**A nosological practice of physic, embracing physiology / [George Pearson Dawson].**

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# NOSOLOGICAL

# PRACTICE OF PHYSIC,

EMBRACING

# PHYSIOLOGY.

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BY

GEORGE PEARSON DAWSON, M. D.

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TO

# GEORGE CHOLMLEY,

*OF HOWSHAM, AND WHITBY ABBEY, ESQ.*

THIS

Work is Dedicated,

AS A

TESTIMONY OF RESPECT AND ESTEEM.

# ADVERTISEMENT.

THE work now offered to the world is the result of twenty-eight years dedicated to the study and practice of medicine. The object which the author had in contemplation was to exhibit general views of the principles and treatment of diseases, interspersed with classical, physiological, and pathological facts and observations. Dissatisfied with existing nosologies, he has constructed one for himself, which is simple, intelligible, and consentaneous with his own experience.

GEORGE PEARSON DAWSON.

*Bishopwearmouth, Sunderland,*
*16th Sept.* 1824.

# ARRANGEMENT

OF

# *THE NOSOLOGY.*

## ORDER I.

## FEBRILE DISEASES.

## ORDER II.

## INFLAMMATORY DISEASES.

## ORDER III.

## NERVOUS DISEASES.

## ORDER IV.

## CACHECTIC DISEASES.

## ORDER V.

## FUNCTIONAL DISEASES.

*Sub septentrionibus nutriuntur gentes immanibus corporibus, candidis coloribus, directo capillo et rufo, oculis cæsiis, sanguine multo, quoniam ab humoris plenitate cœlique refrigerationibus sunt confirmati. Qui autem sunt proximi ad axem meridianum subjectique solis cursui, brevioribus corporibus, colore fusco, crispo capillo, oculis nigris, cruribus invalidis, sanguine exiguo, solis impetu perficiuntur; itaque etiam propter sanguinis exiguitatem timidiores sunt ferro resistere, sed ardores ac febres sufferunt sine timore, quod nutrita sunt eorum membra cum fervore; itaque corpora quæ nascuntur sub septentrione a febri sunt timidiora et imbecilla, sanguinis autem abundantia ferro resistunt sine timore.*

MARCUS VITRUVIUS POLLIO, DE ARCHITECTURA,
Lib. vi, Cap. 1.

# NOSOLOGICAL

# PRACTICE OF PHYSIC,

&c.

## ORDER I.

### FEBRILE DISEASES.

This order comprises every disease in which fever constitutes the leading symptoms.

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The whole of the species and varieties are arranged under a single genus.

### GENERIC DEFINITION.

Pain in the head; number of the pulse and heat of the body augmented; generally preceded by lassitude, and coldness, especially of the back and feet; wandering pains of the voluntary muscles; great disturbance of the nervous system;

sometimes with, and sometimes without, affections of the skin and throat.

THE SPECIES AND VARIETIES ARE

I. *Febris Intermittens.* Paroxysm intermitting and returning; the intermission complete.

*Quotidiana.* Interval about twenty-four hours; paroxysm in the morning; duration under sixteen hours.

*Tertiana.* Interval about forty-eight hours; paroxysm at noon; duration under ten hours.

*Quartana.* Interval about seventy-two hours; paroxysm in the afternoon; duration under eight hours.

*Complicata.* Paroxysms and intermissions irregular; intricate and multiplied.

Intermittent, as well as remittent fever, almost always arises from the operation of marsh miasmata, but how, we are altogether in the dark. The influence of marsh miasmata does not extend to any great distance; yet we know not whether the morbid power enters by the nostrils, trachea, or throat; although the stomach, brain, and nervous system certainly suffer more than the

lungs. The time when fever occurs after exposure to marsh miasmata is various indeed; sometimes within twenty-four hours; generally within a month; and occasionally not till six, eight, or nine. The longest periods take place in temperate; the shortest, in hotter climates; and the disease is more violent where it invades with the greatest celerity. Strange, yet true it is, Sydenham neither knew nor suspected that remitting or intermitting fevers arose from marsh miasmata, notwithstanding Hippocrates, Galen, Varro, Columella, Palladius, Vitruvius, Diodorus Siculus, Dyonisius Halicarnassensis, Strabo, and others, distinctly mention the insalubrity of swamps and stagnant waters. Sydenham acknowledges he tried in vain to discover why seasons, apparently similar, were followed by dissimilar effects on the human body; and then adds, "Ita enim se res habet: variæ sunt nempe annorum constitutiones, quæ neque calori, neque frigori, non sicco humidove ortum suum debent, sed *ab occulta potius et inexplicabili quadam alteratione in ipsis terræ visceribus pendent, unde aer ejusmodi effluviis contaminatur*, quæ humana corpora huic aut illi morbo addicunt, determinantque." (De Morb. Epid. c. ii. p. 41.) Marsh fevers often prevail epidemically, "Intermittentes febres sæpius epidemicæ grassantur quam alii morbi,"—Van Swieten, Tom. ii. p. 264, sect. 659.—"Certa Romanorum observatione constat, post ingentes Tyberis inundationes oriri febres epidemicas in

urbe valde graves ac perniciosas,"—Baglivi, Opera Omnia, p. 51.

As the noxious ingredients of marsh vapours are yielded by vegetable matter, with some little intermixture of animal, during their decomposition, it is natural to suppose, that the marshes best adapted to emit powerful miasmata will be those in which the quantity of substance is greatest, and the decomposition of it most rapid. Vegetable and animal substances require moisture, air, and warmth for their spontaneous decomposition; these are needed in just degrees, for the reverse will occur if either preponderates. Abundance of water necessarily impedes the formation of miasmata, while a smaller quantity will have an opposite effect. Frequent and heavy rains sometimes render marsh fevers prevalent, and the deprivation of rain for two or three months may produce similar morbid effects. According to Baglivi, (in Italy, marsh miasma is termed *mal' aria)* Rome is much infested with marsh fevers, (Opera Omnia, p. 157.) arising from the damp situations in and about the city; and he adds emphatically, "mirum non videatur si consulibus L. Valerio Potito et M. M. Manlio, pestilentia orta sit in agro Romano, ob siccitates et nimios solis calores teste Livio, Lib. v."—When marshes are completely overflowed, their vapours are harmless; but injurious, when the evaporation of the water

has exposed the surface of the soil to the air. Where the surface of the earth remains frozen for a considerable time, marsh exhalations have no existence, and their fevers cease to occur; but in spring, they begin in the mildest form, e. g. regular intermittents, mostly tertian, and they preserve this type during a moderate temperature: but when the weather becomes warmer, these fevers are less regular, and more severe; and, in the hottest parts of summer or autumn, they commonly assume the type of double tertians, remittents, or continued; not, indeed, in this country, but especially so in Spain, Germany, and the Netherlands, as was evinced by our calamitous expedition to Zealand.—The *characteristic peculiarities* of marsh fevers are, that of occurring in their simple form of intermittents during the spring; of being aggravated and changed to remittent, and apparently into continued fevers, by excessive summer heats; of being re-changed and brought back to their mild remittent form at the commencement of winter; and afterwards of being extinguished, or, at least, suspended by a long frost; and, finally, that of most usually attacking strangers from cold countries, and of not being communicable from one person to another, however exposed to their influence*. The late

* Bancroft, Essay on the Yellow Fever. London, 8vo. 1811.

Dr. Hamilton, a much respected physician of Lynn, in Norfolk, after an experience of forty years, thus writes, in his "Observations on the Marsh Remittent Fever," that prevailed with uncommon malignity in that part of England, during several very hot summers, which followed a great inundation of the sea, in 1779, so as almost to simulate "its appearance in many places between the tropics,"—"If a very wet winter and spring are succeeded by a very hot and dry summer, in which the ditches and marshes are mostly dried up, it is very generally epidemical, and spreads widely around us. It most commonly appears about the middle of August, and lasts till the ditches are filled with water, and the marshes somewhat covered; which, with a frost, usually puts a period to its raging in that form, for that season: for it now generally changes to the type of a genuine intermittent."—See pages 27, 28, 32.

In the expedition to Walcheren, the British soldiers suffered dreadfully, and with a mortality ever to be deplored. The fever, as just stated, changed and re-changed into every form; but, whatever the form, pain in the head, and irritability of the stomach, were almost always present, and dissection revealed morbid appearances, which convincingly proved the existence of inflammation in almost every organ or cavity, and that this inflammation had run into suppuration, ulceration,

and gangrene, in a very short period. The following are the general appearances, collected from the personal examination of hundreds of victims. The brain was red, flabby, firm; its vessels were turgid with scarlet blood; water was effused. The larynx and trachea were highly inflamed; the lungs diseased; filled with water; black. The cavities of the thorax were full of fluid, and occasionally the pericardium. The liver was generally diseased; hard; enlarged; of a dark purple colour; with effusion under its external coat. The gall-bladder was increased in size, containing bile of almost every colour. The stomach was large, flaccid; its coats thickened; the mucous coat corrugated, ulcerated, and covered with a dark fluid, resembling grumous blood. The spleen was commonly of an enormous size, being, generally, a mere bag, filled with a fluid like tar, and weighing from three to five pounds, whilst an healthy spleen scarcely weighs six ounces. In one instance, it was the seat of an abscess, which had ulcerated through the diaphragm, and diffused its contents into the thoracic cavity. Suppuration and ulceration of this viscus were not uncommon. The intestines were inflamed, indurated, ulcerated, pustulous, and gangrenous. The mesenteric glands were increased in size, and, like the mesentery, loaded with vessels, containing scarlet blood. Affections of the spleen, even in this country, are not unfrequent; nor is it easy

to explain how these occur, unless from repeated determinations of blood during the cold stages.

Intermittents, chiefly tertians, have cured chronical diseases.—"It has been often observed," says Fordyce*, "that regular tertians clear the constitution of all other diseases, and certainly on a good foundation."—He mentions chronic rheumatism, long continued indigestion, cutaneous eruptions, protracted inflammation, epilepsy, and hysteria.

The treatment of intermittent fever†, whether from the marshes of England, the bogs of Ireland, or the swamps of Walcheren, has been usually simple, and moderately efficacious. An emetic should be administered immediately; the intestines thoroughly evacuated by calomel and jalap; and these, as well as other purgatives, ought to be repeated frequently. Upon the invasion of the cold fit, one scruple of the subcarbonate of ammonia, combined with two of the confection of opium, is to be exhibited in mint-water, which will, most certainly, either cut short the approaching paroxysm, or considerably diminish its severity and length. During the intermissions, which ought

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* On Fever, Diss. ii. p. 16.

† Hunter on the Blood, p. 411. 8vo.

to be perfect, one drachm, or more, of the peruvian bark ought to be given every hour; and under such treatment, intermittent fevers will be, in the main, neither long nor dangerous. If vascular action run high in the hot stage, venesection is admissible, yet I never knew it to be required. Where bark fails,—it does so once in two hundred cases,—the arsenical liquor is an admirable and successful succedaneum. Where obstinate intermittents have laid the foundation for visceral disease, I cannot say I have seen mercury prove successful; but I have occasionally seen it do harm.

A peculiar vegetable compound, having some of the properties of an alkali, named cinchonin, or quinine, says Dr. Barker*, was obtained, some years ago, from a species of the peruvian bark, by a foreign physician, M. Gomes. It has been asserted to possess all the medicinal virtues of cinchona, and to be the principle from which the curative powers of this valuable remedy are derived. In this gentleman's practice, likewise in that of others, this medicine appears to have been efficacious in agues. Of thirty cases so treated, not one resisted its use; and, in a majority of the cases, the disease ceased within a day or two.

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* Transactions of the King and Queen's College of Physicians, Ireland, vol. iv. p. 261.

Very small doses were employed: a grain, or less, exhibited three or four times a day, was as beneficial as a large dose. In one of Dr. Morgan's cases, half a grain, three times in the day, suspended the paroxysm for eight days. In no case did it disagree with the stomach. The average quantity of sulphate of quina, so called by Dr. Paris, required for the cure of intermittent fever, was rather more than nine grains.

Dr. O'Brien, in the same volume, p. 365, informs us, that the sulphate of quina is highly useful in typhus, especially in "the period of direct debility or collapse." From a perusal of the papers of these gentlemen, it is obvious, that the quina is only an advantageous substitute for bark, and admissible in those stages of disease where that medicine is usually employed; yet, it must be confessed, the small bulk of it is a great recommendation.

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II. *Febris Remittens.* Obviously exacerbating and remitting; no intermission; a paroxysm every twenty-four hours.

*Mitis.* Pulse regular, yet frequent; remission distinguished by sweating, or abatement of symptoms.

*Flava.* Coldness, nausea, lassitude; next, intense heat; pain and throbbing in the head and eyeballs; tongue furred; skin parched; pulse quick, full, oppressed; vomiting of green and yellow bile, ultimately mixed with blood. Paroxysm from twenty to above seventy hours.

Remittent and intermittent fevers display themselves in all parts of the globe where marsh miasma rears its head. Livy, in his admirable and faithful history, minutely describes numerous epidemic fevers, in his opinion, contagious, which, at different periods, assailed the Roman city and her armies; and these fevers we may, on the authority of Baglivi* and Pringle†, pronounce to have been of the marsh remittent type. No description of marsh remittent fever can be more interesting than the account of that‡ which invaded the Roman army, under Marcellus, before the walls of Syracuse, which were then defended by the genius of Archimedes. In England, excepting the marshy districts, such as Essex, Huntingdonshire, and the Isle of Sheppey, the scenes of my own experience for years, the marsh remittent fever is scarcely known.

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* Opera Omnia, p. 157.

† Diseases of the Army. London. 8vo.

‡ Livii Historiæ, lib. xxv. cap. xxvi.

This fever is to be treated upon the general principles which regulate all fevers. An emetic is to be administered without delay; and in a few hours, a large dose of calomel and jalap is to be exhibited. In all marsh fevers there is a large collection of feces in the colon: the intestinal secretion, as well as that of the liver, is far from perfect; hence, the absolute necessity of frequent and powerful purges, which remove a noxious load. Where pain in the head, and strong arterial action prevail, venesection is indispensable: and be it always remembered, that in all marsh fevers, especially the remittent, there is a remarkable disposition to inflammation, of the most incontrollable kind, in particular organs and cavities, which can only be obviated or subdued by copious and oft-repeated abstractions of blood. Where local pain obtains, the application of a blister seldom fails. In the remittent fever, there is almost always more or less derangement of the biliary system, sometimes amounting to complete jaundice, as I have witnessed in the Isle of Sheppey;—here, the gradual administration of calomel and opium, so as slightly to affect the gums, is singularly serviceable, and ought never to be delayed or omitted.

The yellow fever of the West Indies*, of America, and also the fever which has so often

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* See Rush, Bancroft, and Dickson, on the Yellow Fever.

ravaged the southern parts of Spain*, originate, most generally, from marsh miasma, in its highest state of concentration. The sporadic fevers of the West Indies, usually incidental to new-comers, are generally of the continued type; whilst the epidemic fever, in popular language termed yellow, almost always remits, unless death or recovery precludes a second paroxysm. The causes of sporadic yellow fever are obvious; whilst those of the epidemic are involved in inextricable obscurity. The symptoms enumerated in the nosology, in literal strictness, belong to the epidemic; and soon after the vomiting has come on, every symptom increases in violence. The first paroxysm, properly called the *inflammatory*, commonly lasts thirty-six, and is sometimes protracted to seventy-two hours, and even longer: probably in consequence of local or general inflammation. A remission then occurs; many of the symptoms subside; and hope ventures to succeed despair. Frequently, however, irreparable injury has been done to the brain or stomach, and hence, the remission is short and imperfect. A natural pulse, the skin cool and moist, and the intellect, if previously disturbed, clear, are rather favourable signs; whereas a quiet and stupid state, renewed efforts to vomit, induced by pressure or food, indicative of a morbid condition of the stomach, are exceedingly dangerous symptoms. After

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* Jackson and O'Halloran on the Fever of Spain. London. 8vo.

a certain interval, a second paroxysm follows; then the heat, arterial action, frequency and strength of pulse, are often less than in health; but, generally, there are excruciating pains and heat in the stomach, with incessant strainings to vomit, which, in most of the fatal cases, are attended by hiccough, and repeated discharges of matter, resembling turbid coffee. Here the patient is, in general, collected, but excessively weak; low muttering, or coma, with convulsions of the muscles of the face, and other parts of the body, supervene. The tongue and teeth are covered with a dark brown fur; yellowness of the skin and petecchiæ appear; the urine has a dark colour and putrid smell; hemorrhages spring from the nostrils, gums, and other internal surfaces; which, with laborious breathing, a livid colour of portions of the skin, and cold extremities, gradually extinguish life. These appearances are found on dissection. The integuments of the cranium, near the temporal bone, are more or less inflamed; the vessels of the dura mater and pia mater are turgid with blood, with occasional extravasations of blood, or effusions of water. The volume of the brain is increased; the medullary part, on being divided with a scalpel, presents bleeding points; the arteries and veins are sometimes ruptured*. The œsophagus is corroded; the stomach and intestines filled with black

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* Bancroft on the Yellow Fever, p. 27.

fetid matter, or inflamed and gangrenous; the liver shrunk, flaccid, and of a buffy colour.

The black vomit, as it is commonly designated, and which is of frequent occurrence in the last stage of this fever, is altogether unconnected with bilious matter. Dr. Henry Warren* and Dr. Rush† ascertained it to be composed of coagulated blood, poured out by the coats of the stomach in a state of disorganization; whilst other eminent physicians have demonstrated it to be perfectly harmless, whether swallowed by an healthy person, or applied to the eyes or wounded surfaces. An adventurous physician performed these experiments on his own person.

The yellow fever being decidedly of an inflammatory nature, it is on the lancet, instantly and boldly employed, dependance is to be placed. The quantity of blood to be drawn, and how often, are to be regulated by existing symptoms;—a single blood-letting of fifty ounces can never be wrong: a second bleeding demands caution and judgment. The bowels should be evacuated by suitable purgatives; but, in every case, emetics must be interdicted, since, in the opinion and language of Mose-

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* Treatise on the Malignant Fever in Barbadoes. 1740. p. 39.

† On the Bilious Yellow Fever in Philadelphia. Ed. 1793. p. 46.

ley*, they make the patient vomit away his life. He observes that blacks have great irritability, and scarcely any sensibility; they are often the subjects of tetanus, and bear amputation without a murmur. It is the first paroxysm which lays the foundation for death; and to this, and to this alone, every effort should be unceasingly directed: supineness, for the first twelve hours, will paralyze human skill: rashness is better than timidity, inasmuch as it promises a chance of safety in a fever where delay is destruction.

The Roman land, once the seat of warriors, statesmen, and orators, trodden by the Fabiuses, the Scipios, Julius Cæsar, Cicero, Sallust, Livy, and Tacitus, appears still to suffer nearly as much from miasmata, as it did during the days of Baglivi†. An engaging and accomplished female traveller‡ remarks, we observed, between the posts of Civita Castellana and Neppi, a poor swollen jaundiced boy, from Campagna, whom the *mal' aria* had blasted with its pestilential breath. At Neppi, the few whom we saw were of a cadaverous hue, wretched and ragged; and when the season of *mal' aria* arrives, every respectable inhabitant flies

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* On Tropical Diseases. London. 8vo.

† Baglivi, Opera Omnia, p. 157.

‡ Lady Morgan. Italy. New Edition. 1821. p. 321, &c.

to a neighbouring town for the summer and autumn, and leaves the old and feeble to be the victims of this annual plague. To sleep a night at Baccano is fatal: by doing so, an English physician lost his life, and his wife escaped after a dangerous illness. None but the necessitous cross Campagna during the mortal season.—This is an important caution, and should be attended to by English travellers.

When marsh fevers have affected the system for a very long time, they too often induce considerable debility, hepatic obstruction, visceral disease, and dropsy; or, they are combined with pulmonic affections, obstinate dysenteries, or incontrollable diarrhœas; some of which are usually beyond the ordinary control of medicine. I never knew mercury productive of the smallest benefit: it only added weakness to weakness, and accelerated, rather than retarded, a fatal termination; yet calomel to affect the bowels, opium to remove pain or assuage distress, and warm port wine to impart comfort, have, in my own practice, certainly not limited, succeeded beyond my hopes.

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III. *Febris Hectica.* Pulse weak; stages of chilliness, heat, and sweat, variously intermixed, and sometimes single; the cold stage exhausting;

exacerbation chiefly in the evening; urine with a reddish sediment, or natant furfuraceous separation.

The essential characters of an hectic fever are a frequent weak pulse; flushings in the face, the hands, or feet; and copious nocturnal sweats, or diarrhœa. The fever is more or less remittent, but never wholly intermittent. The frequency of the pulse is generally from 100 to 140 in a minute; seldom falling below 100, even during a remission, and occasionally reaching 120. In some constitutions the natural pulse may be so slow, that a slight acceleration of it would denote an exacerbation. The pulse is generally weak, but sometimes hard and wiry, though small; and this usually happens where there is a phlogistic diathesis, and then the remissions are commonly less apparent.

In hectic fever, the elevation of temperature is not great; although, in most fevers, the temperature, as indicated by the thermometer, affords a good criterion of the severity of the disease. According to Dr. Young, the elevation in hectic has seldom amounted to less than 2°, and has very often been as high as 4° or 5°. A thermometer, held in the hand for a sufficient time, has frequently risen to 100° or 102°, at all hours of the day; yet, in a few far-advanced cases, it has stood at 97°, only, under the tongue.

The tongue is seldom so much furred as is usual in most other febrile affections; its edges are generally of a bright red; and the papillæ are swollen and prominent. Yet, when the digestive organs are disordered, the tongue is occasionally covered with a white coat; but in the common kinds of hectic fever, digestion is unimpaired, and the appetite remains unchanged.

The principal exacerbation mostly occurs about five in the afternoon; but sometimes at nine or ten in the morning, as happened to Dr. Young, himself, at the age of fifteen. More generally there is a secondary or slighter paroxysm about noon, while the principal one is in the evening. The exacerbations are distinguished by a sensation of burning heat in the palms of the hands, which become red and mottled, and frequently in the soles of the feet; in the cheeks, also, there is a circumscribed redness, particularly in persons of a delicate and florid complexion. The hectic paroxysms are generally succeeded, towards the end of the night, by copious sweats, either from the whole surface of the body, or from the neighbourhood of the parts principally affected. When a diarrhœa supervenes, during the advanced stages, the sweat usually disappears; and sometimes one of these affections alternates with the other at longer or shorter intervals, although the sweat does not always succeed the suppression of the diarrhœa. The urine frequently deposits a

reddish sediment of uric acid, which, in the opinion of Dr. Wilson, depends on the state of the cutaneous vessels; and there is, likewise, a natant furfuraceous separation. In the advanced periods of the disease, and when the emaciation increases, the hairs fall off, and the nails become bent, apparently from a deficiency of nourishment, which is palpable throughout the whole body.

The exciting cause of hectic is almost always some local disease, great, if not incurable; and this fever appears to be a bootless struggle of a constitution about to be overpowered. Where this local disease admits removal, as, for instance, by amputation, the hectic symptoms soon disappear; but in pulmonary consumption, and similar affections, there is no hope*.

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IV. *Synocha.* Skin hot; pulse quick, hard, and strong. Head slightly affected. Face flushed.

This fever is the cauma of Young and Good, or the idiopathic inflammatory fever, which is not of frequent occurrence. Dr. Cullen only saw a single

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* Young on Consumptive Diseases. London. 8vo. p. 4. 1815.

See Hunter on the Blood. London. 4to. p. 496.

instance of it in forty years; and Dr. Curry, of Guy's Hospital, during an extensive practice of twenty years, had only met with one case.

Fordyce, in his dissertations on fever, particularly the first part of his third, and the whole of his fourth, has written very ably on synocha, and I shall take from Dr. Good* an excellent summary of his opinions. Dr. Fordyce lays down some very obvious distinctions between the strength of the pulse, its hardness, softness, obstruction, and freedom. With him the grand pathognomic symptom of cauma is hardness of the pulse. This accompanies it, from first to last, in its simplest and in its severest state. When the disease is mild, it is hard alone; when more violent, it is at the same time full, strong, and frequent. The obstructed pulse is often confounded with the hard, and it is not easy to distinguish them without considerable practice. There is a rigidity of resistance to the finger in each, but of a different kind. In the hard pulse it is much firmer and tenser; and is supposed by Fordyce to result from such an increase of arterial contraction, as to overbalance its correspondent dilitation. It indicates, in his opinion, a very high degree of living power, and is peculiarly characterized *by a tardy coagulation of the blood when drawn freely into an hemispheric basin, in consequence of which, the*

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* Nosology. London. 8vo. p. 138.

*red particles have time to subside, and leave the surface colourless, or with a buffy appearance. In the obstructed pulse, on the contrary, the blood coagulates at once; and the red particles not having time to separate, the surface is of the same hue as the cake below.*

The above observations are excellent, and precisely accord with my own experience. The truth is, the fever is a purely inflammatory one. The same fever prevails as symptomatic of local inflammations: in one instance, the inflammation is general; and in the other, particular. The look of the patient betrays the nature of his disease:—his face is red, his eyes blood-shot, he stares around him, has an excess of vital power; he seems to struggle, and to struggle well with an almost overwhelming affection. He does not moan, or lie motionless as in typhus; he does not succumb; he is restless, active, vigilant; never lies on his back, as is customary in other fevers, but incessantly turns from side to side.

It is scarcely necessary, in the present day, to animadvert on the treatment. Blood-letting is the only hope and only safe-guard. Here no man will contend for debility, whatever prejudice may lead him to do in other fevers. High strength is combined with powerful vascular action, and little or no disturbance of the nervous system: both

are to be subdued by a blood-letting, amounting to forty ounces. If this suffice, all is well; if not, in six hours thirty additional ounces of blood should be abstracted. Purgatives will assist, and complete what the lancet has commenced and effected. If there be severe pain in the head, a blister may be applied, but it is seldom wanted. The cold affusion is an invaluable agent. Corroborant medicines, once much used in the decline and convalescence of all fevers, have now justly fallen into disuse; and, as Dr. Parry*, of Bath, observes, with respect to disease in general, there is considerable risk that their administration, and the employment of generous living, will re-induce morbid action, where the whole system is irritable, and certain parts retain an inflammatory tendency. It is only necessary to subdue diseased actions: all-powerful nature is competent to effect the rest.

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V. *Synochus.* Languor and lassitude; pain in the head; heat of skin; acceleration of pulse; white tongue; great thirst.

This is the common continued fever of these kingdoms; indeed, the only fever, marsh excepted. In a peculiarly vigorous system it is the

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* Elements of Pathology and Therapeutics. London. 8vo. 1815.

cauma of Young and Good, the synocha of Cullen. In the majority of constitutions it shews itself in the form of synochus; and when, from mismanagement, or various other causes, this fever increases in violence, at the commencement assumes a different aspect, or exhibits malignant symptoms, it is typhus, admitting distinctions according to the leading symptoms. These truths acknowledged, the utility of venesection is apparent, and reconciles many discrepancies. Cullen, himself, says, "I am disposed to believe that the synochus arises from the same causes as the typhus, and is, therefore, only a variety of it*;" and Currie, of Liverpool, in his Medical Reports, has expressed opinions very similar to my own.

The treatment of synochus consists in an emetic, if there be nausea or uneasiness in the stomach; a large bleeding at the onset of the febrile attack, and that repeated according to circumstances; together with liberal purging, and blisters for local pain. If, in the advanced stages, there are diminished arterial action, and obvious disturbance of the nervous system, opium, subcarbonate of ammonia, and wine, may be fearlessly and successfully administered. In every stage of this fever, where the heat of the surface is steadily above the natural

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* First Lines, Part 1, l. i. Sec. 69.

standard, and the skin is without the least moisture, the cold affusion is a safe, pleasant, and efficacious remedy; but where fear or prejudice prevails, the sponging of the skin repeatedly with cold water and vinegar is eminently successful:—but wherever the heat is below the natural standard, and moisture appears on the skin, however slight, both one and the other should be positively prohibited. The fate of Alexander the Great, when, bathed in sweat and covered with dust, he plunged into the river Cydnus, ought to operate as a caution—the original passage is here given, for the satisfaction of the classical reader:—"Mediam Cydnus amnis, de quo paulo ante dictum est, interfluit; et tunc æstas erat, cujus calor non aliam magis quam Ciliciæ oram vapore solis accendit: et diei fervidissimum tempus cœperat; *pulvere ac sudore* simul perfusum regem invitavit liquor fluminis, ut *calidum adhuc corpus* ablueret. Itaque veste deposita in conspectu agminis; decorum quoque futurum ratus, si ostendisset suis levi ac parabili cultu corporis se esse contentum; descendit in flumen; *vixque ingressi subito horrore artus rigere cœperunt: pallor deinde suffusus est, et totum propemodum corpus vitalis calor reliquit. Expiranti similem ministri manu excipiunt, nec satis compotem mentis in tabernaculum deferunt**."

