touched with a pointed piece of lunar caustic, *on the first or second day* of their appearance, they will be wholly destroyed, and leave no marks; but on the *third day*, it will be quite useless.

VARIOLA VACCINA.

Origin of the disease. The vaccine matter, originally obtained from a pustular disease affecting the udders of cows—hence its name. The *grease* of horses, and cow-pox, were, at first, thought the same disease; and this opinion is strongly supported by the experiments of Mr. Ring, Friese, Loy, and Sacco; they having produced genuine cow-pox, both in the vaccine and human systems, by the matter of *grease*. Dr. Jenner could not communicate the vaccine disease to a person who had previously been affected by the disease produced by the grease. Matter taken from a peculiar pustular disease, which occurs about the head and nose of sheep, will, according to Richter, Sacco and others, produce a pustular affection in the human subject, similar to cow-pox, and capable, it is said, of destroying the susceptibility to the subsequent influence of the variolous contagion.

Description. The vaccine disease can only be communicated by inoculation, or by bringing the virus in immediate contact with a part denuded of the cuticle. The matter being inserted under the cuticle, the pus-

tule commences and proceeds in the following manner:—on the second day a small point; on the third day more distinct; on the fourth day slightly elevated like a small pimple, and surrounded with a narrow and faint areola; on the fifth day more elevated, *vesicular*, circular, its surface flattened, with a small dark depression in its centre, containing a colorless fluid; on the ninth day the pustule is in its full state of perfection, the areola being large and of a beautiful damask-rose color; at this period, slight constitutional symptoms generally occur. The areola efflorescence not essential to the protecting power of the disease. On the eleventh or twelfth day the centre of the pustule becomes darker, which gradually extends to the circumference, so that a brown scab is formed by the fourteenth day. The scab becomes darker until it acquires a dark mahogany color, and in five or six days more falls off. There is seldom more than one pustule; instances of several, and even numerous pustules, have, however, occurred.

The vaccine disease often subdues other affections; *crusta lactea*, scrofulous swellings, ophthalmia, *whooping cough*, have yielded permanently to the influence of this disease.

Herpetic and other cutaneous affections, may occasion such a deviation in the vaccine pustule, from its genuine character and course, as to render it ineffectual as a preventive of small-pox. Diseases of the skin, from which a fluid exudes, capable of conversion into a scab, are particularly apt to disturb the specific character of the vaccine disease.

Measles and cow-pox may go on simultaneously in the same person.

Diagnosis, between the spurious and genuine disease.

In the spurious, the point of inoculation is already considerably inflamed and elevated on the second day; on the fourth or fifth day, an irregularly defined efflorescence appears, and scabbing is completed as early as

the seventh or eighth day; the pustule is irregular or angulated in its circumference, and without a depression in its centre.

The spurious disease may be produced by, 1. The existence of some cutaneous affection in the vaccinated patient; 2. Matter taken from a spurious pustule; and, 3. Matter that has suffered some change by long keeping.

The matter should be taken from the pustule for vaccination, between the seventh and ninth day. The *scab* is generally used for vaccination.

Appearance of the genuine scab. Smooth, dark-brown, rather brittle than tenacious, and of a regular circumference.

In taking either matter or the scab for vaccination, it is of the utmost importance to be well assured that the person from whom it is taken is healthy; and particularly that he was not affected with any other cutaneous disease, during the progress of the vaccine infection.

General remedial treatment, very rarely necessary.

Local applications, such as cold water, a weak solution of sugar of lead, emollient poultices, to moderate the local inflammation, are sometimes required.

The prophylactic power of the vaccine disease discussed.

VARIOLOID.

Some regard this disease as *sui generis*; others, and *with correctness*, I think, consider it as *small-pox modified*, by the system having previously undergone the vaccine, or some other modifying influence. Varioloid, or modified small-pox, is no new disease,—having been observed and described for centuries past, under the different names of *chicken-pox*, *horn-pox*, *swine-pox*, &c. Proofs adduced of the variolous origin of this disease. The most conclusive of which is, that matter taken from a varioloid pustule, has produced genuine small-pox.

Description. This disease varies exceedingly in its appearances, course, and degrees of violence. The eruptive fever is generally very mild, and of irregular continuance, varying from two to five days; a roseolous rash often precedes the eruption. (Thomson.) At first, small papulæ appear, some of which soon dry off, the others change to vesicles containing a thin limpid fluid, as early as the first or second day; generally about the third or fourth day, these vesicles burst or decay; frequently, *small areola* surround the vesicles. This is the mildest form of the disease, and is scarcely distinguishable from chicken-pox. Sometimes the eruptive fever is violent; the eruption having more the character of pustules with slight central depressions, remaining five or six days before they begin to dry off. Occasionally the scabs do not fall off until the ninth, tenth or twelfth day.

The following circumstances constitute the prominent and characteristic features of the disease:—

1. The eruption appears in successive clusters, and at uncertain periods after the beginning of the fever.
2. The vesicles seldom if ever enter into complete suppuration.
3. There is no secondary fever.
4. The drying off or scabbing occurs generally between the fifth and seventh day; the scabs falling off as early as the eighth or ninth day.
5. They leave no pits, but red disks or elevations.

It is pretty certain, from recent observations, that the variolous contagion does occasionally operate on the system, and produce varioloid disease, *even after the most perfect vaccination*. This, however, is *not often* the case; and the frequency of this disease (varioloid) must be, in a great measure, ascribed to the previous vaccination having been rendered *imperfect*, by one or more of the following circumstances:—

1. Pre-occupation of the skin by herpes or some other cutaneous disease.

2. Vaccination with spurious matter.
3. Depriving the vaccine pustule incautiously of its contents.
4. Injury done to the vesicle in its early stage.

In relation to the character of the cicatrix, Dr. Gregory makes the following observations. "It would be improper to overlook the remarkable connexion that subsists between the degree of perfection in the vaccine cicatrix, and the violence of the secondary disease, (varioloid.) When the scar on the arm is perfect, that is, distinct, circular, radiated, and cellulated—but above all, when it is *small*, so that it may be covered with a split pea, the secondary affection (varioloid,) will be slight, and hardly deserve the name of a disease. On the other hand, whenever the *scar* is large, and bears the marks of having been formed by high local inflammation, and wants the other distinctive characters just mentioned, the chance of having secondary small-pox in after life, will be greater, and, *cæteribus paribus*, there will be a stronger likelihood of its proving severe."

VARICELLA—CHICKEN-POX.

Description. Little or no eruptive fever; the eruption consisting of transparent pea-sized vesicles, coming out in successive crops, bursting at the top about the third day, and concreting into thin brown crusts by the fifth day—leaving no scar when they fall off.

Medical treatment rarely necessary.

Are small-pox and chicken-pox produced by the same virus, as has been, and is still, by many, supposed?

RUBEOLA—MEASLES.

Description. The disease frequently commences with the symptoms of common catarrh—namely, lassitude, slight chills, sneezing, watery and slightly red eyes, cough, and some degree of hoarseness. More commonly, however, the catarrhal symptoms do not supervene, until the fever is fully developed. The fever is often mild; sometimes it is violent from the commencement. The skin is hot and dry, the tongue white and

punctuated with prominent red points. About the fourth day of the fever, the eruption appears, first on the face, extending gradually down over the whole body. *Nausea* and *vomiting*, and sometimes slight delirium, and even coma in violent cases, occur shortly before the appearance of the eruption. On the sixth day, the eruption begins to fade *on the face*, but not on the rest of the body; but on the seventh day, it begins to become paler on the other parts, except on the backs of the hands, where it remains vivid until the eighth day. About the ninth day, the eruption presents a faint yellowish appearance, and desquamation begins on the face, which, in two days more, is completed over the whole body. Occasionally, the eruption comes out as early as the second day, and sometimes, though very rarely, as late as the seventh day. The eruption is not uniform, but forms irregular patches, *approaching the semi-circular or crescent shape.* (Willan.)

Commonly, the face swells considerably during the height of the eruption. *The fever does not abate on the appearance of the eruption, but, on the contrary, increases.* The catarrhal symptoms, also, increase in violence. *Diarrhæa* often comes on about the time the eruption declines, which, when not excessive, is favorable. The fever almost always declines *pari passu* with the desquamation; in some instances, however, though rarely, it continues and even becomes more alarming after this period. There is a very strong tendency to pectoral inflammation in this disease.—Pneumonia and croup, most apt to occur about the time the eruption begins to decline. Ear-ache, inflammation and swelling of the eyelids; swelling of the glands about the neck; herpes, porriginous pustules, tumid lip, serous discharges from behind the ears, and tedious suppurations, are among the sequelæ of the disease. These consequences are generally the result of improper management—particularly of incautious exposure to cold and damp air, and sometimes of con-

stitutional predisposition. In children of an irritable habit of body, and disordered bowels, the breathing becomes sometimes much oppressed and anxious, although no pectoral inflammation exist. (Armstrong.) The oppressed respiration, here, depends on *irritation*, and must not be confounded with the oppressed respiration from pulmonic inflammation;—for, in the former, bleeding would injure, in the latter, it would be indispensable.

Diagnosis. Dyspnœa from irritation is variable, intermitting, being sometimes very great, at others quite easy. Is increased on assuming the erect position; the respiratory motions of the chest being very perceptible. When produced by inflammation, the oppressed breathing is permanent—is relieved by the erect position, the muscles of the abdomen being strongly moved in the acts of respiration. (Armstrong.) *Bronchitis* is distinguished by the difficulty of respiration being attended with a pale and anxious countenance, livid lips, unequal distribution of animal temperature, and rattling noise in the chest.

TREATMENT. Very little remedial treatment required in mild and regular cases. Gentle aperients, and tepid diluent drinks, are in general sufficient. When the eruptive fever is very moderate, the mildly stimulating diaphoretic ptisans are serviceable—such as infusion of sage, marjoram, balm, &c. Bleeding rarely necessary, in cases unattended by local inflammation. When the general febrile excitement is violent, *moderate* bleeding will prove beneficial; and in cases attended with pulmonic, or other internal inflammations, bleeding, both local and general, must be promptly and freely employed, together with epispastics over the inflamed part; the warm bath, impregnated with salt, and antimonials.

In instances where the eruptive fever is imperfectly developed, in consequence of great internal venous congestion—a condition characterized by a feeble pulse,

pale countenance, and general depression of the vital energies—it is necessary to resort to the warm bath, stimulating frictions, blisters, moderate depletion, and the internal use of warm and gently stimulating drinks. A weak solution of carbonate of ammonia, is an excellent article in such cases. Calomel, in large doses, with camphor, pulv. antimonialis, and a few drops of laudanum, recommended by Armstrong.

Profuse diarrhœa and vomiting, about the time the rash is appearing, is apt to check the progress of the eruption, or cause its total disappearance,—the face becoming pale, the breathing oppressed, the pulse feeble, with stupor, or constant disposition to syncope. Here, *opium*, alone or with *camphor*, is a valuable remedy. *Emetics* particularly useful, when bronchitis occurs, or when the air passages are loaded with phlegm. (Armstrong.)

The air of the apartment in which the patient lies, should be kept at a temperature, ranging from 65° to 70°. Great care *required during convalescence, to avoid exposure to variable, cold, and damp weather.*

SCARLATINA.

Scarlatina is divided into three varieties, viz. *Scarlatina Simplex*, *S. Anginosa*, and *S. Maligna*.

Symptoms of Scarlatina Simplex. It commences with the usual symptoms of the initial stages of febrile diseases. About forty-eight hours after the commencement of the fever, a scarlet eruption appears, first on the face, then on the neck trunk, and finally over the whole body. This eruption consists of innumerable little pimples running into each other; it is sometimes uniformly diffused, at others it appears in large blotches; pressure with the finger, causes a momentary disappearance of the redness. *Soreness in the throat*, is generally felt, soon after the fever is developed. The skin, during the eruptive stage, is dry, rough, and hot;

the face flushed; tongue white, with a streak of red round the edges; entire loss of appetite; bowels costive. About the fourth or fifth day, the *fever* and the *eruption* begin to decline, and in two days more disappear altogether; the cuticle generally desquamates after the eruption has disappeared.

S. Anginosa. Eruptive fever more violent than in the preceding variety. Head-ache, nausea, vomiting, præcordial oppression, and muscular prostration, very considerable in the commencement. Stiffness and dull pain in the muscles of the neck. The eruption appears on the second or third day of the fever, at which time the fauces exhibit a swollen and inflamed appearance, attended with painful deglutition. Pulse frequent, and more feeble than in the simple variety. Intense heat of the surface, and great thirst. Tongue dry, and very florid along the edge; great restlessness and prostration. Ulcers on the tonsils, particularly if the fever continues beyond the fifth day. White flakes of coagulable lymph, adhering to the tonsils, readily mistaken for ulcers. The ulcers generally cast off superficial sloughs, as the fever declines, and then heal; sometimes they become foul, and discharge a thin and acrid fluid, which being swallowed, occasions exhausting diarrhœa. Deep and fatal coma sometimes occurs in the stage of excitement. *Abdominal inflammation* occasionally supervenes. *Anasarca*, a frequent consequence of *S. Anginosa*.

Scarlatina Maligna, commences like the former varieties. Eruption, at first pale, assuming afterwards a dark or livid red color; very variable in its duration, and time of appearance. Heat of the skin variable, and seldom great. Pulse, at first, active, soon becoming small and feeble. Delirium an early symptom. Eyes dull and heavy, and cheeks livid. Greyish ulcers soon visible on the tonsils—becoming finally covered with dark sloughs. Fauces clogged with viscid phlegm, impeding respiration. A thin acrid fluid discharged from

the nostrils, in the advanced period of violent cases. *S. Maligna* differs from *S. Anginosa*, principally in the sudden and dangerous *collapse* which occurs in the former. The supervention of the collapse, announced by diminution of the heat of the surface, great prostration, frequent and feeble pulse, dark brown or black tongue; *petechiæ* and *hæmorrhage*, occur towards the conclusion of fatal cases—seldom before the tenth or twelfth day. Dr. Armstrong's division of *S. Maligna*, into three varieties, viz. the *inflammatory*, the *congestive*, and the *mixed*.

TREATMENT. *Emetics*, of great benefit in the forming stage, particularly of the *anginose* and malignant varieties. Gentle *purgatives*, and the *warm bath* strongly impregnated with salt, are also decidedly beneficial in this stage. During the stage of excitement of the *mild variety* of the disease, purgatives, *tepid* affusions, cooling drinks, ventilation, a light diet, with rest, are in general all that is required. The daily employment of mild laxatives, and the careful avoidance of exposure to cold and damp air, is the best mode of preventing the dropsical swellings, so apt to occur during convalescence. In the stage of excitement of *S. Anginosa*, *cold* affusions are highly useful. Cold affusions and purgatives most beneficial, when used concomitantly, particularly during the first three days of the stage of excitement. (Armstrong.)

After the *third* day, the affusions should be *tepid*, unless the general excitement and heat of the skin still remain very considerable. The skin must be *above* the natural temperature, and *dry*, to justify the use of *cold* affusions. When visceral inflammation exists, with an active pulse, *bleeding* will be proper,—when, however, general debility accompanies the local inflammation, our dependence must be placed on the internal exhibition of opium with calomel, and the application of emollient cataplasms over the inflamed organ. Blisters useful, in such cases, during the first few days of

the stage of excitement—in the stage of *collapse*, they do harm; rubifacients may be employed advantageously. To cleanse the ulcers in the fauces, and expel the viscid matter lodged there, *emetics* are often decidedly useful; gargles, acidulated with nitric or sulphuric acid, are beneficial. Moderate portions of wine, and the milder tonics, useful during the stages of collapse, and convalescence.

In the *inflammatory variety* of S. Maligna *blood-letting* is an important remedy. The benefits of bleeding confined to the first twenty-four or thirty hours of the stage of excitement; the blood should be suffered to flow, until a decided impression is made on the system. Purgatives particularly serviceable, during the stage of excitement, in this variety; and calomel is the best article for this purpose. Tepid affusions, to be used during the use of purgatives.

The highly inflammatory form of Scarlatina Maligna, when treated by prompt bleeding and purging, in the early period of the stage of excitement, seldom sinks into a low collapse; and when this stage supervenes, after the employment of proper depletion, in the commencement, it is rarely necessary to resort to active tonics or stimulants.

When the disease assumes the congestive character—that is, when, instead of manifest febrile excitement, the face remains pale, the skin cool, the sensorial functions blunted, with great anxiety and præcordial oppression, the *warm saline bath*, followed by stimulating frictions, and the application of bottles or bladders filled with hot water, together with the free use of warm diaphoretic ptisans, such as infusions of catnip, balm, or eupatorium perfoliatum, and *large doses of calomel*, (fifteen or twenty grains) are the remedies to be particularly relied on. Dr. Armstrong advises *bleeding*, which, though a hazardous remedy, may, with cautious management, do much good. *Calomel in large doses*, particularly efficacious. Having established a general febrile reaction, by the means just men-

tioned, recourse should be had to the milder stimulating remedies, such as infusion of serpentaria, wine whey, and, as the disease advances, and the signs of prostration become more prominent, carbonate of ammonia, wine, camphor and opium. *Capsicum*, an excellent medicine in the stage of collapse, both as a gargle, and as an internal remedy.

Two table-spoonfuls of red pepper, and two tea-spoonfuls of culinary salt, are to be beat into a paste, on which half a pint of boiling water is to be poured, and strained off when cold. An equal quantity of very sharp vinegar being added to this infusion, a table-spoonful of the mixture, every hour, is a proper dose for an adult. Mr. Stephens asserts, that he gave it in four hundred cases, many of which it cured, after they had assumed the most alarming state. I have, in a few instances, employed this remedy with signal advantage.

Cinchona, formerly much employed in this disease; it is inferior, however, to the carbonate of ammonia and opium, capsicum, serpentaria, and camphor.

ERYSIPELAS.

General description. Fever, varying in different cases, from the highly inflammatory to the low typhous grades. Superficial inflammation sometimes preceded, at others followed by the fever—commencing in an irregularly circumscribed blotch, and soon extending itself over a greater or less extent of surface; no pulsation or tension felt in the inflamed part, the pain being of the burning and pungent kind; tumefaction often considerable. Small vesicles, or blisters, containing a limpid fluid, appear after the inflammation has continued for some time. When resolution is about taking place, the inflamed and red surface becomes pale or brownish-yellow; soon after which the cuticle desquamates. No regularity, either in the duration of the inflammation, or its time of appearance.

Erysipelas occurs under several modifications, each manifesting prominent peculiarities, both in relation to the local and general phenomena, viz.