* Quintus Curtius, Liber iii. Cap. v. in Vita Alexandri. 1716.

VI. *Typhus.* Languor and coldness, of uncertain duration; rigors; severe pain in the head; usually an increase of heat; striking disturbance of the nervous system; pulse variable; sometimes stupor or delirium.

The subject of typhus, or contagious fever, as far as its history is involved, is attended with great obscurity; for it is only lately it has been observed and noted with accuracy. The following is an interesting, and even valuable, description of contagious fever; but whether of typhus or marsh cannot now be ascertained.—"Grave tempus et forte annus pestilens erat urbi agrisque, *nec hominibus magis, quam pecori;* et auxere vim morbi, terrore populationis pecoribus agrestibusque in urbem acceptis. Ea colluvio mixtorum omnis generis animantium et odore insolito urbanos, et agrestem, confertum in arcta tecta, æstu ac vigiliis angebat, *ministeriaque in vicem ac contagio ipsa vulgabant morbos**."

In the "Acta Medicorum Beroliniensium, page 10, Editio Secunda, Berlin, 1719," there is an article, the first in the volume, the title of which is,—"*Anni præter-lapsi,* 1716, *Status Epidemicus, &c.*"—containing an history of a contagious petechial fever that prevailed "in Pomerania citeriore,"

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* Livii Historiæ, Lib. iii. Cap. vi.

which would seem to have been typhus gravior, and is certainly well deserving of perusal. Bancroft*, no mean authority in literary research, affirms it to be the earliest account of typhus he has been able to discover.

Huxham and Pringle first presented the world with correct notions of contagious fever; likewise Dr. Ebenezer Gilchrist, of Dumfries: and from that period up to the present day, the nature of it, in all its various modifications, has been diligently observed, and the treatment wonderfully improved during the last fifteen years;—and this improvement altogether consists in the substitution of venesection and cathartics for bark and wine. Bancroft and other eminent men have contended, that typhus prevails principally in the winter, and is nearly extinguished by summer; yet, upon examining the tables of the late Irish, and other similar epidemics, undoubtedly contagious typhus, it appears that the greatest number of cases, and these the worst, occurred during June and July. These gentlemen have been misled by adventitious circumstances; for this fever spreads extensively at all times of the year, under causes favourable to its propagation, as was lamentably exemplified in Ireland.

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* Essay on the Typhous Fever, &c. p. 515.

The contagion of typhus, as has been clearly demonstrated by numerous well-directed experiments*, will, from a person actually under the worst form of it, not produce fever at the distance of three yards; and the typhous poison can remain in the body, in a latent state, from the tenth to the seventy-second day,—if we are to credit the testimonies of Haygarth*, Clark†, and Bancroft‡. The subject of contagion is all a mystery, and, like other mysteries, will probably long remain without an Œdipus. Diseases occur so commonly, and all are so exposed to their exciting causes, that it is almost impossible to affirm what are, or are not, contagious.

There was once a time when we read more than we now do of spasm and debility in fevers; yet still a certain class, with Good at their head, lay stress on these morbid occurrences. In truth, there is neither spasm nor debility in fevers.—It is granted, that debility may and does follow fever; but this is, when the febrile action has nearly subsided: so that debility is not, and cannot be, an integral part of fever,—although it undoubtedly is one of its principal consequences. With

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* Haygarth's Letter to Percival. Bath. 1801.

† Clark's Collection of Fever Papers. Newcastle. 1802.

‡ Bancroft on the Typhous Fever, &c. p. 515.

respect to spasm of the extreme vessels,—far-famed spasm, which some men cling to as a mother does to a sickly child, or a wanton to her seducer,—it never exists, and cannot do so. It is admitted, that the capillaries of the surface are constricted in fever; yet this is not spasm, but an irritative state bordering on inflammation. The efficacy of the cold affusion demonstrates this: acting on the principle of a cold wash, it removes this constriction of the small vessels, and moisture exudes from them, constituting sweating. Spasm is an irregular action of muscles, or of muscular fibres.—What spasm, then, can exist in the exhalents of the surface when their structure is recollected?—and, finally, what debility can there possibly be in an individual who two hours before was in high health? The fact speaks for itself. Debility is of slow growth: it is not the production of a day, but of many days; whilst fever is, at its onset, a disease of strength, and not of weakness, as is evinced in all fevers, but especially in the inflammatory accompanied with delirium. If debility were the essence of fever, or even an immediate accompaniment of it, the large blood-lettings, now so properly practised, would, in every instance, sink the powers of life beyond redemption; yet the reverse occurs, and the sufferer feels lighter, stronger, and often, after an enormous bleeding, he, for the first time, arises from his bed, and walks across the floor, like a

man who is relieved from a morbid burthen. In some diseases, but certainly not febrile, debility soon supervenes,—as, for the sake of example, in cholera morbus, where, from excessive vomiting and violent purging, the patient can scarcely walk in twenty hours. But the cases are by no means parallel; for no agent reduces vitality so rapidly and so fatally as nausea and vomiting,—as was shewn in the late epidemic cholera of India, where life was destroyed as if by an electric shock. Fever never extinguishes life, but wears it out by violence and disorganization.

My friend Dr. Armstrong, distinguished by his successful writings, has divided typhus into simple, inflammatory, and congestive*; but these can only be viewed as different stages of the same fever, arising accidentally, frequently blended, and therefore unworthy to be considered as constituting three grand divisions. Yet it must be admitted, that Dr. Armstrong's varieties,—they are nothing more,—are of considerable practical utility, and are founded upon the different phenomena of the disease, which are of common occurrence. Unquestionably we often meet with a simple typhus, where, from beginning to ending, no inflammatory or untoward symptom occurs: in like manner, typhus sometimes shews itself

* Armstrong's Practical Illustrations, &c. London. p. 9. 1816.

with a remarkable disposition to inflammatory affections of particular organs; and, lastly, it cannot be denied, but another kind of typhus does, although more rarely, appear, where it is neither simple nor inflammatory, but a fever in which there is a great and dangerous oppression, without any efforts in the system towards re-action. Such a fever is named congestive, which is a popular, and not a philosophical, term—and, like most popular terms, it is incorrect. Congestion, if it mean any thing, must mean obstruction—what obstruction? It is presumed, the patrons of the word mean—of the vascular system; for what else can they mean? Now congestion, in the sense it is used by the authors of it, having a general application to the whole of the vascular system, is, during life, physically impossible; for congestion of the vascular system is death, and what actually takes place in death. How can a system so important be congested, be obstructed—for that is the true import of the word? The fact is, in congestive fever,—the word is used for the sake of distinction,—there is not, and cannot be, any congestion, or obstruction of the whole of the vascular system; but the vascular and nervous systems are greatly oppressed by the violence of the morbid power, and this oppression imperiously demands venesection, which relieves the body from an injurious load, and induces re-action. Dr. Good, so laudably sensible of the faults of other nosolo-

gists, has made fever a disease of the vascular system, and Dr. Armstrong has done nearly the same; yet the nervous system, as will be adverted to hereafter, is equally, nay, perhaps, more engaged; so that, in accordance with Good's own doctrines, fever might have ranked under his *Neurotica* with great propriety. If ever any disease deserved the name of universal, that disease is fever, which acts on the whole body at once with resistless violence. No candid man, who attentively observes the phenomena of fever, can think the vascular system is principally affected; since he ought to know that the affection is universal, and particularly involves the nervous system. Dr. Clutterbuck, with an ingenuity and talent which do him honour, has asserted and attempted to prove fever to be, at all times, an inflammation of the brain.—This will not do: it is to mistake an occasional effect for a constant cause. But for this unhappy prepossession, he would have ranked high among the authors on fever; since it is not easy to discover his superior. No doubt the brain is affected in fever; but this is attributable, not to inflammation, but to the disorder of the nervous system. Inflammation sometimes attacks the brain, and sometimes any other viscus, as may be expected during a hurried circulation, where the weakest organ, from an influx of blood, becomes *bona fide* congested, which congestion is the essence of inflammation. Dr. Reid, of Dublin,

refers fever to the spine,—another unhappy prepossession, retarding instead of advancing truth. Such views are truly unphilosophical: they narrow an important subject, which disdains such petty limits. If fever have "a local habitation and a name," it is in the whole body, and not in a particular organ or organs. These cerebral, spinal, and congestive attachments, strongly resemble the love-infatuations of early life, which commence in misconception, are perpetuated in folly, and clung to with an obstinacy proportionate to the worthlessness of the object.

The treatment of typhus is now conducted on sound principles. Prompt and copious venesection, free and repeated purgatives, and the cold affusion, with blisters, have superseded the dangerous, because indiscriminate, employment of bark, wine, and cordials. But if the older physicians erred by excluding evacuants, it is to be feared that some of us, among the moderns, have scarcely less erred in trusting altogether to bloodletting and cathartics. There are times, and those obvious ones, when both modes of practice are necessary; and he will practise best, who employs each as particular occasions may demand. The nervous system, in fevers, is as much engaged as the vascular; yet authors and practitioners occasionally lose sight of the former, and direct all their efforts to the latter. Dr. James Johnson

has avoided this important error. When arterial action runs high, or the system is greatly oppressed, stimulants are deadly; but when subdued or overcome, unceasing vigilance and considerable weakness sometimes supervene. It is here, and only here, opium, to appease the disturbance of the nervous system, acts like a charm; and wine, cautiously and judiciously given, effects wonders. Extensive experience in hospital practice has impressed these truths on my mind.

To state the appearances on the dissection of those who die of typhus is scarcely needed from their notoriety. The principal parts of the body are more or less affected with inflammation and the consequences of it, from simple redness to thorough disorganization; but far exceeding all, the membranes of the brain, the brain itself, the spinal chord and its coverings.

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VII. *Pestis.* Buboes, carbuncles, or both, appearing at an uncertain period; great internal heat; fever a malignant typhus; contagious.

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VIII. *Febris Puerperalis.* Frequency of pulse; intense headach, particularly over the eyebrows;

excessive pain in the belly, which is tender to the touch, and increases in size almost equal to full pregnancy; skin hot; face flushed; dejection of mind. Attack usually on the second or third, but occasionally the seventh day, after parturition.

This fever, so dangerous and fatal to lying-in women, has engaged considerable attention, and undergone various methods of treatment. Denman, Leak, Gordon, Butter, Kirkland, Hull, Armstrong, and Hey, are the advocates of liberal bleedings and suitable purgatives; whilst Walsh, Hulm, Doulcet, White, Clark, Clarke, Hamilton, Guinot, Allan, and Vigarous, recommend an opposite practice. That Dr. Hull, of Manchester, should advise venesection is not to be wondered at, since he considers this disease as simple peritoneal inflammation variously modified; and Dr. Armstrong has promulgated opinions not very dissimilar.

When puerperal fever displays the symptoms enumerated, the respiration becomes oppressed, inasmuch as the free action of the abdominal muscles, necessary for that function, is productive of pain. In general, the countenance, although at first sometimes flushed, is pale and ghastly; the eyes are without animation, and the features indicate exhaustion. Vomiting is an early and common symptom: in the commencement it is of the

bilious kind; but ultimately, and in bad cases, the ejected matter is dark, and frequently fetid. The patient lies on her back; is often totally indifferent, even to her infant; and utters no complaint. The skin is clammy and relaxed; the tongue brown, with apthæ in the throat, or a cough. The pulse changes from frequency to feebleness; the thirst is seldom great; and the bowels, at first constipated, about the third day usually become loose, and discharge what is dark, fetid, and often frothy. The urine, dark coloured, with a brown sediment, is passed frequently, and not without pain. The lochia are diminished, have a bad smell, are changed, or gradually cease; and their re-appearance is not critical. The secretion of milk stops. The pulse becomes more rapid, weak, or tremulous, as the fever advances. In bad cases, the swelling of the belly increases quickly, but the pain sometimes declines; and when the tumefaction is greatest, it ultimately and generally departs. The breathing becomes laborious as the belly enlarges; the strength sinks; the throat and mouth become foul; low delirium sometimes occurs; and death closes the scene commonly on the fifth day, rarely on the second or third, and occasionally not till the fourteenth day*. Dissection discovers a considerable quantity of serous and curdy fluid in

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* Burns's Principles of Midwifery. London. 8vo. 1811. p. 409.

the abdominal cavity. The omentum and peritonæum are inflamed, but gangrene of them is rarely seen.

The probable cause of puerperal fever has been well explained by Cruikshank:—"After labour the cavity of the abdomen is in part debilitated, from the great change it has undergone in passing from a state of great tension to a state of great flaccidity; and if the woman catches cold, or receives infection, the mischief falls on the abdomen, as the weaker part,—just as a person, liable to rheumatism, or gout, or catarrh, or diarrhœa, on catching cold, is seized with these different complaints*." The symptoms, as well as the appearances after death, clearly shew that inflammation, especially of the peritonæum, is the essence of this fever, and, accordingly, those practitioners† have succeeded best, who have bled instantly and largely, and opened the intestines most completely with large doses of calomel, combined with jalap and other appropriate medicines.—Still, however, the inflammation runs on rapidly and destructively, and if good is to ensue, it must be from

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* Anatomy of the Absorbent Vessels. London. p. 119.

† Armstrong's Facts and Observations. 2nd Edition. 1819.

Hey on the Puerperal Fever. 8vo. 1816.

the most active and bold practice during the first twenty hours.

"When upon this subject, it may not be improper to mention," observes Mr. Burns*, "that a young practitioner may mistake spasmodic affections, or colic pains, for puerperal inflammation; for, in such cases, there is often retching or sensibility of the muscles, which renders pressure painful. But there is less heat of the skin; the tongue is moist; the pulse, though it may be frequent, is soft; the feet are often cold; the pain has great remissions, if it do not go off completely; there is little fulness of the belly, and the patient is flatulent. It requires laxatives, antispasmodics, anodyne clysters, and friction, with camphorated spirits. Blood drawn in this disease, after it has continued for some hours, even when the woman is not in child-bed, is sizy; and it is always so in the puerperal, as well as the pregnant state, although the woman be well."

Nothing can be more judicious than these observations. Perhaps there is no greater source of fallacy in the profession, whether with respect to medical attendants themselves or their brethren, than to mistake the nature of a disease, and thence

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* Burns's Principles, &c. lib. cit. Appendix. p. 619.

to affirm an happy issue. Unless we are assured of a practitioner's accuracy of discrimination, medical literature, so far from being illustrative and instructive, sinks into contemptible fable. If a man, either from a warm imagination, flippancy of decision, love of the marvellous, sheer ignorance, or ambition to perform wonders, confounds infantile remittent fever with hydrocephalus, pain from flatus with pneumonia or hepatitis; takes colic for enteritis, pain in the head for impending apoplexy, and pretends to have cured these; on what a foundation do some medical writings and some medical facts stand upon?—In this manner, it is to be feared, the public is too often deceived, error propagated, delusion spread, and reputations gained where individuals ought to have been hated and despised.

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IX. *Scarlatina.* A scarlet flush appearing about the second day on the face, neck, or fauces; progressively spreading over the body, and terminating about the seventh or eighth day. Contagious.

*Scarlatina Simplex.* Fever trifling, and ending with the rash; little constitutional disorder.

*Scarlatina Anginosa.* Fever considerable; throat ulcerated; rash longer in appearing and

less extensive; occasionally changing to a livid hue.

*Scarlatina Maligna.* Fever severe; efflorescence usually faint, irregular patches, the whole of a dark or livid red colour; disappears and returns. Pulse small and feeble; throat ulcerated, sloughy, and spreading; sometimes early delirium and coma, alternating with fretfulness and violence.

Scarlet fever, like the small pox, measles, and chicken pox, is propagated by a specific contagion, which affects individuals only once; but it commences earlier,—namely, on the third, fourth, or fifth day*. Adults are not very susceptible of this contagion; and in them the disease is longer in appearing, seldom severe, and scarcely ever fatal.

Scarlatina simplex requires the mildest treatment, and, in the opinion of a learned and justly celebrated man†, has little to fear, except "*nimia medici diligentia.*" Gentle laxatives, appropriate

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* Withering on Scarlet Fever, &c. p. 61.

Heberden, Comment. de Morb. c. vii. p. 20.

Blackburne on Scarlet Fever. p. 34.

† Sydenham. sec. vi. c. ii. p. 225. London, 1705.

sudorifics, and the cold affusion*, will be abundantly sufficient. Scarlet fever terminates in desquamation of the cuticle.

In scarlatina anginosa a different and more active treatment is necessary. The bowels should be freely opened, and repeated purgatives administered, during the disease. The cold affusion is here a most valuable remedy, used agreeably to the principles laid down under fever; or if objected to, or inadmissible, the sponging of the skin with cold water and vinegar is to be adopted. Where febrile action runs high, bleeding is to be instantly resorted to, and even a second is indicated where symptoms shew its propriety. Acidulated gargles are frequently productive of material relief. When there is a considerable degree of inflammation and tumefaction of the tonsils, rendering the act of deglutition painful, the application of a blister to the external fauces has been advised by Heberden, Rush, Sims, Clark, and Willan; but without due consideration.

There is one affection peculiar to the decline of scarlatina, which occurs especially when the eruption has been extensive,—namely, anasarca of the face and extremities. This dropsical effusion is

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* Currie's Reports. Vol. ii, p. 428.

commonly confined to these parts, and, therefore, may be unattended with danger: it usually appears in the second week after the declension of the rash, and continues for a fortnight or longer; but in a small number of cases, when the anasarca had become general, a sudden effusion has taken place into the cavities of the chest, or into the ventricles of the brain, and occasioned death in a few hours*. Yet Dr. Willan† never saw any considerable effusion into the internal cavities. Cullen‡ considered this kind of dropsy as harmless; while Hamilton‖ attaches great importance to it, and, as I think, most justly.

Scarlatina maligna is a still more dangerous disease, as the symptoms will evince. Such are their malignity, that not unfrequently the ulcers in the throat are covered with dark sloughs, and surrounded by a livid base; and a large quantity of viscid phlegm clogs up the fauces, which impedes respiration, occasions a rattling noise, and aggravates the pain and difficulty of swallowing: they are, also, often accompanied by severe diarrhœa, petecchiæ and vibices on the skin, with he-

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* Bateman on Cutaneous Diseases. 2nd Edition, p. 74. 1813.

† Observations on Scarlatina. London. 8vo.

‡ Cullen's First Lines. Sec. 664.

‖ Hamilton on Purgative Medicines. 4th Edition, p. 60. 1811.

morrhages from the mouth, throat, bowels, and other parts. These too often fatal symptoms generally commence in the second or third week; but in a few instances, the patients have suddenly sunk as early as the second, third, or fourth day—probably from the occurrence of gangrene in the fauces, œsophagus, or other portions of the alimentary canal. Even those who escape suffer much and long from ulcerations spreading to the contiguous parts, suppuration of the glands, cough, dyspnœa, and excoriations about the nates, with hectic fever*.

The treatment of scarlatina maligna must vary, yet not materially so, from that which has been already proposed. Even here I should be reluctant to interdict venesection; but it is only in the first stage it can be used with safety, and never, unless there be high vascular action, or the system appears to be greatly oppressed. An emetic is highly serviceable at the commencement, provided the state of the throat and fauces will admit its operation without excessive pain. Whatever caution is necessary with respect to the lancet, none is needed for cathartics†, which may be exhibited freely and often with apparent advantage, since

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* Bateman, lib. cit. p. 85.

† Hamilton's Observations on Purgative Medicines, lib. cit. p. 68.

they cleanse the bowels of various alimentary matters, and impart lightness and comfort. Warm restringent gargles are useful,—such as oxymel of squills, muriatic acid, capsicum, infusion or tincture, acidulated decoctions of bark with tincture of myrrh or camphorated spirits. In the last stages, where malignant symptoms are predominant, opium, musk, subcarbonate of ammonia, and wine, are to be administered in suitable doses, and under appropriate regulations.

The scarlet fever quickly infects children,—and hence the necessity of separation on its appearance. So long as the desquamation of the cuticle continues, the contagion may be propagated, although the laws which it observes are not well known.

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X. *Rubeola.* Crimson rash; stigmated dots, grouped into circular or crescentic forms; appearing on the third or fourth, and disappearing about the seventh day; preceded by harsh and dry cough, inflamed and watery eyes. Contagious, and affecting only once during life.

The febrile symptoms usually come on distinctly about twelve or fourteen days after exposure to contagion. The eruption, which feels rough to the hand as if little bodies were under the skin, is first visible on the forehead, then on the throat,

next on the face; on the following day, on the breast, and by night it covers the trunk and extremities. This eruption consists of small red spots, and very soon, large patches appear among them, which are circular or crescentic. The eruption, however, frequently varies: for instance, sometimes it is papulous, dark coloured, or purple; pale, indistinct, vivid or not vivid; yet the roughness under the cuticle is never wanting,—and this is the grand distinctive mark. Occasionally, the eruption prematurely recedes, or never shews itself; and both are unfavourable where the fever is high and the oppression considerable. Commonly, the eruption on the face fades a little on the sixth day; and on the succeeding one, that on the body becomes paler: from this time to the ninth day it gradually disappears, leaving a slight discolouration; and the departure of the efflorescence is attended with desquamation. The fever continues during the eruption; and a spontaneous diarrhœa often terminates the febrile symptoms. Where this disease proves fatal, it is most frequently in consequence of pneumonic inflammation, or of fever and oppression, with symptoms of effusion into the brain, connected with the recession, or imperfect appearance of the eruption*. Willan writes concerning black measles; yet I never saw a case.

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* Burns's Principles of Midwifery, lib. cit. p. 515.

The treatment is simple.—The bowels are to be daily opened by gentle laxatives, recollecting that, in a few days, diarrhœa will come on, which is occasionally intractable. Mild diaphoretics, the tepid bath, and opium to appease the cough, are advisable. If the face be flushed, the skin hot, the pulse quick, and the breathing hurried, blood ought to be abstracted immediately. Children bear venesection well; and wherever there is pain in the chest, even in the youngest child, or other urgent symptoms, a blister may be applied in conjunction with leeches: yet both are inferior to general blood-letting, which may be safely and expeditiously performed on the veins of the hand.

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XI. *Variola.* Pustules appearing from the third to the fifth day; suppurating from the eighth to the tenth. Contagious.

THE VARIETIES ARE

*a. Discreta.* Pustules pea-sized; distinct, distended, circular; the intervening spaces red; fever ceasing on the completion of the eruption.

*b. Confluens.* Pustules irregular, circumscribed, flaccid, and confluent; intervening spaces pale.

*c. Inserta.* Produced by art; orange-coloured areola above the puncture; pain in the axilla about the seventh day. The febrile affection usually mild, and the pustules few*.

To the above may be added vaccination, a valuable and generally certain preventive of variolous infection.

The treatment recommended for synocha and typhus applies with equal propriety to the distinct, and confluent small-pox, subject to the necessary changes as peculiar symptoms may arise.

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XII. *Varicella.* Numerous vesicles on the body; transparent, and in successive crops; pellicles thin; about the third day bursting at their apices, and concreting into small puckered scabs, without leaving a cicatrix.

The symptoms narrated will sufficiently distinguish varicella from variola; and he must be singularly ingenious that mistakes the treatment.

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* "The matter of the inoculated small-pox seems to lie in the pustula till the seventh day; after which, the glands in the axilla swell, (the mark of absorption,) and by the time the matter may be supposed to reach the heart, the eruptive fever commences."—Cruikshank, Anat. of the Absorb. Vessels, p. 120, 125.

XIII. *Urticaria.* Rash in florid, itching, nettle-sting wheals; appearing about the second day; irregularly fading and reviving, or wandering from part to part.

When the eruption declines, the languor, stomachic symptoms, and fever cease; and the disease terminates by cuticular exfoliation. In infancy and childhood, urticaria is often dependent on dentition or affections of the bowels; whilst in adults, it arises from various causes, and is often consequent to eating fish, almonds, or other substances, which disagree with the stomach.

In children, an emetic is serviceable, followed by gentle purgatives, and the tepid bath. In those more advanced in years, urticaria is scarcely ever of long continuance, and either retires spontaneously within forty hours, or yields to a brisk cathartic of calomel and jalap, succeeded by a dose of the sulphate of magnesia. Indeed, nettle rash is mostly symptomatic of derangement of the digestive organs; and a radical cure occasionally depends upon the correction of such derangement.

Pemphigus, apthæ, and similar morbid appearances, being only symptomatic of certain affections, principally of the alimentary canal, are intentionally disregarded, since they are not entitled to a place in a work devoted to important diseases.

# ORDER II.

## INFLAMMATORY DISEASES.

THIS order comprises every disease which has inflammation for its essence.

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The whole of the species and varieties are arranged under a single genus.

## GENERIC DEFINITION.

Fixed pain, and pungent heat of a part or organ; commonly terminating in resolution, adhesion, suppuration, or effusion, and occasionally in gangrene. Symptomatic fever.

### THE SPECIES AND VARIETIES ARE

I. *Inflammatio.* Pain, heat, redness, and swelling of an external part.

"*Notæ vero inflammationis sunt quatuor, rubor, et tumor, cum calore et dolore**." Phlegmonous inflammation is divided into common and specific, acute and chronic. Parts contiguous to the source of the circulation enjoy a vigorous power, undergo inflammation more favourably, and resist disease better than similar structures at a greater distance from the heart. Inflammation of very vascular parts is more prosperous and manageable than in those of a different texture; hence, inflammation of the skin, cellular substance, and muscles, more frequently terminates favourably, than when the bones, tendons, and ligaments, are affected. Healthy inflammation is always most violent towards the external surfaces,—a wise provision of nature to preserve life. As three very remarkable effects followed phlegmonous inflammation, Mr. John Hunter divided it into *adhesive*, *suppurative*, and *ulcerative*.—In the cellular membrane, and circumscribed cavities, the adhesive stage usually takes place; the suppurative generally occurs in internal canals or inner surfaces, which have an outlet, and are covered with a mucous membrane; and the ulcerative is commonly met with on the mucous surfaces.

Phlegmonous inflammation may terminate in resolution, adhesion, suppuration, and gangrene,

* Celsus de Medicina, lib. iii, cap. x.

or effusion of fluid into cavities. The term resolution implies the subsidence of the inflammation; and adhesion, the union of parts by coagulable lymph.—If the affected part be to suppurate, the several symptoms of heat, pain, and redness, increase; the febrile disturbance is augmented; the tumour acquires a larger size, is soft, shining, and prominent.—Where inflammation is destined to end in gangrene, the part, once of a bright red, becomes of a livid hue; small vesicles, filled with a thin fetid serum, arise on the surface, and air is distinctly felt within the cellular membrane. The pain is lessened, the pulse sinks, and the tumour is converted into a black fibrous mass.

Bleeding is the principal remedy in the treatment of inflammation; and whether it is to be local or general will depend upon the part inflamed and the judgment of the practitioner. Cathartics to act freely on the whole of the intestinal canal, and diaphoretics to induce a moisture on the skin, are invaluable auxiliaries. Cold applications to the inflamed part, composed of lead or ammonia, with vinegar and water, are excellent remedial agents; and where they fail, warm fomentations are no insignificant substitutes. Where suppuration threatens, warm poultices are to be had recourse to; and when fluctuation is apparent, a lancet is to be introduced. The bowels are to be attended to, and generous living observed. In mortification,

the violence of the sanguiferous system is to be moderated by the antiphlogistic regimen; but when the inflammatory state appears to abate, and the patient begins to be debilitated, cordials and tonics are to be administered. Bark was once thought a specific in mortification: it has now nearly fallen into disuse. Substantial diet, and wine or porter, are productive of more real benefit than the whole class of cordial and stimulating medicines. When the patient is weak, and the disorder spreading, the subcarbonate of ammonia, aromatic confection, and opium, are powerful agents; and with respect to wines, those of Spain and Madeira are to be preferred. In regard to the local treatment of gangrene, the grand object is, to prevent this affection from extending to the living circumference by subduing the existing inflammation; and this is to be accomplished by the application of the saturnine lotion to the inflamed parts surrounding those which are mortified. Local remedies to the gangrenous part are often of the greatest service; and none are superior to common poultices, or those of charcoal, strong beer, infusion of malt and yeast, turnip or carrot. After gangrene stops, and the process of ulceration begins in the inflamed line of contact between the dead and living part, it has been usual to amputate, in cases where amputation was indispensable; yet Larrey, Lawrence, and other eminent surgeons, have operated whilst mortification was

advancing, and without having had cause for regret.