1. *Erysipelas phlegmonodes*. Fever, of the *synocha grade*; erysipelatous inflammation, generally occurring in the face—sometimes on the extremities. Color, *bright red*; swelling, about the second day of the fever; and vesicles about the fourth day; about the sixth day, the swelling and fever begin to subside, and desquamation of the cuticle takes place by the eighth day. Very rarely terminates in suppuration. In old people, sometimes protracted to the twelfth or fourteenth day. Differs principally from the other varieties, in the high grade of febrile excitement which attends it.
2. *Erysipelas adematodes*. Color of the inflamed skin, *pale red* or *yellowish brown*; heat and burning pain, inconsiderable; swelling comes on gradually, has a shining surface, and *pits, on strong pressure*. Vesicles are very numerous and small—burst, on the second or third day, and change to dark colored scabs. When the head is affected, the swelling is so great, as to close the eyes, and render the whole face exceedingly bloated. *Vomiting* is an early symptom, and *delirium* and *coma* often supervene, as the disease advances. The debilitated, and habitually intemperate, most subject to this variety of the disease. Dangerous, when the head is its seat—rarely so, when the extremities alone are affected, except when it terminates in suppuration.
3. *Erysipelas gangrenosum*. Usually occurs in the face and neck; attending fever of a typhous grade; slow *delirium* and *coma*, almost invariably attend throughout its whole course; inflamed skin, of a *dark red* or *livid* color; blisters small but not numerous, *often terminating in gangrenous ulcers*. Suppuration and gangrene of the cellular substance very common. Always tedious and dangerous.
4. *Erysipelas eraticum*. Inflamed blotches appear

ing in succession on various parts of the body—the first blotches generally disappearing before the last make their appearance.

5. *Erysipelas neonatorum*—a variety of the disease peculiar to infants soon after birth. It almost always commences about the genitals or umbilicus, and thence spreads over a greater or less extent of the body. The affected parts swell considerably, become *hard*, are of a *dark red* color, and very painful to pressure. Generally connected with green and fetid discharges from the bowels, and colic pains; it continues from seven to fourteen, or even twenty-one days. Apt to terminate in gangrene and tedious suppurations.

Suppuration, in erysipelatous inflammation, always commences in the cellular membrane; the pus formed is thin and acrid, and never collected in circumscribed cavities.

Erysipelatous inflammation, sometimes extends to the internal viscera—not by metastasis, as some have alleged, but by a spreading of the inflammation from the external to the internal parts. The organ most commonly thus affected is the brain—an occurrence generally fatal.

There is a variety of erysipelas, attended with prominent symptoms of disorder of the biliary system, and fever of the *synochus* grade. This is the *erysipelas phlegmonodes biliosum*, which has been lately so well described by Mr. Copeland Hutchinson. The fever in this variety of the disease, resembles the ordinary bilious remitting fever. The whole surface, in some cases, acquires an *icteric* hue. The pain and irritation are great.

Causes. A natural predisposition to this disease appears to exist in some instances. Habitual intemperance in persons of a cachectic disposition, predisposes to erysipelas. In persons either naturally or accidentally predisposed to the disease, it may be produced by lo-

cal injuries, particularly of the scalp. Violent rage has been known to produce it. (Richter.) A *peculiar constitution of the atmosphere*, and hence its occasional epidemic appearance. *Intestinal irritation*; this I believe to be a very frequent cause of erysipelas; it is unquestionably so in infants. *The contaminated air of crowded and ill-ventilated apartments*; hence its frequency in ill-ventilated and crowded hospitals. *Derangement of the biliary organs*. Some observations on the inflammation produced by the *rhus toxicodendron*.

TREATMENT.—The general treatment must accord with the character of the attending fever. It must be strictly antiphlogistic, when the fever is of the *synocha* grade; though frequent or copious bleeding is rarely necessary, unless coma or violent delirium exists. *Cathartics* are among the most useful general remedies in this disease. Purging is especially beneficial when the face is affected. *The saline cathartics* the best in the phlegmonoid variety; *calomel* to be preferred when symptoms of biliary disorder attend. *Two or three alvine evacuations should be procured every twenty-four hours*. Emetics highly beneficial in the beginning of the disease—more especially in the bilious modification. *Diaphoretics* are serviceable. The saline mixture, with a small portion of tart. antim. a good diaphoretic. I have derived much benefit from small doses of *ipecac.* and *calomel* in combination. When the fever is of a *typhoid* grade, mercurial laxatives, in conjunction with stimulants or tonics, are to be chiefly relied on; the carbonate of ammonia, and sulphate of quinine, exceedingly valuable in such cases. *Opium* with sulphate of quinine, particularly valuable after symptoms of gangrene have made their appearance in the *gangrenose* variety. In the *early period*, however, of this variety, *free purging with calomel*, will render the necessity of stimulants and tonics less urgent in the latter stages.

After *suppuration* has taken place, opium, camphor, and quinine, are to be employed in doses corresponding to the degree of prostration.

In every variety of this disease, *laxatives are of primary importance*. From considerable experience in the treatment of this malady, I am satisfied that alterative doses of calomel, with the daily employment of saline purgatives, will do more towards the reduction of the disease, than, perhaps, any other plan of general treatment that can be adopted. The calomel may be advantageously combined with small portions of ipecacuanha. One grain of the former, and three of the latter may be given every four hours.

Local Treatment. Certain external applications generally decidedly beneficial, the assertion of Bateman and others to the contrary notwithstanding. Cold applications, such as solutions of sugar of lead, cold water, or emollients, generally do harm. The applications must be of a *stimulating character*. A solution of corrosive sublimate in water, in the proportion of four grains to an ounce of water, is an excellent application. The blue mercurial ointment is also a very good local remedy; I have frequently employed it with much advantage.* I have also used a weak solution of sulphate of copper, with prompt success. A solution of lunar caustic, in the proportion of four grains to one ounce of water, will sometimes do much good. I have used it in two instances with manifest advantage.

Blisters are often highly useful. They must be laid immediately over the inflamed surface. *Lard*, used by Brodie with benefit.

* Both these remedies were first recommended by American physicians; the former, by Dr. Schott of Philadelphia, and the latter, by Dr. Dean of Chambersburg.

CHAPTER XVI.

HÆMORRHAGIÆ.

Hæmorrhages are divided into *active* and *passive*. In the former there is a preternatural determination of blood to the place from which the hæmorrhage occurs, with an increase of local vascular action, heat, and color. In the latter, there is no sanguineous congestion, nor increased activity of the capillaries from which the blood flows. Bichat contends that, whether of the active or passive kind, spontaneous hæmorrhages are *always* mere *sanguineous exhalations*, and never the consequence of *rupture of a vessel*. This opinion is not sustained by general observation.

Hæmorrhages occur much more commonly from the *mucous membranes*, than from the other structures of the body. *Local congestion*, in the part from which the blood flows, is almost invariably present. This congestion may be the result of an irritation existing in the part, or of one seated elsewhere. Excessive loss of blood, with the excess of serum—intestinal irritation—organic disease—obstruction.

A natural predisposition to hæmorrhage exists in some individuals—and this is even *hereditary* in some instances. Remarkable instances of this kind are on record. The predisposition to the *different* kinds of hæmorrhage, varies with the age of individuals. Thus the hæmorrhages of young people, occur generally from parts situated above the diaphragm; whilst in persons of advanced age, they are most apt to take place from parts situated below this dividing muscle. During childhood, bleeding from the *nose* is most common; between the age of puberty and thirty years from

the *lungs*; in middle life from the rectum, and in very old people, from the kidneys and bowels.

Prognosis. Passive hæmorrhages more dangerous than active ones. The cause of this explained. When they depend on organic disease, they are more intrac-table. The prognosis depends, in a great degree, on the organ from which the hæmorrhage proceeds; a hæmorrhage from the lungs being *cæteris paribus*, more dangerous than one from the stomach.

The general indications in the treatment of hæmorrhages are, 1. To diminish the momentum of the blood in the general circulation, when it is preternaturally augmented; 2. To lessen the determination of blood to, and moderate the local vascular action in, the part from which the hæmorrhage occurs. The diet should be simple and unirritating.

EPISTAXIS.

Premonitory symptoms of the active variety. Weight and tension in the temples; throbbing pain in the head; strong pulsation of the temporal arteries; ringing in the ears; vertigo; flushed countenance; tickling in the nose. In weak and irritable subjects, there are, in addition to these symptoms, others denoting a nervous or spasmodic condition, viz. creeping chills; a copious flow of pale urine; disposition to syncope; cold extremities, &c. The blood seldom flows from both nostrils at the same time.

Exciting causes. Whatever is capable of causing a preternatural determination of blood to the head, may produce this hæmorrhage.

Prognosis. Frequent bleeding from the nose during childhood, is often connected with a natural predisposition to hæmoptysis and phthisis in after-life. When epistaxis occurs frequently in advanced age, we may presume the existence of visceral obstruction, or predisposition to apoplexy. It may be regarded as salu-

tary in the *stage of excitement*, in all forms of fever; in the stage of *collapse*, it is a fatal sign. Epistaxis most dangerous in debilitated and irritable subjects. Seldom, though sometimes fatal, from the mere loss of blood.

TREATMENT. When this hæmorrhage occurs in consequence of the suppression of some habitual sanguineous evacuation, it must not be arrested unless it become excessive. When it is attended with a *strong pulse*, and with manifest symptoms of cephalic congestion, bleeding from the arm, and warm pediluvium, cold applications to the head, cooling drinks, the internal use of large doses of nitre, laxative enemata, and rest with the head in elevated position, are the measures to be principally relied on.

Styptics are improper under the circumstances just mentioned—they are often required, however, in cases attended with feeble arterial action, from exhaustion or habitual debility. The most useful styptics are, alum, kino, spirits of turpentine, and sugar of lead. In obstinate cases, a *blister* to the back of the neck, will often succeed after other applications have failed. The internal use of *sugar of lead*, is an excellent remedy in every variety of spontaneous hæmorrhage. *Mechanical compression*, by means of dossils of lint introduced into the nostrils, rarely fails to arrest the bleeding.

HÆMATEMESIS.

Premonitory symptoms. These are almost always prominent. The principal are; weight and pressure in the stomach, want of appetite, or voraciousness, acid eructations, pain in the hypochondria, nausea, anxiety, ringing in the ears, disposition to syncope, small, contracted, and irritated pulse, alternate flushes of heat and chills, palpitation, cold extremities, pale and contracted countenance, and finally, increasing anxiety and constriction about the breast, and obtuseness of the senses.

The quantity of blood thrown up is generally considerable, and almost always very dark—sometimes in clots, occasionally, quite fluid. Relief is felt after the blood is thrown up. The darker the blood, the longer it must have lain in the stomach, and the slower must have been the effusion. A portion of the blood always passes into the bowels, and is afterwards evacuated by stool.

Causes. Impeded circulation of the blood in the abdominal viscera, from visceral indurations; hence its frequency in habitual drunkards. Suppressed menstruation; particularly in females soon after the age of puberty. Suppressed hæmorrhoidal discharge; habitual constipation; pregnancy; mechanical injuries or erosion of the mucous membrane of the stomach.

Prognosis. Not attended with great danger, when it occurs in consequence of suppression of the menses, or hæmorrhoids; by recurring frequently, however, it leads to dropsy, inveterate dyspepsia, hysteria, hypochondriasis, &c. It is not apt to become habitual. It is more dangerous when it arises from visceral indurations.

TREATMENT. *Bleeding*, when the pulse is *tense and corded*. *Revulsives*, (i. e.) sinapisms to the epigastrium, or dry cupping; warm pediluvium, purgative enemata. Internal *styptics*, viz. sugar of lead, muriated tincture of iron; spirits of turpentine; alum-whey; muriate of soda; cold water; decoction of nettles, (*urtica dioica*.) Of these I have found the *spirits of turpentine* the most effectual. From ten to fifteen drops are to be used every half hour. Internal remedies are, however, rarely particularly beneficial, in cases depending on organic visceral disease. In chachectic females, the muriated tincture of iron is an excellent internal remedy for habitual hæmatemesis. *Emetics* lately recommended by Dr. Sheridan. *Purgatives* strongly recommended by Hamilton, particularly when the disease occurs in females between the ages of eighteen

and thirty, and is unattended by visceral disorganization. I have used them with advantage.

HÆMATURIA.

The hæmorrhage may proceed from the urethra, the bladder, the ureters, or the kidneys. When from the *urethra*, the blood is unmixed with urine, and flows without any evacuant effort. When from the *bladder*, there is dull pain or a sense of uneasiness in the region of this viscus, accompanied with painful erections, and burning pain in the glans penis—the blood not being intimately mixed with the urine, but suspended in small flakes or coagula in it. When the blood comes from the *kidneys*, it is very intimately mixed with the urine, without flakes or small coagula, and settling down into a uniform mush-like substance at the bottom of the vessel in which the urine is left standing.

Old people, particularly those who are affected with hæmorrhoids, are most subject to this hæmorrhage. Corpulent and plethoric females are apt to void bloody urine, about the period when the menses cease to recur.

Causes. Mechanical irritation from calculi or other causes; acrid substances conveyed to the bladder, either through the medium of the circulation, or by injection; organic affections of the urinary passages; suppression of menses or hæmorrhoids; gonorrhœa; *dentition.* (Richter.)

Prognosis. Seldom attended with immediate danger. When habitual, it is apt, in old people, to terminate in dropsy.

TREATMENT. Bleeding when the pulse is active, assisted with purgative enemata. When occasioned by calculi, *opium*, with *sugar of lead*, and the *warm bath*, are generally beneficial. When acrid or stimulating substances conveyed into the bladder through the circulation, or otherwise, are its cause, the free use of mucilaginous drinks, with opium, will prove most beneficial.

The *muriated tincture of iron*, is an excellent internal astringent in cases not immediately the consequence of irritation from calculi, or other irritating substances. Twelve drops may be given three or four times daily. In habitual hæmaturia, a caustic issue on the inner part of the thigh, or near the groin, on the abdomen, has been known to do much good. *Uva ursi*, decoction of peach leaves, and other astringents rarely beneficial.

HÆMORRHOIS—PILES.

A discharge of blood, without tenesmus, from small varicose tumours on the verge of or within the anus. When these tumours do not discharge blood, they are called *blind piles*, (*hæmorrhoides cæcæ*.) They are called *external* or *internal*, according as they are situated within or without the anus.

Premonitory symptoms. Before the blood begins to flow, the patient usually experiences various affections: viz. head-ache, vertigo, stupor, drowsiness, difficulty of breathing, nausea, colic pains, *pain in the loins*, a sense of fulness and heat, itching and pain about the anus, and often slight fever (*molimina hæmorrhoidalìa*.)

The blood sometimes flows, only when fæces are evacuated—sometimes it flows without the discharge of fæces. The loss of blood is often very great. I have known it so great as to prove fatal. It not unfrequently induces great debility, terminating in a leucophlegmatic condition, or dropsy. A sudden cessation of hæmorrhoidal flux, is apt to be followed by other and more dangerous affections, as apoplexy, palsy, asthma, &c.

Causes. These are sometimes entirely *local* in their character and operation, viz: pregnancy, parturition, irritating purgatives and enemata, protracted constipation, ascarides, sedentary employments, compression of the abdomen, by tight clothing, &c. There exists in some

individuals a natural predisposition to hæmorrhoids. In such persons, every thing that has a tendency to promote congestion in the portal circulation, will readily give rise to the disease, particularly between the thirtieth and fiftieth years of age. Females, who menstruate regularly, are less subject to it than males. It rarely occurs in children.

TREATMENT. May we safely attempt to remove or suppress this disease? When it depends on local causes, and has not yet become habitual, the sooner we remove it the better. In cases, however, that depend on constitutional predisposition, and that have not become habitual, from long continuance, or frequent repetition or where the general health, or some other chronic affection, has been improved by its supervention, it is necessary to proceed with caution in the application of remedies. In many instances the hæmorrhoidal discharge obviates other and much more dangerous maladies, by removing or diminishing congestion in the abdominal viscera—a source of much more disease than seems to be commonly supposed. The principal indications are: to counteract inflammation, and local plethora in the parts; to obviate the occasional causes of the disease, and to moderate the discharge, when excessive, by local applications. To answer these intentions, mild aperients, rest in a horizontal posture, simple and unirritating diet, cooling drinks, cold and mildly astringent applications, will in general suffice. When the inflammation runs high, general blood-letting, with emollient and anodyne applications, are beneficial.

HÆMOPTISIS.

Hæmoptisis is *generally* preceded by slight chills, cold extremities, constriction in the breast, palpitation, alternate flushing and chillness, an irritated, contracted, and feeble pulse, dryness of the fauces, a salty or sweetish

taste, a sensation of warmth rising in the breast, attended with a saltish taste, slight cough, and finally, hæmorrhage. Sometimes, however, it comes on suddenly. The quantity of blood brought up, is *generally* small, and mixed with the natural mucus of the bronchia; occasionally the bleeding is rapid and copious.

Predisposition. Some individuals have a *natural* predisposition to this variety of hæmorrhage. Such persons have narrow and depressed breasts, high shoulders, long and slender necks, fair hair, blue eyes, delicate and fair skin, sound and very white teeth, red cheeks, a clear but feeble voice—they are irritable and passionate, and subject to glandular swellings about the neck, and catarrhal affections, which pass off slowly. They are most liable to this hæmorrhage, between the ages of fifteen and twenty-five.

Exciting Causes. Atmospheric vicissitudes; violent bodily exertions; the abuse of spirituous liquors; suppression of habitual discharges; repulsion of chronic cutaneous eruptions; drying up old ulcers or issues; metastasis of gout; mechanical irritation of the respiratory passages, by particles of matter floating in the air, or gaseous substances; intestinal irritation; organic diseases of the heart, pregnancy, &c.

Prognosis. Rarely fatal merely from loss of blood—generally the first decided step towards consumption, particularly in such as are naturally predisposed to it. When no predisposition to phthisis is present, hæmoptisis will frequently pass off, without terminating in the former malady.

TREATMENT. Blood-letting is indispensable, when the pulse is *tense* and *hard*. It is necessary to draw blood until the pulse becomes *soft*. A large sinapism should be immediately applied to the breast. Astringents given internally will sometimes put a prompt stop to the hæmorrhage, particularly after venesection. Sugar of lead is the best article of this kind; when the pulse is weak, it may be advantageously combined with opium.

From one to two grains of the lead may be given every twenty minutes, until the bleeding is checked. In violent cases, six or eight grains should be given at once. Large doses of *nitras potassæ*, are an excellent remedy in pulmonary hæmorrhage; it may be given in combination with tart. antimony. Common salt is a familiar and useful remedy in hæmoptisis. In *chronic spitting of blood*, digitalis, with milk or a farinaceous diet, the occasional loss of small portions of blood, blisters to the breast, and the careful avoidance of every thing that can cause inordinate excitement, are the principal remedial measures to be depended on. Wearing flannel next the skin, and avoiding the influence of sudden changes of weather, are circumstances of much importance, in the chronic form of the disease. Nothing, perhaps, is equal to a uniformly warm climate.

PHTHISIS PULMONALIS.

Consumptive symptoms may arise from various and distinct pathological conditions. They may depend on 1. Chronic bronchitis; 2. Ulceration of the larynx or trachea; 3. Chronic pleuritis; 4. Inflammation and supuration of the substance of the lungs: and 5. Tuberculous matter in the pulmonary tissue, constituting genuine *phthisis pulmonalis*.

The first variety is generally the result of catarrh, and usually called *catarrhal phthisis*. This, of all the varieties of consumption, is the most *sanable*, particularly so long as the inflammation of the mucous membrane does not extend to the subjacent parts, or has not terminated in ulceration. The *diagnostic symptoms in the early stage*, are: Countenance pale; lips bluish; hands and feet often cold, and the temperature of the surface variable; cough deep, and expectoration free from the beginning; slight soreness in pharynx; much oppression, but little or no pain in the chest; cough rarely excited by full inspiration. Cough al-

ways severest in the morning, attended with wheezing respiration, until the mucus, collected during the night, is expectorated. In all these circumstances, it differs from *tuberculous phthisis*. In the *advanced* stage, it cannot be distinguished from the latter, or genuine form of the disease.

Catarrhal consumption often goes on to a fatal termination, without any breach of continuity or ulceration whatever—the pus expectorated being a mere secretion from the inflamed bronchial surface. When this variety of consumption is connected with prominent derangement of the liver and stomach, it forms what has been denominated *dyspeptic phthisis*. In this combination, we have, in addition to the ordinary symptoms of phthisis, dyspeptic symptoms,—such as, furred tongue, foul breath, unnatural stools, capricious appetite, distended epigastrium.

The *majority* of consumptions, in this and similar climates, are of the catarrhal or bronchial kind.

When ulceration of the larynx or trachea is its cause, the disease is called *laryngeal* or *tracheal phthisis*. This is a rapid and fatal disease, the instances of recovery being exceedingly few. One of the first, most constant, and characteristic symptoms, is a *change of voice*—losing at first its clear sound—then becoming hoarse or indistinct, and finally scarcely audible.—When the *larynx* is principally affected, we have the following characteristic phenomena: pain in the larynx, increased by coughing and pressure; cough most violent in the morning, on rising out of bed; suddenly and violently excited, by inhaling cold air and irritating vapors, by *swallowing food*, and by the use of irritating gargles and acid drinks. When the *trachea alone* is affected, the pain is always increased by bending the head backwards, or turning it round, and is generally felt about its bifurcation. The cough is not excited by gargles, or the inhalation of cold air and vapours, but readily by active bodily exercise, and by swallowing—

the cough not coming on until the food has descended as low down as the sternum, when it is often brought up again. Inspiration, during coughing, is generally stridulous, as in croup. The fits of coughing are frequently preceded by sneezing. In coughing, the patient puts his hand to the throat, near the breast. The expectoration generally consists of small portions of yellow pus, suspended or mixed with a large portion of bronchial mucus. The most frequent causes of this variety of phthisis are catarrh, whooping-cough, croup, and *syphilis*.

Chronic pleuritis, gives rise to the third variety of phthisis. It is the result of effusion into the cavity of the chest—a termination which always takes place, sooner or later, in chronic inflammation of the pleura. As the effusion increases, the lung on the side on which it occurs, becomes more and more compressed, until it is reduced to so small a bulk, as to seem almost completely destroyed. Sometimes ulceration takes place in the pulmonary pleura, in which case, the effused purulent, or sero-purulent fluid, is discharged by coughing. When this occurs, *hectic*, with its usual train of symptoms, ensue. This variety of phthisis is characterized by: increased oppression in the breast, on lying down; *anhelation*, by ascending stairs, or other bodily exercise; alleviation, in a sitting posture; generally, some soreness of the integuments of the affected side; pain in the side, confined to a certain space; difficulty of breathing, progressively increased; and, finally, the absence of *pus* in the expectoration, and irregularity in the hectic symptoms.

This variety of phthisis is of a very fatal character; though instances of recovery do sometimes occur, by; 1. A gradual absorption of the effused fluid, the lungs forming adhesions with the costal pleura; 2. The escape of the fluid, by the formation of a fistulous passage from the cavity of the chest into the bronchial tubes; 3. By the formation of an opening through the intercostal spaces, and the escape of the fluid externally.

Inflammation, terminating in pulmonary abscess, constitutes the fourth variety. This variety is of very rare occurrence.

Tubercular phthisis. This variety occurs only in persons of a strumous or scrofulous diathesis. *Tubercles* never formed, without a *natural predisposition* to them. They are scarcely organized, being probably formed by exudations into the cellular tissue of the lungs. They do not always lead to consumption — remaining dormant sometimes, without materially affecting the general health. Their formation sometimes very rapid; in which case the usual phenomena of inflammation generally attend. Tubercles are never absorbed; hence the utter incurableness of perfectly formed tuberculous phthisis. The conversion of tuberculous substance into a fluid, not the result of suppuration, but of a peculiar process of softening. (Lænnec.) The surface of the cavities of softened tubercles, is lined with a white, opaque, and soft membrane. Pus is afterwards secreted by this membrane. (Bayle.) Under this membrane, another one is formed, as the disease advances, of a white, semi-cartilaginous appearance, which eventually forms a complete lining to the ulcerous excavations, and gives them a fistulous character. This latter membrane exists sometimes before the softening has taken place—constituting the *encysted tubercle* of Bayle. There is often more or less *chronic bronchitis*, co-existing with pulmonary tubercles; and hence puriform expectoration may occur, before these tumours have undergone the softening process. (Pearson.) There are two, and sometimes three, morbid processes, in every case of tubercular phthisis; 1. Tubercular action; 2. Chronic bronchitis; 3. Inflammation of the pulmonic tissue, generally chronic.

Although art cannot cure tubercular phthisis, in a state of full development, spontaneous cures have been known to take place, after the tuberculous matter has been evacuated. (Lænnec.) This occurs in two ways:

1. By the cavity becoming lined by a semi-cartilaginous substance, forming "a kind of internal cicatrix, analagous to a fistula:" 2. By the cavity being obliterated by cellular, fibrous, or cartilaginous substance.

Exciting Causes. All fixed irritations in the abdominal viscera; repelled cutaneous eruptions; suppression of habitual evacuations; *atmospheric vicissitudes*; intemperance in spirituous drinks; sedentary employments; the incautious use of mercury; hæmorrhages; depressing passions; the inhalation of irritating substances; rapid growth, syphilis; onanism. Of all these causes, *suppression of the cutaneous exhalation by cold, is the most common and powerful, in calling into action this fatal malady in those who are predisposed to it.*

Characteristic symptoms of the commencement and course of phthisis. Tension and slight aching in the breast; slight, short and dry cough; slightly oppressed perspiration—a sense of tightness being felt in some particular part of the chest, on inspiration. At length moderate febrile symptoms in the evening; the pulse and respiration being preternaturally frequent; coughing in the morning, great susceptibility of taking cold; torpor of the bowels; frequently a benumbing and drowsy feeling; tongue moist, covered with a thin white fur. As the disease advances, the cough becomes more and more troublesome; there is great sensibility to low temperature; pearly whiteness of the eyes; skin often hot; lips, tongue, and fauces often dry; slight chills in the evening, followed by febrile exacerbations, with a burning heat in the palms of the hands and soles of the feet; expectoration at first scanty and frothy, finally thick, puruloid, and often streaked with blood, becoming more purulent as the disease goes on; the pain in the chest, and evening fevers, becoming stronger and stronger; the patient lies easy only on one side; profuse sweats occur during the night; the burning in the palms of the hands and soles of the feet is distress-

ing; the pulse very frequent, tense, and quick; and small during the febrile exacerbations, but slower and languid in the morning. The cheeks have a circumscribed flush, during the febrile excitement. Besides the evening exacerbation, there is, in most instances, but a slight one about twelve o'clock in the day. Towards the conclusion, colliquative diarrhœa comes on, the voice becomes hoarse, the fauces aphthous, the feet œdematous; there is sometimes slight delirium; more commonly, however, the mental faculties remain entire to the last moment.

Tests for pus. Muriate of ammonia coagulates pus—but not mucus. Pus does not coagulate by heat—mucus does. Water added to the solutions of pus in sulphuric acid, and a solution of pure potash separately, produces in each a copiate precipitate.

Dr. Young's test.—A small portion of pus, put between two glasses, will, when held near the eye, and looked through at a distant candle, exhibit an iridescent spectrum, of which the candle is the centre;—mucus does not exhibit this phenomenon.

TREATMENT. One of the most important remedial measures, in every variety of the disease, is, *to restore and maintain the regular action of the cutaneous exhalents.* This is to be done by wearing flannel next the skin, by minute doses of tartarized antimony, and by avoiding atmospheric vicissitudes. We must also endeavor *to remove every source of irritation, and to prevent as much as possible, an inflammatory condition of the system—particularly in the incipient stage.* With this view, a *strictly* antiphlogistic regimen is to be enjoined, together with occasional small bleedings, where the pulse demands it, the use of *digitalis*, and mild aperients, with gentle exercise on horseback or in a carriage. Another important measure, is to divert as much as practicable, the undue determination of blood to the pulmonary system, by means of

blisters, cupping, and especially by tartar emetic ointment applied to the breast.

Although we cannot expect to *cure* tubercular phthisis by these or any other remedial measures, when once fully developed, yet by a strict adherence to them in the *incipient stage*, we may often *suspend* the disease permanently, or *retard* its progress in the more advanced periods. *Catarrhal* consumption is not so irresistible in its course, and will not unfrequently yield to remedial treatment, even when considerably advanced.

The use of mercury discussed—generally injurious in tubercular phthisis, In consumption from *chronic* bronchitis, *balsam copaiva* is an excellent remedy. "It appears to have a specific influence over the mucous membrane of the trachea and its branches." (Armstrong.) I have myself employed it with decided advantage in this variety of phthisis. *The inhalation of the fumes of tar*, has of late years been much extolled in the cure of consumption. Its power has been overrated. In tubercular phthisis it generally does harm; in *chronic bronchitis* it may, and no doubt has often done good—but even in this variety of the disease, it generally proves injurious, when the habit of the body is irritable, and the inflammation active. Dr. Hastings speaks very favorably of a combination of extract of *stramonium*, and *pulv. ipecac. compos.*, in the proportion of one-fourth of a grain of the former, with two grains of the latter, taken three times daily. *Cinchona* is valuable in the advanced stage of catarrhal consumption. (Broussais, Hastings.) *A change of climate* will sometimes remove the disease, when remedial treatment is inadequate.

Tracheal phthisis almost invariably terminates fatally. *Mercury* is said to have been beneficial, particularly in cases dependent on a syphilitic taint. An *equable and mild temperature* is one of the most important curative means in this, as in the other varieties of phthisis. Blisters should be applied to the throat, and kept discharging. Armstrong asserts, that *bals. copaiiv.* is as

beneficial in this, as in the catarrhal variety, when employed previous to the occurrence of ulceration. When ulceration exists, large doses of *cicuta*, with minute portions of *urias hydrarg.* are said to be serviceable. *Phthisis depending on chronic pleuritis*, is more amenable to remedial treatment. Here, our chief reliance is to be placed on external vesicating or irritating applications to the chest. *Tartar emetic ointment is the best.* Active *diuretics* are beneficial. Squill, in combination with calomel, is a good article for this purpose. Digitalis and squill, useful when effusion has taken place.

Prussic acid, is much extolled by some in phthisis. It is, however, a dangerous remedy, and must be employed with the utmost caution; one sixteenth of a drop is sufficient for a dose. *Sugar of lead* an excellent remedy to check the colliquative night sweats. *Phe-landrum aquaticum*, much recommended by the German physicians in catarrhal (*phthisis pituitosa*) consumption. It is given in doses of from sixteen to twenty grains, three times daily. I have known it do much good in the advanced stage of the disease. *Ampelopsis hedera*, appears to be a useful remedy in this variety of the disease.* (Atkins.) The bark of the wild cherry tree (*prunus virginiana*) is a valuable tonic in consumption.† *Opium* the best euthanasial remedy.

* Phil. Med. and Surg. Jour. Oct. 1826.

† Vide Eberle's Mat. Med. Article Prun. Virgin.

CHAPTER XVII.

NEUROSES.

APOPLEXY.

Character. Abolition or suspension of the *animal* functions,—the *organic* functions being uninterrupted; with laborious, generally *sterterous*, breathing.

Description. Generally preceded by premonitory symptoms—such as, vertigo, drowsiness, dull pain in the head, irregular and involuntary contractions of the muscles of the face, turgidity of the vessels of the head, bleeding from the nose, ringing in the ears, loss of memory or speech, dimness of sight, indistinct articulation. Sometimes the attack is sudden, without premonitory symptoms. *Sterterous* breathing, not invariably present in the attack, as is generally alleged. The pulse, during the apoplectic state, is at first full, slow, regular, and often hard; towards the conclusion of fatal cases, it becomes frequent, irregular, and weak. The face is livid and full; the eyes prominent, and often blood-shot; the pupils much dilated, or permanently contracted. The attack may last from a few hours to several days. *Apoplexy seldom if ever destroys life suddenly*, as is the case with affections of the heart. Most apt to occur between the ages of forty and sixty. Persons who have short thick necks, and are of a full and plethoric habit, and indulge freely in eating, drinking, and sleep, are most liable to this disease. Great heat and cold predispose to it.

Exciting causes. Whatever tends to determine the circulation inordinately to the head, may produce apoplexy. The most common of these causes are, over-

distention of the stomach with food; the use of indigestible and stimulating diet; the intemperate use of spirituous liquors; violent straining in lifting, or in evacuating fæces: violent anger; the direct rays of a vertical sun; extreme cold weather; the cold stage of intermittents; stooping, or other positions in which the head is in a depending state; impeding the return of blood from the head, by wearing cravats too tight, and turning the head to look back. Apoplexy is also produced by the suppression of habitual discharges; by the healing of old ulcers; by metastasis of gout. Irritation in the stomach and bowels is a frequent cause of this disease.

Proximate Cause. Interruptions of the functions of the brain, and consequent deficiency of nervous influence in the parts furnished with cerebral nerves. Does this interruption of the cerebral functions depend on compression of the brain, or on mere deficiency of arterial blood circulating in this organ, as has been lately maintained? I believe that both conditions (i. e.) compression of the brain, and deficiency of arterial blood in it, are necessary to the production of genuine apoplexy. Cerebral compression may be the result of mere vascular turgescence, or of extravasation of blood upon, or into, the substance of the brain; or, finally, of serous effusion into its cavities, &c. Blood is very rarely extravasated upon the *surface of the brain*, or into its ventricles, but almost always into its substance. (Bricheteau, Rochaux.)

Diagnosis. Distinguishable from *syncope* and *asphyxia*, by the pulse and respiration. The pulse is full, strong, and slow, in apoplexy; in *syncope* and *asphyxia*, it is small and feeble, and sometimes wholly suspended. Respiration in apoplexy is slow, laborious, and stertorous; in *asphyxia* and *syncope*, it is feeble and almost imperceptible. Apoplexy, not easily distinguished from intoxication; the smell of the breath, habits of the patient, &c. will inform us on this point.

Prognosis. Generally unfavorable. When the result of mere sanguineous congestion in the brain, it is in general readily relieved. When effusion of serum, or extravasation of blood has occurred, it is rarely cured. Extravasation of blood into the brain, is not necessarily fatal, as was formerly thought.

The observations of Brichteau, Seres, Rochaux, and Riobe, prove, that when blood is extravasated into the substance of the brain, a cyst is formed around the coagulum, and that this coagulum is afterwards absorbed by the vessels of this cyst. The cyst finally becomes absorbed itself, and leaves a yellowish cicatrix or laminated tissue, which is sometimes found to contain a small portion of serum.

Apoplexy may be divided into two varieties; viz. *simple* apoplexy, which is *not* accompanied by paralysis; *complicated* apoplexy, which is attended by loss of motion, on one or the other side of the body. Mr. Seres, of Paris, has ascertained that *simple apoplexy* depends on *serous effusion* into the ventricles or circumvolutions of the cerebrum, without any organic lesion of the cerebral substance. In *complicated apoplexy*, the *substance* of the brain is altered; excavations are found in it, filled with blood of various appearances, according to the time which may have elapsed between the extravasation and death—the portions of brain immediately surrounding these clots, being red, indurated, or yellow. Mr. Seres concludes, from his observations on this subject, that:—

1. When no symptoms of paralysis attend, we may presume that the seat of the disease is in the meninges, and that the substance of the brain is not altered. This variety, he accordingly calls *meningeal apoplexy*.
2. When the disease is complicated with paralysis, the *cerebrum* is the part principally or wholly affected; and this variety he calls *cerebral apoplexy*.

It appears, from the observations that have been made in the Parisian hospitals, that *meningeal* apoplexy occurs most commonly in the fifteenth, and after the sixtieth year of age.

Cerebral apoplexy generally makes its attack suddenly. *Meningeal* apoplexy usually comes on gradually. In this variety, the mouth is never drawn to one side, and the patient lies in a straight position. Paralysis almost invariably occurs on the side opposite to the one in which the cerebral lesion exists. This was observed in 171 subjects who had died of cerebral apoplexy, accompanied with hemiplegia. When the paralysis is universal, the extravasation and cerebral lesion occur in the substance of the *tubar anulare*, or along the base of the skull. Death, from apoplexy, explained.

TREATMENT. The chief indications in the treatment of apoplexy, are: to lessen the determination of blood to the brain, and to moderate the momentum of the general circulation. This is effected by general and local bleeding, active purgatives, revulsive applications, abstemiousness in diet, and stimulating drinks, &c. During the apoplectic attack *prompt* and *copious* bleeding, stimulating purgative enemata, cold applications to the head, sinapisms to the feet, cups applied to the temples and the back of the neck, and an elevated position of the head, are the remedial measures to be relied on. When apoplexy comes on, *soon after a full meal*, an emetic should be administered; blood should, however, be previously drawn. Under other circumstances, *emetics* are improper, as they have a decided tendency to produce cephalic congestion. On this subject, there has been much controversy. I have found castor oil, and spir. turpentine, in combination, an excellent purgative—it having rarely failed in my hands to excite copious purging, which, though of much importance, it is often exceedingly difficult to procure.

PARALYSIS.

Character. Diminution or entire loss of voluntary motion, or of sensation, or of both, in some particular part of the body, *without coma*.

Description. Often the consequence of apoplexy; but frequently also, independent of it. Most commonly, there is only loss of voluntary motion—sensibility remaining entire, or even morbidly *increased*. Total abolition of sensibility, very rare. The palsied limbs generally become soft, wasted, and shrunk—often with a peculiar sensation in them, as if insects were creeping over them (*formication*.) Mental hebetude, frequently in palsy—especially weakness, and sometimes total abolition of the *memory*. Entire change of the natural disposition, occasionally occurs in this disease.

Paralysis is divided, by nosologists, into three varieties, viz: *hemiplegia*, *paraplegia*, and *local palsy*.

The question, why the power of motion is sometimes lost, while that of sensation remains, and *vice versa*, has given rise to much controversy among physiologists. Galen supposed that there were two sets of nerves—one destined to sensation, the other to motion. What this sagacious physician alleged, on mere speculative grounds, has recently been actually demonstrated by Magendie, and Charles Bell. It appears, from the experiments of these and other physiologists, that each nerve is composed of two distinct parts—the one for motion, and the other for sensation. From this anatomical fact, we perceive in what manner the phenomenon in question may occur.

HEMIPLÉGIA.