The blood plays so important a part in inflammation, that its nature ought not to be overlooked. The blood is the principal fluid in the human body—it contains the elements of all the secretions; and by its instrumentality all injuries are repaired, and every part of the frame nourished. The blood is of a well-known colour and peculiar odour; saline and nauseous to the taste, and glutinous to the touch. The temperature is about 96° of Fahrenheit; while its specific gravity amounts to 1050. The blood, when extracted from the living vessels, spontaneously separates at 78° into two parts, serum and crassamentum. The crassamentum is a compound substance, consisting of coagulable lymph and red globules. Blood removed from persons affected with inflammation is longer in coagulating, and coagulates more firmly; hence, the red globules, not entangled in the lymph, descend, by their own specific gravity, more deeply from the surface, which, being either more or less divested of the colouring matter, is, from its appearance, termed the inflammatory crust, or buffy coat. The firmer and more compact coagulation of the lymph forces out an unusual quantity of serum; and the surface of the sizy blood is frequently formed into a concavity.—Still this is not an infallible sign of inflammation, but only an in-

dication of some uncommon operation* going on in the system; for the blood is the same in pregnant females, and even without any inflammation, where a feeble state and a small pulse would seem to promise the contrary. The buffy coat and concave surface of the blood are, therefore, to be viewed as general, and not universal, proofs of the existence of inflammation.

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II. *Ophthalmia.* Pain and redness of the eye or its appendages; intolerance of light.

Rays of light falling upon the cornea, at an angle more acute than forty-eight degrees, pass through it, and are, by its density and figure, refracted towards the axis of the eye. Entering the aqueous humour, they suffer a lesser degree of refraction. Those rays which penetrate the pupil, and are received by the lens, are still more refracted, from the superior density of the medium. The lesser density of the vitreous humour prevents the focus of rays from diminution, but permits it to fall elongated on the retina, and to present the image of objects inversely.

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* Hunter on the Blood, Inflammation, &c. London. 4to. 1794.

Samuel Cooper's Surgical Dictionary. London. 4th Edition,—a work above all praise.

A sufficient, yet definite, quantity of light, not too intense, is provided in two modes ;—first, according to the greater or lesser intensity of the rays, a greater or lesser number of them passes to the lens ; secondly, that portion superabundant and injurious to vision is absorbed.—The motion of the iris effects the first ; the black pigment, the second. The function of this pigment, viz. to absorb superfluous rays of light, and its importance to the perfection of vision, is demonstrated by the diseased condition of certain animals, and of Albinos, whose eyes, wanting the pigmentum nigrum, are tender and impatient of light. The habit of directing the axes of the eyes rapidly towards objects is acquired by practice ; and children seldom gain it before the third month. Every one must have noticed how the eyes of the blind roll, as well as the eyes of those who have been lately restored to sight. The celebrated painter, Lionardo da Vinci, remarks, that it is best to employ one eye for viewing distant objects. Sight can never occur, unless the angle of vision exceeds thirty-four seconds*.

During vision for distant objects, an action takes place in the eyes, which is felt and induces pain when they are inflamed. Dr. Wm. Hunter

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* Consult the invaluable Physiology of the learned Blumenbach. 3rd Latin Edition. 8vo. Gottingen. 1810.

—I write on the authority of the venerable Mr. Cline—ascertained this very satisfactorily. Whilst the subject of severe ophthalmia, and confined to a dark room, he hit upon this expedient to determine what he had long suspected:—he imagined himself to look through the window at the passengers in the street, which he performed without the least uneasiness; next, he resolved to view the distant Surry hills—he did so, and the pain was so intense as to make him instantaneously cover his eyes with his hand.

Inflammation affects such various parts of the eye and its appendages, and produces such multiform morbid and complicated appearances, to say nothing of the numerous diseases to which the organ is obnoxious, that the whole of this volume would be inadequate to do them justice. I can only state, in a general way, that ophthalmia requires large bleedings, the frequent administration of cathartics, and the observance of a low regimen. Leeches are exceedingly valuable agents; and one or two may be applied to the tunica conjunctiva itself. With respect to collyria, a diversity of opinion prevails. Where the eye is highly irritable and painful, I should prefer warm water, applied with a sponge; and reserve the cold saturnine or similar washes, such as the sulphate of zinc and the muriate of mercury, until the irritation and pain had partly subsided. I have great

pleasure in recommending these works* on the various diseases of the eye; and he that neglects to read them does injustice to himself:—that man must be well-informed indeed, who can read their pages without deriving instruction.

Yet there is a common, little suspected, and distressing cause of ophthalmia, which deserves particular notice.—This consists in four or five of the eyelashes, of the upper palpebra and near the external canthus, being curved, and their points turned inwards upon the conjunctive tunic; so that, by constant friction, they keep up a perpetual irritation in the eye, and produce considerable inflammation. I have only seen this happen in one eye; yet the other suffers from sympathy. The cure is simple and instantaneous—merely to remove the offending hairs by a pair of dissecting forceps. The hairs usually re-appear in a few weeks, and demand immediate removal, lest they should inflame the eye. In this way I completely cured a lady, who had laboured under almost constant ophthalmia for above forty years.—In her

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* Cooper's Surgical Dictionary, lib. cit.

Travers's Synopsis, &c. New Edition. 1824.

Saunders's different Publications, and those of Vetch and Ware.

The German Works, most valuable, of Beer and Weller. 1817, 1821.

the left eye was affected; yet the right sympathized with it. For the first seven years the hairs grew again, and required the aid of the forceps; but during the last ten months they have ceased to appear, and she remains perfectly well.—This species of ophthalmia, depending upon a mechanical cause, obviously admits no other mean of cure. Celsus* alludes to this inversion of the eyelashes: his mode of cure is difficult and painful.

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III. *Otitis.* Severe pain in the ear; tenderness to the touch; confusion of sounds.

Sound, excited by the collision of elastic bodies and propagated by the air, is perceived by the sense of hearing, and received by the external ear. Collected by the ear, the sound is carried into the meatus auditorius, and strikes against the membrana tympani, which is placed obliquely in a circular furrow of the temporal bone, and separates the meatus from the internal ear. The cavity of the tympanum, whose fundus is directed upwards and inwards, usually termed the middle portion of the ear, lies behind this membrane. This cavity contains four small bones called *ossi-*

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* De Medicina, lib. vii, cap. viii.

*cula auditus*, which extend across from the membrana tympani to the labyrinth. The bones are the malleus, incus, stapes, orbiculare: the three former are named from their supposed resemblance to an hammer, an anvil, and a stirrup. The malleus adheres by its manubrium to the membrana tympani, and is generally united in the adult to the circular furrow by its spinous processes, while it lodges its round head in the body of the incus. The incus is united to the head of the stapes by its long process, which extends into the cavity of the tympanum. The stapes, resting its base upon the fenestra ovalis, runs towards the vestibule of the labyrinth, into which, sounds, struck against the membrana tympani, are propagated by the intervention of these bones. The os orbiculare is scarcely the size of a millet seed—it connects the incus and stapes, and has been considered, by some, as a process of the incus.—Blumenbach denies the existence of this bone, and has disproved it at length in his osteology*. The eustachian tube† runs from the interior of the fauces into the cavity of the tympanum. In the deepest part of the petrous bone is placed the internal ear, consisting of three parts, the vestibule, the cochlea, and the three semi-cir-

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* See p. 155, sq. 2nd Edition.

† Saunders's Anatomy of the Human Ear. London. 1806.

cular canals. The semi-circular canals, as well as the cavity of the cochlea, contain a limpid fluid, in small quantity. The portio mollis, of the seventh pair of nerves, with the portio dura, transmits its medullary filaments to the vestibule and semi-circular canals, but especially to the base of the cochlea. Sound is propagated from the fenestra ovalis to the vestibule, where, by means of the water, it strikes the auditory nerves distributed through the windings of the labyrinth. Besides the muscles of the malleus and stapes, supposed to be voluntary, the chorda tympani, which is placed between the handle of the malleus and the longer leg of the incus, is believed to moderate the force of sound that is struck against the membrana tympani and intended to be propagated along the cavity of the tympanum*. The meatus auditorius produces a bitter cerumen, which is well adapted for the destruction of insects†; and when collected in large quantities, it is a common cause of deafness.

Inflammation of the ear, although an apparently unimportant affection, is always to be narrowly

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*See Blumenbach's Physiology, sec. xvi; or the same work ably and faithfully translated by Dr. Elliotson, and supplied with copious and valuable Notes. 3rd Edition. London. 1820.

† Cicero, de Natura Deorum, lib. ii.

watched, since, from its proximity to the brain, fatal consequences may arise. Two cases of this nature terminated in death, under the care of my friend Dr. Brown, of Sunderland, whose acuteness and talents render him an ornament to the medical profession. The first was a young man, who was affected with purulent discharge from, and excrescences in, each ear. In London he used strong injections, composed of the sulphate of copper, which considerably lessened the discharge, and he returned under the impression of having been cured. Soon after, he was seized with phrenitis, to which he fell a victim. A middle-aged lady was the subject of the second case: in her, otitis advanced into phrenitis, and destroyed life in a few days.—In both cases the most active treatment was pursued: liberal venesection produced striking, but only temporary, relief.

In otitis the ear should be fomented, or warm water syringed into it; the bowels freely opened, and leeches, as well as a blister, applied. But whenever the face is flushed, the pulse quickened, and the pain severe and shooting into the head, liberal venesection is demanded, and ought to be repeated, if the urgency of the symptoms be not checked; for, in some instances, universal pain, delirium, and coma, supervene. Where suppuration threatens, warm poultices must be applied,

and likewise tepid injections used. Occasionally, suppuration proceeds to the complete destruction of the whole of the internal ear, and the bones are discharged through the meatus auditorius, with much purulent and fetid matter. Here little is to be done beyond attending to the general health, and the adoption of strong injections of oak bark and other astringents.

IV. *Parotitis.* Painful unsuppurative tumour of the parotid gland, occasionally extending to the maxillary; sometimes accompanied with, or followed by, enlargement of the testicle, or female breast.

This disease, vulgarly called the mumps, occasionally affects indigent children, as well as adults; is sometimes epidemic, and thought to be contagious. The swelling mostly continues to increase until the fourth day; afterwards it declines, and, in a few days, goes off entirely with the febrile symptoms. It seldom requires medical aid; and even the affection of the testis, or mamma, usually ceases within two weeks. Yet considerable fever and delirium have attended parotitis; and, in some rare instances, it has ended in death. Still more rarely, the swelling has suppurated in the cellular

membrane, and produced great deformity; or has suffocated the patient by bursting into the larynx.

The treatment will consist of purgatives and warm applications. Urgent cases must be combated by bleedings, general and local; blisters; and should suppuration occur, an early and large opening should be made, to facilitate the discharge of pus. In common cases, stimulating embrocations are exceedingly useful.

The present appears to be a favourable opportunity of entering into the physiology of the female breast, since it sometimes, although seldom seriously, suffers from parotitis. The breasts, most sacred fountains, observes Blumenbach, and, as Gellius Favorinus, the philosopher, elegantly calls them, the "*educatores*" of the human race, are intimately connected with the uterus. The functions of neither begin in infancy; at puberty they flourish together; and when the catamenia appear, the breasts enlarge and become plump. From this period they undergo simultaneous changes, obviously acting in concert. The breasts swell and secrete milk during pregnancy—the catamenia cease then, and during lactation. When age shews itself, and the bloom of life is over, with all its delightful pleasures and sensations, then, and mostly not till then, the function of each stops, the catamenia disappear, and the uterus

and breasts, most faithful partners, become effete, and the female approaches more in appearance to the male. Nearly the same sympathy exists between these organs and those of the thorax and abdomen. Blumenbach says there is a considerable anastomatic sympathy between the internal mammary and epigastric arteries, which is evinced by the change in the diameter of the latter during pregnancy and suckling. The breasts secrete milk, which is whitish, watery, somewhat fatty, and rather sweet and bland. Virgins, new-born infants of either sex, and men, as well as aged women, occasionally furnish milk. It is said to be very common in Russia* for male breasts to yield milk, and that the adult males of the mammalia† are equally gifted.

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V. *Orchitis.* Swelling of the testicle; acute and sickening pain, extending up the spermatic chord; sometimes nausea and vomiting.

A man has commonly two testicles; yet Dionis, Forestus, Borelli, Fernelius, and De Graaf, affirm they have seen three. Sometimes the testes re-

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* Comment. Acad. sc. Petropolit. vol. iii, p. 278.

† Hannoverisch Magazin, p. 753. 1787.

main in the abdomen, their original situation, or in the groin, during life; and of the first, a melancholy example will be given under impotence. These organs secrete the fluid termed semen, which procreates the species. The loss or want of one does not impair this power; and eunuchs and men, who have undergone castration for disease, are adequate, although feebly, to coition. The fact of eunuchs was well known to Juvenal, satirizing the Roman ladies,—

"Sunt quas eunuchi imbelles, ac mollia semper
Oscula delectent, et desperatio barbæ,
Et quod abortivo non est opus."

Satir. vi. v. 365.

Those whose testes remained in the groin or belly were called testicondi by the ancients, and were supposed not to be impotent. A ridgil is a bull, who only shews one testicle; yet he is thought perfect. Varro*, writing respecting a bull, observes,—"Exemptis testiculis, si statim admiseris, concipere (vaccas)." †

The semen is of a milky yellowish colour, of peculiar odour, rather viscid, and exceeds every

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* De Re Rustica. ii. 5.

† See Elliotson's Notes appended to the Physiology of Blumenbach, lib. cit. p. 328.

other fluid in its specific gravity. This important fluid, secreted by the small vessels of the testes, is conveyed by the vasa deferentia into the vesiculæ seminales, where it remains for subsequent excretion. This has been denied by Hunter*; yet, notwithstanding the dissections he has brought forward, I cannot fear to express my own opinions, supported as they are by those of Sömmerring†, Blumenbach‡, and other distinguished men. The semen is never discharged pure, and only in a small proportion, since it is intermixed with a peculiar secretion of the seminal vesicles, and a comparatively large quantity of a fluid secerned by the prostate gland, which resembles the white of an egg. According to Vauquelin, 100 parts of semen contain—

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|---|---|
| Of Water, ..... | 9 . 0 |
| Mucilage, ..... | 6 |
| Phosphate of Lime, ..... | 3 |
| Soda, .... ..... | 1 |

Orchitis occasionally arises spontaneously, or from a blow; but more commonly from the sud-

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* On certain parts of the Animal Economy, p. 27.

† Bibliotheca Medica, vol. iii, p. 87.

‡ Physiology, lib. cit.

denly suppressed discharge of a virulent gonorrhœa. Blood-letting, if constitutional symptoms run high, saline purgatives, and the constant application of cold washes, usually succeed within five days: yet sometimes cold is injurious; and if so, the substitution of warm fomentations scarcely ever fails. When the inflammation has subsided, a little induration, chiefly of the epididymis, almost always remains, which is speedily and nearly discussed by the camphorated mercurial ointment.

Trifling as orchitis often is, it is never to be forgotten, that where the inflammation is violent it may extend along the spermatic chord, and destroy life by peritoneal inflammation. The inflammatory stage, therefore, should be carefully watched, and the lancet freely exercised in all urgent cases of which excruciating pain is the most certain indication.

A collection of water in the tunica vaginalis constitutes hydrocele; and where it is conjoined with hernia, and both are disregarded, the scrotum sometimes attains an enormous size. Gibbon, the celebrated historian, who, under the classic skies of Lausanne, wrote an immortal work, was the subject of hernia and hydrocele, which he totally neglected from 1761 to 1793; and in him the tumour descended to the knees. During this long period he had suffered little pain or incon-

venience; but in November he underwent both, and consulted Sir Walter Farquhar and Mr. Cline. The tumour was tapped three times, and several quarts of water evacuated, which lessened its size, and afforded relief. He died, somewhat unexpectedly, on the 16th day of January, 1794, and his body was examined in five days. Upon laying open the tumour, which extended from the groin to the knee, the following appearances presented themselves. The inferior part of it consisted of the tunica vaginalis, which held two pints of serous fluid tinged with blood, and was capable of holding a much larger quantity. The testicle, healthy, was situated behind the vaginal tunic. The superior part contained nearly the whole of the omentum and the major part of the intestinum colon. These parts, inferior and superior, with their sacs, formed an irregular and solid mass, which had the spermatic chord at the back of it. The omentum and colon exhibited obvious marks of recent inflammation, and some spots of a livid colour were scattered here and there.—The abdomen was next examined. The stomach was drawn from its natural situation to the ring of the external oblique muscle, and the pylorus was retracted backwards, and, as it were, upwards from the duodenum. A number of little tubercles was in the liver; and the gall-bladder was distended with bile. The other viscera were sound.—Thus perished Edward Gibbon, one of the first of histo-

rians, whose powerful mind overlooked his own safety, whilst it rended the veil of ages long gone by.

The morbid anatomy of the testicle deserves notice. Occasionally, the water in hydrocele, instead of being contained in one bag, is found in several cysts. Hydatids, loose or adhering, are sometimes seen in the tunica vaginalis, and also small and unattached cartilages. Abscesses are formed in the testicles, resulting from common inflammation. The natural structure of the gland is occasionally converted into a truly scrofulous mass: fungus hæmatodes affects it, and is probably that disease once termed pulpy, which has been mistaken for scirrhus. The testis frequently becomes the subject of scirrhus and cancer, and forms a foul deep ulcer, with thickened edges; or exhibits a fungus, constituting the true cancer. The testicle has been found changed into cartilage, not differing in any essential property from common cartilage, except a little softer; and this organ has sometimes been converted into bone. The epididymis has ended in a *cul-de-sac;* and the vas deferens has been strictured. The veins of the spermatic chord are very often varicose, especially on the left side: it is an insignificant affection, yet liable to be confounded with hernia. Sometimes many pints of water are accumulated

within the cells of the cellular membrane which envelopes the vessels of the spermatic chord*.

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VI. *Phrenitis.* Agonizing and girding pain in the interior of the head; intolerance of light and sound; face and eyes red; violent delirium; pulse quick, hard, rebounding; unceasing watchfulness.

Notwithstanding so much has been written concerning the physiology of the brain, the subject is surrounded with difficulties. All we know with certainty is, that the brain is the organ of the mind; that the nerves and the spinal marrow are the agents by which it acts and is acted upon while life endures. We know no more; and may safely disregard idle hypotheses and extravagant conceits.—Blumenbach has expressed opinions nearly similar. The office of the whole nervous system, observes this accomplished physiologist†, is twofold,—to excite motion in other parts, especially in the voluntary muscles; and to convey impressions made upon the organs of sense to the

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* See Baillie's Morbid Anatomy, 4th Ed. p. 365 London. 8vo.

† Institutions of Physiology, lib. cit. sec. xii.

brain, and there to induce perception, or, by sympathy, to produce re-action. Experiment and observation place these functions of the nervous system beyond controversy; but to unfold their nature is difficult indeed.

When phrenitis appears, it is impossible to ascertain whether the membranes or the brain itself are inflamed; nor is it of any importance, since the treatment does not vary. The probability is, the membranes are first inflamed, and that the inflammation, if not speedily subdued, extends itself to the substance of the brain. The treatment of this formidable affection ought to be rigorously antiphlogistic.—The patient should be bled until he fall into a state resembling apparent death, and to effect this, a certain quantity of blood is to be abstracted, whether twenty or sixty ounces; and in a case of such importance, the jugular vein, or temporal artery, is to be preferred. It is almost an universal rule, applicable to febrile and inflammatory affections, to draw blood from a large orifice, and to induce syncope with the greatest possible celerity. The object of venesection is to produce an instantaneous, decided, and permanent impression on the system, so as to break the chain of morbid actions which constitutes the disease. It is not then the precise quantity of blood taken away, but the effect which any quantity of blood may occasion, that regulates the judgment in the

management of fever and inflammation. Again, twenty ounces of blood evacuated rapidly are infinitely superior to fifty abstracted slowly; for, under such circumstances, the system gradually accommodates itself to the loss of it, and no shock is felt or impression made. Acute diseases are active agents in the destruction of human life: they pause not for a moment, but urge on with almost insuppressible violence: their insidious intervals too strongly resemble the syrens, who smile but to betray; and hence they should be encountered with this motto,—"*We must be brief when traitors brave the field**." It is true, the blood is directed to be extracted by ounces; but this is partly unavoidable, and is to be understood relatively, and not absolutely. It is presumed that such a quantity of blood will, in a particular constitution, produce a certain and intended effect; but much is necessarily left to the operator, who is supposed to be acquainted with the object in contemplation; and attentive physicians commonly superintend every venesection. The whole of the head ought to be shaved; a large blister applied above the eyebrows, another to the nape of the neck; whilst every other part should be kept constantly wet with a very cold solution of water, muriate of ammonia, and vinegar. Cold applica-

* Shakspeare, King Richard III. Act IV. Scene III.

tions to the head are exceedingly beneficial, by abstracting the heat which abounds in febrile and inflammatory derangements of the system. Even statesmen and gamesters know this remedy, and use it. When Mr. Fox was in office, during his youthful days, he, after a night spent in dissipation, frequently wrote important papers with a wet napkin around his head. The venesection ought to be fearlessly repeated, if circumstances indicate its propriety.—No harm can result from the abstraction of eighty or a hundred ounces of blood in one day. The most active purgation must accompany the other means. In such a disease as phrenitis, no time is to be lost:—fifty hours are pregnant with life or death.

The dura mater is found inflamed, on dissection; the tunica arachnoides occasionally thickened, and a serous fluid interposed between it and the pia mater. In some cases pus is formed, which is effused over the surface of the brain, or into its substance.—Most rarely, indeed, is this organ gangrenous.

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VII. *Pleuritis.* Acute pain in the side, increased by inspiration; difficulty of lying on it; pulse quick and full; hard cough.

The subject of inflammation of the pleura may be discussed with Spartan brevity. The treatment precisely resembles that about to be advised for pneumonitis, with which pleuritis is commonly connected, although the former is certainly the more important disease.

Pleurisy very often ends in resolution, or in adhesions from exudations of coagulable lymph. Violent inflammation of the pleura occasionally terminates in effusion; and sometimes in suppuration, so as to fill the whole of the thoracic cavity with pus, and form the affection termed empyema, which, in my opinion, oftener arises from pleuritis than pneumonitis. Ulceration was once thought absolutely necessary for such a result; but this has sunk into oblivion, without waiting for the company of spasm and debility—most worthy associates! Mr Hewson, to whom the profession owes so much, writes ably on this subject.—"The cavities of the pleura, pericardium, &c. are sometimes observed to contain considerable quantities of pus without the least marks of ulceration, instances of which I have seen. In one patient I found three pints of pure pus in the pericardium, without any ulcer either on that membrane or on the heart. In another, the cavity of the pleura of the right side was distended with a pus that smelt more like whey than a putrid fluid, and the lungs were compressed into a very small compass: but

there was no appearance of ulcer or erosion, either on these organs or on the pleura; but only under the pus was a thin crust of coagulable lymph. In such cases it is manifest the pus must have been formed from the fluids; and as the exhalent vessels at one time appear to secrete a mere water; at another time, a coagulable lymph; and in a third, when a little inflamed, they secrete that lymph so viscid, and change its properties so much as to make it coagulate instantly on being secreted;—so in like manner they may sometimes, when more inflamed, have the power of converting the lymph into pus*."—Considering the time when Hewson wrote, and the opinions which then obtained, these observations are excellent; and they only admit improvement by substituting the term *secrete* for *convert*: for pus is a secretion, and not a power of conversion, by the vessels of an inflamed part.

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VIII. *Pneumonitis.* Sharp yet heavy pain in the chest; constant difficulty of breathing, alleviated by an erect position; face and neck flushed, and sometimes of a purple colour; pulse frequent, full, and oppressed; cough dry and distressing.

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* On the Lymphatic System, part ii, p. 117.

Let me be excused if, strongly urged by private feelings, I digress for a single moment. The great Lord Byron, whose name will for ever live, died of this disease, after an illness of ten days. He refused to be bled, because he had been living most abstemiously. His noble and dauntless spirit, which despised the world's applause or censure, fled to heaven on the nineteenth day of April, 1824, at Missolonghi, in Greece. It is pleasing to imagine, that his funeral knell will be answered by echoes which may have smote the ears of Socrates and of Plato. He was the child and champion of Greece—he braved all the perils of Turkish jealousy—he climbed Parnassus—swam the Hellespont—bathed his burning brow in the waters of Helicon, and penned sublime verses on the plains of Marathon*. The dear and absent friends of the first of British poets, whose genius was scarcely less versatile than that of Shakspeare, may well exclaim with Tacitus,—"*Mihi præter acerbitatem amici erepti, auget mœstitiam quod assidere valetudini, fovere deficientem, satiari vultu, complexu non contigit.*"

The diaphragm, pronounced by Baron Haller to be next in importance to the heart, has the abdominal muscles for its antagonists. The thorax

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* See the Scotsman, May, 1810.

is, after birth, dilated by inspiration, and brought by expiration to a smaller capacity. Although in strong respiration the thorax expands, and the intercostal, diaphragm, and abdominal muscles, act and re-act; yet, in placid and healthy respiration, I am satisfied that all of them are apparently passive, and that the lungs alone are the active agents, perhaps slightly assisted by the diaphragm. Inspiration, or the reception of air; and expiration, or the expulsion of it, constituting respiration, continue from the moment of birth to that of death. This alternation takes place in an adult, according to Blumenbach, about fourteen times in a minute —once to about five pulsations of the heart. The quickness of the heart's pulsation varies greatly, from the multiform condition of individuals; yet approximations to general correct rules may be attempted with certainty. The observations of Blumenbach* differ but little from those made by Heberden† in England.

In a new-born infant, placidly sleeping, the pulse is, in a minute, - - - - - - - 140
Towards the end of the first year, about 124
——————————— second, - - - 110
——————————— third & fourth, - 96

* Physiology, lib. cit. p. 69.

† Medical Transactions, vol. ii, p. 21, sq.

When the first teeth begin to drop out, - 86
At puberty, - - - - - - - - - - 80
At manhood, - - - - - - - - - - 75
About sixty, - - - - - - - - - - 60

In individuals farther advanced in life, the pulse is remarkably variable. It is to be remembered that Blumenbach practises in Germany; yet he scarcely differs from Heberden. English physiologists are of opinion that respiration is performed about twenty times in a single minute.

The physiology of the lungs, stripped of all hypothesis, is exceedingly simple. Without respiration no human being can live. However pure the air may be on entering the lungs, yet man, in common with all warm-blooded animals, must have a fresh supply, since the air admitted undergoes contamination. Atmospheric air is necessary for life, which is composed of 79 of azotic, and 21 of oxygen gas, in 100; and it is itself impregnated with aqueous vapour, carbonic acid gas, and effluvia. In the lungs the blood receives oxygen and discharges carbon, changes its dark colour to that of scarlet,—thus becoming arterial, which is the peculiar stimulus of the left side of the heart, and without which it soon ceases to act. At each inspiration, 16.5 cubic inches of air are taken in; and about 100 remain in the lungs of a stout man after death, according to Allan and Pepys.

The quantity of aqueous vapour emitted by the lungs in expiration is nearly twenty ounces in twenty-four hours*. Animal heat was once believed to depend upon respiration; but Mr. Brodie, with far greater probability, attributes the production of it to the nervous system. The physiology of the lungs and heart will be again discussed, even at some length, under syncope and asphyxia.

The intensity of the colour of the blood varies infinitely, says Blumenbach†:—it is paler in animals poorly nourished, or injured by hemorrhage; more florid, when oxygenized, or rendered arterial; darker, when carbonized or venous. Unwilling as I am to follow the example of those who, especially in modern times, delight in changing scientific terms, I cannot but think that the words *oxygenized* and *carbonized* may be advantageously substituted for arterial and venous; because arterial blood is contained in some vessels called *veins*, v. c. the pulmonary and umbilical; while, on the contrary, venous blood is to be found in the pulmonary and umbilical *arteries*. The veins of the chorion in the incubated egg likewise hold arterial; and the arteries, venous blood‡.

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* Thomson, System of Chemistry, vol. iv.

† See Institutions of Physiology, sec. ii.

‡ Consult the various and admirable Publications of Bostock.

The causes of pneumonitis are obvious. In the treatment there is no safety, except in blood-letting. The subject of it should be bled till he faint, generally to the amount of forty ounces; and if in three or four hours he have either pain or difficulty of breathing, blood to the extent of twenty ounces should be abstracted. This vigorous practice will often render a third bleeding unnecessary, but which ought never to be postponed when symptoms indicate its propriety. Men, said the once popular Dr. Gregory, of Edinburgh, frequently die from disease, but never from a large bleeding. The blood drawn should be examined when cool, and its buffy appearance, which I have repeatedly seen two inches in depth, will assist our judgment. In inflammation, the golden rule is, to be guided by *pain*; and in the present disease, by the additional symptom of *difficulty of breathing*. These cannot mislead us: they deserve the rare appellation of axioms. For pain in the chest, a large blister may be applied, after the bowels have been opened; but it is right to remark, that active purgation is objectionable. In the advanced stages, where bleeding is no longer safe, Dr. Granville* recommends the prussic acid.

Pneumonitis usually terminates favourably by a cessation of pain, easy breathing, and a copious

* Observations on the Internal Use of Prussic Acid, &c.

expectoration of yellow matter. In some rare instances, where adequate treatment has been neglected, the inflammation advances so as to endanger suffocation; the vessels of the neck are turgid; the face of a purple colour; and an effusion of blood or lymph occurs in the cellular texture of the lungs, which destroys life. Occasionally, empyema or hydrothorax is the result of pneumonitis; and, in either case, the contained fluid should be evacuated instantly. Dissection shews the lungs to be inflamed, and exhibits an extravasation of blood or of lymph in their cellular substance. Similar appearances are observed in the cavities of the thorax and pericardium. The pleura costalis is loaded with vessels full of scarlet blood. Abscesses are found in the substance of the lungs; and the bronchia are distended with purulent matter. Adhesions, resulting from the effusion of coagulable lymph by the vessels of the inflamed part, are exceedingly common. Cardi-tis, or inflammation of the heart; pericarditis, or inflammation of the pericardium; and diaphragmitis, or inflammation of the diaphragm, do not require particular notice, since they are indistinguishable from pneumonitis*, are frequently combined with it, and invariably demand a similar prompt and energetic practice.

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* See Thomas's Modern Practice of Physic, 7th Edition, p. 172.

IX. *Gastritis.* Pain, obtuse and agonizing, burning and overwhelming, in the stomach; every thing instantly rejected; pulse small and quick; anxiety and restlessness; great prostration of vital power.

When the stomach is empty, it is flaccid, and hangs in the cavity of the abdomen. The greater curvature of it inclines downwards, and the pylorus, directed upwards, forms an angle with the duodenum. But when the stomach is full, the larger curvature is thrown forwards, enabling the pylorus to lie more in a line with the duodenum, while the cardia is folded into an angle, and closed. The stomach is abundantly supplied with nerves, —hence its wonderful sympathy with every part of the body, so as to lead John Hunter to denominate it "the seat of sympathy." The immense number of blood-vessels in the stomach is remarkable, and still more so on reviewing their utility. The arteries, ramifying every where upon the internal surface of this organ, secrete the gastric juice, which is thought to stream continually. This fluid is analogous to saliva; is antiseptic, resolvent*, and adequate to the dissolution of milk coagulated by its influence. Digestion is princi-

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* See the Works of Stevens. Edinburgh. 8vo. 1777.

Laz. Spallanzani. Modena. 8vo. Vol. i. 1780.

pally performed by the gastric juice. The food, chewed in the mouth and mixed with saliva, is received into the stomach, and dissolved, by the gastric fluid, into a pultaceous mass, termed chyme. The ingesta thus lose their specific qualities, and are protected from the chemical changes to which they are obnoxious, e. g. putridity and rancidity. Wonderful to relate, and admirably illustrative of the wisdom of God, this gastric juice, whose solvent power is irresistible, acts only on dead matter; and with respect to living substance, is powerless. Even a dead animal in the stomach would undergo solution by the agency of this fluid; whilst to one endowed with life it would be innoxious. Again, this very fluid, harmless to the living stomach which produced it, destroys a part of the same viscus, when the body is deprived of vitality.—This discovery was made by John Hunter*, the first of physiologists, whose active and penetrating mind "pursued captive science to her last retreat." The time requisite for digestion is various, and depends upon the mastication of the food, its quality and quantity, and the state of the digestive powers, whether strong, weak, or disordered. Blumenbach thinks

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* On the Digestion of the Stomach after Death. Philos. Trans. vol. lxii.

Consult G. Fordyce on the Digestion of Food, p. 12. 59. 191.

the stomach, during health, does not transmit the digestible parts of the food until they are converted into a pulp; and he is of opinion that, generally, the chyme gradually passes the pylorus between three and six hours after a meal. Dr. Prout, a name well known in science, has ascertained that this process does not proceed equally through the whole mass of food, but occurs principally where it is in contact with the stomach, and goes on gradually from the superficies to the centre,—so that the food at the centre is entirely different in appearance from that at the surface; and the moment a portion is reduced to a homogeneous consistence, it passes into the duodenum, without waiting until the same change has pervaded the whole*. "The cardiac portion of the stomach is the chief seat of the process; and when a part of the food is tolerably digested, it passes along the large curvature to the pyloric portion, where the process is completed. As the cardiac half is the great digesting portion, it is this half that is found dissolved by the gastric juice; and Dr. Philip relates the case of a woman, who had eaten and properly digested to the last, but whose stomach was ulcerated every where, except at the cardiac end†."

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* Dr. Prout, in Thomson's Annals of Philosophy. 1819.

† Notes of Elliotson in Blumenbach's Physiology, lib cit. p. 230.

It has been asserted that different kinds of inflammation affect the stomach and other viscera; but, in my opinion, erroneously. No doubt the inflammation may vary in intensity—it may differ from peculiarity of constitution—it may be combined with or run into that of the erysipelatous: yet still all this is comparatively uncertain; and it is on phlegmonous inflammation only the attention is to be fixed, not overlooking age, sex, strength, and appearances.—Gastritis is a rare disease, and generally mortal. When it is remembered how much the stomach sympathizes with almost every disease, none will wonder at death following an inflammation of it.—"If the stomach is inflamed, the patient feels an oppression and dejection through all the stages of the inflammation; simple animal life seems to be hurt and lessened, just as sensation is lessened when the brain is injured; the pulse is generally low and quick, the pain is obtuse, strong, and oppressing, such as a patient can hardly bear*."

In gastritis, the irritability of the stomach precludes the exhibition of internal medicines; and none should be offered, since they are injurious. Venesection is to be employed with caution and judgment. The patient should remain half an

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* Hunter on the Blood, lib. cit. p. 234.

hour in the warm bath; and tincture of opium, as well as the purified, in large quantities ought to be rubbed for an hour upon the region of the stomach; and these frictions should be repeated according to existing circumstances. These are the means on which reliance may be placed, if called into action speedily, and pursued with constancy, boldness, and circumspection.

Authors amuse themselves by writing concerning suppuration of the stomach, and proposing appropriate treatment; others, scorning to be outdone in absurdity, go farther, and mention gangrene. It is impossible for life to continue an hour under such unhappy results. I do not believe that gastritis ever ends, or can end, in suppuration: the inflammation destroys life long before such a process can occur; but I think it is barely possible that it may degenerate into gangrene.

Dissection displays considerable redness of the internal coat of the stomach, accompanied with layers of coagulable lymph; and sometimes this organ is much thickened. Ulcers are occasionally found, but they are not peculiar to gastritis: I have met with them in the dysenteric affections of marsh fevers; and during life they occasioned insatiable thirst. The silence of anatomists respecting stomachs, suppurated or gangrenous, proves

they have scarcely ever seen either one or the other occurrence.

The following valuable case has been recorded by Cruikshank:—"A young lady died after two or three days illness: before this she had been in perfect health. I was called in, but she was dead before I got to the house. From her history I was at a loss to account for her death: but on opening the abdomen a day or two after, I found the contents of the stomach in that cavity; that they had produced peritoneal inflammation, and killed. On examining the stomach, I found a hole in it large enough to admit the end of my finger: this hole had been formed by absorption of part of the substance of the stomach from scrophulous ulceration: its edges had adhered by inflammation to the under surface of the small lobe of the liver. This inflammation was evidently raised by the powers of the body, to prevent the accident which happened; and if no violent vomiting had taken place, and tore this adhesion at this particular time, she might have lived for years, notwithstanding the ulcer.*"

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X. *Enteritis.* General coldness of the body for several hours, followed by acute pain in the

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* Anat. of the Absorb. Vessels, p. 122.

belly, which is tense and tender to the touch; irritability of the stomach; pulse small and quick; bowels constipated.

The intestines, small and large, perform a most important office in the body. The small intestines, like the stomach, yield a copious secretion. When the chyme enters the duodenum, it is blended with the secretory fluids of the liver and pancreas, and the whole is agitated and propelled through the canal by the intestinal action. Thus the chyme, subjected to moving powers and solvent secretions, becomes much changed—in the duodenum and jejunum it is a liquid pulp, grey in colour, and a great part of the chyle is formed and absorbed there. When the mass reaches the ileum it is separated into the feces, yellowish or brown in colour, and the chyle supernatant, and destined for absorption, similar to what occurred in the duodenum and jejunum.

The feces, gradually becoming more inspissated in the ileum, overcome the valve of the colon, and by the peristaltic motion of the intestinal tube, descend into the rectum, which is stimulated to their expulsion. The rectum is well adapted for this purpose, since it wants transverse rugæ, and secretes a quantity of mucus. The discharge of the feculent mass is effected by the pressure of the abdominal muscles downwards, subduing the resistance of the sphincter; and after the excretion,

the abdomen being passive, the levator ani principally retracts the intestine, which is again closed by its sphincter*.

The chyle, formed as has been described, in the small intestines, is taken up by the numerous absorbent vessels, conveyed into the receptaculum chyli, and thence conducted, by the left internal jugular and left subclavian vein, or sometimes by one of them, into the right auricle of the heart.

Absorption is a most important process in the human body, and demands consideration. According to Blumenbach, the fluids of the system may be reduced into three classes,—1. the *crude*, viz. the chyle, destined to become blood, and matters absorbed on the surface to be mingled with the chyle; 2. the *blood* itself; 3. those *secreted* from the blood, whether inert and excrementitious, like the urine, or intended for specific purposes in the economy: the latter may be permanently liquid, as the bile; or disposed to solidity, as the osseous, and other plastic juices. The principal fluids, which are absorbed during health, shall be mentioned.—There are the chyle; the halitus of circumscribed cavities; the fluid of the fauces; of the cellular membrane; adipose matter; and such

* Blumenbach, Physiology, lib. cit. sec. xxviii.

secreted fluids as are retained and not wanted. Some of the solids, having executed their office, are absorbed,—such as the thymus gland during infancy; the roots of the first teeth; and the alveolar processes. To which may be added, the constant absorption and renovation of the bony matter.

In enteritis the intestines are inflamed; and the grand object is to conquer that inflammation, regardless of opening the bowels. The moment the disease shews itself, the patient should be bled until he faint; and the venesection is to be repeated according to prevailing symptoms. It is a nice point to determine how often bleeding is to be employed, and how much blood is to be abstracted. This must be left to the judgment of the practitioner, who will be regulated by sex, age, and strength. The first twenty hours will be the harbingers of life or death; and they must be watched with scrupulous exactness. Thirty leeches applied to the umbilical region will prove an useful auxiliary to general blood-letting. The part inflamed is a vital one—it admits no compromise. The pulse is almost always small and quick, but it rises after a copious bleeding. The patient should be immersed in the warm bath, and flannels, wet in warm water, constantly applied to the belly. The irritability of the stomach is so considerable, that very generally it ejects every thing;

and hence no medicine, except a large dose of opium, should be offered. Purgatives are to be interdicted: they can only inflame a tube by their operation, already too much inflamed; yet clysters may be introduced early and beneficially. A large blister is to be placed over the umbilicus, which will present no impediment to the warm fomentations.

Twenty years ago, it was the opinion of Sir Astley Cooper, the *facile princeps* of surgeons, that enteritis never terminated in gangrene,—simply, because life could not continue sufficiently long. He said Dr. Baillie, as he was informed, thought the same; but this does not appear in the morbid anatomy. The following melancholy case will shew that not only life, but even rationality and loco-motion, can go on under enteritic gangrene. Mr. N * * *, aged 37, in December, 1818, after having been very cold the day before, was seized with enteritis,—the usual practice was employed, and in five days he was pronounced convalescent. He remained weak, free from pain, speaking in a whisper, from thursday to sunday; and on that day he dined in another room with his wife and friends, ate the wing of a chicken, and drank a glass of wine. At one on the following morning, when all was sun-shine, he was almost instantaneously attacked with agonizing pain in his bowels, and insuppressible inclination to go to the

night-chair. The pain increased, he sank rapidly, was covered with clammy sweats, and died in five hours! On dissection, the colon was found black in several places, and there were a few holes near the sigmoid flexion, through which a quantity of hardened feces had passed into the pelvic cavity, and were floating in fluid. The cavities of the thorax were full of water.—In this unhappy case, in consequence of the cessation of pain, gangrene had been mistaken for convalescence; and it is obvious, that the agonizing pain, prior to dissolution, arose from the separation of the dead from the living intestine.

On dissection, inflammation is found to affect nearly the whole of the intestinal tube. Ulceration and suppuration are sometimes discovered. The peritonæum is not commonly inflamed in enteritis; but when the disease is violent, this membrane is implicated, and covered with layers of coagulable lymph. The intestine is occasionally thick and massy, and dark from extravasation of blood which simulates gangrene: but gangrene may be easily known, by the part admitting the fingers as if through a rotten pear. Gangrene is an exceedingly rare affection*.

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* Baillie, Morbid Anatomy, lib. cit. p. 164.

XI. *Hepatitis.* Pain, tension, and soreness in the right hypochondrium; occasional pain at the top of the right shoulder; difficult breathing; dry cough; sometimes vomiting; inability to lie on the sound side; skin at times yellow.

THE VARIETIES ARE

*a. Acute.* Distinctly marked by the symptoms detailed.

*b. Chronic.* Easily ascertainable by recurrence to specific symptoms.

The liver secretes the bile by its penicilli, and the pori biliarii, ultimately forming the ductus hepaticus, convey it slowly and regularly into that duct. It is the general opinion, that bile is produced by the minute branches of the vena portæ; while the hepatic artery supplies the liver with nourishment. Yet two cases are recorded by Mr. Abernethy* and Mr. Lawrence†, in which the vena portæ terminated in the vena cava inferior, and, therefore, the hepatic arteries alone must have generated the bile. The larger part of it passes constantly through the ductus communis

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* Philos. Transac. vol. lxxxiii.

† Medico-Chirurgic. Transac. vol. iv. p. 174.

choledochus, a duct formed by the junction of the ductus hepaticus and ductus cysticus, into the intestinum duodenum, and the remaining portion runs from the hepatic into the cystic duct. The gall-bladder receives the bile from the cystic duct, where it remains for a definite period, and is designated cystic, analogous to the hepatic, but, from concentration, more viscid and bitter.

The nature and use of the bile have been the subject of innumerable discussions. The former* need not to be entered into; and with respect to the latter, it is thought best, since every opinion cannot be stated, to mention that of Blumenbach†. The bile gradually precipitates the feces, and separates the chyle from the chyme, while the chyme is passing through the small intestines, after having been propelled by the stomach into the duodenum, and there incorporated with the pancreatic juice. It separates itself into two portions, serous and resinous. The former is probably mixed with the chyle, and conveyed into the blood; whilst the latter combines with the feces, changes their colour, and increases the peristaltic motion of the intestines‡.

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* See Berzelius, Animal Chemistry, p. 65.

Medico-Chirurgic Transac. vol. iii, p. 241.

† Physiology, lib. cit. sec. xxv.

‡ See Fordyce on the Digestion of the Food, p. 70.

During the precipitation of the chyle, and the decomposition of the bile, a gaseous product is usually evolved, the mass becomes neutral, and traces *of an albuminous principle* commence, strongest at a certain distance from the pylorus, below the point at which the bile enters the intestine, and gradually fainter in each direction. On mixing bile with chyme out of the body, a distinct precipitation takes place, and the mixture becomes neutral; but the formation of an albuminous principle is doubtful,—probably from the want of the pancreatic fluid*.

The external membrane of the liver is commonly inflamed; sometimes the whole, but more generally the convex part. A superficial practitioner may mistake hepatitis for pleuritis, since in both there are pain in the side, difficult breathing, and cough; but this can scarcely happen to those who possess judgment and experience. Dr. Brooke† has written two valuable papers relative to what he, very judiciously, terms *liver cough*, in hepatitis; and which may be perused with pleasure and advantage. The treatment of acute hepatitis should be simple and bold: it never failed

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* Dr. Prout, in Thomson's Annals of Philosophy. 1819.

† Trans. of King and Queen's College, &c. op. cit. vol. iii, p. 245; vol. iv, p. 142.

me in Ireland, even in a crowded hospital. The patient should be bled until he faint: the quantity of blood is a trifling consideration. When he is refreshed, an emetic is to be exhibited; and, in a few hours, the bowels are to be actively moved by large doses of calomel and jalap, succeeded by the compound infusion of senna and sulphate of magnesia. He should be visited before four hours have elapsed; and if he complain of pain, difficult breathing, or uneasiness in the right hypochondrium from pressure, another large bleeding ought to be ordered immediately. In general, a brisk continuance in these means will effect a cure, repeating them freely, yet cautiously.

If acute hepatitis be to end in suppuration, the febrile symptoms intermit, frequent shiverings come on, the part is heavy, and the pain throbbing. An abscess in the liver may point externally, burst into the thorax or lungs, make its way into the stomach, or find a passage into the intestines. All this takes place from adhesive inflammation and consequent ulceration.—In the first instance the contents of the abscess are discharged externally; in the second, they form empyema, or are ejected by coughing; in the third, by vomiting; and in the fourth, by stool.

The treatment of chronic hepatitis will vary according to the complicated symptoms it pre-

sents. Gentle laxatives; slight affections of the salivary glands by the blue pill, or calomel and opium; leeches and blisters to the right hypochondrium, should there be pain or uneasiness; and the use of the Cheltenham water, with moderate exercise and agreeable company,—appear to hold out a rational prospect of success.

When hepatitis ends in death, the liver is found flaccid, hard, enlarged; of a purple colour, with its membranes obviously inflamed, and considerable adhesions.—Tubercles, cysts, biliary calculi, and abscesses, are sometimes discovered. Hydatids infest the liver more than any other viscus, excepting the kidneys; yet they are of different kinds.

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XII. *Pancreatitis.* Pain and heat, chiefly referred to the back; sometimes imitating colic; occasional vomiting; usually preceded by, and accompanied with, dyspeptic symptoms.

The pancreas is a large conglomerate gland, of a yellowish colour, long and narrow, and flattened anteriorly and posteriorly. The right extremity of it, larger than the left, adheres to the second curve of the duodenum; while the left extremity is connected with the spleen. From the right extremity there generally arises a process called

the lesser pancreas. The excretory duct of the pancreas is membranous, white, and of inconsiderable thickness.—It passes through the middle of the gland, and penetrates obliquely the coats of the duodenum, along with the common biliary duct, by a common orifice. The pancreas is evidently of the same nature as the salivary glands; and although its secretion is with difficulty obtained pure, yet it bears a striking resemblance to saliva. It is said to supply the duodenum with a constant stillicidium of its secretion, termed *succus pancreaticus*, which probably performs a similar office to the saliva and the gastric juice. F. Sylvius, R. De Graaf, and F. Schuyl, contended the pancreatic juice was acrimonious: but such an absurd opinion was refuted by Pechlin, Swammerdam, and Brunner.

Pancreatitis is a stranger, introduced by myself into the temple of nosology, where it has an undoubted right of admission, although unjustly excluded by several nosologists. The disease occasionally occurs, but its pathognomic symptoms are not well marked; and hence it sometimes terminates in suppuration and gangrene, according to the testimonies of Barbette, Griesel, and others. In the case of Griesel, the patient was subject to colic, and died suddenly, only complaining of internal coldness. Many chronic cases of disease of the pancreas exhibit various symptoms:—thus of

twenty-seven described by different authors, six were fatal, attended with gradual wasting and obscure dyspeptic symptoms, without any urgent ones; in eight, there were frequent vomiting, and more or less pain in the epigastrium; and thirteen terminated in death, with long continued pain, and no vomiting. In some, pain extended to the back; in others, it was increased by eating. In several cases dropsical symptoms supervened; in three or four, jaundice, from the enlarged pancreas compressing the bile duct. Dissection reveals various morbid appearances of the pancreas. In some instances this gland is much enlarged; in others, there is scirrhous hardness, without any increase of size. In fact, there is no distinct relation between urgency of symptoms and enlargement: sometimes there is great increase, with only slight symptoms; and, occasionally, hardness and trifling enlargement accompany symptoms violent and defined. Tulpius and Bartholinus found abscesses of the pancreas. In two cases, by the former, the obvious disease was quartan fever. In a case of continued fever, with severe pain in the back, Guido Patin discovered an abscess occupying the whole of the pancreas. Portal detected a complete suppuration of the pancreas in a man who had died suddenly after two or three attacks of vomiting, followed by syncope. He had laboured under gout, and was supposed to be convalescent. Portal, likewise, found the pancreas,

softened and gangrenous, in a patient who had expired under obscure pain in the abdomen; wasting, nausea, and diarrhœa. Calculous concretions occasionally have their seat in the pancreas. De Graaf saw seven or eight, like small peas, in a man long subject to vomiting and diarrhœa, and who, at thirty, sank exhausted. In a person who had died from disease of the aorta, Portal observed twelve calculi in the pancreas, which was enlarged*. Dr. Baillie† found one abscess of the pancreas, and commonly a hardness of it, which, in his opinion, becomes truly scirrhous. He once met with calculi, which were about the size of the kernel of a hazel nut, with a very irregular surface, and of a white colour. The pancreas has been entirely wanting, as a defect in the original formation‡.

If pancreatitis were to shew itself as evidently as other visceral inflammations do, the same treatment would be demanded; but the symptoms are so obscure, various, and contradictory, that no mean of cure can be suggested: and all that can be done is to attack particular symptoms when

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* See Dr. Abercrombie's valuable paper in the Edin. Med. & Surg. Journal, No. 2, April 1st, 1824. New Series.

† Baillie, Morbid Anatomy, p. 273.

‡ Lieutaud, tom i, p. 247.

they arise; and to bear in recollection how insidious a disease inflammation of the pancreas is; and thence to attempt to ascertain whether it does, or does not, exist.

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XIII. *Splenitis.* Heat; fulness; and dragging pain in the region of the spleen.

The spleen is a spongy body of a purple livid hue, of an oval figure, deeply situated in the left hypochondrium between the false ribs and stomach, below the diaphragm, and above the colon and left kidney. It is connected with the diaphragm and the left extremity of the stomach by peritonæum. The figure of the spleen is oblong, small in size, but exceedingly distensible; for when the stomach is empty, the spleen is turgid; and when the stomach is full, the spleen is little from compression. Its texture is peculiar, soft, and lacerable; indeed it consists entirely of blood-vessels, enormous in size when compared with the bulk of the organ, for, in proportion, they exceed those of every other viscus. The use of the spleen is unknown: various conjectures have been indulged in: in all human probability it is, in some way or other, subservient to digestion. It has no excretory duct; yet Hewson pronounced its

lymphatic vessels to be excretory ducts*. The immense congeries of blood-vessels of the spleen is connected and supported by cellular parenchyma, from which the absorbents arise.—The spleen is sometimes wanting; and it has been removed with impunity.

Inflammation of the spleen will require liberal venesection, smart purgatives of calomel and jalap, and occasional blisters to the seat of pain. The warm bath is to be recommended; and should there be irritability of the stomach or excessive pain after venesection and purgation, no danger can spring from the administration of large doses of opium; and in a few days the mouth may be affected with calomel and the blue pill.

The inflammation may terminate in enlargement, suppuration†, ulceration, and gangrene. It has been already stated how severely the spleen suffers from marsh fevers and consequent inflammation; and, to save repetition, the reader is referred to the seventh page. Dr. Baillie‡ is of opinion that the coats of the spleen are liable to inflammation when the peritonæum is similarly

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* Experimental Inquiries, &c. 3rd Edition. London. 8vo. 1777.

† Lieutaud, tom i, p. 22.

‡ Morbid Anatomy, p. 259.

affected; and says that they exhibit vessels distended with florid blood and layers of coagulable lymph. The spleen has been studded with tubercles—its coats cartilaginous—its size monstrously large:—it has contained hydatids and stony concretions; and, instead of one, Dr. Baillie has observed several small spleens.

A page shall be devoted to the physiology of nutrition. Lucretius, the father of philosophy among the Romans, was not without correct notions on this subject.

> "———————— cibus auget corpus, alitque:
> Scire licet, nobis venas, et sanguen, et ossa,
> Et nervos alienigenis, ex partibus esse."
>
> De Natura Rerum, lib. i, v. 859.

Nutrition, in fact, says Ent, appears to be a continued generation,—and so it is; for, without it, life and its duties would be empty names. During life an incessant destruction and consumption occur in the system. V. J. Bernouilli estimated that the whole body, from the continual, although insensible, loss and reparation of the solids, was removed and restored every three years. This is doubtless an exaggeration: however, it is an approximation to truth, which is indisputable. The cutis would seem to undergo no change; for its marks, in early life, are indelible,—as in the tatooing of sailors and the Ota-

heiteans. It is the blood, and the blood alone, which effects nutrition, and accomplishes reproduction when the absorbents have taken up useless matter: and this blood is made perfect and kept so by regular and constant supplies of chyle and oxygen,—the former being the result of aliment; and the latter, of respiration.

The structure of the body is more or less dense; and hence its specific weight is more or less considerable*. In this respect, not only individuals, but whole nations, differ; and the Yakuts and Burats are remarkable for the lightness of their frames†.

Brutes far surpass men in the reproductive power. The horse periodically sheds his hair; the bird, its feathers; the stag, its horns; the serpent, its cuticle; the lobster, its shell and the teeth in its stomach. A lobster can reproduce a claw; a water-newt, an extremity; and Blumenbach actually observed the reproduction of a whole head in a water-newt‡.

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* J. Robertson on the Specific Gravity of Living Men. Philos. Trans. vol. i.

† Blumenbach, Physiology, lib. cit. sec. xxxi.

‡ Elliotson's Notes, lib. cit. p. 284.

XIV. *Nephritis.* Heavy pain in the region of the kidney and ureter; frequent micturition; sometimes suppression of urine; nausea or vomiting; numbness of the thigh, and retraction of the testicle; colicky pains.

The kidneys are two glands placed at the upper part of the loins, one on each side, and behind the peritonæum. They are rather flattened, but apt to vary in figure; are connected with the emulgent vessels, and the right is lower than the left. The kidneys are composed of a cortical, or exterior part; and an interior, or medullary part. The cortical, as well as the medullary, is remarkably vascular: the former has minute colourless vessels, which secrete the urine; whilst the latter possesses similar for its conveyance into the pelves of the kidneys, and from thence, by the ureters, sensible, membranous, and dilatable canals, lubricated by mucus, into the bladder. Most of the fluids are nutritious, whilst three of them are excrementitious,—namely, the perspirable matter, and the milk, and the urine streaming from the kidneys.

The experiments of Sir Everard Home teach us that colouring matters display themselves in the urine seventeen minutes after their deglutition. The reader is referred to Berzelius's * able analysis

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* Med. Chirurg. Transac. vol. iii.

of the urine, which is too long for insertion. Blumenbach attributes the smell and colour of this fluid to urea; but urea is without colour, and has no urinous smell. Dr. Prout* has ascertained the component parts of urea with his accustomed skill and accuracy. The urine of birds is commonly passed with their excrements; and it becomes solid by air. Serpents discharge their urine once in a few weeks: it is of a caseous consistence, and ultimately assumes solidity.—In both, this fluid is principally pure uric acid†.

Nephritis is to be treated like other visceral inflammations,—only blisters are to be proscribed, since they act deleteriously on the inflamed organ. Venesection, cathartics, and the warm bath, are the main remedies, with a single exception,—namely, opium. In this disease the pain is great; and a spasmodic affection is demonstrated by the retraction of the testicle and numbness of the thigh. To allay the one, and overcome the other, opium ought to be exhibited in large doses,—not less than two drachms of the tincture every two hours, until a sensible effect is apparent. The remainder of the treatment is to be conducted on common

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* Med. Chirur. Transact, op. cit. vol. ix.