Paralysis, confined to one side, including the whole half of the body, generally the consequence of apoplexy; the apoplectic symptoms are sometimes so slight, as to escape notice. Injuries done to the head may produce it. *Cerebral compression, or structural lesion*, the proximate cause of hemiplegia. Seres denies that compression is ever the cause, either of apoplexy or hemiple-

gia; his experiments, however, are not conclusive; they are contradicted by those of Portal, and of Mr. Astley Cooper.

Hemiplegia often comes on gradually, with the usual symptoms of approaching apoplexy; occasionally, its attack is sudden. *Anomalous symptoms.* This affection sometimes terminates in a few days—more generally several months; and occasionally it remains permanently. Sometimes a greater or less degree of amendment occurs, and then the disease remains stationary.

PARAPLEGIA.

Paralysis of the whole lower half of the body, the parts above the hips remaining unaffected, Occurs most commonly after the middle period of life; and according to Baillie, more frequently in men than women.

Causes. Most commonly *seated in the brain*, (Baillie, Earle, Halford, Copeland;) sometimes in the *spinal marrow*, producing an interruption to the passage of the nervous influence along the spinal cord, to the nerves of the lower extremities. The most common of those causes, which act immediately on the spinal marrow, are: thickening of the theca vertebralis; serous effusions into it, exostosis on the internal surface of the vertebræ. The higher these causes exist in the medulla spinalis, the higher will the paralysis extend. When above the fifth cervical vertebra, the hands will be paralysed; if below the eighth, they will not be affected. The effusion may occur, first between the membranes of the brain, and afterwards sink down in the theca vertebralis, and press upon the lower portion of the spinal cord.

When the brain is the primary seat of the disease, pain in the head, giddiness, drowsiness, impaired vision, and defective memory, usually precede the paralytic attack. The paraplegiac affection always comes on

gradually—first by stiffness and slight difficulty of directing the motions of the lower limbs; by degrees, the assistance of a stick is required to balance the body; the urine is voided with difficulty, and finally passes off involuntarily—the paralysis becomes more and more complete, the fæces passing off unrestrained by the will.

PARALYSIS PARTIALIS—LOCAL PALSY.

Local paralysis consists of want of motion, or of sensation, or of both, in some particular part or organ of the body. It may attack some viscus, or the organs of sense, destroying or blunting their respective functions. It occurs in one extremity; in the muscles of deglutition; in those of the organs of speech, and even in a single muscle. It most frequently, however, occurs in the *muscles of the face*. Persons affected with *facial paralysis*, are deprived of the power of closing or opening the eyelids—of contracting the brow—of elevating the nose or lip—of shutting the mouth—of retaining the saliva—of raising the corner of the mouth—of whistling or blowing, &c. The wing of the nose, on the palsied side, is collapsed; the mouth drawn towards the opposite side; the teeth exposed. The power of masticating remains—the tongue too retains its powers.

Causes. Facial paralysis is produced by some injury sustained by the *portio dura*, either in consequence of surgical operations, abscesses, bruises, or other injuries in the parotid region. It occurs also in consequence of thickening of the sheath of this nerve; of necrosis at the canal of the temporal bone, through which it passes out; and frequently from sudden exposure to cold, producing inflammation of the nerve. It has been produced by a blow on the head; by the suppression of cutaneous eruptions; and by tumours pressing on this nerve.

Paralysis of the wrists is produced by the poisonous influence of lead; by bilious colic; and sometimes by dysentery. Whatever interrupts the free nervous communication between a part and the common sensorium, may produce paralysis in such part.

TREATMENT. Blood-letting of primary importance in the commencement of hemiplegia, preceded by apoplectic symptoms, and attended with a full and strong, or small and *tense* pulse. In some instances the pulse is small and feeble, in which case, bleeding is of course to be avoided, or at most used with particular circumspection. *Purgatives*, perhaps, still more beneficial than blood-letting. In debilitated, leucophlegmatic, or hydropic subjects, *mustard* or *capsicum* may be very advantageously given in union with cathartics. An ordinary dose of calomel and jalap, with from 20 to 30 grains of mustard, or from six to eight grains of capsicum, forms an excellent purgative under such circumstances. *Emetics* have been particularly recommended in hemiplegia. They must be given in large doses, on account of the unirritable state of the stomach in this complaint. They are useful when the attack of the disease occurs soon after a full meal, or during the existence of dyspepsia. In recent cases, with signs of cephalic congestion, they are hazardous, unless blood be previously drawn. *Stimulating enemata* are useful remedies. Much advantage may be derived from rubifacient, vesicating, and stimulating applications to the paralytic parts. The depletory remedies just mentioned, cease to be proper after the disease has assumed a chronic character—that is, after the apoplectic symptoms have disappeared, and the undue determination to the head no longer exists. Means of an opposite character are now to be used, i. e. external and internal stimulating remedies. The former are sinapisms, warm bathing, blisters, moxa, cupping, galvanism, electricity, and frictions with the flesh brush, dry flannel, or with stimulating fluids. Blisters and sinapisms

must be employed with caution, when the paralysis is complete, lest sloughing or mortification ensue. They should be employed only as rubifacients in such cases. In general, mere dry frictions, with flannel or the flesh brush, will do more good than where rubifacients are used. *Electricity* has been employed with success in this city. It must never be employed in strong shocks; *weak sparks* are more efficacious, and less apt to injure. *Galvanism* is more efficacious than electricity; it must be applied with only a moderate force. *Moxa* has been used with success in general paralysis, applied along each side of the spine, near the first dorsal vertebra, by Dupuytren.

Among the *internal remedies*, the following are the most useful:—*Rhus toxicodendron*. I have succeeded in curing two cases of hemiplegia, by the saturated tincture of the leaves of the *rhus*. The dose is from twenty to sixty drops, three times daily. Professor Ossan of Berlin, recommends it to be given according to the following formula:—R. Tinct. rhois, toxicoden, ʒss. Tinct. aconit. neamont. Tinct. guaiaci. āā ʒij. m. Dose, forty drops every three hours. The *nux vomica* has of late years been much employed, and not unfrequently with success, in paralysis. When used in adequate doses, it produces strong convulsive contractions, more particularly in the paralytic parts. The extract is usually employed. It may be commenced with in the dose of two grains, twice a day, and gradually increased until the spasmodic contractions come on. The *arnica montana*, is a favorite remedy with the German physicians in paralytic affections. *Mustard seed*, internally, has been found useful; I have employed it with advantage in hemiplegia. *Iodine* has been used with success, in paralysis depending on tumours or fluids pressing on the brain or spinal cord. Dr. Manson has related some remarkable instances of its beneficial operation. In paralysis of the *tongue*, a few drops of the ol. cajeput, put on the organ daily,

has been found serviceable. Chewing the root of the *anthemis pyrethrum*, has also done good in palsied tongue. Would not moxaustion over the mastoid regions prove beneficial in this variety of palsy? In paralysis from lead, *mercury* is an excellent remedy; the *nitrate of silver* has also been used with advantage, in this species of paralysis. When the wrists are palsied, the application of a splint along the inner side of the fore-arm has done much good. (Pemberton.)

EPILEPSY.

Character. Convulsions returning at uncertain intervals—accompanied with loss of sense and voluntary motion, and terminating in deep sleep.

Premonitory symptoms. A confused and wandering state of the mind; vertigo; ringing in the ears; indistinct vision; pain in the head; pain and anxiety in the præcordial region; change of the natural disposition; spasmodic twitches of the muscles of the face; *aura epileptica*, and a feeling of terror and alarm are the most common.

Symptoms of the paroxysm. The attacks frequently occur at night, while the patient is asleep. If he is sitting or standing, he suddenly falls down, and becomes more or less violently convulsed. The countenance is frightfully distorted, and generally of a livid, and sometimes almost black hue—occasionally it is pale; the veins of the head and neck are turgid; the heart palpitates violently, and the breathing is oppressed and laborious, and in violent cases sterterous. *A copious flow of frothy saliva occurs towards the termination of the paroxysm.* As the convulsions abate, stupor or deep sleep comes on, out of which the patient awakes in a state of mental torpor or confusion, which often continues for many hours—the countenance exhibiting a fatuous and stupid cast. The duration of the paroxysm varies in different cases, from a

few minutes to several hours. Sometimes there is but one fit at a time; at others, three or four, and even more paroxysms, occur in quick succession, before the disease terminates. The fits are in general more protracted in children than in adults. Sometimes the attacks are strictly periodical in their recurrence, more, generally, however, they return at irregular intervals and the duration of these intervals is exceedingly various. Epilepsies, depending on intestinal irritation and catamenial irregularities, are most apt to become periodical. (Richter.) The periodicity of this disease is ascribed to lunar influence, by Mead, Balfour, and others. This opinion is not supported by sufficient testimony to entitle it to credit.

Epilepsy is seldom fatal, except by the intervention of apoplexy. By repeated recurrence, it never fails to impair the understanding—terminating sometimes in perfect idiotism.

Autopsic phenomena. According to Wentzel, the *cerebellum* is much more frequently found diseased than the *cerebrum*. The pineal gland is often found in a morbid state; tumours and other structural derangements are, in some instances, discovered in the cerebrum. In the *cerebellum*, have been noticed indurations and a peculiar friable matter between its lobes, with destruction of a portion of their substance. In many instances, however, not the slightest traces of organic disorder are discoverable, either in the *cerebellum* or *cerebrum*.

Predisposing causes. Predisposition sometimes constitutional, and even *hereditary*, and always augmented by the attacks of the disease. Young people, about the age of puberty, most liable to epileptic attacks.

Exciting causes. Some act directly on the brain—the disease being then called *idiopathic*. Others act on remote parts—affecting the brain sympathetically—this constitutes *symptomatic* epilepsy. Among the former causes, are: malformation of the skull; depress-

ed bones; exostosis from the internal surface of the cranium; organic derangements; vascular congestions and effusions in the brain, &c. Among the most common causes of the latter class, are: *intestinal irritation* from worms and other irritants; dentition; suppression of the *catamenia*, of hæmorrhoids, and of perspiration; the drying up of old ulcers and issues; the repercussion of exanthematous eruptions, or of chronic cutaneous diseases, as measles, small-pox, *itch*, and *tinea capitis*. Excessive sanguineous and other evacuations; onanism; various poisons, both vegetable and mineral; *habitual intemperance in the use of spirituous liquors*; pregnancy; irritation from biliary concretions and urinary calculi; sudden and violent *terror*; anger, and grief; disagreeable and strong impressions on the senses; spiculæ of bones, tumours, &c. pressing upon, and irritating some nerve; the sight of a person affected with the disease.

Proximate cause. Various opinions expressed by authors. A temporary local turgescence of the cerebral vessels, is probably the immediate cause of the epileptic paroxysm. (Johnson.) According to Mansford, an accumulation of electric matter in the brain, constitutes the proximate cause. Others regard organic derangement of some part of the brain as the immediate cause. I regard the first opinion as the most probable.

Diagnosis. Sometimes confounded with *hysteria*. They may be distinguished by the following circumstances. In *hysteria*, there is no *foaming at the mouth*, nor is the countenance so *livid* and *distorted* as in epilepsy; the hysteric paroxysm does not *terminate in heavy sleep*, as does the epileptic. In *hysteria*, there are *globus hystericus*, involuntary laughing, weeping, and other hysteric symptoms.

Prognosis. Not much immediate danger. In relation to its sanability, however, the prognosis is always favorable. *Symptomatic*, more frequently cured than *idiopathic* epilepsy. Cases depending on catamenial irre-

gularities, in young females, most frequently yield to remedial treatment. The more frequently it has recurred, the more difficult the cure. Epilepsies that come on soon after birth, are hardly ever cured. Cases produced by falls and blows on the head, are very generally incurable. From the period of dentition, to that of puberty, the most favorable age for the cure of this disease. It is more unfavorable, when the precursory symptoms consist of some affections in the head, than when they are felt in other parts, particularly the extremities. Protracted sleep and stupor after the paroxysm, very unfavourable.

TREATMENT. In prescribing for epilepsy, we must first endeavor to ascertain its original exciting cause—its duration—the time and manner of the first attack—the constitutional habits of the patient—his age, pursuits, concomitant disorders, temper, and mode of living. It is upon these circumstances alone that a rational treatment can be founded. The treatment is divided into *palliative* and *curative*. The former applies to the paroxysms—the latter to the intervals between them. The attack may sometimes be prevented *during the period of the premonitory symptoms*, by bleeding where there are marks of general plethora, brisk cathartics, *emetics*, a draught of *cold water*, and ligatures round the limb, above the part to which the *aura* (where this sensation precedes the attack) has risen. Richter asserts, the emetics are particularly useful in warding off an approaching paroxysm, in cases that continue from habit, after the original exciting cause no longer exists. I have known an epileptic person, who could prevent the paroxysm, when he felt it approaching, by a draught of cold water. Jahn mentions similar cases.

During the paroxysm, our principal objects is to lessen the preternatural determination to the head, and with it the chance of apoplexy. With this view, *bleeding* in full habits, an *elevated position* of the head, with *cold applications* to it, the removal of every thing which

may compress the veins of the neck, and *sinapisms* to the feet, may be beneficially employed. No treatment will either materially mitigate or shorten the paroxysm.

The radical cure is to be attempted during the intervals. Where the exciting cause can be ascertained, and is of a nature capable of being *removed*, this should be immediately attempted, as the first and most important curative measure. When gastric irritation from worms, acidity, and other causes, exists as its cause—as is often the case with young children, anthelmintics, emetics or purgatives, absorbents and tonics, are proper. In verminous epilepsy, *valerian*, in union with small doses of calomel and flores zinci, has been found efficacious. When suppressed perspiration has given rise to the disease, *diaphoretics* should be employed; here, camphor with tartar emetic, guaiacum, sulphur, together with the warm bath, warm clothing, and dry frictions, particularly serviceable. When repercussion of utaneous affections, or the dying up of old ulcers, was the original cause, issues, vesicatories, pustulating applications, warm bathing, frictions, and stimulating diaphoretics, are the appropriate remedies. When the disease arises from menstrual irregularities, means must be employed to obviate the morbid determination to the uterine system. Here, bleeding is generally an indispensable remedy; the warm semicupium, frictions about the back and loins, stimulating enemas, the internal use of *spirits of turpentine*, of tincture of cantharides, and other emenagogues, (after proper depletion,) are peculiarly serviceable. In epilepsy from dentition, blisters behind the ear, leeching, purging, scarifying the gums, and a mild diet, are especially indicated. When onanism is its cause, camphor externally, with cold applications to the genitals, and a seton in the back of the neck, have been found beneficial.

Remedies that are employed empirically, or that are

supposed, or do possess specific anti-epileptic powers:---
Valerian. A very ancient remedy. It should be given in as large doses as the stomach will bear—a drachm three times daily. It forms a principal ingredient in the famous powder of Ragoloi, which according to Knopf's analysis, is composed of *Valerian*, ʒj. Powdered orange leaves, ʒj. Muriate of Ammonia, grs. ii. and ol. cajeput, gtt. iv. Richter has cured inveterate cases with this remedy.

The Wisletoe, recommended by De Haen, Van Swieten, Hufeland, Stark, Richter. Cullen thinks it may have done good, from its having early been an object of superstition, and thus bringing with it the powerful aid of the imagination. Frazer states that he cured nine out of eleven cases, with the *viscus quercinus*, in doses of from ʒij. to ʒij. twice daily. Dr. Fothergil and Wilan, speak well of its powers in this disease.

Animal Oil of Dipple. According to Richter, particularly valuable in epilepsies from metastasis of gout, rheumatism, and repelled cutaneous eruptions.

Spirits of Turpentine. Lately much extolled for its virtues in this disease. Drs. Latham, Young, Percival, Money, and Prichard, have used it with decided success. Dose from ʒjss. to ʒij. thrice daily. I have lately cured a case with this remedy.

Paeony root. Agaricus Muscarius. Both much used, formerly.

Artemisia Vulgaris. Has lately been used with singular success, in the Polyclinic Institution at Berlin; and late numbers of Hufeland's Journal, contain several well authenticated cases of its successful employment. It is said to be particularly useful epilepsies, coming on about the age of puberty, and more so in females than in males. The root is given in doses of about thirty grains, four times daily, and gradually increased. Et-muller says of it—*mire in epilepsia valet.*

Camphor, Musk, Castor, Assafetida. The first of these articles is said to be particularly adapted to cases

arising from repelled cutaneous affections, and from onanism.

Stramonium, Belladonna. Both these narcotics have been employed with occasional success in epilepsy. I once succeeded in removing the disease in a child, by means of belladonna and cuprum ammoniacum. Hufeland speaks highly of the tincture of *Stramonium*, and Odhelius cured eight out of fourteen cases, in the hospital of Stockholm, with this remedy.

Opium. Epilepsy has been cured by this narcotic.— Darwin cured two cases with it, and Dr. Huxy relates an instance of its successful use. Richter states, that cases produced by mental excitement, pain, or exhaustion, are often benefited by it.

Phosphorus. This potent article is recommended by Horn, Lobenstien-Læbel, and Van Hoven. It is improper in cases attended with general plethora.

Zinc. A valuable remedy in this disease. *It should be given in large doses.* Dr. Guthrie commenced with eight grains of the *flores zinci*, and increased the dose until it amounted to two scruples a day. Many cases are reported of its successful employment. The *sulphate* less useful than the *flowers* of zinc, in epilepsy.

Cuprum Ammoniacum. Cullen speaks favorably of its powers in this disease. The number of cases reported of its efficacy, is not inconsiderable. I have used it with success in one case.

Acetate of Lead. Dr. Rush gave this article with success in epilepsy. About fifteen years ago, I reported a case which yielded to its powers. This case was strictly periodical—the paroxysms returned at each full moon. Three grains were given morning, noon, and evening, for three or four days previous to the usual period of return, and continued for three days after this period. It was not till the fifth period of recurrence, that the disease was subdued, and the person has continued free from the complaint to this day, although he had suffered its periodical attacks for

seven or eight years before he come under my treatment.

Tin. Strongly recommended by Dr. Shearman, in a late Number of the London Medical Repository. He employed the elutriated oxyd of this metal, in doses of from ʒij. to ʒj. night and morning; and, he assures us, with much success.

Nitrate of Silver. This article possesses more reputation, as a remedy in this disease, than any other article of the materia medica. *It should be given in as large doses as the stomach will bear.* We may commence with *one* grain three times daily, and increase it gradually, which may often be done to a surprising extent. Dr. Powel has ascertained, that triple the quantity of this article may be taken without inconvenience, in the form of pills, as in solution.

Mercury has been used with success in epilepsy, by Bursarius, Tissot, Houssel, Willis, Etmuller, Frank, Richter, Cullen, Locher, and others. It is seldom used at the present day.

Galvanism has been found beneficial in this disease. It should be applied steadily and constantly. (See Mr. Mansford's work on this subject.)