† Dr. Prout, Thomson's Annals of Philosophy.

Davy, Philos. Transac. 1818.

principles. No organ, in a state of inflammation, is so liable to suppuration as the kidney; and this is known by the intermixture of pus with the urine. Here little is attainable by medicine: to appease pain, to open the bowels, and to support the system, are all which human intelligence can devise, or active exertion accomplish.

After death, various morbid effects are discoverable in the kidneys. Abscesses, common and scrofulous; tubercles, resulting from scrofula; hydatids; calculi; scirrhus; and earthy and bony matter, are to be seen. Sometimes the suppurated kidney is wasted, and seems to be a mere bag, with all its interior organization destroyed. Yet, after all, patients bear severe injuries of the kidney better than they do most other diseases of any other viscus.

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XV. *Cystitis.* Pain in the bladder, and considerable distension above the pubes; distressing micturition or retention of urine; sickness; vomiting; and tenesmus.

Inflammation of the peritoneal coat of the bladder does not extend to the muscular; for they are loosely connected by a quantity of cellular membrane. This loose connection is absolutely neces-

sary to admit the different states of distension by urine, to which the bladder is liable, and to prevent the extension of inflammation. The inner membrane of this viscus is occasionally inflamed.

Cystitis, as an idiopathic disease, is exceedingly rare, and requires the same management as nephritic inflammation. Where there is retention of urine, a flexible catheter is to be introduced; yet every irritation is to be avoided. Venesection and opium are the chief agents. Blisters are injurious; and the utility of cathartics questionable.

When cystitis conducts its victim to the tomb, we find the coats of the bladder to be inflamed; and also abscesses and ulcers in the internal membrane. Sometimes these ulcers and abscesses have destroyed a part of the bladder, and formed a communication with the peritoneal cavity, rectum, and vagina. The escape of the urine into that cavity destroys life by inducing peritoneal inflammation. The bladder has been found scirrhous and cancerous; has had fungi and polypi; cysts; two chambers; and calculous concretions.

"A chronic form of inflammation very frequently affects the mucous membrane of the bladder, and, when neglected, extends to the ureters and kidneys, producing a train of severe local, as well as constitutional, symptoms. Its original

cause frequently cannot be discovered; in some cases, however, we find it succeeds mismanaged gonorrhœa, neglected retention of urine, diseases of the prostate gland, strictures of the urethra, or calculous affections. In many cases,—as, for example, when it depends on disease of the prostate gland,—we can do little more than palliate urgent symptoms: in other instances much may be effected. The morbid alterations of the mucous surface of the bladder, produced by this disease, are different degrees of vascularity, from merely a few patches of a dark or bright red colour to an entire vascularity, in some cases so marked as to appear as if the bladder had been daubed over with blood. The veins of it are, in general, turgid; the membrane becomes much thickened; frequently numerous ulcers form, covered with a tenacious brownish-coloured lymph: sometimes these are very numerous and deep, so as to give a honeycomb appearance to this membrane. The inflammation may run so high as to end in complete sphacelus of the interior of the bladder.—I saw this in two instances. The mucous membrane generally forms numerous rugæ, which may be matted together by coagulable lymph. The discharges coming from a membrane so altered by disease are blood, in general venous, and often in a very large quantity; a slimy tenacious mucus; a powdery white sediment; or a fetid sanious matter. The cellular substance under the mu-

cous membrane becomes filled with lymph, and, in consequence, is liable to be increased in depth. The muscular fibres are usually much thicker and stronger; and the intervals between them may be filled with lymph: occasionally, small abscesses form in the muscular parietes. In one instance I saw an abscess formed between the muscular layer and peritoneal coat, which attained considerable size, and apparently was caused by irritation from a long continued disease of the mucous membrane. The constitutional symptoms, attendant on the disease, are great derangement of the digestive organs, as indicated by the loss of appetite; thirst, often very urgent; tongue white, or loaded with a yellowish brown mucus; nausea; sometimes vomiting; a costive state of the bowels; feces usually dark-coloured; a harsh dry skin; and emaciation*." The urine is passed with considerable difficulty, or dribbles away, and is mostly white, muddy, mixed with yellow-coloured mucus, or quantities of slimy, tenacious, stringy matter. Paralysis of the lower extremities is not uncommon. In this chronic affection of the bladder Dr. M'Dowell found the infusion of buchu leaves combined with their tincture, and that of cubebs, to succeed beyond his expectations.—This disease

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* Dr. M'Dowell, Trans. of King and Queen's College, &c. op. cit. vol. iv, p. 131.

is often the consequence of strictures, of morbid kidneys, or of urinary calculus; and here its cure will depend upon that of the original malady.

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XVI. *Hysteritis.* Tenderness, swelling, and pain in the hypogastric region; the lower part of the womb hot, sore, and painful; nausea or vomiting; sexual discharges suspended; pulse quick and full.

Inflammation of the womb is almost peculiar to the puerperal state, and mostly commences during the first week. The disease occasionally terminates favourably by sweating or a diarrhœa, and particularly by a hemorrhage from the uterus; then the pain diminishes, the pulse sinks, the lochia and milk return. But sometimes hysteritis is obstinate; every symptom increases in violence, shiverings succeed, the pain throbs, and suppuration is at hand; there is an hectic flush; the urine, once high coloured, deposits an abundant pink-coloured sediment; and the patient passes the night without sleep, and is bathed in sweat. When a certain period has elapsed, matter is discharged by the vagina, meatus urinarius, and rectum. The disease may end in death in a week or two, or be prolonged for a considerable time; yet, in either

case, the inflammation has advanced to suppuration.

Hysteritis calls aloud for venesection, which is to be performed early, freely, and as frequently as symptoms indicate. Purgatives, opiates, and the warm bath, with still warmer fomentations, are to be promptly called into action. We must be expeditious; for, if two or three days pass over, if there be a frequent pulse, cold shiverings, and throbbing pains, suppuration has occurred, and blood-letting will be injurious.

Dissection discovers pus in the sinuses of the uterus*, ovaria, and fallopian tubes. Mortification is an extremely rare termination. Little or no effusion takes place into the abdominal cavity†. The body and fundus of the womb are often found inflamed. The inflammation does not always extend to the peritonæum; but when it does, there is a quantity of extravasated fluid and coagulable lymph.

The consideration of the secretions in general now claims notice. Haller was of opinion that secretion was one of the obscurest parts of physio-

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* Clarke's Essays, p. 69, sq.

† Burns's Principles of Midwifery, p. 403.

logy. The secreted fluids differ so much as to render any arrangement of them almost impracticable. The best mode is to consider them according to their sensible qualities, obvious appearances, and manner of elaboration. The most simple of the secreted fluids are the aqueous,—such as the tears, the watery exudations of circumscribed cavities, namely, of the brain, the pericardium, the thorax, and cavity of the peritonæum. Other secretions are, the liquor amnii and the urine. The next are, the milk and the saliva. After these may be enumerated, the mucous membranes, which secrete a mucus, line canals, and have outlets, e. g. the nose, larynx, trachea, inside of the eyelids, urethra, and rectum. The wax of the ears, the oily matter of the Meibomian glands, the fat, medulla of the bones, and grease of the skin, are to be mentioned along with the secretions under the prepuce and within the external female genitals. The ovarian vesicles and the prostate gland also secrete a peculiar fluid. The semen and bile are most important secretions. Some of the fluids which have been adverted to are examples of the least complicated modes of secretion, being little more than a secretion by the extremities of minute vessels. But secretion by glands, especially the conglomerate, in contradistinction to the conglobate of the absorbent system, is infinitely more complex. The mammæ, pancreas, and salivary, furnish well-known examples;

for such glands, and others like them, possess excretory ducts, immediately arising from large lobes, which, in their turn, spring from other lobes, smaller and more intricate. Conglomerate glands, having various organizations, may be supposed to elaborate their fluids in different modes. It is worthy of observation, that the secretions of some glands are used instantly; whilst those of others are retained in certain receptacles for specific purposes.

There are two classes of secreted fluids,—namely, the *secretions*, properly so called, or the fluids intended to fulfil some ulterior purpose in the animal economy; and the *excretions*, which are directly discharged from the body. The fluids of the former class are all alkaline; and of the latter, all acid. The excretions are the urine, the perspired fluid, and the milk. All the other fluids appear to belong to the former class*.

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XVII. *Peritonitis.* Belly tender to the touch, enlarged and painful; abdominal viscera free from uneasiness; tongue white; pulse quick; bowels constipated.

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* General Views of the Composition of Animal Fluids, by J. Berzelius, M. D. Med. Chirur. Transac. vol. iii, p. 234.

Females are very subject to this affection, depending on a certain state of the womb after parturition; yet many causes may produce it, whether in men or women, unconnected with that process. Peritoneal inflammation attacks puerperal women more quickly than hysteritis; and is usually preceded or attended by shiverings, sickness, and vomiting. The disease may be protracted for ten or twelve days: sometimes it ends in suppuration, and the abscess bursts externally. Dr. Gordon* relates three cases of this nature.—In one, the pus was discharged by the umbilicus a month after the attack; in the second, six weeks after delivery; and in the third, by the urethra, after the lapse of two months. Mr. Burns† informs his readers that similar cases have fallen under his own observation.

In peritonitis, we must bleed instantly and largely, so as to bring on complete syncope; for, as the judicious and experienced author just named observes, "if the pulse continue above one hundred in the minute, for twenty hours after delivery, there is reason to apprehend some serious mischief is about to happen."—The bleeding must

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* See his Treatise on the Puerperal Fever. Aberdeen.

† Principles of Midwifery, p. 405.

be repeated, should pain and tension remain unabated. Without delay the intestinal canal ought to be freely evacuated: and leeches applied to the belly, not less than twenty or thirty, conjoined with warm fomentations to encourage the bleeding from the punctures, may be ranked among excellent remedial agents.—The same practice and observations are equally applicable to other kinds of peritoneal inflammation, from whatsoever cause they may originate.

When a puerperal woman dies of this disease, the peritonæum is found in a state of high inflammation; but it is rare to see gangrene. A considerable effusion of serous fluid, mixed with curdy substance, is observable in the cavity of the abdomen: but in other cases, probably unconnected with parturition, the peritonæum is thick, pulpy, and loaded with small vessels filled with scarlet blood. The peritoneal inflammation seldom involves the abdominal muscles; but where this membrane covers the intestinal tube, the inflammation occasionally penetrates the muscular coat and villous membrane of the intestines. Where the inflammation is great, the intestines are, at times, thick and massy; and the mesentery, mesocolon, and omentum, are likewise thickened and changed. The whole arises from the extravasation of coagulable lymph into the cellular membrane,

between the laminæ of the peritonæum, which form them*.

XVIII. *Paristhmitis.* Florid redness and swelling of the mucous membrane of the fauces, and especially of the tonsils; deglutition painful and difficult.

The inflammatory sore throat is usually subdued in a few days; yet occasionally the enlargement of the tonsil glands and adjacent parts is so considerable as to threaten suffocation. This unhappy occurrence is not without its use,—it teaches caution, and inculcates the necessity of employing venesection, blisters, saline purgatives, liniments, and abstemious living. Should it, however, take place, and life seem to be hazarded by the want of atmospheric air, an incision ought to be made into the trachea. Paristhmitis usually ceases with ptyalism or diarrhœa; yet occasionally it proceeds to suppuration, principally in the tonsils, or forms various little abscesses. Here no danger is to be apprehended; for astringent gargles, suitable laxatives, bark and acid, and generous living, will effect a cure. In every stage

* Baillie, Morbid Anatomy, p. 129.

of this disease it has appeared to me that the inhaler of Mudge was beneficial, particularly in subduing the pain and tension of the throat. The tonsils frequently remain enlarged for several months, and are exceedingly susceptible of cold, but for which medical aid is not required.

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XIX. *Laryngitis.* Acute inflammation of the epiglottis, glottis, and larynx, which threatens suffocation, induces great distress, and renders the voice almost inaudible.

This disease brooks no delay. The nature of the parts inflamed; the small aperture of the larynx, on which life hangs; and the violence of the inflammatory action,—convincingly prove to the most indifferent that twenty hours will surmount every difficulty. Venesection is to be carried to its utmost extent, and repeated again and again, aided by blisters and cathartics, until an obvious abatement of symptoms occurs. With debility and after consequences the practitioner has nothing to do:—a person, previously in good health, is suddenly seized with a most acute inflammation of parts essential to life; and that inflammation is to be overcome instantly, decidedly, completely. If the inflammation, in spite of all remedial efforts, have so far advanced that, by

closing the glottis, it has rendered breathing impracticable, the trachea must be opened between its rings, which will admit air into the lungs, and perpetuate respiration. Mr. Charles Bell* recommends this operation to be performed in a different part,—namely, between the thyroid and cricoid cartilages; and then to introduce the handle of the knife, to enlarge the opening. In my opinion, such a recommendation is highly objectionable.

The morbid appearances, when life's troubled scene is over, are inflammation of the epiglottis, glottis, and larynx; serum and coagulable lymph are effused; and the rima glottidis is either narrowed or closed. The lungs have been distended with serum and mucus.

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XX. *Tracheitis.* Respiration, sonorous and suffocative; clangorous cough; considerable fever.

This disease is well known by the familiar term, croup: it assails children, and consists of an inflammation of the mucous membrane of the larynx and trachea. This inflammation is of a peculiar kind, since, while simple inflammation would only

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* Surgical Observations, &c. part i, p. 46.

induce a discharge of pus from the inflamed surface, this produces a layer of coagulable lymph, which sometimes almost fills the air tubes, and occasions suffocation. The cough is dry, distressing, and somewhat resembles the crowing of a cock; and sometimes filamentous substances are coughed up. Breathing is performed with uncommon difficulty, from the state of the larynx, trachea, and adjacent parts. If the disease terminate fatally, every symptom increases in violence, and death closes the scene about the third, fourth, or fifth day.

In my opinion, genuine croup almost always destroys life. Nor is this to be wondered at;—not only are the larynx and trachea highly inflamed, but the inflammation rapidly spreads throughout the whole of the lungs; and, still worse, a child is the sufferer; and in children the aperture for breathing is not more than a line and a half in breadth*. The glottis is twice as large in adults, according to Richerand†.

The following practice is to be pursued steadily and firmly. Blood is to be abstracted early and in large quantities, an antimonial emetic is to be

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* Baillie, Morbid Anatomy, fasc. ii, pl. 2.

† Elem. de Physiol. ch. xi.

exhibited, and the bowels thoroughly opened by calomel, which may be given in doses of five grains every two hours. The child, in the first instance, ought to be bled until it faint:—in general, a child will be able to lose above an ounce of blood for every year of its age; but here a larger quantity may be abstracted. After the emetic has operated, twelve leeches should be applied to the integuments covering the larynx and trachea; and when they have ceased to bleed, a large blister may be substituted.

The use of the warm bath is not to be omitted; yet the principal means of safety consist in venesection, emetics, purges, and blisters, singly and simultaneously prescribed and repeated, according to the peculiarity of the case, and consentaneous with the judgment of the physician. To obviate suffocation, an opening may be made into the trachea, which Mr. Andree once performed with success. I will not say the practice here recommended will generally cure croup—I know it will not; but I do contend it promises the only rational prospect of success.

Dissection displays these appearances. The inner membrane of the larynx and trachea is loaded with blood-vessels, and is lined with a layer of yellowish pulpy matter, which does not adhere firmly, and it extends into the small vessels of the

bronchia through the substance of the lungs. There is, likewise, a considerable mixture of mucus and pus in the trachea and air-cells of the lungs: sometimes these organs are found full of dark-coloured blood and serum; or are affected with deep-seated inflammation, and purulent matter within their cells.

The physiology of the larynx will not detain us long. The voice is principally produced by the glottis, in conjunction with the larynx; for when certain parts are destroyed by ulceration, it is lost. The larynx, being a beautifully constructed organ fixed upon the trachea, like a capital upon a pillar, is compared to an eolian harp by Blumenbach; while Kratzenstein compares it to a drum; Ferrein, to a violin; and Dodart, to a flute. Man, and singing birds, to use the language of the former, have the power of whistling. Singing, which is compounded of speech and an harmonic modulation of the voice, is conceived to be peculiar to man, and the chief prerogative of his vocal organs. The power of whistling is innate in birds; and many may be taught to pronounce words. Even dogs have shewn a like aptitude. It is recorded, that genuine singing has, once or twice, and with uncommon difficulty, been taught to parrots; whilst scarcely a barbarous nation exists, in which singing is not general:—yet Rousseau denies that singing is natural to man.

According to Blumenbach, voice is produced in the larynx; and speech, by the peculiar mechanism of the organ. In laughter there is a succession of short and abrupt expirations. Coughing is a quick, violent, and sonorous expiration, following a deep inspiration. Sneezing, mostly the consequence of irritation of the mucous membrane of the nostrils, is a violent and apparently convulsive expiration, preceded by a short and strong inspiration. Hiccough is a sonorous, very short, and almost convulsive inspiration, excited by an unusual irritation of the cardia. In weeping, there are deep inspirations, quickly alternating with long, and occasionally interrupted, expirations. Sighing is a long and deep inspiration; and the subsequent expiration is sometimes accompanied by groaning. Gaping is produced by a full, slow, and long inspiration, followed by a similar expiration, the jaws at the same time being drawn asunder, so that the air rushes into the open fauces and eustachian tubes. It occurs from the blood passing through the lungs too slowly.—Such are the opinions of the German Professor, who seems to have adopted them from the writings of Fr. Lupichius, J. Melch, Fr. Albrecht, Beat, Porta, Thiel, J. F. Schreiber, Berdot, and Günz. Majendie* has written ingeniously on the voice.

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* Precis Elementaire de Physiologie, t. i, p. 216.

The experiments of M. Le Gallois * are exceedingly interesting; but it is obvious they must be omitted, along with the sentiments of Richerand †. Let it not be said the name of Blumenbach is too often introduced:—it will not be insinuated he has taught me physiology, since I have studied it above twenty years, and have only been acquainted with his work five months; but upon reading it I was gratified to find that his opinions more strongly resembled my own than those of any other physiologist. In adverting, then, to the physiology of Blumenbach, I only promulgate my own, long ago adopted and firmly believed; and it is but natural that I should shelter myself under an authority so justly celebrated. If I preserve comparative silence respecting other men, it is not that I am ignorant of their publications; but only that I cannot subscribe to their incongruous hypotheses, illogical doctrines, and inconclusive experiments.—For farther information relative to the voice, and other matters concerning the larynx and its appendages, the curious reader is referred to the observations of Young ‡ and Knight ‖.

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* Experiences sur le Principe de la Vie.

† Element. de Physiol. ch. xi.

‡ Philos. Transac. p. i. 1800.

‖ Analytical Essay on the Greek Alphabet. London. 4to. 1791.

XXI. *Pertussis.* Repeated paroxysms of violent coughing, especially during the night attended with long sonorous inspirations sounding like *hoop*, which commonly terminate in vomiting, or bleedings from the nose or lungs.

Hooping-cough*,—for such is pertussis,—consists, not in spasm, but in an inflammation of the glottis, which either remains there, or involves the larynx, trachea, and lungs. The specific nature of the inflammation, like other specific ones, satisfactorily explains why pertussis is often contagious, and why, in its effects as well as in its duration, it widely differs from common inflammatory affections. The same is exemplified in erysipelatous inflammation, which scarcely can be said to suppurate—also, in the air-tube in croup, where inflammation induces a yellowish layer of coagulable lymph, instead of pus only, as in bronchitis, or in the urethra, which is lined by a similar mucous membrane—likewise, in the different serous membranes of the circumscribed cavities, where water or serum, curdy matter or pus, is the common product of inflammatory action.

The inflammation may be subacute or acute, passive or chronic; and according to its kind and

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* "Chin-cough, or more correctly Kin-cough, or Kind-cough; literally Child's-cough, from the German, kind, 'a child.' "—Good's Nosology, p. 105.

degree, so will the cough, depending on such inflammation, be mild or severe, short or long continued, cure itself spontaneously, or terminate unhappily. If the inflammation be subacute, it will proceed favourably to health; if passive or chronic, it may last a considerable time without danger; and if highly acute, the inflammation may, and often does, reach the lungs, and destroy life like pneumonitis, for such then is the disease, with pertussis superadded. The duration and event of hooping-cough correspond with what is here advanced:—sometimes it extinguishes life in a few days; and occasionally it obtains for several weeks; and not unfrequently it is protracted to the seventh or eighth month. The affection is contagious, or would seem to be so; and although children are most obnoxious to it, yet adults enjoy no immunity. In men it is inconceivably distressing, often causing profuse hemorrhages from the nostrils and lungs; and such is the occasional severity of the attack, that Heberden says men fall under it as if stricken by epilepsy. The remarkable *hoop* of pertussis is a sonorous inspiration, and arises from the air, in its transit to the lungs, striking against the inflamed glottis; and this effect will be louder in consequence of the aperture being so small in youth, the violent struggles during coughing, and the aggravated nature of the inflammatory action. Sometimes the *hoop* is wanting, which leads some to doubt whether the affection is pertussis; but it

is by no means a necessary, although a very frequent, attendant; and, in the opinion of others, the absence of it promises a mild attack.

The fever which attends hooping-cough varies in degree, being sometimes slight, and disappearing in a week; and occasionally, severe and long continued, with oppression, sickness, and want of appetite. When the cough is formed, the paroxysm consists of a number of short expirations in rapid succession, so as to induce a sense of suffocation, which is relieved, for an instant, by a violent, full, and *hooping* inspiration;—then the expirations recommence; and thus, in alternate succession, does the paroxysm, always most frequent and distressing during the night, continue until it terminate by a discharge of phlegm, the contents of the stomach, or hemorrhages from the nose or lungs. The paroxysms differ in frequency and duration: they are slight, moderate, or severe, so as to make the face turgid and purple, cover the body with sweat, produce coldness of the extremities, and an agitation of the whole frame. Yet still, generally, during the intermissions, the child is cheerful, and eats heartily, although the face is somewhat swollen, and remains so for a considerable time. If the inflammation be confined to the glottis, the health does not commonly suffer: the appearance is seldom altered: there is little fever, and in a few weeks the inflammation

slowly subsides, the characteristic *hoop* departs, and recovery follows as if from catarrh. In other instances the inflammation, still confined to the glottis, and slightly implicating the larynx, becomes decidedly chronic; and the paroxysms, with discharges of phlegm, food, and blood, attended by a swollen countenance, continue for many months. Even here no great danger is to be apprehended, because the inflammation evinces no disposition to spread;—there is no serious affection of the general health—no fever—no convulsions—no anasarcous swellings—the child manfully grapples with the disease, and will not be overpowered. But more unhappy cases meet our view, and most generally in extreme youth and debilitated frames. Here every symptom is unfavourable. The child is exceedingly feverish, even in the intermissions. The paroxysms are frequent, long, and violent; there is considerable exhaustion of the system; the sufferer pants for breath; even after the paroxysm it does not breathe freely, and its face is flushed or pale alternately: there is no appetite—no activity—but thirst, and unwillingness for motion; and all this may occur within the first twenty days. Here the inflammation of the glottis is most acute: disdaining its own narrow limits, it seeks to extend them by rapidly travelling over the larynx, trachea, and lungs. Now the patient, in addition to pertussis, has pneumonitis to contend against,

and of which it presents every symptom. If the disease proceed unchecked, the breathing becomes still more difficult, the paroxysms abate, convulsions sometimes occur, and death ensues from copious effusion into the lungs.

Such being the nature of pertussis, ignorance alone can mistake the treatment. Let not the medical attendant deceive himself and others—let him not imagine he has an insignificant affection to manage; let him remember it is inflammation which he has to subdue,—inflammation, intricate in its kind and rapid in its progress; and if he be either a father, or has known what it is to gaze with transport on a beloved child, blooming in beauty, and captivating all by its intelligence, he will watch the disease with a vigilance equal to that of him* who preserved the Roman citadel in the hour of its greatest peril.

Called on to treat pertussis, active means should be employed, since the inflammation ought to be instantly checked. Doubtless all are not to be treated alike; yet, as a general principle, the advice is judicious. Ten leeches are to be applied to the integuments covering the thyroid cartilage; and a large dose of calomel should be given, and

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* M. Manlius, Livii Historiæ, lib. v, cap. xlvii.

repeated every three hours. In the evening, after the bowels have been freely opened, an emetic may be administered, composed of ipecachuan and tartarized antimony. Next day will shew what impression has been made, which must regulate the repetition, increase, diminution, or alteration, of these powerful agents; and if symptoms be unfavourable, recourse must be had to venesection. Next in importance to these, and far superior to some of them, is opium; but which is only admissible after liberal venesection and copious purgation. Opium, in doses suitable to age and other circumstances, exercises an admirable effect in allaying the cough, preventing the accession of the paroxysms, and subduing the inflammatory action of the extreme vessels. Indeed this medicine, from its apparent utility, has been much recommended by eminent men; and as opium is famous for overcoming spasm, perhaps, in this manner, the idea of spasm originated, as appertaining to this disease, with which it has no connection. In the plurality of cases, a perseverance in the practice here advised, subject to the necessary changes which human life presents, will produce a restoration to health. There are no objections to a blister, or to the employment of the warm bath.

The quantity of blood to be abstracted must, in every instance, depend upon the individual case. Sometimes six leeches may suffice; at others,

twenty may be indispensable—one bleeding may be sufficient, or frequent repetitions of it may be necessary—occasionally, blood must be drawn from the arm or hand:—the whole of the agents are committed to the practitioner; and their application is subservient to his judgment. Where hooping-cough becomes chronic, is of long continuance, notwithstanding the most appropriate superintendance, it is best to suspend the administration of medicine, and to carry the patient to a distant county, which often accomplishes a cure. In melancholy cases, unfortunately not very rare, the sufferer, under acute pertussis, is suddenly destroyed by convulsions; or, where the disease is protracted, it sometimes dies, under all the symptoms of pulmonary consumption, with hectic fever.

Dr. Watt, of Glasgow, has written an excellent book on hooping-cough, in which he dwells on its inflammatory nature; yet his views are different from mine. My opinions were formed above twenty years ago, long before he published, in consequence of Sir Astley Cooper calling my attention to the fact of pertussis being, in the first instance, an inflammation of the glottis. Dissection discovers the glottis to be highly inflamed; also the larynx, trachea, and lungs, and occasionally the bronchia and air-cells are filled with a white purulent matter. Serous accumulations are

in the pericardium. When the disease has continued long, tuberculated lungs, visceral obstructions, and enlarged mesenteric glands, are apparent.

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XXII. *Hydrocephalus Acutus.* Violent pain in the head, sometimes on one side, or in the belly; nausea or vomiting; face flushed; pupils contracted; skin hot; pulse quick; tongue furred.

Hydrocephalus, like every other dropsy, arises from inflammation, which probably commences in the membranes of the brain, and thence spreads into its substance. Dissection has proved, or ought to have proved, this important fact long ago, since never yet was there a fatal case, without displaying obvious marks of inflammation. Yet all these have been overlooked or disregarded by some; and debility has been pitched upon as the cause of this and of other dropsies,—the bug-bear debility, the *Circe* of fevers, which has been more hurtful to suffering humanity, than earthquakes to the physical world. A name, and that name all a lie, has too often been the innocent cause of conducting numbers to the tomb.