Setons and issues. These are ancient remedial means, in epilepsy. They have, no doubt, been employed with advantage, particularly in cases depending on repercussion of chronic cutaneous affections. In one instance, I have known a caustic issue on the back of the neck aggravate the disease greatly. Larrey speaks very favorably of bleeding from the back of the head, followed by blisters, moxas, or other counter-irritants, on and about the head. *Tartaremetic ointment* has, by its pustulating effects, cured this disease. (Creighton.) The *actual cautery* was used by the ancients, and by De Haen and Larrey among the moderns, with success, in this disease.

The following composition has been employed, in this city, with decided benefit, in epilepsy. R. Pulv. Zin-

giberis, Pulv. *Salviæ officinal*, P. Sem. *Sinapi*, āā ʒj.
M. Dose three tea-spoonfuls every morning, fasting,
with an occasional purgative.

Music. Quarin cured a girl by music. Other cases, to the same effect, are mentioned by Bruckman and Lichtenhal.

CHOREA.

Chorea almost always occurs before or about the age of puberty—rarely beyond the twentieth year of age. It is always gradual in its approach. During the forming stage, the appetite is variable; sometimes ravenous; the bowels constipated; vertigo; palpitation of the heart; oppression and anxiety in the præcordial region; fulness and tension in the head, with occasional mental confusion; cold feet; variable disposition; itching in the nose, &c. The first manifestations of the spasmodic affections are, slight, irregular motions of the muscles of the face, and an awkwardness in the gait—progression becoming starting and hobbling. The irregular involuntary actions gradually increase in violence and constancy, until the arms and legs are almost in continual motion, and the countenance variously and uninterruptedly distorted. The voluntary muscles alone are affected. Like epilepsy, chorea, by long continuance, weakens and finally destroys the intellectual powers. In very protracted cases, some degree of fever generally supervenes, and the muscles waste and become flaccid. During sleep, the irregular muscular contractions often cease.

There is something very remarkable in the circumstance, that the irregular motions, which the utmost exertion of the will cannot control during the period of its activity, cease, when it is no longer operative during sleep. It would seem, that the stimulus of volition is in some degree essential to the disease.

Chorea occurs more frequently in girls than boys. In about twenty cases I have seen of this disease, there

was but one instance in which the patient was a male. Children of a *nervous temperament*, are most liable to the disease.

Exciting causes. Intestinal irritation from various exciting substances lodged in the alimentary canal; fear and terror; repercussion of chronic cutaneous eruptions; cold; suppression of catamenia. It is sometimes the consequence of typhous and other severe forms of fever.

Proximate cause. I believe it to be essentially a *cerebral* affection, because: 1. The *voluntary* muscles alone are affected: 2. The intellectual faculties soon suffer: 3. The loss of the power of volition over its legitimate dependencies.

Prognosis. Not often fatal. When produced by worms, or other irritating substances in the intestinal canal, it generally yields, without much difficulty, to remedial treatment. When caused by cold, also, it is seldom very difficult to cure.

TREATMENT. In plethoric subjects, with a super-excited state of the pulse, *bleeding* is proper. Generally, however, sanguineous evacuations are not required. *Purgatives* are among the most valuable remedies we possess, in this disease. (Hamilton.) In a majority of cases, the bowels are infarcted with feculent matter, and this appears often to exist, as the primary cause of the disease; hence the utility of daily purgation, in many cases. When worms are the cause of the disease, anthelmintics, but particularly spirits of turpentine, with castor oil, are particularly beneficial. *Tonics* ought to be employed, in alternation with purgatives, unless contra-indicated by the state of the system. The *cold bath*, bitter infusions, sub-carbonate of iron, quinine, and flowers of zinc, are the tonics usually employed. They are especially advantageous during the period of convalescence. The *nitrate of silver* has been employed successfully in this disease. (Crampton.) Of the remedies that have been used

with success, in this disease, are the following. *Che-
nopodium ambrosoides*. Dose ʒj. in powder, three
times daily. (Hufeland, Plenck.) *Cardamine pratensis*.
The flowers are recommended by Sir G. Baker.
Dose ʒj. *Camphor*, in combination with Valerian.
(Wilson, Pitt.) *Belladonna Stramonium, Opium*,
have been recommended, but have very properly fallen
into disuse. *Cuprum ammoniacum*; Wilson relates
cases that were cured with this article. (*Lond. Med.
Phys. Jour.*) *Electricity*, very moderately applied, has
done good. *Rubifacients, bisters, tartar emetic oint-
ment*, along the course of the spine, are remedies of
considerable power in this disease. The diet must be
simple, unirritating, and digestible.

TETANUS.

Character. Tonic spasms of the voluntary muscles,—
the powers of sensation and thought remaining unim-
paired.

Tetanus is divided into different varieties, viz: *trismus
opisthotonos, emprosthotonos, pleurothotonos*. In
the first, the muscles of the jaw are chiefly affected; in
the second, the extensors of the back, producing *recur-
vation* of the body; in the third, those on the anterior
part, producing *incurvation*; and in the last, those on
the side are principally affected, causing a *lateral cur-
vature*. It is divided also into *idiopathic* and *trau-
matic*—the former variety being the result of general
causes—the latter, of external injuries. This division
has an important bearing both on the *prognosis* and
treatment of the disease.

Symptoms. Its approach is almost always gradual, the
symptoms being developed in the following order.
Slight difficulty of deglutition and change of the voice;
an uneasy sensation in the præcordial region; stiffness
in the muscles of the neck and jaws. These symptoms
having increased to a considerable degree of violence,

sudden painful retractions about the ensiform cartilage, with simultaneous retraction of the head, occur. Deglutition is painful and difficult, and re-excites the spasms. The spasms acquire more and more violence and frequency, until the retraction of the head, and rigidity of the whole body become truly frightful. The mind is seldom affected; the appetite generally remains, and digestion goes on regularly. Costiveness almost always attends. *The muscles supplied with ganglionic nerves, and those which move the fingers, remain free* from spasm, until near the fatal termination of the disease. The disease usually terminates before the fifth or sixth day—sometimes it continues much longer; and occasionally it assumes a chronic form.

Causes. Various injuries. Contused, lacerated, and punctured wounds, most apt to produce tetanus. A partial division or laceration of a nerve apt to excite it. The introduction of cold and damp air into gun-shot wounds, when casting off their slough, favors the introduction of tetanus. (Larrey.) The application of caustic to encysted tumours; compound fractures; the insertion of artificial teeth; amputation; ligatures, including nerves; cutting corns too closely, &c. have all frequently produced the disease. Cold and damp night air, after fatigue and exposure to a high degree of atmospheric heat during the day, is the most common *general cause*. Hence its frequency in tropical climates. Atmospheric heat a powerful *predisposing cause* of tetanus. Traumatic tetanus generally comes on about the eighth or ninth day after the infliction of the wound; frequently not until it is cicatrized.

Proximate cause. Galen, Willis, Hoffman, Frank, and Burserius, referred the original seat of the disease to the *spinal marrow*, and this opinion obtains pretty generally at the present day. It is supported by the post-mortem appearances, and the circumstance, that the muscles, supplied by spinal nerves, are almost exclusively affected.

Prognosis. *Traumatic* tetanus, seldom cured. The *idiopathic* form, less difficult of cure. According to Parry, the disease always terminates fatally, when the pulse rises to 120 beats in a minute, on the first day; if, by the fifth day, it does not exceed 110, a favorable issue may be expected.

The favorable signs are: a very gradual supervention of the disease; abdomen not very hard; bowels easily moved; moist and moderately warm skin; sound sleep; an increased flow of saliva; a natural expression of the countenance. When the majority, or all of these circumstances occur, we may entertain hopes of recovery. The *unfavorable* signs are: a sudden and violent invasion of the disease; great rigidity of the muscles of the back, neck, and abdomen; violent pain and retraction in the pit of the stomach; very hard and retracted abdomen; spasmodic twitches of the muscles of the neck and jaws, on firm abdominal pressure; hydrophobic symptoms. (Morrison.)

TREATMENT. Divided into *prophylactic* and *curative*—the former refers to the *prevention*, the latter to the *removal* of the disease. Wounds or injuries from which tetanus is apprehended, should be brought to suppurate as soon as possible. For this purpose, scarification, free division with the knife, irritating applications, such as spirits of turpentine, caustic, &c. are employed. When the disease has made its appearance, *constitutional* are to be used conjointly with the *local* remedies. The most important of these are:—

Blood-letting, employed *ad deliquium*, in conjunction with mercury and opium, has cured the disease. (Med. and Phys. Jour. 1821.—Medico Chir. Trans. vol. ii.)

Purgatives always proper, as auxiliary means, particularly in *trismus nascentium*. (Chalmers, Hamilton.)

Opium, is one of the most efficacious remedies we possess in this disease. It must be given in large and frequent doses. Dr. Morrison, who was particularly successful with it, commenced with 100 drops of laudanum, and

increased each succeeding dose, by one third this quantity every two hours.

Mercury, highly and deservedly recommended by many, in the treatment of this disease. It is more efficacious in *idiopathic*, than traumatic tetanus. It may be advantageously used, conjointly with the warm bath, opium, &c.

Spirits of turpentine, has recently been successfully employed by Drs. Hutchinson, Toms, and Mott. Dr. Mott's case is a striking example of its usefulness in this disease. After the hot and cold baths, tobacco, opium, bark and wine, and blisters to the spine, had been fairly tried without benefit, *a tea-spoonful of turpentine, given every fifteen minutes*, relieved the spasms in two hours; and by continuing its use until 123 tea-spoonfuls were taken, the disease was perfectly removed.

Wine, and other alcoholic liquors. This was a favorite remedy with Rush. Opium is now generally, and I think properly, preferred. When employed, it must be very freely given. Rush gave it in conjunction with bark and mercury.

Tobacco, both by the mouth, and in the form of enemata, has been found decidedly beneficial. An interesting example of its efficacy, is related in the third volume of Dublin Hospital Reports, by Dr. O'Beirne. Dr. Anderson used tobacco baths, fomentations, and enemata, with success, in several cases. (Med. Chir. Trans. of Edinburgh, vol. i.) It must be employed with caution.

Cold affusions, a very ancient remedy in tetanus. (Hipp. Aphor. Lib. iv. Sect. v. Aph. 2., and Lib. v. Sect. ii. Aph. 21.) They were successfully used by Drs. Wright, Cochrane, and Currie. I have known a case cured by salivation and cold affusions, conjointly.

Cantharides, given internally, has effected cures. Dr. Brown, (New York. Med. Repos. vol. iv.) cured a case with this medicine. It should be given so as to produce stranguary.

Prussic acid. Cases of its successful employment in

this disease, are related by Drs Pattison, and Trezevant. *The warm bath*, a useful adjuvant; it generally procures temporary relief. Some practitioners have found it to do harm; particularly Dr. Hillary. The exertion and movement which it requires of the patient, is said, by Dr. Morrison, to do injury.

Blisters along the whole tract of the spine, have done much good in this disease; a more powerful, prompt, and efficacious means of this kind, however, is the application of *caustic potash*, as first recommended by Dr. Hartshorne of this city. (Eclectic Reper. vol. vii.) Whatever other remedies may be employed, the application of this caustic along the course of the spine should never be neglected. The cases which have been reported, illustrative of its efficacy are by no means few.

The *actual cautery* along the spine, is said by Mursina, to have effected a prompt and perfect cure. The good effects which I have witnessed from the application of the actual cautery, in deep seated articular inflammation, convinces me that there is no means in our possession, by which we can produce so prompt and powerful an impression on the inflammation of internal cavities and parts, as this potent agent.

PERTUSSIS—WHOOPIING COUGH.

Character. A contagious cough—paroxysmal, convulsive, and suffocative; inspiration during the cough, shrill—the cough frequently terminating in vomiting.

Whooping cough may be divided into three stages: I. *The forming stage*; characterized by the usual symptoms of ordinary catarrh; i. e. lassitude, weakness, and head-ache; sneezing; slight hoarseness; discharge of thin mucus from the nose; restless sleep; inappetency; and generally slight febrile symptoms; the cough is shrill, dry, and comes on in sudden but short paroxysms, without whooping. This stage lasts from two

to three weeks: The *convulsive stage*; characterized by violent paroxysms of *convulsive* and *suffocative* cough, the inspirations being difficult and stridulous, and attended with a sense of obstruction or spasmodic stricture of the glottis. These paroxysms return at first five or six times daily, and gradually increase in frequency, so as, at last, to return almost hourly. The approach of a fit of coughing, is always announced by a sense of stricture in the breast, and titillation in the larynx and præcordiæ. The paroxysm lasts from a half to four or five minutes, and terminates by vomiting, or the discharge of a large quantity of viscid mucus from the bronchia. Pain is felt in the breast, immediately after the cough. The duration of this stage is very various: in general it lasts from four to six weeks:

3. *The stage of declension*; this stage begins, when the spasmodic and suffocative character of the cough begins to abate. The declension of the disease is always very gradual; its duration is as various as that of the other stages—commonly from two to four weeks.

Prognosis. Whooping cough is seldom fatal, except by the supervention of bronchitis, hydrocephalus, cynanche trachealis, pneumonia, convulsions, or marasmus.—

Sequellæ. Glandular swellings, dropsy, epilepsy, opthalmia, struma, rickets, general cachexy, phthisis, &c.

Proximate cause. The opinions on this subject are exceedingly various. Marcus, Whatt, and others, regard it as a peculiar species of bronchial inflammation. Webster regards the brain as its primary disease. Albers considers it as depending on a peculiar irritation of the eighth pair of nerves. Some view the stomach as its original location; and others regard it as a spasmodic disease, allied to asthma. My own opinion coincides with that of Albers. My reasons for rejecting the doctrine of its being an inflammatory affection, are stated in the lecture. The inflammatory symptoms which frequently occur in this disease, are not *essential*, but *accidental* to the disease. In many

cases, not the slightest febrile symptoms occur; and when we reflect on the almost constant agitation and irritation which the lungs suffer from the cough, we have good grounds for believing, that the inflamed appearance of the mucous membrane of the bronchia, so commonly found on post-mortem examination is the *effect*, and not the *cause* of the disease.

TREATMENT. It is generally believed, that whooping cough, like the exanthematous fevers, cannot be arrested in its course, but that, when once developed, *it necessarily passes through its different stages.* This I hold to be an erroneous opinion, being thoroughly persuaded, that it is susceptible of being arrested at any time, whether in its forming, convulsive, or declining stage.

Bleeding and leeching. Both may be employed with decided advantage, in cases accidentally complicated with inflammatory symptoms, or where much cephalic congestion exists. The disease cannot, however, be subdued by them.

Purgatives of the *mild* kind, are proper, in cases attended with constipation, a loaded state of the bowels, or preternatural determination to the head.

Emetics, always beneficial, unless great gastric irritability exists. They free the bronchia and trachea of the viscid mucus with which they are loaded, and perhaps do good by their impressions on the pneumo-gastric nerves.

Narcotics. Belladonna is a valuable remedy. It is much used in Germany and France. I have employed it in a number of cases, with great advantage. Dose for a child under one year, 1-2 grain; from two to three years, 2 1-2 grains of the powdered root. *Conium maculatum*, *rhus vernix*, *hyoscyamus*, *opium*, *lactuca virosa*, *pulsatilla nigricans*, and *solanum nigrum*, have all been used and praised as remedies in this disease.

Antispasmodics. Assafoetida in emulsion, useful, where

no symptoms of febrile irritation exist. *Musk*, valerian, amber, castor, &c. have been beneficially employed. Not a great deal, however, is to be expected from this class of remedies.

Tonics. Cinchona, *quinine*, flowers of zinc, and *arsenic*, are remedies of much value, where no signs of internal inflammation exist. I have given large doses of quinine, with marked advantage.

Expectorants, are seldom of much service. Pearson's *alkaline solution*, and *Kerme's mineral*, suspended in in a mucilaginous fluid, are among the best of this class of remedies.

Lobelia inflata. I have found the tincture of this plant a most valuable remedy in whooping cough. From ten to fifteen drops are to be given, four times daily, to a child between the first and second years of age.

Tinct. Cantharides, highly recommended by Armstrong, Chalmers, Millar, Buchholz, Loder, Lettsom, Hufeland, and others. It must be used until slight ardor urinæ occurs.

External applications. Frictions, with *tartar emetic ointment*, along the spine, or *over the præcordial region*, will generally prove decidedly useful. This practice originated with *Autenrieth*. (Richter.) Blisters and rubifacients are indispensable, when pulmonic inflammation exists.

Balsam Copaiva, is a remedy of inestimable powers, when the disease has degenerated into chronic bronchitis, and the expectoration is puruloid.

Inhalations. The inhalation of balsamic vapors, the nitrous acid vapor, and the vapor of tar, are strongly recommended by some recent writers. I have used the nitrous acid vapor with benefit, in several violent cases.

The diet should be simple and unirritating; and great care must be taken against the influence of cold and damp weather.

ASTHMA.

Character. Great difficulty of breathing, attended with a sense of suffocation, great thoracic constriction, wheezing, and cough.

Symptoms. The attack usually preceded by premonitory symptoms; such as drowsiness; head-ache; itching of the skin; flatus; heart-burn; acid eructations; sickness; fulness and anxiety about the præcordia; weight over the eyes, &c.

The paroxysm generally comes on at night, during sleep. It is characterised by inexpressible anxiety; very laborious wheezing, and suffocative breathing; great tightness about the chest; countenance bloated and livid—sometimes pale; cold extremities; intense desire for cool fresh air; incapability of lying down; pulse frequent, irregular, and often intermitting; abdomen distended with wind; cough, at first dry; a copious expectoration of viscid mucus occurring in the course of some hours, bringing with it considerable temporary relief. The symptoms remit greatly, during the ensuing day. On the next night, however, the fit generally returns. In this manner, it often goes on with remissions by day, and exacerbations by night, for five or six days; and sometimes much longer.

Predisposition. The disease rarely occurs before the age of puberty. The predisposition appears to consist in an irritable and weak condition of the respiratory organs. It seems, in some instances, to be hereditary. Persons of weak muscular power, and disposition to obesity and corpulency, are most liable to the disease.

Exciting causes. Particular conditions of the atmosphere, in relation to its humidity, electricity and temperature; various irritating substances conveyed to the lungs; suppression of accustomed discharges; repercussion of cutaneous affections; metastasis of gout or rheumatism; general plethora; gastric and intestinal

irritation; derangement of the digestive functions; certain odours; indigestible aliment; anger, and terror.

Authors have divided asthma into a great many varieties. It does not appear to me, that these distinctions are of any practical utility; although it is unquestionably of much importance to attend to the nature of the exciting cause, in prescribing for the disease.

Proximate cause. The opinions on this subject very various. Cullen ascribed it to a preternatural spasmodic constriction of the bronchiæ. Parry to a vascular fulness of the bronchial membrane, by which the air cells are mechanically diminished. Potter, to general venous congestion of the lungs. Bree, to an irritation seated within the air cavities, caused by a viscid and irritating serum. My own opinion is, that it depends on a peculiar irritation of the pneumogastric nerves, in consequence of which, the regular transmission of the nervous influence to the lungs, is interrupted. This opinion is founded: 1. On the effects which are produced on respiration, by dividing the eighth pair of nerves, which entirely resemble the phenomena of asthma: 2. The suddenness with which the spasmodic breathing may often be allayed, by certain medicines, as the *lobelia inflata*: and, 3. The beneficial effects resulting from the transmission of the galvanic influence through the lungs.