We read of authors curing hydrocephalus acutus.—Here we experience a want of that precision

which is common in medical writings. Already I have alluded to one notorious and dangerous source of fallacy: yet the subject is not exhausted. If by hydrocephalus be meant water in the ventricles of the brain, I hesitate not to assert, that it never was, and never can be, cured; since, admitting the existence of absorbents in that organ, which I am not disposed to deny, although they never have been demonstrated, it is physically impossible that, under such a state of the system, they can remove the deposition, and restore the inflamed parts to their integrity. But if we consider hydrocephalus to be what it really is, in the first instance, an incipient inflammatory action of the brain or its membranes, doubtless this may be subdued by the most appropriate antiphlogistic treatment: yet still the lover of truth, ever leaning to the doubting side, will, when it is remembered how different diseases simulate each other in their symptoms, pause, and be reluctant to affirm that the disease was truly hydrocephalus. Nothing is more injurious to the art of medicine, than for practitioners to be smitten with the love of accomplishing great cures, since those who are on the alert for them will seldom be disappointed. Where a disease terminates in death, we are justified in considering it to be that serious one which symptoms indicated, because the event was usual, and in accordance with experience; but where it passes into health, unless indeed its nature be palpable,

we shall act rightly in exercising distrust, and indulging suspicion relative to the probability of misconception. This is true philosophy—the compass and pole-star of truth—the guide of unerring practice; and which will have no opponents among the enlightened. It is a wise maxim to take all the disgrace of real defeat; but strenuously to refuse all the honours of seeming victory. Were the principles I have ventured to propound rigorously and extensively acted upon, remarkable cases and wonderful cures would be "like angels' visits, few and far between;" and the profession would be spared the shame of hearing and reading the trite adage "*medical facts, medical lies.*"

The author of the article *Hydrocephale*, in the French Dictionary of Medical Science, states that the two seasons, in which he noticed the greatest number of hydrocephalic cases, were marked by the epidemic scarlatina, and numerous irregular fevers, among children. In his opinion, the acute hydrocephalus is able to assume an epidemic character; and which, he says, really occurred in Geneva. Under scarlet fever it was mentioned that occasionally water is effused into the ventricles of the brain; and this unhappy and accidental circumstance has probably laid the foundation for the statement here noticed, which is substantially true, although incorrectly explained.

Hydrocephalus acutus ought to be divided into two stages, namely, the *inflammatory* and *effusive:* the first is *curable;* the latter, *mortal.* If this be correct,—and I invite refutation,—the treatment is to be directed to the *inflammatory* stage alone; for to attempt to cure the *effusive* would be as impracticable, as it was for Archimedes to raise the world without a place to stand upon. The subjects of this disease are mostly young children, or those under twelve years of age; and it often pervades families.

The *inflammatory* stage is thus characterized.—For a considerable time preceding its invasion, the child is neither well nor ill; is listless; cries without any apparent cause; or if older and able to walk, it is restless or supine, placid or irritable; sometimes playful, and occasionally lazy; complains of headach or sleepiness; reposes his head on a chair, sofa, or table:—yet still he is not thought to be seriously indisposed, although he at times says his head or belly pains him, and that his evacuations are hard and white in colour. Soon after, his appetite fails; he has frequent sick fits, or vomits bile; his bowels are costive, or perhaps he discharges dark-coloured green or fetid stools, and complains occasionally of his head. In the evening the face is a little flushed, the skin hot, and now the disease commences; but sometimes the premonitory symptoms are inconsider-

able, and hydrocephalus begins suddenly. The patient complains of chilliness whilst the skin is hot; his head is exceedingly painful, especially over the forehead, and sometimes on one side of it; or the neck may suffer. He lies in bed; his eyes are sensible to the light, and the pupils are usually contracted. A cough and muscular pains are not unfrequent. The pain in the head is constant; the subject of it moans, or shews indifference to surrounding objects. The sleep is broken; there are startings and grinding of the teeth. The pulse is not always frequent, though commonly quick in the first instance: it is seldom above 120 in a minute. Throughout the whole of this stage there are frequency of pulse, great sensibility, and considerable excitement.

The *effusive* stage commences in four, eight, ten, or twelve days, although each is subject to great variation of symptoms and of duration.—Now the pupils are dilated; the patient squints; and occasionally there is a return of vomiting. The pulse becomes slow, irregular, and not exceeding 60 beats:—a tremendous fall from 120, indicating the difference between inflammation and effusion. There is less headach, the inflamed parts having relieved themselves by effusion; but the child cries and screams, the pupils begin to be dilated, the eyes less sensible, and the cheeks are flushed or pallid alternately, whilst it sleeps with

half-closed eyes, or complains of pain and giddiness when the head is raised. Occasionally, delirium follows; or the patient may be intelligent. Now and then he rallies, takes food, but sinks again as if overcome. In two or three days the pulse is rather quicker; a feeble action in the system to destroy a deadly cause; the pupils are more dilated; light is intolerable; and every symptom indicates the slow, yet certain and constant, effusion of fluid. The symptoms of oppression of the brain become more striking; the pulse is small, weak, and quick, even to the amount of 160 beats in a minute. One side is affected with paralysis; and convulsions are not uncommon. The eye squints; vision gradually departs; the urine is retained altogether, or evacuated with the feces involuntarily. These melancholy symptoms are the precursors of death; and very soon, indeed, but not soon for agonized human nature, the victim of an intractable disease takes a last conscious view of earthly objects, before it relinquishes an unavailing struggle. In this stage there are a slow pulse, diminished sensibility, and an oppressed brain. The man who could hope to cure such a stage as this, would be as mad as the philosophers who fancied that all the ships sailing down the Hellespont were their own.

Hydrocephalus acutus, in a child above two years of age, generally runs on until the nine-

teenth or twenty-first day; but in a younger, it frequently terminates before the seventh or eighth. Upon dissection, the vessels of the membranes and of the brain itself are turgid with blood, together with a general appearance of inflammation, and the effusion of coagulable lymph. The lateral ventricles contain various quantities of water; and sometimes water is found in the third ventricle, and even in the fourth, where the accumulation is great, and has raised the anterior extremity of the fornix. The fluid is mostly pure and limpid, varying from ounces to pints, and never jellies, even when exposed to heat. The viscera of the abdomen are sometimes inflamed, and especially the liver, which seems to have an intimate connection with hydrocephalus acutus.

The treatment of the *inflammatory* stage must be prompt, vigorous, and determined.—The child is to be bled from the jugular vein, until it sink into apparent death—the quantity of blood drawn is not worth a moment's thought; next, the bowels are to be actively purged by repeated doses of calomel, which are never to be intermitted; and, lastly, the whole of the head is to be shaven, and covered with a blister.—These are the agents to be relied on, from the commencement to the termination: how often each is to be repeated, and what alterations are to be made, will depend upon the individual case, since none are alike with re-

spect to symptoms and occurrences, ages and constitutions. When the bowels have been sufficiently acted upon, it is excellent practice to add a small quantity of opium to the calomel, and then to continue its administration with unceasing activity, so as to affect the salivary glands; for experience, on the largest and most indisputable scale, has convincingly proved that ptyalism exercises a most salutary influence over all inflammations. There are no objections to the application of the coldest fluids to the scalp, nor to the employment of numerous leeches as auxiliaries to venesection. Beset by dangers, and pressed with difficulties on every side, we must invite into our service whatever can assist and extricate us in such emergency.

Hydrocephalus chronicus appears to arise from a peculiar inflammatory affection of the dura mater only, which ends in a gradual, yet ultimately considerable, deposition of water between that membrane and the tunica arachnoides. This deposition is sometimes enormous*, and attended with immense enlargement of the head, and gaping of the sutures. The disease may begin in utero, or soon after birth, and does commonly commence within the first year or two of life. In a short time the

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* Eph. Nat. Cur. dec. iii, ann. 1, obs. 10.

Consult Van Swieten, Boerhaave, and Michaelis Med. Com. i, p. 25.

body wastes, and the muscular powers are impaired; the skin is hot, the bowels constipated, and vision double: yet the subject may live many months, or even years, in such a state of deformity and idiotism. The pupils are dilated; the eyes squint; the limbs are paralytic and convulsed; the urine cannot be discharged without the catheter; the pulse is full and slow, afterwards weak and fluttering; and, sooner or later, death succeeds coma and stertorous breathing.

As chronic hydrocephalus begins insidiously, it is usually developed before medical aid is demanded. Here we have no inflammation to contend against, but only its consequence,—an effusion of water, conjoined with a shattered and paralytic frame. Venesection, therefore, is inadmissible; and purgatives to affect the intestines, the use of mercury and digitalis, and tonics and stimulants, are all which can be recommended. The frequent discharge of the water by a small puncture has occasionally afforded temporary relief. "In a case attended by my brother," says Mr. Burns,* "he succeeded so far with the mercury and digitalis, as to render the fontanelle slack; whereas, before, it was tense and prominent. But whenever this slackness was produced, convulsions came on; and

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* Principles of Midwifery, p. 526.

the patient died."—This extract does not place the utility of mercury and digitalis in a favourable light.

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XXIII. *Hydrothorax.* Sense of oppression in the chest; dyspnœa on exercise or decumbiture; livid countenance; urine red and spare; pulse irregular; edematous extremities; palpitation and sudden startings during sleep.

That this disease is the result of an inflammatory action of the pleura or lungs, or both, which has terminated in effusion, will be doubted by none who have attentively observed its phenomena. In fact, hydrothorax, fatal to life as it often is, is only one of the consequences of inflammation, just as empyema is another. Instances of inflammation, ending in effusion into circumscribed cavities, are recorded by numerous writers; and their notoriety renders citation useless. In my opinion, it is inflammation, rather of a milder nature, which thus relieves itself by effusion; since that of a more active kind would probably advance to suppuration. If the reader turn to the article enteritis, he will find an interesting case of inflammation of the intestines, which ended fatally, where the thoracic cavities were filled with water; yet there the inflammation was not idiopathic, but

had extended from the peritonæum covering the intestines, to its continuous membrane, the pleura. Was not this hydrothorax?—Yet no complaint was uttered concerning the chest; but inflammation of the intestines undoubtedly existed, since it had made the colon gangrenous and sloughy, so as to admit the escape of the feces. If inflammation then of a neighbouring part can occasion hydrothorax, surely it can do so where the parts themselves, containing the deposition, are inflamed. When an accurate inquiry is instituted, it will be elicited that hydrothoracic patients have, for an indefinite period, laboured under pain in the chest and difficulty of breathing, which were attributed to catarrh, but really arose from slight inflammation. If this inflammation terminate in resolution or adhesion, common occurrences, all is well; but should it proceed to effusion, the patient says he is relieved from that pain and soreness which have so long annoyed him; yet he feels a heaviness or weight in his chest.—Such are the morbid phenomena which precede hydrothorax in its obvious state, where all doubt is at end.

Whenever patients complain of pain in the interior of the thorax, and difficulty of respiration, practitioners should employ the lancet; for such symptoms disregarded may lay the foundation for a dangerous malady. Called on to treat hydrothorax, the especial object is to ascertain the exist-

ence of water; and to discover whether the inflammation that caused it has ceased, or still obtains. Upon this the propriety or impropriety of venesection hinges. If the former, it will be injurious by sinking the powers of life in vainly combating an affection which has done its worst; if the latter, the lancet must be taken up, and used firmly and judiciously. To discover whether there is an accumulation of water in the chest, Corvisart recommends percussion with the hand; and Bichat, pressure on the epigastrium, which, in such cases, aggravates the sense of suffocation*. When hydrothorax is fully formed, medicine, in general, effects but little, and consists of emetics, purgatives, and diuretics. In addition to which, repeated blisters should be applied to the thorax, and their surfaces kept open by savin cerate. The mouth ought to be kept slightly affected by small doses of calomel and opium; and, to alleviate the cough and other distressing symptoms, squills, combined with laudanum, are to be administered.

The quantity of fluid accumulated in the thorax is sometimes considerable; and of which, authors have recorded extravagant instances, unworthy of comment. This fluid, unlike that in the ventricles

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* See their respective works; also that of Laennec, French Edition, or translated by Forbes.

of the brain, almost always jellies upon the application of heat; and it is occasionally found in the pericardium, and cellular membrane of the lower extremities. The lungs on the affected side are often compressed by the largeness of the accumulation; and Baillie* once saw a lung, from this cause, about the size of a closed fist.

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XXIV. *Ascites.* A tense, equal, and heavy swelling of the whole of the belly, distinctly fluctuating to the hand on a slight stroke by the other hand on the opposite side. Face pale and sallow; general ill health; paucity of urine; dryness of skin; œdema of the legs and feet.

The same doctrine which was proposed relative to hydrothorax applies here with equal pertinency, and receives strong confirmation from the notorious fact, that traces of inflammation, and disease of the liver and of other viscera, are commonly found in those who die of ascites. Inflammation of the peritonæum, or of any organ, would, were it violent, most probably end speedily in recovery or death: but it is easy to conceive that where the inflammation is less active, or confined in ex-

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* Morbid Anatomy, p. 57.

tent, the symptoms will be less acute, and engage less attention, until, by their insidiousness and constancy, an effusion of water takes place, or a viscus becomes diseased, and then, and not till then, the obvious disease receives its designation from a mere result of an hidden one, and the whole series of morbid phenomena, antecedent to the deposition of fluid, is overlooked.

The operation of paracentesis is considered a simple one, and so it often is; yet a wound is made into the peritonæum,—no trifling matter. To this wound great attention is to be paid: if it heal by the first intention, there is no danger; but should water dribble away, as happened to Mr. Fox, and numerous others, peritoneal inflammation is to be apprehended. The spot where the trocar is introduced is an important consideration. The ancient mode is justly abandoned; for as the recti muscles are bent by the immense distention of the belly, and as the epigastric arteries lie under these muscles, there was considerable risk of wounding one of them, and which accident sometimes occurred. The practice of plunging the instrument into the umbilical aperture is now deservedly reprobated; for what is more likely to lay the foundation for an hernia? The modern plan is the best,—namely, in the linea alba, midway between the umbilicus and pubes. In undergoing this operation, the patient should invariably

sit upright on a chair, and as far back as possible; for in any other position the omentum and some of the intestines may be wounded by the point of the trocar, since, in leaning forwards or lying on one side, they are close to the peritonæum.—These are not needless cautions: such accidents have happened to one of the first surgeons in London, now venerable and beloved.

In ascites, the same rule is to be observed as in hydrothorax,—namely, to bleed, if there be inflammation, and likewise to pursue the other modes of treatment: but it is proper to observe, no disease is more difficult to cure. It is possible that simple debility may induce a deposition of water into the cavity of the peritonæum, which is susceptible of absorption; but this is a rare occurrence, and ascites is the result of inflammation and structural disorganization. The effect, therefore, is nothing; —it is the cause which calls for, but seldom admits, relief.

Dissection shews a quantity of water in the abdominal cavity, mostly serous, and containing flakes of coagulable lymph. Sometimes the water is in small cysts, distinct, and constituting hydatids. The liver is enlarged, indurated, tuberculated, turgid with blood; and the pancreas, spleen, and mesenteric glands, are also increased in size. The stomach is occasionally scirrhous, while the perito-

næum is inflamed, thickened, studded with whitish elevated points; and, more rarely, its appearance simulates gangrene.

Such is ascites, or dropsy of the belly:—encysted, or ovarian dropsy, is next to be noticed. The latter is, in the first instance, easily distinguished from the former, since the enlargement commences on one side, just as the right or left ovarium is the seat of the disease; whereas, in ascites, it is general and equable. Again, in ovarian dropsy the health is often unaffected; while in ascites it is directly the reverse. According to my experience, men are more obnoxious to peritoneal dropsy, whom it soon destroys; and women, to the ovarian, who generally bear it well, and live for years. I once knew a woman, at Whitburn, who enjoyed a good state of health, and who was tapped annually for a large ovarian dropsy; and many similar cases are on record. Such instances never occur among males, for reasons already mentioned. Indeed, it is said females have been cured of an ovarian dropsy in consequence of falling down a flight of stairs. In this there is nothing either incredible or ludicrous. The fall bursts the cyst—its contents are extravasated into the cavity of the peritonæum, and are taken up by its absorbent vessels, which are in an healthy condition. The reason why the health suffers so much, and death so commonly ensues in ascites, compared with hydrops ovarii,

is sufficiently apparent; since, in the former, the part is more essential to life, and the viscera are almost always diseased; while, in the latter, a simple inflammation of the internal surface of one of the ovaria has relieved itself by effusion. But notwithstanding ovarian dropsy may continue for years, and does not very often undermine the general health, it is incurable*; for no internal or external remedies are known which can accomplish the absorption of so large a quantity of fluid. The medical attendant can only pay attention to the system, and draw off the water, agreeably to the directions and cautions inculcated. Some have attempted to cure this disease by the introduction of a stimulating fluid, similar to the cure of hydrocele by injection,—a practice at once absurd and dangerous.

Le Dran is of opinion this dropsy always begins with a scirrhus; and Dr. Hunter entertains one diametrically opposite. Burns† has seen the inner surface of the ovarium studded with almost twenty-four large tumours; while Morand notices two cases, in which a similar structure obtained. In a patient of Dr. Johnson‡, the right ovarium was

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* Dr. Wm. Hunter, Med. Obs. and Inquiries, vol. ii, p. 41.

† Principles of Midwifery, p. 92.

‡ Med. Comment. vol. vii, p. 265.

converted into a fleshy mass, weighed nine pounds, and contained numerous cysts. Dr. Pulteney* writes concerning an ovarium, which weighed fifty-six pounds; and Sampson† describes another, which was filled with hydatids, and contained one hundred and twelve pounds of fluid. Willi, Vater, Morgagni, Bosch, French, Denman, Ford, Martineau, Le Dran, Houston, Voison, Monro, Cleghorn, Schlencker, and Fontaine, have recorded various cases of dropsical and diseased ovaria; and for an account of each, certainly interesting and instructive, the reader may turn to their respective publications.

Anasarca and œdema, being merely symptomatic affections, are with propriety mentioned here: —the first is an effusion of lymph into the cellular membrane of the whole body; and the second, only of the legs and feet. Œdema occasionally arises in those who have travelled much in coaches, or sitten long,—probably from a loss of balance between the exhalents and absorbents; since, during inactivity, the absorbents are mostly sluggish, whilst fear quickens their action. A man, suffering under hydrocele, and afraid of an operation, ran away, and returned cured in a week.

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* Mem. of Medical Society, vol. ii, p. 265.

† Philos. Transac. No. 140.

XXV. *Catarrhus Acutus.* Inflammation of the mucous membrane of the nostrils, sinuses, and fauces; sometimes extending into the larynx and trachea.

As this affection not unfrequently interferes with taste and smell, there can be no incongruity in entering into their physiology.

The tongue is chiefly composed of muscular fibres; and it is covered by a membrane, similar to the common integuments. The cutis vera is abundantly supplied with nerves, and covered with small projecting bodies, termed the papillæ, which are dispersed over the upper surface of the tongue. There are three kinds of them, namely, the *capitatæ*, the *lenticulares*, and *conicæ*. The organ of taste is the tongue, by means of its papillæ, which are furnished with extreme filaments of the lingual branch of the fifth pair. It would seem that the ninth pair of nerves, and the branch of the eighth which also supplies the tongue,* are destined, not for taste, but for the other functions of the organ,—such as articulation, chewing, and swallowing. The papillæ around the apex and margins of the tongue are slightly erected during acute tasting, and hence an increased flow of saliva

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* Monro on the Nervous system, tab. xxvi.

at the sight of delicious viands. Besides these papillæ, there are numerous mucous follicles at the root of the tongue; together with an orifice, likewise of a mucous follicle, called after its discoverer, the *foramen cæcum* of Morgagni.

Smell depends upon the pituitary membrane which lines the nostrils and convexities of the turbinated bones, and to which are distributed principally the first pair, and two branches of the fifth pair, of nerves. The best physiologists think the former is the seat of smelling; and the latter to be for other purposes. The extreme filaments of the first pair do not terminate in papillæ, but, as it were, deliquesce into the spongy and regular parenchyma of the nasal membrane. The organ of smell is small and imperfect at birth, and the sinuses are scarcely discoverable:—smell, therefore, is a gradual acquisition as the internal nostrils are evolved. According to Rousseau*, smell is the sense of imagination. Notwithstanding the same mucous membrane invests the nostrils and their sinuses, its texture varies in different parts. Near the external openings it is similar to the skin, and beset with sebaceous follicles, having hairs termed *vibrissæ;* on the septum and turbinated bones it is fungous, and abounds in mucous cryp-

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* Emile, tom. i, p. 367.

tæ; while in the frontal, sphenoidal, ethmoidal, and maxillary sinuses, it is exceedingly delicate, and furnished with an immense number of blood-vessels, which exhale an aqueous moisture*. Savages possess wonderful acuteness of smell, especially the North American Indians, to whom it is highly useful in their multifarious occupations. Rush† has written concerning the power of smell over morals and propensities.—"Many substances excite both smell and taste,—a compound sensation to which Dr. Prout, in a very original paper‡, conceives the term flavour properly to apply; hence, in catarrh, such substances scarcely give any sensation, as the sense of smell,—one ingredient, is impaired‖."

At the commencement of catarrhus acutus, the nasal discharge is thin; then copious, like a mixture of mucus and pus; and presently it is pure pus, without any admixture, clearly evincing the progressive effects arising from an inflammatory action of a mucous membrane. A little fever commonly attends it: and the grand object is to

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* See Blumenbach's Physiology, sec. xv.

† Med. Inquiries and Observations, vol. ii, p. 34.

‡ London Med. and Phys. Journal. 1812.

‖ Elliotson's Notes, p. 162.

prevent the inflammation from extending into the air-passages and lungs; for in this way pneumonitis may originate. The antiphlogistic treatment is all that is required; and venesection is seldom needed, yet it should never be omitted where thoracic pain or difficult breathing urges. Sometimes the sinuses of the nose, principally the frontal and ethmoidal, are in a partial state of adhesion in consequence of a considerable effusion of coagulable lymph during the inflammatory stage. The celebrated Frank* remarks, with his usual accuracy and judgment, that coughs, catarrhs, and other pulmonic affections, as well as the eyes and fauces and lungs themselves in a state of inflammation, have their origin in the abdomen; and hence the utility of emetics and purgations.

Acute catarrh, especially in the middle-aged, when neglected, often degenerates into a chronic one, that continues for years, and consists of a wheezing in the throat, and a very troublesome cough, with considerable expectoration of pus. In general, the health is good; but the glottis, larynx, and trachea, in consequence of long continued inflammation, have had the action of their extreme vessels so altered, that they persist in secreting pus instead of their natural fluid, mucus.

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* Epitome de curand. Hominum morb. lib. v, pars. i, p. 130.

The cure is difficult: common opiate and expectorant medicines are the best agents; and I have known great advantage result from the daily and nightly employment of Mudge's inhaler. This is the catarrhus chronicus, or winter cough of authors; and some have incorrectly assigned a place to it in their nosologies, as if it were an idiopathic affection, whereas it is merely the sequel of acute catarrh.

In some instances, and particularly in young people of delicate frames, acute catarrh becomes exceedingly troublesome, simulates pulmonary consumption, and severely affects the general health; and writers mistake this disease for phthisis pulmonalis, when they proclaim that they have cured a malady so formidable. Dr. Badham has written anuseful little book on this affection, by him called bronchitis, corresponding with peripneumonia notha.

The treatment of this species of catarrh must vary according to symptoms and individuals. Venesection promises but little, for the inflammation has so changed its action, as to defy its controlling power. Purgatives are much to be relied on, for, agreeably to the correct opinions of Frank, they remove morbid collections, worms, and irritating substances, which are the occasional causes of such affections. Some authors, never content

with plain matters of fact, purloining the original ideas of this eminent man, have gravely asserted, that pulmonary consumption sometimes has its origin in the abdomen. Blisters ought to be applied for pain in the thorax; and they may be kept in a suppurative state by the savin cerate. Opium should be exhibited freely, to appease the cough and other unpleasant feelings; and since copaiba exercises a remarkable effect upon mucous membranes, it may be conjoined, provided caution with respect to dose and agreement with the stomach be observed. The best, indeed the only proper, mode of administration is half a drachm of the copaiba, mixed with yolk of egg and cinnamon water, every four hours, with a suitable quantity of the tincture of opium. In all cases of this nature, great benefit has been derived from a constantly regulated temperature in the apartments, by means of stoves; and to which Mudge's inhaler may be added as an excellent auxiliary.

When acute catarrh is attended with considerable fever, and prevails epidemically, it is designated influenza*. Such an influenza obtained universally in numerous parts of England, in the year 1803; likewise in France, where it was termed *la-gripe*. In London it commenced in

* Pearson on the Influenza. London. 8vo. 1803.

February, when the weather had shewn great vicissitudes. The cure is accomplished by cathartics, emetics, and sudorifics:—venesection and blisters are to be employed in serious cases. Yet, in the first instance, where the patient is young and vigorous, and febrile symptoms are vehement, there is no objection whatever to crushing the disease at once by a large abstraction of blood; and if the head be pained, to cover it with a blister. In febrile and inflammatory affections, the most active practice seldom affords cause for regret. In medicine, as well as ethics, supineness is always reprehensible:—expedition may err, but it is on the side of virtue.

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XXVI. *Dysenteria.* Pain in the belly; griping and tenesmus; alvine discharges scanty, distressing, frequent, bloody, intermixed with pus and mucus.

This disease, of which abundant experience fell to my lot, not only from the Island of Walcheren, in 1809, but in Ireland, during the years 1812, 1813, and 1814,—is never contagious, and is sometimes attended with, and occasionally without, fever. This observation of my own precisely cor-

responds with that of Sydenham*, which has been adopted by Good. Dysentery does not prevail in England: it does so severely in some parts of Ireland; but it is in fleets and armies where its ravages are great and desolating.

Dysentery consists of an inflammation of the villous coat of the large intestines, preceded by considerable irritation. The essence of it being inflammation, the utility of blood-letting is indisputable. Large doses of calomel and rhubarb, alternated with castor oil and the neutral salts, for the mild cases; and the production of moderate salivation by calomel, aided by opium and the other agents, in the more obstinate ones, have commonly succeeded in my own practice. Neither clysters nor blisters are to be recommended, in consequence of the pain they occasion; but striking benefit results from the application of an anodyne embrocation, composed of half an ounce of tincture of opium, and two ounces of the compound soap liniment, followed by a warm flannel roller. Dysentery is a common attendant on the marsh fever; but this does not alter the treatment. Dr. O'Beirne† has published seven cases of dysen-

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* Sec. iv. cap. i, et iii, &c.

See Harty's Observations on Dysentery. London. 8vo.

† Transac. of King and Queen's Col. &c. vol. iv. p. 386.

tery, in which tobacco, prepared as an infusion,—namely, two ounces of the Virginian leaf in two quarts of boiling water for twenty minutes, regulated, increased, or diminished, agreeably to individual cases, and applied as a stupe to the belly, until nausea, giddiness, and debility came on, was eminently successful. A dose of castor oil always preceded the stupe, and on which he lays much stress; and the stupe was occasionally assisted by an enema, consisting of ten grains of the same leaf, infused for twenty-five minutes in six ounces of boiling water. When it is recollected that inflammation is the essence of dysentery, and that tobacco reduces vascular action to the lowest ebb, it is easy to conceive and to explain its utility. This gentleman has been equally successful in tetanus and epilepsy, by a like mode of treatment. No man, in my judgment, has written better on dysentery than Dr. James Johnson, whose work is, as it ought to be, in the possession of every practitioner whose fate it is to treat this sometimes formidable malady.

Cornelius Nepos, in his life of Atticus, the friend of Cicero, records the particulars of the disease that destroyed him, which was most probably a dysentery. He observes, that he had been remarkably healthy for thirty years, when he contracted a tenesmus, which was deemed to be of no importance. Three months passed without his

experiencing any pain, when "subito tanta vis morbi in unum intestinum prorupit, ut extremo tempore, per lumbos fistula putris eruperit: atque hoc priusquam ei accideret, postquam in dies dolores accrescere, febremque accessisse sensit*."

Dysentery gives rise to the following appearances. The inner membrane of the large intestines is thickened, and formed into small irregular tubercles of a white and yellowish colour, together with warty excrescences and numerous ulcers, according to the observations of Baillie; but in my own dissections, performed on an extensive scale in large hospitals, these intestines have been found ulcerated, covered with high granulations of a dark red colour, gangrenous, and sloughy; and occasionally the villous coat of the stomach has participated in the ulcerative process.

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XXVII. *Phlegmatia Dolens.* Uterine irritation; tender state of the pelvic cavity, followed by pain and swelling in the hypogastrium; dysuria; tumefaction of a limb, which is tense, hot, pale, shining, and immoveable. Usual attack a fortnight after delivery.

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* Vitæ Excellent. Imperator. London. 1790.

In this affection the pulse is often 140 in a minute, small, feeble, and sharp; accompanied with all the symptoms of great febrile disturbance. The state of the bowels and lochia is various. The swelling doubles the natural size of the limb; and it is sometimes at its height in twenty-four hours. Within twelve days the swelling and fever abate, but not always; and the patient is feeble, with a limb weak, stiff, and powerless. Small and hard tumours are frequently seen on the back and inside of it, and the inguinal glands are often enlarged. No serum is effused by puncturing the limb, nor does the swelling increase in a depending position; and it is said, in one or two instances, to have suppurated, and even mortified. The female recovers slowly from this disease; the swelling does not depart entirely; the limb remains long weak; and occasionally it continues permanently debilitated and enlarged. Sometimes after the restoration of one limb, or even before it, the other suffers, and without alleviating the first. The disease is seldom fatal, but always tedious and exhausting; and it is often attended with hectic fever. Women are indifferently attacked with it, under every conceivable state, and, as it would seem, without any obviously exciting cause.