TREATMENT. Bree affirms, that we can do but little towards mitigating the paroxysm. He is wrong; I have often seen the paroxysm arrested, in less than thirty minutes.

Bleeding. When the disease arises from the suppression of some habitual evacuation, and is attended with general plethora, blood-letting is indispensable. Whenever the pulse is hard and tense, blood should be drawn.

Emetics, are much recommended by some. When gastric irritation exists, from indigestible diet, or other causes, they are serviceable. Under other circumstances, they seldom do much good.

Purgatives beneficial, when the bowels are disordered. Bree recommends chalk, in union with rhubarb.

Expectorants, a useful class of remedies in this disease. Floyer regarded vinegar of squills as a specific in this disease, which, however, it is very far from being.

Diuretics, are serviceable, in dropsical habits. A copious flow of urine, is always a favorable occurrence.

Antispasmodics, are seldom useful. In habitual or chronic asthma, opium with ether, has been found beneficial.

Narcotics. Hyoscyamus, stramonium, tobacco, and opium, have been recommended. They are occasionally palliative, particularly in protracted or habitual cases. The root of the stramonium is to be cut fine, and smoked in a pipe.

Symplocarpus fetida. I have known the infusion of the root of this plant, give great and prompt relief.

Lobelia inflata. I regard this vegetable as decidedly the most valuable remedy we possess, for arresting or mitigating the asthmatic paroxysm. My own experience corresponds entirely with the statements published by Drs. Thatcher, Stewart, Cutler, and others, of its valuable remediate effects in this disease. I have known a violent fit of asthma completely allayed in the course of thirty minutes.

Coffee. A cup of very strong coffee will often procure much alleviation in this complaint. (Percival.)

Digitalis, in combination with small doses of opium, recommended by Drs. Ferriar and Percival.

Prussic acid, employed with advantage by Drs. Oliver and Granville.

Galvanism has of late years been employed with much advantage in this complaint, by Dr. Philip and others. The galvanic influence must be communicated with much force. The two wires of a weak galvanic trough, are to be attached, one to a piece of metal placed on the pit of the stomach, and the other on the side of the neck, over the *par vagum*.

The prophylactic remedies are of the tonic kind. Bark, iron, tonic bitters, with occasional mild aperients, moderate exercise, and above all, a light and digestible diet, with the use of the cold shower bath, are to be used during the intervals of the attacks.

ANGINA PECTORIS.

Symptoms. Sudden and violent pain about the sternum, extending to the arms, attended with great anxiety, difficulty of breathing, and a sense of suffocation; pulse seldom materially affected—sometimes irregular or intermitting; countenance pale and expressive of intense anxiety; extremities cold. The attack usually comes on while the patient is walking. At first, it lasts but a few minutes, and returns after long intervals; but by degrees the fits recur oftener, and become more protracted.

Predisposition. It occurs more frequently in males than females; and exceedingly seldom in young persons. Subjects of a gouty or rheumatic habit, with a tendency to corpulency, are most liable to the disease.

Causes. Ossification of the *coronary arteries*, and *valves* of the heart; dilatation of its ventricles; a *softened structure* of the heart, and other organic affections of this organ, and of the adjoining parts. In some cases, however, not the slightest traces of structural derangement are found on dissection. Dr. Johnson thinks, that a neuralgic affection of the *cardiac plexus* may produce it—an opinion which is, I think, well founded. From all that has been ascertained in relation to this subject, it would seem, that angina pectoris is an affection which may be excited by a *variety* of causes; and it appears to me probable, that the essential nature of the disease, consists in an *irritated condition of the cardiac nerves*.

Prognosis. The disease is generally believed to be incurable; and when it depends on structural derangement of the heart, it undoubtedly is so. There are

some well attested cases on record, however, which yielded to remedial measures. Death almost always occurs suddenly. Fothergill, Wichmann.

TREATMENT. For the relief of the paroxysm, bleeding, opium, hyoscyamus. a recumbent posture, and perfect rest and quietness, are often found beneficial. To prevent the return of the disease, the following remedies have been employed with advantage. Guaiacum; opium, musk, and camphor in union, (Shæfer;) cicuta, assafœtida, and camphor, (Johnson;) flowers of zinc and opium, (Perkins;) lime water and antimony, (Smith;) Frictions with tartar emetic ointment on the breast, (Godwin;) phosphoric acid, (Baumes, Richter;) James's powder, (Smith;) a rigid antiphlogistic regimen, (Odier;) arsenic, (Hufeland, Blane;) prussic acid; hyoscyamus; stramonium; cuprum ammoniacum, &c. All kinds of spirituous drink are injurious; so are strong mental emotions; inordinate venereal indulgence; strong corporeal exertions; sudden atmospheric vicissitudes; indigestible and irritating articles of food, &c.

CHAPTER XVIII.

DROPSY.

Pathology of Dropsy. Dropsical effusion is not, properly speaking, a disease, but only an effect of disease. The morbid condition upon which the dropsical effusions depend, is either inflammation, or a state of the exhalents closely allied to inflammation. (Rush.) The doctrines which allege, that torpor of the absorb-

ents, or relaxation of the exhalents, is the proximate cause of the effusion, are examined, and their insufficiency pointed out. There is, no doubt, always deficient venous absorption,—because that condition of the capillaries, which disposes to excessive exhalation, is essentially connected with a congested state of these vessels, and congestion, or vascular fulness, always impedes absorption. (Magendie.) Observations on the character of the urine, in hydropic diseases. In some instances, the urine contains more or less serum; in others, it is entirely destitute of it. According to the observations of Blackall, Willis, and Ayre, it is in the sub-acute and idiopathic forms of dropsy, that the urine is loaded with the greatest quantity of serum. In dropsy from scarlatina, there is generally a large quantity of serum in the urine. In local dropsies, not attended with general excitement, the urine is seldom charged with any serum. (Ayre.)

When the heart sympathizes with the local or general morbid action of the exhalents, febrile symptoms attend. When the morbid excitement of the exhalents does not extend to the heart, the general circulation is languid, and debility and relaxation characterize the disease.

The general indications in the treatment of dropsy, are:
 2. To procure the absorption and elimination of the effused fluid: 2. To correct the morbid action of the serous exhalents, from which the effusion takes place.

Dropsy is divided into three principal varieties: viz. *Anasarca*, *ascites*, and *hydrothorax*.

ANASARCA.

In this variety, the effusion takes place into the cellular tissue. It may be either local or general. A part that is anasarcaous, pits on pressure. It almost always begins in the feet or legs—the swelling diminishing during the night, and increasing towards evening. The

urine in this, as in the other varieties of dropsy, is always scanty and high colored; the countenance is sallow, the general system sluggish, and there is usually much sleepiness. Anasarca is frequently connected with effusion into the abdomen and chest.

Causes. Local anasarca may be produced, by whatever impedes the return of the blood from a part—as, indurated glands pressing on large veins, ligatures, &c. It arises also from mere general debility; diseases of the heart; phthisis, &c.

General Anasarca may result from hemorrhages, diarrhœa, diabetis, and other circumstances that rapidly exhaust the system. Observations on the manner in which these causes produce dropsy. *Sudden suppression of perspiration*, particularly after scarlatina, measles, or while under the influence of mercury, a frequent cause of general anasarca. Dropsy from this cause always decidedly phlogistic. General anasarca may also result from the internal use of arsenic—from torpor of the kidneys—from amenorrhœa, general plethora, with a relaxed habit, chronic diseases, *intestinal irritation*, &c. Observations on the *modus operandi* of these causes.

Proximate Cause. A sub-inflammatory action of the exhalents of the cellular tissue, attended with increased exhalation, and diminished venous absorption. It appears to me probable, that congestion in the *venous capillaries*, performs an important part in the production of dropsical accumulations. This idea is discussed at length, in the lecture.

ASCITES.

Abdominal dropsy. Its causes are sometimes *local*, at others *general*. The local causes are such as impede the circulation through the portal system of vessels—among which, visceral indurations, particularly of the liver and spleen, are the most common. Dr. Ayre de-

nies that visceral obstructions produce dropsy; they notwithstanding frequently do so. The most common general cause of ascites, is *cold*, either generally or locally applied. When the result of this cause, its character is always conspicuously inflammatory; the blood usually exhibiting the buffy coat; the skin being dry and hot; the pulse frequent and tense, and the urine loaded with serum. Ascites is seldom wholly free from anasarca. Intestinal irritation sometimes gives rise to abdominal dropsy. It occurs as the sequel of peritonitis. *Diagnosis.*

Proximate cause. A morbid action of the exhalents of the peritoneum, attended with capillary congestion, and diminished venous absorption.

HYDROTHORAX.

Serum effused into the cavity of the thorax. It is characterized by the following

Symptoms. Oppression in the chest; difficult respiration, particularly when lying down, or ascending heights; dry cough; a sense of suffocation, when in a recumbent position; sudden starting during sleep; pulse intermitting, or irregular; thirst considerable; urine scanty; œdema of the feet; a pale bloated countenance, &c. Divided into *symptomatic* and *idiopathic*. The first arises from *organic affections*,—the latter from *general causes*.

Causes. Organic affections of the heart. When from this cause, the effusion occurs on both sides. *Chronic pleuritis*, a frequent cause of hydrothorax. It may also result from a tuberculous state of the pleura, and even from structural disease of the stomach and liver. This is by far the most frequent variety of hydrothorax, and is almost always incurable.

Idiopathic hydrothorax, is of very rare occurrence, and generally easily cured. The effusion almost always

occurs only on *one* side—that side becoming sometimes considerably enlarged, by the pressure of the fluid.

General plethora, predisposes to hydrothorax; particularly in persons who have passed the middle period of life, and who indulge in the pleasures of the table, and use but little exercise.

Diagnosis. A sense of suffocation on lying down, and on firm pressure on the abdomen, will generally distinguish it from mere organic disease of the heart. Percussion produces a *dull* sound, and the *stethoscope* detects the absence of the respiratory murmur.

TREATMENT. When the heart sympathizes with the primary local irritation, or with the morbid action of the capillaries from which the effusion occurs, *blood-letting* is an important remedy. It is indicated in all cases, in which there is tension and quickness of the pulse. *Local* bleeding, from the thorax or abdomen, recommended by Ayre, in hydrothorax and ascites.

Diuretics, are important remedies in hydropic diseases. Their operation is, however, rather palliative than curative—that is, they evacuate the effused fluid, rather than correct the morbid action on which the effusion depends. In full and phlogistic habits, their operation is promoted by bleeding and cathartics. When the effusion is very extensive, and the blood has been deprived of a great portion of its serum, copious draughts of water promote the operation of diuretics. The mode in which diuresis removes dropsical effusion explained. The most useful diuretics in dropsy, are: squills, digitalis, tobacco, cantharides; acetate, nitrate, and tartrate of potash; colchicum, wild carrot seed, erigeron heterophyllum, and juniper berries.

The *squill*, is the best diuretic in hydrothorax. It is best adapted to cases in which the urine is very scanty, high colored, and sedimentous, and not attended with much febrile excitement. Its virtues are much enhanced, by giving it in union with calomel, especially in hydrothorax. Very advantageously combined with

digitalis and nitre. The reason why calomel and squills, in combination, are more beneficial in hydrothorax, than in the other varieties of dropsy, are three-fold; "1. absorption; 2. diuresis; 3. determination to the glands of the mouth and throat, causing a derivation from the vessels of the pleura."

Digitalis. Some greatly extol its virtues in dropsy—others speak lightly of it. It does not appear to do much good, in subjects of a *tense* fibre, and robust habit of body. In persons of a contrary habit, with a pale countenance, cold skin, and weak pulse, it often proves decidedly beneficial, (Withering, Maclean.) *Digitalis*, is the best diuretic in dropsies following scarlatina. It is almost always beneficial, when the urine is coagulable by heat, small in quantity, somewhat turbid, and depositing a branny sediment, when cold. (Blackall.) It almost always fails to do good, when the urine, though serous, is pale, crude, and without sediment. It is generally given, in combination with squill or calomel. I prefer giving it in union with nitre and calomel. In feeble habits, it may be advantageously combined with opium.

Cantharides, more particularly useful in anasarca, after scarlatina. (Ferriar.) Nitre is an excellent remedy, when the febrile excitement runs high. Diuretic drinks, such as infusion of juniper berries, wild carrot seed, &c. should be freely allied.

Cathartics. Valuable remedies in ascites and anasarca—not so in hydrothorax. Their modus operandi explained. The articles of this class, most beneficial, are; tartrate of potash; elaterium; gamboge, &c. Of these the tartrate of potash is both the safest and the most useful. I have employed the following diuretic composition, with more uniform, and prompt advantage, than any other article, or combination of articles I have ever tried. R. Tart. potas. ʒiiss. Sulph. potas. ʒss. Pulv. Scillæ, ʒij. Tart. Antimonii, gr. ij. Dose, a tea-spoonful, four or five times daily. This

rarely fails to excite very copious watery stools, and at the same time, free diuresis. It is particularly useful in ascites. I have generally derived much more benefit from gamboge, than from elaterium. It is particularly useful in ascites. It may be advantageously combined with cream of tartar, in the proportion of 2 grains of the gamboge, to 30 of the latter article, repeated every three or four hours. It produces copious watery stools.

Mercury, is a remedy of valuable powers in hydropic diseases. Generally given in union with diuretics, particularly squills and digitalis. Should be given until the mouth is slightly affected by it. Relaxed and scorbutic habits, inimical to its beneficial influence. Especially valuable, where there is organic disease of the liver.

Sulphuret of Iron. I have seen much good done by this article, in cases attended with a relaxed and very debilitated state of the system; particularly in the anasarca of females, from excessive sanguineous discharges. It acts as a powerful diuretic, as well as tonic.

Diaphoretics, are indicated, when the disease is the consequence of suppressed perspiration from cold. Antimonials, in such cases, act beneficially.

Blisters, and rubifacients, to the chest or abdomen, in hydrothorax and ascites, are strongly recommended by Ayre. I have seen much good derived from a blister over the abdomen, in a case of ascites. *Tapping*.

DIARRHŒA.

Character. Frequent feculent stools, generally copious, always more liquid than natural, commonly attended with griping, but free from tenesmus and fever.

Causes. Some act directly on the alimentary canal; others indirectly, through the medium of the general system. Of the former kind, are: indigestible and irritat-

ing articles of food; acrid secretions; worms; acid, and other irritating substances received into the stomach. Among the more general causes, are: dentition; cold, particularly when connected with humidity; the repercussion of cutaneous eruptions; various general and local diseases, as phthisis, affections of the liver, &c. It may also be excited by violent mental emotions, as terror and grief.

Proximate cause. An *increased irritability* of the intestines, giving rise to increased peristaltic motion. In *protracted* cases, the mucous membrane of the intestines is generally in a state of chronic inflammation, and frequently *more or less ulcerated*. (Broussais, Abercrombie.) According to Broussais, when diarrhœa continues beyond the thirtieth day, it almost invariably depends on *organic* disorder of the mucous membrane of the colon. He asserts, that *chronic inflammation* of this membrane exists in *all* cases. This is *doubtful*. When ulceration exists, it is always most conspicuous in the cæcum, and the lower part of the colon.

TREATMENT. The principal indications are: to subdue the irritability, or phlogosis of the bowels; and to remove as much as possible, all local irritating causes. These indications are to be fulfilled: 1. by determining the circulation to the surface, and thereby lessening the afflux of blood to the vessels of the intestines; and, 2. by prescribing the most simple and unirritating articles of food. To allay intestinal irritability, and determine to the surface, opium, with small doses of calomel, or of ipecacuanha, and minute portions of calomel alone, are excellent remedies. *Mild laxatives* should be premised. In the diarrhœa of children, attended with a tumid and hard abdomen, laxatives are our principal remedies. *Astringents*, with *mild tonics*, useful, in diarrhœa from mere debility of the stomach. Astringents improper, where there is much griping and tenderness of the abdomen, and in all in-

veterate cases. Absorbents proper, when acidity is the cause. *Balsam Copaiva*, an excellent remedy in very protracted and obstinate cases. I have used spirits of turpentine with much advantage, in such cases. A *flannel* roller round the abdomen, beneficial in all cases. A farinaceous diet is of the utmost consequence,

CHOLERA.

Character. Frequent and violent vomiting and purging, with severe griping and cramps in the extremities.

Symptoms. Its attack is almost invariably sudden.—There is at first pain and tension in the epigastric region—followed soon by colic pain about the umbilical region, attended with nausea, upon which vomiting and purging speedily ensue. The discharges are at first watery and *without* bile; nor is there often bile thrown from the stomach, in the commencement. After the disease has continued for some time, however, *bile* appears in the evacuations. The most distressing symptom, is the excessively severe cramps which occur in the abdominal muscles, and the extremities, in violent cases. Cholera seldom continues more than 24 hours—it often terminates in death, within two hours.

Causes. A superabundance of bile in the stomach, is not, as was formerly, and is still thought by many, the immediate exciting cause of cholera. There is, on the contrary, a *deficient secretion of bile*—the liver being in an inactive and congested condition. The torpor of the liver, is generally in direct proportion to the violence of the disease. (Johnson.)

TREATMENT. The principal indications are: to allay the morbid irritability of the alimentary canal; to restore the regular action of the skin and liver; and to determine the circulation from the internal to the external parts. At first, bland diluents are proper. *Opium* in large doses, either alone, or in combination with calo-

mel; sinapisms to the abdomen; the warm bath; spiced brandy; nitric acid vesication; and anodyne injections; are the remedies upon which our dependence must be placed. Of these remedies, opium *largely* given, and sinapisms to the abdomen, are decidedly the most efficacious. *Calomel* should be given with the opium. Calomel is a valuable remedy, by itself; half a grain should be given every half hour. Bleeding has been useful in the Asiatic cholera. It is seldom indicated in the disease, as it occurs in our climate.

COLIC.

Colic is divided into several varieties, according to the nature of the exciting causes.

Flatulent colic, so called from the prominent symptoms of indigestion and flatulency which attend. It is produced by irritating and indigestible articles of diet.—Debility of the digestive organs, predisposes especially to this variety of colic. The colic pains come on, an hour or two after the indigestible diet is taken. Sometimes the food passes into the bowels in an imperfectly digested state, and then the pain does not come on so soon, and is felt low down in the abdomen. At first, there is a sense of distention in the pit of the stomach, followed soon by pain, which rapidly increases, until it acquires an intense degree of violence. The pain occasionally remits. During the exacerbations, the patient throws himself about, and presses firmly on his abdomen with his hands. Large quantities of air are from time to time forced up, or pass off downwards.

Diagnosis. Distinguished from enteritis, by the agitation of the patient; by the relief obtained from abdominal pressure, and by the pain frequently remitting. In all these respects, the reverse obtains in enteritis.