In my opinion, phlegmatia dolens arises from an inflammation of the absorbents of the limb; in consequence of which, their functions cease, and

tumefaction occurs from the deposition of lymph. This lymph, long effused, naturally becomes thick and glutinous, as is usual in similar affections.

If the general symptoms run high, venesection is indispensable, and several leeches are to be applied to the worst parts of the limb, particularly to the groin; and they are to be repeated as circumstances may indicate. The bowels should undergo rigorous discipline. Pain or languor ought to be removed by opium, in large doses, which have no mean effect in subduing inflammatory action. When the limb has been sufficiently fomented with warm water, it should be well rubbed, after a few days have elapsed, with the compound soap liniment and opium, which, with a bandage, will be highly useful. A perseverance in these means will usually produce a cure, aided by attention to the general health, and, ultimately, by generous living, a watering place, and pleasing society.

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XXVIII. *Rheumatismus Acutus.* Pain, swelling, and redness, usually about the large joints and surrounding muscles, wandering from joint to joint; urine depositing a lateritious sediment. Considerable fever.

*Rheumatismus Chronicus.* Weakness, rigidity, and pain, of the larger joints and muscles, aggravated by motion, and generally mitigated by warmth; affected parts cold. No fever.

The above diseases are so thoroughly known, that their consideration need not occupy more than a page. Such brevity is necessary, since it would require a large volume to enter into their various forms and complexities.

Various opinions have been promulgated respecting the treatment of acute rheumatism, but at present the antiphlogistic appears to be preferred. In my own practice, venesection, cathartics, and opiates, have succeeded best; and where the case was obstinate, a gentle salivation by the exhibition of calomel and opium. I have sometimes thought the decoction of bark with nitrate of potash was beneficial. With respect to venesection, one important caution remains:—in inflammation, practitioners mostly bleed until the buffy coat decreases, nor is the rule a very bad one; but in this disease it is deadly, for acute rheumatism produces a quantity of buff, which, according to my experience, increases after every blood-letting. Cinchona, in large doses, in both species of this disease, was a favourite medicine with Morton, Hulse, and Fothergill, and lately with Dr. Hay-

garth*, who gave it to 470 patients, of whom only 170 had fever, but in all the blood displayed the inflammatory crust.

Chronic rheumatism is often a troublesome, but never a dangerous, disease. The pain, generally worst during the night, often harasses the patient, and causes him to rise anxious and languid. In obstinate cases, the muscles of the affected part are shrunk and flaccid. Attention should be directed to the alimentary canal; recourse is to be had to anodyne and stimulating embrocations; and pain is to be removed by opium. Where the disease has continued long, and the pain is most distressing, a perfect cure is sometimes accomplished by affecting the mouth with pills, composed of Dover's powder and calomel. In other instances, blisters; the use of the flesh brush; friction with the hand; the hot bath; tartar emetic ointment; and violent walking under an excessive load of clothes, as successfully practised by Dr. Marcet, in his own person,—have proved eminently useful. Rheumatic patients should always wear flannel waistcoats with sleeves, likewise drawers of flannel; and they ought studiously to avoid cold and moisture, since the leading object is to preserve an equable temperature.

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* Clinical History of Diseases. London. 8vo. 1805.

XXIX. *Podagra.* Inflammation and pain, chiefly of the small joints, returning after intervals, often preceded by, or alternating with, unusual affections of the stomach, or of other internal parts; unsuppurative.

THE VARIETIES, EXPLICABLE BY THEIR NAMES, ARE

*a. Regularis.*

*b. Larvata.*

*c. Complicata.*

Gout and rheumatism bear to each other a strong resemblance; yet they are distinct diseases, although Stoll* maintained they were only varieties; and Bergius, that they were convertible. Sometimes there is an apparent combination of both, which has obtained the appellation of rheumatic gout. Gout was well known in England in its earliest ages of barbarism, and is frequently noticed by the Anglo-saxon historians under the name of *fot-adl,* or foot-ail. That it was well known in other and ancient countries, and considered to be hereditary, the succeeding case, taken

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* Med. Rad. v. p. 465.

from the epistles of the younger Pliny, the friend of Tacitus and panegyrist of Trajan, will demonstrate. Corellius Rufus, a noble Roman, was the subject of it; and starved himself to death, to end his miseries. "*Tertio et tricesimo anno*, ut ipsum prædicantem audiebam, *pedum dolore correptus est. Patrius hic illi; nam plerumque morbi quoque per successiones quasdam, ut alia, traduntur.* Hunc abstinentia, sanctitate, quoad viridis ætas, vicit et fregit; novissime cum senectute ingravescentem, viribus animi sustinebat. Quum quidem incredibiles cruciatus, et indignissima tormenta pateretur, *jam enim dolor non pedibus solis, ut prius, insidebat, sed omnia membra pervagabatur**. This interesting case deserves comment. C. Rufus appears to have been seizèd with gout, in him hereditary, in his thirty-third year,—even now a common period for a first attack: he subdued the disease by abstinence for many years, as most men may do; and when, in after life, the pain wandered through all his limbs, there was probably a union of gout with rheumatism. It is also stated in the pages of the accurate and diligent Suetonius, as Gibbon calls him, that the sixth emperor of Rome was a martyr to a similar disease, as well as to an immense tumour. "*Manibus pedibusque articulari morbo distortissimis*, ut

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* Liber i, Liter. xii, C. Plinius Calestrio Tironi suos.

neque calceum perpeti, neque libellos evolvere aut tenere omnino valeret. *Excreverat etiam in dexteriore latere ejus caro,* propendebatque adeo, ut ægre fascia substringeretur*."

Gout chiefly invades its victims in the spring; and where not hereditary, generally between thirty and forty years of age. This disease, in like manner as censure is the tax which men of talents pay to the world, is the impost that drunkards, gluttons, and debauchees, have to contribute to disgraced human nature. Eunuchs are nearly exempt from it; hence it would seem in the male sex to be peculiar to virility. This affection is unknown to the active and abstemious; also to the labouring poor, who have to provide for the day which is passing over them. In the first instance, an attack of gout occurs only once in two or three years, afterwards every year, and eventually much more frequently. The duration of a fit is uncertain, and it commonly terminates by perspiration or a flow of urine, and the parts affected become itchy, the cuticle occasionally falls off in scales, with some degree of lameness. Regular attacks of gout occur in the vigorous, where there is little stomachic derangement, and which are mostly followed by an improvement of the general health. There are

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* C. Suetonius Tranquillus, in Vita Galbi. Amsterodam.

others, who, being of weakly frames, and much tormented with various disorders of the alimentary canal, have not sufficient vigour in the system to drive the lurking gout into one of the extremities, and are therefore compelled to lead a life which is truly miserable, in consequence of uneasy sensations, flatulence, headach, and fugitive pains. Sometimes the gout, when fully formed, suddenly recedes, fixes upon a vital part, and commits irreparable injury. This gout is the acute, or inflammatory; but some are occasionally affected with what is called chronic gout, implicating the extremities, and displaying a puffiness of the integuments, without discolouration. This is common with those whose constitutions have either partly triumphed over acute gout, or who have not sufficient strength to drive it to the feet or hands. Here nothing is required, except to bathe the part with a little warm water impregnated with salt, and to open the bowels.

Patients, long subject to repeated attacks of gout, sometimes sink into premature old age, are seen with crippled and painful feet, and occasionally receive their death from apoplexy or palsy. The joints of a few gouty sufferers are nearly inflexible, consequently incapable of much motion; and the joints of the fingers are affected with little swellings, exceedingly hard, termed nodosities by Haygarth. Nephritic affections of the kidneys also

arise; likewise calculi; and chalky concretions are formed in and upon the small joints. Dr. Wollaston* informs us that these concretions are composed of the lithic acid and soda, forming a compound salt,—the lithiate or urate of soda.—The urine depositing a pink sediment forms a striking feature in gout.

The treatment of gout remains to be considered. When the inflammation fixes steadily on the extremities, and there is neither cerebral nor visceral disorder, cold water, a most ancient remedy, may be safely applied, and which will be found materially to diminish the pain. It is, however, to be rigorously interdicted where an opposite state presents, since the inflammation may be repelled, and much visceral mischief ensue. It will be always necessary to exhibit purgatives most liberally. During the paroxysm, or at its invasion, particularly where cold water is inadmissible, the *vinum colchici*, or the *acetum*, may be administered in suitable doses with great advantage. Where the inflammation is intense, three or four leeches may be applied. In my opinion, the prime remedies in *regular gout*, which species is now under discussion, are *cold water*, *colchicum*, and *liberal purging*. During the paroxysms, the general

* Transac. of the Royal Society, June 22nd, 1797.

health is to be supported; and, afterwards, derangements of the gastric and hepatic organs are to be corrected by mercurials and bitters.

In the *masked gout* symptoms alone can be attended to: it is desirable to bring the gout to the extremities; but, unfortunately, it is impracticable by medicine. It is scarcely necessary to mention that cold water and colchicum are altogether inapplicable agents.

With respect to the *complicated, misplaced, or retrocedent gout*, the physician must be guided by the peculiar symptoms of every case. No precise rules can be established for the management of that which is in itself irregular, wandering, and undefined. If the inflammation suddenly quit the extremity, and implicate an internal part, that part is to be most actively treated:—if in the brain, for phrenitis or apoplexy, as symptoms may indicate; if in the stomach, for gastritis; if the intestines, enteritis, taking symptoms invariably for a guide. Sometimes, however, there may be only pain and spasm; and these will require large doses of opium and warm stupes.

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XXX. *Gonorrhœa Virulenta.* Uneasiness at the extremity of the urethra, succeeded by a par-

tial inflammation of its mucous membrane,—the consequence of impure coition; a scanty and afterwards copious discharge of pus; urine hot and scalding; chordee. Contagious: time of appearance within ten days.

This affection is only serious when mismanaged. The object is to subdue the inflammation, which is commonly seated near the extremity of the penis, lest it should extend along the urethra, and commit mischief. For many years my treatment of gonorrhœa has been simple, and mostly successful within a single week,—namely, one drachm of copaiba twice or thrice a day, mixed with yolk of egg and cinnamon water. The copaiba acts freely on the bowels,—a most advantageous circumstance; but in a day or two ten drops of laudanum are usually added to each dose. By me no other medicine is used: copaiba commences and completes the cure; but it ought to be continued at least ten days after the disappearance of every symptom. Ten years ago I pointed out this mode of treatment to my much respected friend Mr. Fothergill, a most excellent practitioner in Sunderland, who instantly adopted it; and it has proved equally successful in his extensive practice. Eight years since, the treatment received the approbation of another friend, Dr. Armstrong, who has written a long account of it in his Prac-

tical Illustrations of Scarlatina, &c. to which the reader may turn at his leisure.

Chordee is a most distressing symptom in gonorrhœa, and arises from an extravasation of coagulable lymph. A large dose of opium is the best remedy; and if it be obstinate, the application of the camphorated mercurial ointment to the penis.

Occasionally phymosis is the result of ill-treated gonorrhœa or carelessness: it is generally removed in a few days by cold washes, leeches, and quiet. Where phymosis is permanent, and without inflammation, in my opinion partial circumcision is a better operation for its removal than the one commonly recommended. Circumcision was practised by the most ancient Æthiopians, from motives of health and cleanliness, which seems to be explained in the Recherches Philosophiques sur les Americains, tom. ii, p. 117*. A second kind of circumcision was inflicted on a Samaritan or Egyptian proselyte†. "*Jesus....circumcisus erat*‡." Female circumcision is customary in many hot

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* Gibbon's History of the Decline and Fall of the Roman Empire, vol. ii, chap. xv. p. 122.

† Gibbon, ut supra, p. 116. Note.

‡ Grotius de Veritate Religion. Christ. lib. v, c. 7.

parts of Africa and Asia. Paraphymosis is the reverse of phymosis, and often occurs during the inflammatory stage of gonorrhœa, or from other causes, as a sexual embrace where the vagina is exceedingly narrow. It may almost always be reduced immediately by compressing the blood out of the glans penis with one hand, and drawing the prepuce forwards by the other. Where this is impracticable, it is usual to divide the strictured parts; but this is seldom necessary, and difficult of performance. In an obstinate case I once succeeded in a few days by the constant application of a warm poultice, which relaxes the stricture, and facilitates the return of the prepuce over the glans. This plan, I am persuaded, will seldom fail, and ought to supersede the use of the scalpel.

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XXXI. *Erysipelas.* Vesication diffuse, irregular, circumscribed, appearing on a particular part of the body, chiefly the face, about the third day, with tumefaction and erythematic blush; fever, often accompanied with sleepiness and delirium.

The part affected with erysipelas is generally of a bright red colour, clear, and shining. There is no throbbing, but a tingling, and burning heat.

Most commonly this disease has its seat in the most vascular and nervous part of the cutis; yet occasionally it extends into the subjacent cellular membrane. The causes of erysipelas are doubtful: perhaps bad habits of body are obnoxious to it, and particularly where there are wounds of tendinous structure. Galen*, Forest†, Plater‡, and Frank‖, have written concerning erysipelas; but in their observations there is nothing worthy of transcribing: they are moderately correct, yet each partakes of the popular error of his day.

Bateman and others divide erysipelas into four varieties, namely, phlegmonous, œdematous, gangrenous, and erratic. The treatment of each shall be considered. The phlegmonous requires active purgatives, preceded by venesection, which is to be conducted and repeated cautiously, according to the part, age, sex, and constitution. If there be delirium, a blister may be applied to the head; but, in general, blisters are objectionable. The symptoms commonly disappear in ten days, and a new cuticle is visible, the old one having separated.

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* Meth. Med. cap. xiv, &c.

† Observ. Chirurg. lib. ii, 1. 3.

‡ De Superf. Corp. Dolore, cap. xvii.

‖ De Curand. hominum morb. lib. iii.

Œdematous erysipelas is more mild in its attack, but is attended with considerable danger when it affects the face. Vomiting, rigors, and delirium, followed by coma, occur about its height, and it often terminates fatally on the seventh or eighth day; yet it is seldom dangerous when one of the extremities is affected. Debilitated individuals and dropsical patients are most prone to this form of erysipelas, as well as drunkards, gluttons, and the unhappy sufferers from chronic maladies. Here no specific treatment can be laid down; for it will depend on varying and ever varying circumstances, and must be left to the judgment of the practitioner, who will be guided by those general principles, which have been so frequently inculcated.—The gangrenous invades the face, neck, or shoulders, and is attended with low fever and delirium, which are soon followed by coma. The colour of the affected part is a dark red; and scattered phlyctænæ, with a livid base, appear upon the surface, which too often terminate in gangrenous ulcerations. Even under a favourable termination, suppuration and gangrene of the muscles, tendons, and cellular substance, often occur. Children, a few days after birth, especially in lying-in hospitals, are subject to this kind of erysipelas, which is often fatal. Sometimes infants have been born with livid patches, vesications, and even gangrene already advanced. The umbilicus or genitals mostly suffer, as well as the parts up-

wards or downwards. Occasionally, the extremities alone are affected. In severe cases, sphacelus destroys the affected parts, particularly the genitals, fingers, or toes; in mild ones, suppuration proceeds kindly, and a cure is accomplished in ten or twelve days. In the treatment of gangrenous erysipelas, the strength of the patient is to be supported by generous living,—the bowels having been freely evacuated, and all symptoms of inflammation subdued. Cinchona, aromatic confection, and opium, are the prime curative agents, with the use of the sulphuric or nitric acid. Appropriate cataplasms, already described under inflammation, are to be applied to the affected parts, so as to effect the removal of the dead, and to induce a healthy action in the living, structure.—The erratic erysipelas appears in patches, alternately, in different parts of the body; is a mild affection; commonly ends favourably in ten or twelve days; and only requires an occasional cathartic.

Carbuncle, a common attendant on malignant fevers, deserves a place here. "The inflammation that produces the carbuncle is of a different nature from any of the former. It is stationary, with respect to place, and is pretty much circumscribed, even forming a broad, flat, firm tumour It begins in the skin, almost like a pimple, and goes deeper and deeper, spreading with a broad base under the skin into the cellular membrane. It produces a

suppuration, but not an abscess, somewhat similar to the erysipelatous, when the inflammation passes into the cellular membrane; for as there are no adhesions, the matter lies in the cells where it was formed, almost like water in an anasarca. This inflammation attacks more beyond the middle age than at it, and very few under it. It is most common in those that have lived well. I never saw but one patient of this kind in a hospital. It appears to have some affinity to the boil; but the boil differs in this respect, that it has more of the true inflammation, therefore spreads less, and is more peculiar to the young than to the old, which may be the reason why it partakes more of the true inflammation*."

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* Hunter on the Blood, &c. p. 272 & 273.

## ORDER III.

## NERVOUS DISEASES.

THIS order comprises every disease where the brain, nerves, and muscles, are primarily affected.

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The whole of the species and varieties are arranged under a single genus.

## GENERIC DEFINITION.

The brain, nerves, and muscles, singly or simultaneously disordered; denoted by aberration of mind; loss of sense, of voluntary motion, and stertorous breathing; depravation or abolition of the sense of external parts; affections of the nerves or muscles.

### THE SPECIES AND VARIETIES ARE

I. *Melancholia.* The discrepancy between the perception and judgment limited; taciturnity;

love of solitude; gloomy fears; unjust suspicions; strange dislikes.

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II. *Mania.* The discrepancy between the perception and judgment general; occasional ravings, and apparent calms; strength of body; impassioned emotions, or extravagant gestures.

Melancholia and mania will be more properly considered together, inasmuch as they are both affections of the mind, differing only in degree; for the former is sometimes, although certainly not always, a precursor of the latter.

Mr. Lawrence says, "*that the various forms of insanity, that all the affections comprehended under the general term of mental derangement, are only evidences of cerebral affections; in short, symptoms of diseased brain**."—This will not do; and Mr. Lawrence knows it will not do: hence he shelters himself thus,—"*The brain, like other parts of this complicated machine, may be diseased sympathetically; and we see it recover*†"—which is sufficiently latitudinous for his purpose. That

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* Lectures on Physiology, &c. p. 104. London. 1822.

† Idem. p. 106.

melancholia and mania arise from disease of the brain or its investments, is a favourite opinion with other men than Mr. Lawrence; yet a little reflection ought to convince him and them that it is not founded upon fact or common sense observation. A man labours under mania.—What is its cause? Chronic inflammation of the brain, its membranes, or disease of the brain itself, is answered by the espousers of this opinion. No means are employed, and the subject is well in five days. What has become of the inflammation, or structural disease, affirmed to be the proximate cause?—No remedies were used. Was disease of the brain ever cured in five days without the aid of medicine, or chronic inflammation resolved there?—No matter, say Mr. Lawrence and his amiable proselytes: we have stated facts, and you must prove the converse. Before three weeks have expired, the sufferer is worse than he was during the first attack, and requires the application of a strait waistcoat. How is this to be accounted for? Has the inflammation, structural disease, or both, returned?—Still no means are called into action; and the patient is speedily restored, and remains rational for a considerable time. Where is the disease of the brain?—is it cured, gone abroad, or only in abeyance? Altogether it is the most gentlemanly and well bred disease I ever heard of: it has no opinion of its own, nor any consistency of conduct,—an accom-

plished disciple of the school of Chesterfield. Let me not be told that this is an imaginary case—it is not so: it has happened again and again under my own observation, and particularly among the wretched poor. An unfortunate friend of my own is the prototype of this case; and there is a still stronger one in the person of an unhappy jew, in Sunderland. Is inflammation or structural disease of an important organ easy of cure, or even of relief, under any treatment, however judicious and vigorous, much less under none? Did Mr. Lawrence ever witness such extraordinary restorations to integrity, in any other disease, under similar circumstances?—He must acknowledge that he never did. Why, then, will he lower his fine understanding, by asserting the like in an organ so important to life? That disease of the brain or its membranes is occasionally found in insane patients, none will deny who have practised morbid dissections; but that it is commonly discovered,—and if not commonly discovered, the opinion is baseless,—will be denied by every enlightened man in the medical profession. In fact, it is admitted, most unequivocally, that disease of the brain is rarely met with in maniacal patients. Such has been the result of the numberless dissections of Dr. Baillie, Sir Astley Cooper, and other highly distinguished characters; and likewise of my own and friends. That neither melancholia nor mania springs from disease of the

brain or its investments is self-evident, since the symptoms of the one are not the symptoms of the other affection. If a man suffer inflammation, or any other disease of the brain or its membranes, is he ever insane?—The best informed, the most sceptical, the most ignorant, must answer, no. Such is the strength of the argument, that, Ajax-like, it only needs light and fair play. He may have excruciating pain in the head, considerable fever, convulsions, delirium, coma, or fatuity of intellect from inflammation or organic disease of the brain; but he never will, and never did, in any single remarkable instance, display the symptoms of insanity, and of insanity only. A maniac has his mind o'erthrown; yet he is not uniformly ill: he has neither pain nor stupor, fever nor delirium;—on the contrary, he is acute, vigilant, vivacious, subtle, or ferocious, with his faculties clear, brightened, although perverted: he will spend nights and days in composing, writing, calculating, planning, while, generally, he appears to enjoy unimpaired health, although his system may, and does occasionally, suffer from such long and incontrollable mental excitement. Again, some are only insane on one particular subject, and perfectly rational on every other;—witness the man who was only insane when he heard the name of Lord North—the being who pretended he was the Duke of Hexham—the unhappy person who thought himself to be our Lord Jesus

Christ—and a well known provincial character, who imagines every genteel woman to be in love with him, and pesters her with his letters. Will Mr. Lawrence enlighten me on this point:—will he tell me what kind of disease of the brain is here, which imitates a pretty, fickle, much-loved girl, with her likes and dislikes? As Mr. Lawrence is the child and champion of organization, he may suggest that the structural disease has become organized, which, in his opinion, constitutes life; and being now an intelligent creature, it hates my Lord North for his politics, is strangely smitten with contemptible and impious vanity, or inspired with the love of the fair sex.

It is not in this manner, this material, this Lucretian* manner, that the proximate cause of mental derangement is to be revealed—this is not in the spirit of that inductive philosophy which Bacon practised in his life, and illustrated by writings that will never die; no,—these are the dregs of the Epicurean philosophy, invigorated by the elegant poetry of Lucretius, and revived and circulated afresh, in a new and more imposing form, by Cuvier, Lawrence, and other enlightened men.

Melancholia or mania always arises from moral causes; and the sensitive, the talented, and the

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* Lucretius, De Natura Rerum, lib. iii, v. 204, ad finem libri.

highly gifted, are most obnoxious, since it is they, and they alone, who think deeply and feel acutely, who are alive to all the miseries, torments, and horrors of the world's contumely, of disappointed love, of ruined prospects, and of hopes for ever blasted. These, who cannot fly from thought; whose misfortunes pass before them like the sceptered shadows in Banquo's glass; who lay bare their own "*hearts, and shew the hell that's there**," are the victims of those dire maladies, and the inmates of retreats, asylums, and madhouses. Look through ancient and modern literature; examine into the gay and busy haunts of men; scrutinize society, past and present, remote and near; and behold these observations confirmed and proven. It is not difficult to commence with the first link of the morbid chain, and to pursue every successive one until its completion.—This cannot now be done.

Mr. Lawrence observes, "*Indeed, they who talk of and believe in diseases of the mind are too wise to put their trust in mental remedies*†." Here I meet this gentleman on his own ground, and tell him that none but mental remedies are of any use in every species of mental derangement. I do

* Lord Byron's Corsair.

† Lectures on Physiology, lib. cit. p. 106.

affirm, those practitioners succeed best who pay most attention to them;—witness the astonishing success in the Retreat near York. Let me not be misunderstood. Where the general health suffers from long mental excitement, there is wisdom in attempting to restore it,—just as venesection is ordered for peritoneal inflammation induced by lithotomy; but for the amendment or removal of the mental alienation, the administration of medicine is as absurd as the belief that hot iron and burning ploughshares are proofs of female chastity. I cannot too strongly reprobate that vile practice of largely bleeding insane patients, a practice fraught with mischief, weakening an unhappy sufferer, and robbing him of a vital fluid which he can ill afford to spare. True, he is calmer after venesection,—so he well may; but what is his state to-morrow? He walks about, pale and languid, shorn of half his powers, and curses his cruel persecutors.—Let it not be said I am singular in entertaining these opinions. A most intelligent friend of mine enquired of the apothecary to a large asylum in the North, what effects resulted from blood-letting in mental affections. His answer was,—"bleeding is of no use in subduing the disease, but it makes the patient much quieter." It is not by bleedings, whips, racks, and tortures, that the mind o'erthrown is to be brought to its rectitude—it is not thus the victim of love, of generosity, of kindness, or of ambition,

deserves to be treated. A cure is to be accomplished by means diametrically opposite; and those who have adopted such means have been eminently successful, as has been most convincingly demonstrated by the success of the Retreat* near York.—With respect to insane patients, there can be no objection to the exhibition of mild mercurial purgatives, conjoined with bitters, since, in every one of them, there is disorder of the digestive organs. Where such patients are violent, the attendant should attempt to moderate vascular and nervous action by inducing constant nausea with digitalis, and employing the hot bath.

III. *Apoplexia.* Sudden loss of sense and voluntary motion; stertor; slow, full, and strong pulse; pupil sometimes dilated, and occasionally contracted like the point of a pin.

Apoplexy is not a well explained disease. In my judgment, there are two kinds:—the first, resulting from a hurried and almost suppressed circulation in the brain or its membranes; the second, originating from an extravasation of blood.

* See Tuke's interesting work concerning the Retreat near York. York. 8vo. 1813.

The former admits a cure; the latter, scarcely ever, —unless, indeed, the blood be effused in the smallest quantity. Experience, the never failing test of truth, appears to prove the soundness of this doctrine. A man is seized with an apoplectic fit: he is largely bled and actively purged; he recovers:—this is consonant to what has been advanced: the attack arose from an almost suppressed circulation in the brain; and venesection restored that circulation to the just equilibrium, which constituted health. Another is affected by apoplexy: the same means are called into action; and death mocks all human efforts:—this is equally explicable: the vessels have burst, and poured out blood, over which phlebotomy can exercise no control. The apoplectic symptoms, in both cases, sprang from pressure on the brain; but the kind of pressure was different:—the first originated from distended vessels, which was easily relieved; the second, from effusion of blood, unremovable by all remedial agents.

I am not ignorant of Sir Astley Cooper's letter* to Dr. Cooke, in which he expresses an opinion, founded on dissection, that the blood extravasated in apoplectic attacks is occasionally absorbed. But this can only be in a very small quantity; and Sir Astley himself writes doubtfully, and only of

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* See Cooke's Treatise on Apoplexy, &c. London. 8vo.

points of blood which he has discovered. For when water cannot be absorbed in the brain, is it at all probable that such a fluid as blood can, which almost instantly coagulates?—Dr. Marcet* has related an interesting case of apoplexy, from drinking six ounces of laudanum, which was cured by a large dose of the sulphate of copper, exhibited six hours after, and keeping the patient in constant motion through the ensuing night. This was, without doubt, an example of the first kind of apoplexy,—namely, an accelerated and almost impeded circulation in the brain, in consequence of opium; for such is the effect of that medicine on the brain, producing excessive excitement and consequent torpor.

In apoplexy there is a general loss of sense and motion, but principally more on one side than the other, constituting hemiplegia, which is mostly opposite to the diseased side of the brain. Sometimes the recovery is rapid; and at others, slow and imperfect,—probably from a slight effusion of blood to which Sir Astley Cooper has adverted. Apoplexy may arise from various causes, natural, accidental, or mechanical, unnecessary to be stated here, because irrelevant to the treatment, which should consist of large bleedings from the temporal artery or jugular vein, the most active purga-

* Med. Chirurg. Transac. vol. i, p. 77.

tion, and a large blister to cover the head. The mode of living should be abstemious in the extreme; and when there is a prospect of recovery, the paralytic parts ought to be stimulated by strong embrocations of oil and turpentine. The bowels must be attended to, since they are usually constipated.