Prognosis. Generally not dangerous, unless it terminates in inflammation, which sometimes, though not often, occurs. It sometimes produces a paralytic state

of a portion of the bowels, giving rise to habitual costiveness.

TREATMENT. In slight attacks, carminatives and anodynes are often sufficient to procure relief. Remedies of this kind generally answer well, when the stomach does not contain any irritating substances. When it does contain irritating substances, an ipecacuanha *emetic* must be given. *Purgatives* to be used when the pain is below the stomach; they may be advantageously combined with aromatics. I prefer castor oil and spirit of turpentine, in union. *Enemata*, always useful. Where the pain is excessive, opium, in very large doses, with calomel, is a valuable remedy—it does not materially impede the subsequent operation of the necessary purgatives.

Bilious colic, so called, from the bilious vomiting, and other symptoms, manifesting functional derangement of the liver.

The more urgent and peculiar symptoms of this variety of colic, are generally preceded by head-ache, want of appetite, bitter taste in the mouth, thirst, and bilious vomiting. The colic pains are excessively acute; pressure at first gives relief; but the abdomen becomes tender to the touch, as the disease advances. Immediately after vomiting, the pain suffers a temporary abatement. The bowels are generally immoveably torpid. About the second or third day, the eyes and skin become yellow. Tremor, numbness, and paralysis of the arms, occasionally occur in this disease. Eructations are common, and afford temporary relief.

Causes. Marsh miasmata. It occurs most commonly during the autumnal months, particularly after a long continuance of hot and humid weather. It may, however, be produced also by causes of a sporadic character. It is generally believed, that the liver is in a state of morbid activity—that it secretes a superabundance of bile. Dr. Staly contends, that the liver is *torpid*—that there

is a deficiency of bile. I have come to the same conclusion.

That there is functional derangement of the liver in this variety of colic, does not admit of a doubt; but I do not believe the biliary secretion *superabundant*, but on the contrary diminished and vitiated. That this is the case, may be inferred from the analogy which subsists between bilious colic and *cholera morbus*. Dr. Gregory observes that bilious colic is closely allied to cholera, occurring along with it, and apparently differing from it only in some unessential features. Now it appears to be well established, I think, that in cholera, the liver is far from being over-active—that it is, in fact, in an engorged and *torpid condition*, secreting but a very small portion of bile. Excessive irritability of the stomach, and torpor, with congestion of the liver almost always appear in connexion with each other. We have a further support for this opinion, in the fact, that, whenever the alvine discharges become bilious, an amendment takes place.

TREATMENT. The principal indications are: 1. To free the bowels from their irritating contents: 2. To allay the irritability of the stomach and bowels: and, 3. To restore the healthy action of the liver. *Emetics* are very useful in the beginning, when there is not full spontaneous vomiting. *Purgatives* are of primary importance. They can seldom be given, however, with effect, until the gastric irritability is allayed. Small doses of *calomel*, 1-2 grain—given every half hour, answer well to prepare the stomach for the reception of purgatives. Our principal reliance must be placed on the full operation of purgatives. *Opium*, given in full doses, affords much advantage after free purging; it should always be given in combination with calomel. Mild aperients to be used, for several days after the bowels have been once freely evacuated. *Epispastics*, *sinapisms*, and *warm fomentations*, are valuable auxiliaries. *Bleeding* must be fully employed in robust and plethoric subjects, with the view of obviating inflammation. *Alkaline remedies* are proper, when acid exists in the primæ viæ; magnesia is the best article of this kind. The *warm bath*, is a useful auxiliary. The

utmost caution is to be used in relation to diet and exposure, during the period of convalescence. There are few diseases which are so apt to return, from errors in these respects, as the present one. Flannel should be worn round the abdomen. Very cold drinks must be avoided, during convalescence.

COLICA PICTONUM.

This variety of colic is known by various names; as, *painter's colic*, *dry gripes*, *Devonshire colic*, *colica pictavensis*, *rachialgia metallica*, and saturnine colic. The disease generally comes on gradually, and is generally preceded by symptoms of gastric derangement such as irregular appetite; constipation; foul eructations; transient pains in the abdomen; languor; pale countenance, &c. This variety of colic is attended with constant and extremely severe pain about the umbilical region; the abdominal parieties are hard, and forcibly retracted; and the bowels almost immoveably constipated. The pain suffers occasional remissions, but no perfect intermissions, as in the other varieties of colic. It sometimes assumes a chronic form, producing *wasting and palsy of the fore arms*. The predisposition to it is greatly increased, by having once suffered an attack.

Causes. Lead; hence its frequency with painters, glaziers, and workers in lead factories. *Sudden atmospheric vicissitudes*, (Larrey;) *new and sour wines*; unripe fruits, &c.

TREATMENT. The indications are: 1. To obviate inflammation: 2. To relieve the spasms of the bowels: and, 3. to evacuate them.

Bleeding should be freely employed in robust and plethoric subjects—or when the pulse is hard, quick, and tense. *Opium* with *calomel*, is a remedy of primary importance. Both these articles should be given in very large doses, with the view of relieving the intesti-

nal spasm, and bringing on an early mercurial action. Two grains of the former, with the same quantity of the latter, may be given every two hours, until the pain and spasms are relieved. *Purgatives* to be given after the opiates. They seldom fail to excite purging, as soon as the gums are affected with the mercury, and when preceded by very full doses of opium. Purgatives should be given in a liquid form. *Cold water*, dashed on the abdomen and thighs, has been found useful in promoting the operation of cathartics. Alum, in fifteen grain doses, every three hours, much recommended by Richter. Stimulating enemata, highly beneficial. *The warm bath*, a useful auxiliary. To relieve the paralysis and other sequellæ, mercury is the best remedy. Nitrate of silver has also been successfully used, for the relief of the paralysis. Pemberton's splint.

DIABETES.

This disease consists in the secretion and voiding of an unusually large quantity of urine, attended with a very dry skin; great thirst; slight febrile movements; voracious appetite; a sense of weight and uneasiness in the stomach; white and foul tongue: great lassitude; pain and weakness in the loins; irregular bowels; cold feet; dull and heavy eyes; and towards the last, great wasting of the flesh, and debility; vertigo; head-ache; difficulty of breathing; spongy gums; offensive breath; constant drowsiness; and hectic fever. Prout mentions inflammation and uneasiness about the external orifice of the urethra.

Diabetes occurs under two distinct forms, viz: *diabetes mellitus*, and *diabetes insipidus*. Of the latter there are three varieties; 1. That in which the urine contains an excess of *urea*; 2. That in which the urine is *albuminous*; and, 3. That in which it is surcharged with *phosphates*.

Diabetes Mellitus. In this variety, the urine is *saccharine*, of a pale straw color, sometimes approaching to a greenish hue; its smell resembles that of milk. It always contains less urea than healthy urine. Prout, who restricts the term *diabetes* to this variety, says, that *diuresis* is not essential to the disease.

A natural *predisposition* to diabetes exists in some individuals. I have known three members, out of one family, die of this disease.

Of the exciting causes, we know little or nothing.

Proximate cause. The opinions on this head are exceedingly various. Sydenham, Rollo, Cullen, and others, regard derangement of the digestive functions, and want of energy in the assimilative powers, as the primary affection. Objections stated to this opinion. I regard diabetes, as a disease essentially and primarily located in the kidneys,—the stomach, lungs, skin, and in short the whole system, becoming secondarily affected. The sugar contained by the urine, is wholly the result of a morbid action of the kidneys, for the serum of the blood of diabetic patients, does not contain a particle of it. It would seem, that the urea which is secreted with the urine in health, is converted into sugar in diabetes. The analogy between urea and sugar pointed out. Sugar contains just double the quantity of *oxygen* and *carbon*, and the same quantity of *hydrogen*, as urea—this latter substance possessing, in addition, a large proportion of *azote*, of which sugar is destitute. As diabetic urine contains very little or no urea, we may regard the sugar it contains, as a depraved secretion of urea.

Prognosis. Diabetes mellitus, is an exceedingly obstinate and dangerous affection, the instances of recovery from it being comparatively very few.

TREATMENT. Various and diametrically opposite plans of treatment, have been recommended. *Bleeding* has been used with success, by Watt. In recent cases of a phlogistic character, it is often beneficial; not so in

protracted cases, or where there is much exhaustion. Topical bleeding, sometimes useful. *Opium* holds a high rank, as a remedy in this disease. Ferriar gave it in union with bark and uva ursi. Prout prefers the pulv. ipecac. compos. *Opium*, with carbonate of iron, has been used with much advantage in chronic cases, with much debility and nervous irritation. (Latham, Prout.) *Sulphate of quinine*, a useful article in such cases. *Magnesia*, strongly recommended by Dr. Trotter; I have known it to do some good. *Emetics*, used successfully, by Richter. *Warm bath* and frictions with the flesh brush, useful auxiliaries. *Exclusive animal diet*, is generally admitted, as decidedly the best kind of food in diabetes. Of late, Dr. Starkey has published some cases, from which it appears, that, contrary to the generally received opinion, a vegetable diet is sometimes more beneficial, than one consisting principally, or wholly, of animal substances. He cured cases with a vegetable diet, and one drachm of phosphate of soda, three times daily. Other remedies have been recommended, such as: cuprum ammoniacum; alum in ʒj. doses; tincture of cantharides; camphor; hepatized ammonia; phosphate of iron, &c.

EXCESSIVE DIURESIS, WITH AN EXCESS OF UREA. Urine generally pale; reddening litmus, when first voided; free from sediment, being prone to decomposition; and becoming alkaline. The desire to pass urine is frequent and urgent; the urine apt to be increased in quantity, by cold weather. The functions of the skin are natural; the pulse remains unaffected; no particular thirst, or craving for food; the bowels are in general regular. Persons of a thin and spare habit, about the middle period of life, most subject to it.

Causes. Whatever debilitates the general system, and particularly the urinary organs, as masturbation.

TREATMENT. Tonics, with alkaline remedies and opium. Mercury, in alterative doses; purgatives. (Prout.)

EXCESSIVE DIURESIS, WITH PHOSPHATIC SALTS IN THE

URINE. *Symptoms.* Great general irritability; dyspeptic phenomena; sometimes costiveness; at others, debilitating diarrhœa, the stools being very unnatural in appearance; pain and uneasiness in the loins; countenance sallow and haggard. As the disease proceeds, great "languor, depression of spirits, coldness of the legs, complete anaphrodisia, supervene. The urine is pale, very prone to decomposition." (Prout.) The sediment consists chiefly of the phosphates.

Causes. Injuries done to the back—excessive fatigue—depressing mental emotions—irritation about the neck of the bladder, by calculi, and other circumstances.

Prognosis. The prognosis is in general unfavorable, particularly when resulting from injury of the back. (Prout.)

TREATMENT. *Opium* is, according to the experience of Prout, the only remedy that can be employed with any particular advantage, to allay the excessive general irritability which prevails in this disease. After the morbid irritability has been allayed, tonics must be given in conjunction with the opium—such as the mineral acids, cinchona, iron, uva ursi, and bitters. A stimulating plaster to the back and loins will prove beneficial. A strong infusion of *alchemilla arvensis*, has been found useful. Hyoscyamus, with uva ursi, very serviceable, where the constitution is sound, and the irritation is confined to the urinary organs. The diet should be digestible, mild, and nutritious. (Prout.)

CHAPTER XIX.

INDIGESTION.

Symptoms. Variable appetite—generally none; flatulence, distention, acid eructations, and colic pains, after eating. These symptoms characterize the slighter cases of the disease. By repeated errors in diet, or long continuance, it generally assumes a more aggravated form; in which case the stools lose their natural appearance, becoming bilious, very fetid, sometimes of a very dark color, at others too light or greenish,—and often mixed with portions of undigested food; the skin becomes sallow; the urine high colored, and sedimentous; diarrhœa, followed by constipation; griping; a sense of weight in the right hypochondrium; tenderness of the epigastrium; a foul and clammy tongue; debility, particularly after the operation of purges; general despondency and irritability of temper; emaciation; a haggard expression of the countenance; frequently uneasiness of lying on the left side, and at last inability to rest easily on either side; a shrivelled and dry state of the skin, in protracted cases; great sensibility to low temperature, &c.

Causes. There are two conditions necessary for healthy digestion, viz: 1. The secretion of a due quantity of healthy gastric liquor; 2. A healthy tone of the muscular coat of the stomach. Whatever therefore deranges either of these two functions, impairs digestion. The remote causes which are capable of effecting these morbid changes, act either directly on the stomach, or indirectly through the medium of the general system. Of the former kind are: all kinds of substances capable of irritating the stomach—such as irritating and indi-

gestible articles of diet; the habitual use of spirituous drinks; the excessive use of condiments, opium, and other narcotics; the immoderate use of very warm, or very cold drinks; chronic hepatic disease; *over-distention of the stomach, by food or drink*—of all the causes of indigestion, this latter one is the most common. The circumstance which most commonly gives rise to over-distention of the stomach, is *rapid eating*; high seasoning, and frequent variety of food is also a frequent cause of over-distention. Over-distention does injury, by weakening the muscular fibres of the stomach, and by irritating the nerves of this organ.—(Among the causes that affect the stomach, secondarily, through the general system, are: the depressing passions; intense study; excessive venereal indulgence; and whatever debilitates the general system.

Proximate cause. Irritation of the nerves of the stomach, and debility of its muscular fibres, either existing singly or conjointly. In consequence of these conditions, the solvent gastric fluid becomes either depraved in quality, or deficient in quantity; and the contents of the stomach are not adequately embraced, and propelled forwards to the pyloric extremity.

Observations on the multifarious sympathetic effects of gastric irritation, from imperfectly digested food in the *primæ viæ*, and on the morbid effects which result from the absorption of imperfectly elaborated chyle into the circulation,

TREATMENT. The treatment of indigestion is divided into *dietetic* and *medicinal*. In slight cases, a proper attention to diet, with the occasional use of mild aperients, and a rigid avoidance of the exciting causes, will rarely fail to establish a cure. In all cases, whether simple or complicated, mild or violent, an undeviating attention to diet, is essential to the management of the disease. No particular direction in relation to the kind of diet, can be laid down, which is applicable to all

cases. Some dyspeptics feel relieved by articles of food, which are altogether intolerable to others. Every dyspeptic must learn, in a great measure, from his own experience, what will, or will not, agree with him. The degree of violence of the disease, too, has an important influence upon the power of the stomach, to bear particular kinds of food. What may be taken without inconvenience in the first periods, will generally become insupportable in the latter stages of the disease. At first, when *mere* debility of the stomach exists, the more digestible kinds of *animal* food, are decidedly the best; but if the disease continues, until a high degree of irritation, or chronic phlogosis, exists in the mucous membrane of the digestive organs, animal food is no longer proper—the disease then requiring the mildest articles of the farinaceous kind. Animal is undoubtedly more digestible than vegetable food; and where the gastric irritation is not very considerable, it will very generally be taken with the least inconvenience. As a general rule, therefore, we may lay it down, as an established principle, that animal food is the most proper; and of this, the most tender muscular parts are to be used. The flesh of old is in general more digestible than that of young animals. Mutton, and most kinds of game, are of easy digestion. Pork is generally difficult to digest, yet some dyspeptics bear it better than other meats. Acescent and oily articles are most difficult of digestion. Venison is perhaps the most digestible of all meat. New bread is of exceedingly difficult digestion. Simple roasting and boiling is the best mode of preparing meat for weak stomachs. All kinds of *fried* articles of food, are intolerable. Cheese, milk, cream, and butter, are generally oppressive. Spices and condiments should be taken very sparingly. Fresh vegetables are very generally injurious, particularly, cabbage, peas, and beans. Of fruits, cucumbers, pears, melons, currants, are the most indigestible. The food should be taken chiefly

in a solid state. Slow eating, and perfect mastication, are all-important observances for dyspeptics. Not much drink should be taken during meals, or soon after. Moderate portions of good brandy, answer well in slight cases, but are improper in the more aggravated ones. Simplicity in diet is of the utmost importance; and what is of equal, if not of still greater importance, is, to avoid over-distending the stomach.

Medicinal treatment. In slight and recent cases, gentle emetics and aperients, to remove the irritating contents of the stomach and bowels, with the use of mild tonics; alkalines when the eructations are acid, and an animal diet, will generally remove the disease. To relieve the gastric pains, small doses of opium may be occasionally used. When functional disease of the liver exists, alterative doses of blue pill, with the occasional exhibition of some gentle laxative, are of great utility. Care must be taken, however, not to continue the use of the mercury, until the general system becomes affected by it. General mercurial excitement, is always improper, in dyspepsia. The nitro-muriatic acid, will often prove serviceable, as a local tonic, and by its action on the liver. When the gastric irritation has assumed the character of chronic inflammation, that is, when the epigastrium becomes tender to pressure, the pulse tense and irritated, the tongue red, &c. tonics, emetics, animal food, and all stimulating remedies, are injurious. The diet must be of the lightest farinaceous kind; leeches, or blisters to the epigastrium, are often highly useful; the nitrate of potash, dissolved in some mucilaginous fluid, the occasional use of fluid purgatives, and gentle diaphoretic drinks, with the use of very small doses of the blue pill, must be resorted to. In *very* protracted cases, attended with a broken down constitution and general irritation, mercury is improper.

ICTERUS—JAUNDICE.

Symptoms. Skin and eyes yellow; fæces clay colored; urine bilious, communicating a yellow stain; generally slight pyrexia; occasional pain (sometimes very violent) in the epigastrium; indigestion; languor, nausea; a sense of fulness in the stomach; torpor of the bowels; colic pains: drowsiness; bitter taste; debility, and indisposition to mental exertion; disturbed sleep, &c.

The fundamental affection is either an idiopathic or sympathetic derangement of the biliary organs, or of the duodenum, by which the bile is either obstructed in its passage into the intestines, or its secretion is suspended.

The occasional causes are very various. The principal are: intemperance in the use of spirituous liquors; irritating substances in the primæ viæ; cold; suppression of acute and chronic cutaneous eruptions; acrid bile irritating the common duct; biliary concretions plugging up the duct; violent anger; injuries and concussion of the brain; spasm of the duodenum, or of the common bile duct; induration and enlargement of the pancreas; grief; terror; constipation; viscid mucus clogging the orifice of the common duct; retained meconium; indurated liver; and, in short, whatever is capable either of suspending the secretion of bile, or preventing its natural egress from the liver. When it depends on spasm or biliary concretions, the pain is occasionally very violent.

Proximate cause. The external icteric phenomena, depend on the secretion of bilious matter into the sub-cuticular tissues, in consequence either of the resorption of bile into the general circulation, or of the retention of its elements in the mass of the blood, in case of hepatic torpor. When this occurs, the general capillary system, and particularly the cutaneous capillaries, perform the office of the liver vicariously, and free the

blood of a portion of its superabundant biliary elements, by depositing them into the skin, &c.

Observations on the ratio symptomatum.

Great wasting of the flesh, and dropsy, are common sequellæ of very protracted and obstinate cases. The jaundice of new-born infants, is generally transient, and of no particular moment. When it depends on chronic hepatic disease, it is seldom cured. In general, however, it is not a dangerous affection, though often of difficult removal.

TREATMENT. The mode of treatment should of course be modified, according to the nature of the fundamental hepatic affection. When there is fever, with symptoms of local inflammation, bleeding and blistering, with mercurial purgatives, must be chiefly relied on. When spasm of the common duct may be presumed to be the primary cause, which is attended with violent pain, constant nausea, and frequent vomiting, opium, stramonium, hyoscyamus; emetics, in nauseating doses; valerian; assafœtida; infusion of chamomile; purgatives; the *warm bath*; emollient cataplasms, or fomentations to the epigastrium; anodyne frictions, and enemata. When torpor of the liver exists, as the fundamental pathological condition, (in which case, there is little or no pain experienced,) *calomel* is the principal remedy—it should be given in purgative doses. Benefit may also be derived from infusion of taraxacum; saponaria; alkalies; ammoniac; mercurial frictions on the right hypochondrium; antimonials; blisters and sinapisms on the region of the liver; and active purgatives. When biliary concretions exist, as the cause of the disease, emetics; purgatives, the warm bath; electricity; opium; stramonium; hyoscyamus; *alkaline* remedies; copious bleeding; nauseating doses of antimonials; are serviceable. Durande recommends a mixture of vitriolic ether and spirits of turpentine, in the proportion of two parts of the former, to one of the latter, in doses of twenty drops, four or five times daily,

as a valuable remedy. Guyton Morveau recommends a solution of the yoke of eggs, in vitriolic ether, as very efficacious.

SCORBUTUS.

SYMPTOMS. *First stage.* Unusual languor, and want of muscular energy; stiffness of the knees; depression of spirits; a pale, sallow, lead-colored, bloated countenance; skin dry, and covered with livid spots and blotches; particularly on the thighs, legs, arms and abdomen; œdema about the ancles; gums spongy, and apt to bleed on being touched; fetid breath; a disagreeable putrid taste; desire for fresh vegetables, and acids; the blood is black, thick, and dissolved, with a great abundance of serum; pulse soft and weak. As the disease advances, other symptoms, which mark the *Second stage*, occur, viz: Stiffness of the joints; indurations of the muscles; pains in the thighs, back, loins, and particularly in the knees; oppressed respiration; colic pains; sub-cutaneous extravasations of blood; ulcers,—particularly on the calves of the legs, and thighs, with œdematous, flabby, and bloody edges, discharging dissolved blood and ichor; muddy and high colored urine; passive hemorrhages from the gums, nose, rectum, bladder, &c.; sloughing of the gums, the teeth becoming loose in their sockets; re-opening of old and cicatrized sores; brittleness of the bones; syncope on the slightest motion.

In the third stage, there is extreme debility; frequent syncope; great oppression of breathing; a cadaverous exhalation from the body; sometimes palsy of one or more extremities; emaciation; occasionally dropsy, jaundice, and finally extreme exhaustion, with an irritated pulse.

Causes. Persons of a debilitated and phlegmatic habit of body, with a disposition to obesity, are most subject to the disease. The *occasional causes* are: innutritious

diet, conjoined with fatiguing labor, and exposure to a *damp and impure air*; excessive and repeated hemorrhages; *impure diet*; anxiety of mind, with a sedentary mode of life; the habitual and intemperate use of spirituous liquor; the continued use of either *exclusive vegetable*, or *much salt animal diet*. A *damp and impure air*, is a powerful co-operative cause with vitiated, or exclusive salt animal food, &c.

Proximate cause. A morbid process of sanguification, and a consequent morbid condition of the blood.

TREATMENT. The first and most important of the treatment is the removal of the causes which have produced the disease. When it is the result of impure diet, and a vitiated and damp air, more wholesome food and air are necessary. When exclusive salt animal food is its cause, vegetable acids, and a vegetable diet are the appropriate remedies. If an exclusive vegetable, or farinaceous diet, has given rise to it, animal food, with moderate exercise in the open air, is to be prescribed. All sorts of fermented liquors; acid fruits; alkalescent plants; pure fresh water; cleanliness; free ventilation; are remedial in this disease. The vegetables which have been found most beneficial, are: scurvy-grass; garlic; water-cress; garden-cress; the fruit of the cloud-berry; (*Chamæ-morus*;) cabbage, in the form of *sour kroust*; cochlearia, &c.

SCROFULA.

Scrofula may be divided into two periods, or states—the one that peculiar diathesis, called the scrofulous habit; the other, the disease in its state of development and activity. The scrofulous habit, or predisposition, may be acquired from accidental causes, or from hereditary transmission. The scrofulous habit is characterized by the following circumstances; a particular delicacy and languor of countenance; smooth, soft, and flaccid cheeks; a dull lead-colored circle around the mouth,

with fine red lips; swollen upper lip; inflammation of the edges of the eye-lids—particularly in children; weak digestive powers; scabby eruptions about the head; irregular state of the alvine discharges; slow growth of the body; aptitude to take cold, &c.—This dormant state of the disease may continue for years, or pass off, under favorable circumstances. More generally, however, it becomes gradually developed, under the influence of various exciting causes; the lymphatic glands along the neck, and other parts become enlarged; and by degrees pass into a state of slow inflammation, terminating in induration, or suppuration—the ulcers thus formed, discharge a thin, milky, and somewhat viscid fluid,—are but little painful, and exceedingly slow in cicatrizing. The cicatrices are uneven, and irregular; the eyelids and conjunctiva become inflamed, as well as the mucous membrane of the nose, and bronchia. In a more advanced state of the disease, the salivary and thyroid glands, and the pancreas, and other glandular parts, enlarge; eruptions appear on the skin; emaciation ensues: the extremities of the long bones enlarge; ulcerations occur, particularly in the cartilaginous and glandular structures; some of the bones become carious; the large joints inflame and suppurate; the spine becomes diseased; the nose, and palate, are destroyed by ulceration; in short, there is scarcely any part of the body, which is not sometimes the seat of its frightful ravages. The most common course of scrofula, however, is the formation of tubercles in the lungs, and consequent phthisis pulmonalis.

Scrofula occurs more frequently in children, than in adults. The scrofulous habit is rarely formed after the period of manhood. The most common causes which produce this morbid habit, are: cold and atmospheric vicissitudes; indigestible and unwholesome food; excessive indulgence in eating; confinement and want of exercise; long exposure to a humid atmos-

phere; mental disquietude; *chronic irritation in the stomach and bowels*, from worms and other causes; exposure to cold and humidity, during convalescence from various diseases, particularly measles, scarlatina, whooping cough; in short, whatever permanently debilitates the system, more especially during childhood.

Proximate cause. The scrofulous habit, consists probably in constitutional, or acquired excess of irritability in the lymphatic system, in connexion with a weak condition of the assimilative powers.

TREATMENT. To counteract the scrofulous habit, great care is required, to avoid the exciting causes. The integrity of the digestive, perspiratory, and hepatic functions, is to be maintained, and the tone of system supported. This is to be done, by the occasional use of mild aperients; alterative doses of mercury; warm clothing; mild vegetable tonics; exercise in the open air; a simple, but nutritious diet; sea-bathing; the tepid shower bath; dry frictions; alkalines, when gastric acidity prevails. When the disease is established, the same course of treatment is required, with additional remedies, varied according to existing circumstances. When the disease exists in the state of lymphatic glandular tumors, *iodine*, bathing with salt water, leeching, and emollient poultices are often beneficial. In this state, advantage may also be occasionally derived from the extracts of *conium maculatum*, *dulcamara*, *hyoscyamus*, *belladonna*, and minute portions of *muriate of mercury*. In general, however, irritating applications are improper, so long as the tumours remain indolent. When scrofulous ulcerations exist, benefit may be derived from *liquor potassæ*; the narcotic extracts just mentioned; the *muriates of mercury, gold, barytes, lime*; *ptisans* from *tussilaga fasciata*; *sarsaparilla*; *arctium lappa*. I have seen more good done, by minute doses of *muriate of mercury*, and large ones of *extract of conium*, than by any other remedies. Farr speaks in the highest terms of the efficacy of large doses of the *liquor potassæ*, and *mercurial frictions* used conjointly

CHAPTER XX.

MENTAL DISEASES.

The diseases of the mind may be divided into four classes, viz: mania, monomania, dementia, idiotism.

1. *Mania.* General derangement of the mind, characterized by a rapid succession of incoherent ideas—delirium; violent excitement of the passions, expressed by great agitation; cries, singing, menaces, and fury.
2. *Monomania.* Partial insanity—the patient being insane on one particular subject only. This class comprehends a great many varieties, as nostalgia, fanaticism, hypochondriasis, misanthropy, &c.
3. *Dementia.* Imbecility of mind—the reasoning faculties being defective, and memory weak or obliterated. It occurs in very old people; and after diseases of the brain, as apoplexy, epilepsy, &c.
4. *Idiotism.* Defective intellectual development, amounting sometimes to a total absence of mind; and, in some instances, even to a destitution of the instinct, which leads to the gratification of the animal appetites.

General symptoms. Sensibility impaired; appetite, depraved, null, or voracious; constipation; fever in mania, and in the beginning of monomania; skin dry, and of a yellowish brown color; in women, suppressed or irregular menstruation.

Causes. Hereditary predisposition, has an important share in the ætiology of mental diseases. Mental derangement from hereditary predisposition, is generally

announced "by whimsicalities of disposition; certain singularities of character; caprice in taste and habits; peculiar and evilly intentioned conduct; little aptitude to the study of the exact sciences; and in immethodical taste for the arts of display, and the pleasures of imagination."

Among the most common occasional causes of insanity, are: violent passions; intense application to one object; jealousy; excessive joy, sorrow, hatred, terror, or surprise; religious enthusiasm; unrestrained imagination; poverty; excessive ill treatment; disappointed love, ambition, vanity; mortified pride; chagrin; the crisis of female life, suppression of habitual discharges; repercussion of chronic cutaneous affections; drunkenness; parturition; pregnancy; epilepsy; blows or falls on the head; acute and chronic diseases.

Development, Progress, and Termination of Insanity.

The development of insanity, in its incipient stage, is generally marked by a change in the habits, tastes, attachments, and passions of the patient. As the mental disorder advances, vigilance, head-ache, loquacity, or taciturnity; inconsistency in conduct; wild and ruinous enterprises; a neglect of the ordinary occupations; unusual prodigality; inconsistent conduct; incoherence of ideas; and, finally, fixed monomaniac hallucination, delirium, or general aberration of the perceptive and reasoning faculties.

Insanity is sometimes periodical—at others, it is temporary—passing off either spontaneously, or in consequence of remediate treatment; sometimes, it assumes a fixed and incurable state. Chronic, or incurable mania, or monomania, frequently terminates in dementia. (Georget.) Idiotism is always incurable. Dementia is usually preceded or followed by paralysis.

Prognosis. Recovery occurs most frequently between the ages of twenty and thirty. It seldom terminates favorably after the fiftieth year of age. When insanity is connected with paralysis, or epilepsy, it may be re-

garded as incurable. A recovery of the general health of the system, without a corresponding melioration of the mental hallucination, is an unfavorable sign. It has been observed, that cold is more favorable to recovery, than warm weather.

Pathology of Insanity. Many pathologists contend, that the mind is never deranged idiopathically; but always in consequence of some physical disorder, whether functional or organic, of the animal system. To this opinion, I am myself inclined to give my assent. This subject is fully discussed in the lectures.

TREATMENT. The treatment is divided into *moral* and *remedial* management. Under the head of moral treatment, are: a soothing, mild, and conciliatory management; the absence of all coercive measures, unless imperiously demanded by the violence of the maniacal fury, or attempts to injure themselves or others; a separation of the patient from all objects calculated to recal the sentiments, or passions, which gave rise to the disease; a judicious diversion of the mind, from the objects upon which the thoughts are habitually directed, and an encouragement to reflection "upon subjects of personal conduct and thought." To restrain and subdue the turbulent, it is often sufficient to envelope the head suddenly with a cloth, so as to prevent them from seeing. The most furious generally become calm, so soon as they are thus prevented from seeing. The false ideas and fancies of insane persons, should never be encouraged, nor vehemently contradicted. By watching favorable opportunities, circumstances will generally occur, which, by a few judicious remarks, may lead them to doubt of the correctness of their notions; "and doubt of the correctness of their own perceptions, marks the period for persuasion and conviction of error."

Convalescents from insanity, should be suffered to associate freely with each other; nothing, says Georget, promotes recovery more than such an intercourse.

Mechanical employments are often of great benefit in the management of lunatics.

Remedial management. The remedies most efficacious, are: blood-letting, where there is much arterial excitement; purging; blisters; the cold shower bath; frictions; tepid bath; mild and digestible diet; enemata.

VERMINOUS DISEASES.

Various opinions concerning the origin and formation of worms, in the intestinal canal. It does not appear that they are received from without, because they are never found out of the animal body; and when removed out of the body, they speedily die; and, lastly, earth worms, and such as live in water, do not change their forms, when received into the intestinal canal. There are five varieties of intestinal worms.

1. *Tricocephalus dispar.* These worms are from an inch and a half, to two inches in length. About two thirds of their length is almost as thin as a horse hair, the remaining and posterior part being considerably thicker, and terminating in a rounded extremity. They are found principally in the *cæcum*. They are seldom numerous.
2. *Ascaris vermicularis, (oxyuris vermicularis,)* These are exceedingly short—not more than two lines in length, very thin and white. Their usual seat is in the rectum.
3. *Ascaris lumbricoides.* These worms are from two or three, to ten or twelve inches in length, round, of yellowish white, or brownish red color, of nearly a uniform thickness, except at the extremities, which taper to a blunt point. They are from two to three lines in thickness. They inhabit the small intestines chiefly; but occasionally ascend into the stomach.
4. *Tænia lata, (hothricocephalus latus.)* This worm often acquires a very great length—from

twenty to thirty feet and more; it is from four to six lines in breadth, flat and white, resembling a piece of white tape, and composed of a series of concatenated joints. It inhabits the upper portion of the bowels and the stomach. The head is armed with two processes, by which the worm attaches itself to the intestines.

5. *Tænia solium*, (*T. Cucurbitina*.) This worm is rarely, if ever, voided whole; it generally passes off in short joints, resembling, in some measure, the seeds of *gourd*. Pieces, however, upwards of twenty feet, of this worm, have been voided. The head is small, and furnished with four small apertures. (*Oscula*.) It inhabits the small intestines chiefly.

Symptoms. Countenance pale, lead-colored, with occasional transient flushes; eyes dull; pupils dilated, with a bluish semicircle around the lower eye-lids; tickling in the nose; tumid upper lip; occasional head-ache, and humming in the ears; copious secretion of saliva; tongue slimy or furred; breath foul; variable appetite—being sometimes voracious—at others wholly gone; transient pains in the stomach; occasional nausea and vomiting; pains in the abdomen—particularly about the umbilical region; frequent slimy stools, or costiveness; urine turbid, yellowish, or milky; abdomen tumid and hard, with emaciation of the other parts of the body; lassitude; irritability of temper. None of these symptoms, however, are certain indications of the existence of worms in the bowels—the only certain indication being the appearance of them in the evacuations from the bowels or stomach.

The opinion which is expressed by some, that worms are harmless in the intestinal canal, is without foundation. It is nevertheless probable, that that peculiar condition of the alimentary canal, which favors the production of worms, is more frequently the cause of mischief, than the worms themselves. Worms give rise to a variety

of affections, such as chorea, epilepsy; hydrocephalus; emaciation; *convulsions*; paralysis, and a vast variety of anomalous disorders.

TREATMENT. In prescribing for the removal or destruction of worms, it is of some consequence to confine the patient to a spare and liquid diet, and to exhibit two or three mild cathartics a few days previous to the exhibition of the proper anthelmintic remedies. With these preparatory measures, the ordinary vermifuge remedies will disappoint us much more seldom than without them. My own plan of treatment for the expulsion of the *lumbricoides*, is to put the patient on a liquid diet, and to give a small dose of Epsom salts every morning, for three days in succession. On the fourth morning, I order a decoction of the root of spigelia, in the proportion of an ounce of the root to one pint of water, and boiled down to half a pint. This being sweetened, is to be drunk in the course of three or four hours; and immediately after the whole of the decoction is taken, an active dose of calomel and jalap—or what is perhaps still better, castor oil and turpentine, is to be taken. I have rarely failed, by this method, of removing worms, where they existed. The most efficacious anthelmintics, for the destruction of *ascarides lumbricoides*, besides spigelia, which I regard as decidedly the best, are: sem. santonici; chenopodium anthelminticum, dolichos pruriens; calomel, garlic, conferva helminthocordon, and geoffrea surinamensis.

The removal of *ascarides*, is often exceedingly difficult. Remedies employed in the form of enemata, are generally more efficacious, than when given by the mouth. My usual prescription for the expulsion of these worms, is to exhibit three or four aloetic purges every second day, together with two or three enemata, composed of a solution of common salt daily. Injections of a solution of aloes—of lime water, or of infusions of any of the ordinary anthelmintics, will occasionally bring away these troublesome little worms. I have, in a few

instances, brought them away in great quantities, by injections composed of spirits of turpentine, mixed with milk. The introduction of a bougie, smeared over with mercurial ointment, has been employed effectually against these worms. Nils Rosen speaks very favorably of injections composed of a drachm of refined sugar, dissolved in warm milk.

For the expulsion of the tape-worm, a great variety of remedies and modes of treatment have been recommended. The anthelmintics that have been found most efficacious against this species of intestinal worm, are: polypodium filix mas; spirit of turpentine; tin; valerian, and the bark of the pomegranate root. The latter article has been particularly recommended of late years, as a powerful remedy against the tapeworm. Whatever mode of treatment be adopted, it is always of much consequence to prepare the patient, by diet and laxatives, before the proper vermifuges are given. A spare and liquid diet, with the daily use of small doses of saline purgatives, for five or six days, will greatly increase the chance of procuring the expulsion of the worm, by the use of anthelmintics. The following is the substance of some of the most celebrated methods of treatment recommended for the removal of this worm.

Alston's method. An active purge; next morning, one ounce of pure tin filings; on the second, third, and fourth mornings, half an ounce of the same metal, followed, on the fifth morning, by an active purge. *Des-sault's method:* mercurial frictions on the abdomen, followed by a drastic mercurial purge. *Heren-schwand's method:* one drachm of powdered male fern root, mornings and evenings, on an empty stomach, for two days in succession; on the morning of the third day, take the following: R. G. Gambog. gr. xij. Sub-carbonate potass. gr. xxx. Sapon Venet. gr. ij. Misce. Three hours after this, an ounce of ol. ricini. is to be taken. *Hufeland's method:* a cup of a decoction of garlic in milk, every morning, on an empty stomach,

with a table-spoonful of castor oil every morning, noon, and evening, half an ounce of the filings of tin, once daily, and frictions with *petroleum*, on the abdomen. This must be continued for several weeks.

Spirits of turpentine, has been employed with much success for the expulsion of tænia. From two to three ounces of this article, should be given at once; and followed, in two hours, by a dose of castor oil. The bark of the pomegranate root, has been recently strongly recommended, for the removal of tænia.

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