Dissection initiates us into the following morbid appearances. A division of the scalp produces a considerable flow of blood. The whole of the membranes displays an unnatural appearance, but principally the pia mater; and between them there is interposed a turbid or bloody fluid, intermixed with coagulable lymph. Upon cutting into the substance of the brain, its vessels are gorged with blood, and much serous fluid is seen in the lateral ventricles. Large quantities of extravasated blood are met with in the cranium, between the ventricles, in the cerebrum, and, but more rarely, in the cerebellum.—Authors have written respecting serous apoplexy, but it is impossible for me to imitate them; for I do not believe in its existence as unconnected with the sanguineous, unless they mean hydrocephalus, which is a different disease.

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IV. *Paralysis.* Corporeal torpitude and muscular immobility more or less general, without somnolency; pulse soft and slow.

Paralysis follows apoplexia with propriety, since they are often combined; and the former is frequently a mere sequel of the latter. The sentiments of John Hunter are too valuable to be glanced at or omitted altogether. "For many years," says he, "I have been particularly attentive to those who have been attacked with a paralytic stroke, forming an hemiplegia. I have watched them while alive, that I might have an opportunity to open them when dead; and in all I found an injury done to the brain in consequence of the *extravasation of blood.* I have examined them at all stages; when it was recent, some of weeks standing, others of months, and a few years, in which I saw the progress of reparation*." Mr. Hunter regarded palsy as merely differing from apoplexy in degree. The above extract is well calculated to make those think who never thought before: it would seem to prove that life can be prolonged for weeks, months, and years, notwithstanding extravasations of blood into the brain; and it well accords with the letter of Sir Astley Cooper. I cannot, however, admit that extravasation of blood always takes place in paralysis, although it may sometimes; for blood, if effused in any quantity into the brain or within its membranes, must cause cerebral symptoms, resembling

* Hunter on the Blood, &c. p. 213.

apoplexy; whereas decided cases of palsy occur, in which the head is clear and the faculties undisturbed. Could there be either one or the other, if blood were extravasated into the brain? In my opinion, apoplexia and paralysis are parallel cases: where blood is not extravasated, recovery is common in both; where blood is extravasated, according to its amount death will ensue, or a slow and imperfect restoration:—and such are the instances alluded to by Hunter and Cooper.

Occasionally, paralysis arises from the use of lead, which produces a peculiar kind, affecting the upper extremities, especially the muscles of the fore arm and wrist. This shews that palsy does not always originate from extravasated blood; nor is lead the only other cause, since pressure on the spinal marrow may be adduced. It is, however, palsy of spontaneous occurrence, or joined with apoplexy, which engages our attention.

Some physicians invariably bleed when paralysis appears. The propriety of such a practice is questionable. Where the head is affected, doubtless venesection is indispensable; nay, there is no harm in a single bleeding, as a precautionary measure; but to repeat it when the head is disengaged is a criminal waste of vital fluid. In every instance, active and daily purgation is highly beneficial. Still, however, whether in palsy or apoplexy, I

attach no importance to venesection, beyond relieving loaded vessels threatening rupture; for it cannot act on blood already poured out, and, perhaps, coagulated. Sometimes the paralytic sufferer soon regains his powers of mind and body; but in others, and particularly in individuals beyond middle life, the mind only partially recovers, or, at least, betrays the nature of the injury. Occasionally, articulation is lost; whilst the affected limbs are cold, and their muscles flaccid and wasted. The bowels undergo troublesome constipation from a loss of nervous influence to their muscular coat; the stomach is frequently disordered; the fingers contracted; and there are occasional aches or heavinesses in the head, demanding leeches or venesection. In fact, every symptom must have due attention. The palsied parts should be rubbed two hours daily by a warm and soft female hand. Every night and morning they ought likewise to be rubbed with a liniment, containing equal parts of rectified oil of turpentine, tincture of opium, and olive oil. The aid of electricity or galvanism, with internal stimulants, may be invited. The different watering places, especially Bath and Cheltenham, may be visited, and their various waters and hot baths tried: the good to be derived is exceedingly problematical; yet they amuse the mind, dissipate despondency, revive past impressions, inspire new hopes,—and these are no mean matters to a paralytic victim, who drags his

limbs, and is himself a melancholy example of the uncertainty of health, without which rank is cheerless, fortune useless, and talents valueless.

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V. *Lethargus.* Mental and corporeal torpitude, with deep quiet sleep.

This affection appears to be a prelude to apoplexy, and demands liberal venesection, free purging, a life of labour, and a mode of living the most abstemious.

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VI. *Catalepsia.* Total suspension of mental power, and of voluntary motion; pulsation and breathing continuing; muscles flexible; body yielding to and retaining any given position.

This is termed a trance in popular language, and is of rare occurrence, except for the purposes of imposition*. The duration of the disease is uncertain, and varies from minutes to hours and

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* See Hennen's Principles of Military Surgery, 2nd Ed. Edinburgh, 1820; and Transac. of King and Queen's College, &c. op. cit. vol. ii, p. 337.

days. Forty grains of tartarized antimony have been administered without effect*. In the case of a school boy, aged eleven years, the paroxysms recurred ten times in twenty-four hours, and never exceeded three minutes in duration. If the attack commenced while walking, the same pace was maintained, though without the direction of the mind†. Internal medicines are inadmissible; external stimulants are to be recommended, and for which invention may be racked.

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VII. *Syncope.* Motion of the heart and lungs feeble or imperceptible; face pale; articulation stopped; diminished sensibility.

Syncope, or, in other words, fainting, may arise from various causes. Here *the pulsation of the heart ceases before the action of the lungs.* The heart may discontinue its pulsations from organic disease in its substance or vessels, through mental emotions, or from the operation of certain poisons. In syncope there is doubtless an imperceptible action of the heart, since a total extinction of it

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* Behrends, in Baldingen N. Magazin, Band ix. p. 199.

† Good's Nosology, p. 370.

would constitute death; and where such an action does exist, the most sensible stimuli, internal and external, should be employed. In common cases recovery soon ensues; but hope expires when syncope has arisen from organic disease, incontrollable hemorrhage, or exhausted nature. Violent passions of the mind commonly induce syncope. When the Spaniards were defeated, Philip V. died suddenly on receiving the intelligence, and his heart was found to be ruptured.

"It would appear that where *the heart has ceased to pulsate, in consequence of the cessation of respiration, it can never again be set in motion;* but that where it has stopped from other causes, as from the operation of certain poisons, its muscular irritability not having been exhausted, its action may be occasionally revived. When syncope arises from hemorrhage, we shall find, on dissection, that the heart and its great vessels are either empty, or contain only a small quantity of blood in their cavities; but where syncope arises from other causes, the heart is seen distended to an unusual magnitude, *and the blood in the left auricle and ventricle is generally of a more or less florid colour*, and has not the hue of venous blood, —a circumstance which depends upon the pulsation of the heart ceasing before the function of respiration, and which is the very reverse of what

happens in death from suffocation, as shall hereafter be explained*.

Mr. Chevalier† has published a curious case, which he terms *asphyxia idiopathica*, where the subject suddenly faints and dies. The essential circumstances of the disease, observes this gentleman, evidently denote a sudden loss of power in the extreme vessels to propel the blood; in consequence of which, the heart, after having contracted so as to empty itself, and then dilated again, continues relaxed for the want of the return of its accustomed stimulus, and dies in that dilated state. On dissection, all the cavities of the heart are found completely empty, and the viscus itself is in a state of extreme flaccidity. This case is interesting, but obviously one of syncope, and not of asphyxia; and cases similar to it have been recorded by Bonetus‡ and Morgagni‖. In syncope, inflation of the lungs is never necessary, as will clearly appear by the doctrines inculcated here and under

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* Paris and Fonblanque, Medical Jurisprudence, 3 vols. vol. ii, p. 26. London. 1823.

† Med. Chirurg. Transac. vol. i, p. 157.

‡ Sepulchr. Anat. vol. i, p. 383.

‖ Epistol. 48. Art. 44.

asphyxia, each subject having an intimate connection.

VIII. *Asphyxia.* Total suspension of all the mental and corporeal functions.

In asphyxia, *the action of the lungs ceases before the pulsation of the heart,* in consequence of the exclusion of atmospheric air. The causes are numerous,—such as hanging, drowning, the inhalation of noxious airs, or mechanical obstruction in the glottis, larynx, and trachea. It is a fact too well established to require any discussion, says Dr. Paris, whose chemical labours are doing so much for the medical profession,—that *oxygen* is the only principle which is capable of producing the necessary changes in the blood, during its transmission through the lungs; and that, accordingly, whenever atmospheric air is deprived of this principle, it is no longer capable of supporting life.

Bichat*, prematurely snatched from a profession which he adorned, asserts that the *immediate cause of sudden death is the cessation of the functions of the heart, or of the brain, or of the lungs.*

* Recherch. Physiol. sur. la Vie et la Mort.

This may be correct, and, to a certain extent, it is so; yet it is almost impossible to determine which organ first loses its functions. An approximation to truth may be made by observing, that, *in fainting, the heart first suffers; in suffocation, the lungs*; *and in certain deadly poisons, the brain:* yet still, in several instances, as by lightning and cold, *the whole of the three organs* must undergo instantaneous annihilation. The importance of respiration to life has been dwelt upon under pneumonitis; and farther it may be added, that without a necessary supply of nervous influence to the respiratory muscles, these muscles cannot act. Indeed, a distinguished physiologist has asserted, that "*the brain is immediately necessary to life, only because the muscles of respiration owe their action to its influence.*" I presume this assertion is to be received with some qualification; and if so, it is decidedly correct, and founded on fact. For, if the phrenic nerves of a quadruped be divided, the motion of the diaphragm ceases, and the animal breathes by the motion of the ribs alone, panting and respiring with difficulty and distress. If the spinal marrow be divided below the origin of the phrenic nerves in the lower part of the neck, no interruption is given to the transmission of the nervous influence to the diaphragm, but the ribs now become motionless, and respiration is performed by the diaphragm only. If the spinal marrow be divided in the upper part of the

neck, above the origin of the phrenic nerves, the nervous influence is neither transmitted to the diaphragm, nor to the muscles which produce the motion of the ribs, and respiration is entirely suspended: under these circumstances the heart continues to contract for some minutes, after which it ceases, as there is no supply of blood which has received the influence of the air, and, consequently, the muscular fibres of the heart lose their excitability, and the blood is no longer circulated:—if, however, the lungs be artificially inflated before the action of the heart has stopped, its motions may be continued*.

In asphyxia, the heart pulsates for several minutes after the suspension of respiration: the blood which passes through the pulmonary veins is without oxygen, and, consequently, black blood reaches the heart, and circulates through the arterial system. The brain speedily feels the loss of that scarlet fluid, by which its energies have flourished. When recovery is hopeless—when the brain is loaded with unoxygenized blood, then the motions of the heart become enfeebled, the ventricles contract less powerfully and more slowly, and, finally, the action of the heart is altogether arrested. Upon examination, *the cavities of the left side of the*

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* Paris and Fonblanque, Med. Juris. op. cit. vol. ii, p. 21.

*heart are much contracted, and contain only a small quantity of black blood;* while the right auricle and ventricle, and the large vessels communicating with them, are greatly distended:—a different state from that of syncope!—How long the heart can contract, independently of respiration, is an interesting question, but one not to be answered with mathematical certainty. Dr. Paris* says,—and I agree in opinion with him,—that this interval not only varies in duration in different animals, but even in the same animal under different circumstances, such as those of age, capacity of the thorax, quantity of air in the lungs, state of the stomach, and general vigour of the animal: but in man, under the most favourable, it is extremely doubtful whether the heart ever continues to pulsate for so long a period as five minutes after the lungs have ceased to perform their office; and it is very questionable whether, in most instances, the interval is not considerably shorter.—Mr. Kite, of Gravesend, made a very deep inspiration of 300 cubic inches of air, and was able to retain this quantity for 72 seconds, without a second inspiration. The truth is, when respiration is stopped the individual is in the arms of death, and the pulsations of the heart, perhaps not more than two or three minutes in duration, are the last struggles of expiring nature.

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* Med. Juris. vol. ii, p. 33.

The treatment of asphyxia deserves the serious consideration of every practitioner, for he is frequently requested to undertake its management without a moment's preparation. Such instances, from hanging, drowning, and noxious airs, are common occurrences. Called to a patient in a state of asphyxia, what is his condition?—Apparent or real death, in consequence of the suspension of respiration, and the cessation of the action of the heart, from the deprivation of oxygenized blood, by which that action can alone be maintained. What is to be done?—To restore respiration; to furnish the lungs with atmospheric air; to oxygenize the black blood; to send a stream of oxygenized blood to the left side of the heart, to renew and to perpetuate the pulsations of that organ.—Let us now proceed to particulars: on such a subject brevity is reprehensible.

The first object is to produce artificial respiration by inflating the lungs. According to Mr. Brodie*, a common and single pair of bellows will effect this better than any other instrument; for those of the Humane Society are insufficient to inflate the lungs of a large dog. A tube is to be inserted into one nostril; the other and mouth

* Valuable Extracts from this distinguished physiologist's Manuscript Notes are to be seen in the Medical Jurisprudence of Paris and Fonblanque.

being closed, the nosle of the bellows is to be placed in the tube, and air is to be thrown into the lungs with requisite force. Thus will the lungs be fully inflated; and during the intervals of the different inflations, the air will escape, by the mouth and other nostril, from the lungs; and when the lungs are so evacuated, the inflation is to be repeated. To prevent the air from passing into the stomach, a hand is to press the trachea against the œsophagus. The operator is only to produce inspiration, since the elasticity of the ribs, the pressure of the abdominal muscles and viscera, and the elasticity of the lungs themselves, will be sufficient to occasion expiration. To conclude.—The lungs are to be sufficiently, but not too much, inflated—the inspiration must be made with sufficient frequency—the air is to be allowed a free exit, so that the same air shall not be transmitted twice to the lungs—the method of inflation must be simple, such as has been recommended; for an operose apparatus is useless, and the delay of a moment dangerous. If inflation of the lungs be impracticable, an incision is to be made into the trachea, as a last resource. When respiration is restored, and the heart beats, heat may be applied through the warm bath, or friction between blankets. When the patient recovers himself, a dose of opium is to be exhibited. Galvanism and electricity have been recommended in asphyxia. It is the positive opinion of Bichat, that the in-

voluntary muscles are beyond the reach of galvanism.

It is obvious that in such cases as syncope, or any other, in which the action of the heart ceases before that of the respiratory organs, no advantage is derivable from artificial inflation of the lungs; for, to use the language of Paris, the left side of the heart always contains florid blood at the moment of its cessation; and since this fact proves that it failed in its action, while under the full influence of duly oxygenized blood, how can we expect that the stimulus, which was unable to preserve the heart's action while yet in motion, shall be able to re-excite it after it has ceased? Even when death arises from excessive cold, the left cavities of the heart contain florid blood,—clearly demonstrating the inutility of inflation, and the absurdity of the directions of the Humane Society.

When a person has escaped immediate death from asphyxia, his life still remains in danger; for there is a second period, where destruction may occur speedily and unexpectedly. The black blood, —the term is used indifferently for venous or unoxygenized,—which has been circulated through the body during the suspension of breathing, appears to act like a narcotic poison upon the brain. The moment this noxious fluid enters into this organ, the subject falls into a state of stupor, the

pupils are dilated, the respiration laborious, the muscles of the body convulsed, and he dies *poisoned by his own blood.* Here, before death is absolutely certain, the respiration again stops; for the black blood has so paralyzed the brain, as to prevent a necessary transmission of its influence to the muscles of respiration: still, however, life may be preserved, if artificial respiration be established until this organ is again supplied with duly oxygenized blood; after which, vitality may continue unaided by art*.

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IX. *Epilepsia.* Excessive and general muscular agitation, without sensation or consciousness; frothing at the mouth, recurring at regular or irregular periods.

This disease was called *morbus comitialis* by the Romans; for if any person were attacked with it in the *comitia,* the assembly was dissolved: and hence we read in Pliny†, *homo comitialis.*

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* For farther information on these most interesting subjects, the reader is referred to the second volume of the truly excellent and elaborate work of Paris and Fonblanque, on Medical Jurisprudence.

† Lib. 50, cap. v.

We are now commencing with a well known order of diseases, termed convulsive or spasmodic. Spasm may be denominated an irregular action of muscles or of muscular fibres:—when spasm is permanent it is designated *tonic;* and when temporary and returning, *clonic.* The distinction would be more apparent by the substitution of the explanatory adjuncts, *fixed* and *alternate.* Spasm of the tendons is termed *subsultus tendinum,* which is symptomatic of dangerous diseases; yet Dr Good* says he has sometimes seen it as an idiopathic affection.

Authors, and other gentlemen†, on the assertion of Suetonius, affirm Julius Cæsar to have laboured under epilepsy. My respect for the memory of so great a man leads me to attempt to disprove this affirmation,—an affirmation most improbable, indeed, when the activity and talents of Cæsar's eventful life and powerful mind are contrasted with the helplessness and occasional fatuity of the epileptic sufferer. I am happy to state, and the subjoined passage, extracted from a very old and accurate edition of Suetonius, will shew, that Cæsar never had epilepsy, but only two fainting

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* Nosology, p. 343.

† See Mr. Wilmer's Evidence on the trial of Captain Donellan, at Warwick Assizes, &c. &c. 1781.

fits, "*inter res agendas,*" and which Suetonius, not a medical man, has ignorantly denominated the *morbus comitialis;* yet even he admits that Cæsar had only two attacks, which, believing the alleged fact, clearly demonstrates that he was not an habitual sufferer under this dire malady. No person will be surprised to hear that "*the foremost man of all this world**" was used to be terrified during sleep, or twice fainted in a crowded assembly from a disordered stomach, who remembers that Cicero mentions, in his oration for King Dejotarus, that Julius Cæsar took an emetic after eating: and when he recollects that supper was the principal meal of the Romans, at which they ate heartily and fed coarsely, he will not be surprised at Cæsar's uneasy sleep, or the propensity which every Roman had to dreaming.—"Fuisse traditur excelsa statura, colore candido, teretibus membris, ore paullo pleniore, nigris vegetisque oculis, *valetudine prospera:* nisi quod tempore extremo repente animo linqui, atque etiam, per somnum exterreri solebat. *Comitiali quoque morbo bis inter res agendas correptus est*†." Now that the attention is engaged with classical subjects, it may be mentioned that Lucretius‡ has given

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* Shakspeare, Julius Cæsar, Act IV. Scene III.

† C. Suetonius Tranquillus, in Vita Julii Cæsaris.

‡ De Natura Rerum, lib iii, v. 486.

an accurate and beautiful description of epilepsy. This poet exhibits all the grandeur and all the abasement of genius:—he has recorded sentiments which adorn human nature—he has expressed opinions that would blast the brightest character.

Pure epilepsy, says Dr. Reid*, is seldom fatal. In thirty-four cases which came under my notice, two only died who, on examination, exhibited no morbid appearance sufficient to account for death, until the spinal column was opened along the cervical vertebræ, when the membranes enveloping the medullary mass appeared to be covered with a minutely injected vascular tissue. Mr. Creighton† bears testimony to the efficacy of the pustulous eruption produced by the application of the tartar emetic ointment, as recommended by Dr. Jenner for other diseases. A complete cure, he adds, of the children of the Dublin Foundling Hospital was not obtained; yet the fits were comparatively of rare occurrence, and of so mild a character as not to interfere with the health or strength. Dr. O'Beirne has treated epilepsy successfully by the infusion and fomentation of tobacco, as recommended under dysentery.

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* Transac. of King and Queen's College, &c. vol. iv. p. 355.

† Idem ut supra. p. 332.

The production of epilepsy is somewhat obscure; yet it would seem to be either a plethoric state of the brain itself, or a morbid cause which directly or indirectly irritates that organ through the alimentary canal, uterus, or other important parts. Such at least is the result of my own observation. The irritation of teething often induces epileptic fits; and sometimes worms in the intestines. Mr. Cline cured a man of epilepsy by removing, with the trephine, a spiculum of bone which had arisen from the internal table of the cranium, and had pressed upon the brain for months. Occasionally, the attacks of epilepsy are violent, as described in the nosology, requiring the control of three or four individuals; while sometimes they are mild, yet frequent; seize the person standing or walking, who is able to maintain that position with assistance. I well recollect such a case, and it exists at this moment, of a most fascinating woman, who, in the thirty-sixth year of her age, unmarried, was attacked with apoplectic symptoms, which yielded to active treatment; yet ever and anon they returned, and laid the foundation for mild attacks of epilepsy, which, for the last eight years, have frequently harassed her at all times, and in all places. During one attack she luxated her shoulder.

The treatment of epilepsy will vary according to the existing symptoms and appearance of the

sufferer. Where there is plethora, the most active antiphlogistic remedies must be had recourse to; but these would be obviously improper in the confirmed cases, where all plethora appears to have subsided. When irritation has caused epilepsy, that irritation, if possible, ought to be removed. Opium is an admirable medicine in this disease, and may be administered in a dose of two, three grains, or more, on its invasion. It would be idle to particularize the numerous medicines which have been tried in epilepsy without success. In my opinion, the nitrate of silver has succeeded best. Some speak highly of digitalis:—oil of turpentine, and mercury, ought never to be overlooked. The French surgeons assert, that the moxa applied to the spine has performed cures; and others recommend bark, oxyd and sulphate of zinc, the preparations of iron and copper, and arsenic. Amidst such contrariety of opinions, who shall decide, and reconcile so many discrepancies? No doubt each has succeeded, since cases, as well as individuals, are different:—some will recover without any treatment—others, under none; for, in some instances, epilepsy has ceased with the cause that gave it birth; and in others, fixed in inveteracy, it has laughed at all human means. The judicious physician will catch the spirit of the fleeting case, and adapt his curative agents to it: he will always consider routine practice to be the grave of science and of truth.—Rectified oil of

turpentine, in doses of an ounce and a half or two ounces, would seem to be most admissible in epileptic fits, depending upon intestinal irritation; metallic and other tonics, in shattered and debilitated systems; mercury, nitrate of silver, or arsenic, in organic disease; and venesection, purgation, or digitalis, in high vascular action, conjoined with excessive nervous sensibility. The tartar emetic ointment, applied so as to produce a pustulous eruption, deserves trial from what Mr. Creighton has communicated; yet the subjects of his experience were children, in whom epilepsy is much more tractable; and it is said, this disease has disappeared suddenly about the age of puberty, where it had assailed youth of five or six years of age, and resisted all the efforts of art. Epilepsy is sometimes united with mania,—an accidental combination, which places recovery at an immeasurable distance. The fact is, epilepsy is a disease seldom cured; and when it is of long continuance, the memory is nearly extinct, or fatuity occurs.

Dissection presents serous and sanguineous effusions in the brain or between its membranes, or turgidity of the cerebral vessels, polypi, excrescences, hydatids, with occasional ulcerations. The pituitary gland has been found diseased in an epileptic brain otherwise sound. The spinal marrow particularly suffers, and shews strong marks of inflammatory action; and on this account local

applications,—such as blisters, caustic issues, and the tartar emetic ointment, should be applied to the integuments covering the spine; and where general plethora prevails, leeches, not less than twenty, may be employed.

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X. *Convulsio.* Muscular agitation violent; teeth gnashing; hands clenched; perfect unconsciousness; uncertain duration.

The constitutions most obnoxious to convulsions are those endowed with exquisite nervous sensibility. Convulsions are often the consequences of injuries of the brain and spinal chord; also of dentition; intestinal irritations; affections of the kidneys; severe parturition; wounds; and fevers. Fear likewise induces them:—a man sentenced to be hanged in Durham was seized with strong convulsions on his road to and at the place of execution. During the year 1813, at the Cove of Cork, Ireland, I visited a poor man who had fallen into a deep well, and from which he was extricated in my presence with great difficulty. Immediately afterwards he was attacked with violent and oft-repeated convulsions, which rendered a minute examination, for there was no apparent injury, impossible. He died in two or three days: the

body was not inspected. This case is cited to shew how readily convulsions spring from injuries of the brain or spinal marrow, since one or the other, I think the latter, must have existed.

Men of high nervous temperament are subject to convulsions from agitation of mind or similar causes; and these are easily overcome by the affusion of cold water, external stimulants, and large doses of opium, with other antispasmodic medicines. Such patients ought to pay daily attention to their bowels, which, I am persuaded, are in a most irregular state.

Other as well as puerperal women are prone to convulsions. In the former they are more manageable, and only demand the treatment advised for men, with the necessary changes. The convulsions of a puerperal female are singularly violent, and often need the restraint of several people; for she absolutely shakes the apartment to its foundation. In such cases blood-letting is to be promptly and largely employed, assisted by the means previously specified; and if delivery be not effected, or the placenta not extracted, manual efforts must be adopted. The convulsions are often excited and perpetuated by the uterine irritation; and the removal of it is a prime object. In the year 1809, in the city of Peterborough, I was suddenly called to the wife of a soldier, mid-

dle aged and hysterical, and who was labouring under incontrollable convulsions, with the head of her first child without the mouth of the uterus. She was in imminent danger—appropriate remedies had been tried:—delivery in the common way was impracticable. No time was to be lost.—Medical men in the public service have fair play: they have not the weaknesses of friends or the prejudices of attendants to contend against; they enjoy the luxury of speaking truth:—equivocation, disingenuousness, or falsehood, will neither lose nor gain a patient.—I asked for a pair of scissors—thrust their points into the head of the child—scooped out the brain with my fingers—crushed the cranium into a small space—instantaneously extracted the child, and afterwards the placenta. From that moment the convulsions ceased for ever—she sank into a death-like stupor—remained so for several days; but finally recovered, and ultimately was the mother of living and healthy children.

Children are too often the victims of convulsions, particularly at the close of dangerous diseases. Dentition is a common cause; and lancing the gums is sometimes beneficial. Very frequently, indeed, perhaps seventeen cases in twenty, convulsions originate from intestinal irritation; the stools are unnatural; the digestive powers impaired; the face pale and sickly. Smart and oft-repeated doses

of calomel, with occasional antispasmodics, constitute the proper practice. An epidemic convulsion once prevailed in Paris, seizing children under eight years of age, and young whelps. It proved fatal in seven hours; and, in every case, dissection discovered blood effused under the cranium*. Young infants are subject to slight degrees of spasm, which are designated inward fits. During sleep the mouth is drawn into an apparent smile; the eyelids are somewhat open; the eyes roll, and display their white tunics; the breathing flutters; and the infant is readily disturbed. Here a similar treatment is to be adopted. For the convulsions of children, a warm bath is to be used; and benefit has sometimes arisen from the application of a blister or stimulant plaster to the epigastrium and umbilical region. Assafœtida, conjoined with opium, is a medicine worthy of trial; and clysters are good auxiliaries to calomel purges.

With respect to the degree and duration of convulsions they are nearly as fickle and treacherous as the winds. Generally the child is speedily attacked with spasms of the muscles of the arms and legs, which are much agitated; the hands are clenched; the body bent back; the features distorted; and the eyes are either fixed in their

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* Recueil Period. tom. ix, p. 286.

orbits, or roll about, with dilated pupils. The face may be pale or livid. Sometimes these convulsions end life; and at others, they cease in two or three minutes, and leave the sufferer for ever free. But, in other cases, they return again and again for many days, or at uncertain periods for several weeks. The danger is greater when the fits are longer, and the interval shorter*.

XI. *Hysteria.* Convulsive struggling, alternately remitting and exacerbating; rumbling in the bowels; sense of suffocation; drowsiness; urine limpid and copious.

Hysteric fits, as popular language denominates the paroxysms of hysteria, are almost peculiar to the female sex, and principally so to women in early life, whose tempers are fickle, whose dispositions are sensitive, and whose passions are strong. Hysteria is to be seen not in the lowly hut, but in the carpeted apartment; not amongst the active and laborious, but the restless and dissipated; and yet it must be admitted, that the most lovely women are sometimes the sufferers. After all,

* See Morgagni, ep. 1, art. 2; ep. 9, art. 9—18; ep. 10, art. 62, &c.

there is little cause for regret: hysteria is unattended with danger, and seldom of long continuance. During the paroxysm, the patient struggles violently; and immediately after its subsidence, she is warm, blooming, and interesting, without the slightest appearance of disease. The paroxysm is denoted, with a few exceptions, by the ascent of a ball from the intestines into the œsophagus, which is termed *globus hystericus;* and, as Van Swieten observes, the throat does really seem a little distended. Sydenham considered the discharge of limpid urine to be the pathognomic symptom of hysteria.—The treatment does not vary from that of convulsions. Hysteric women frequently complain of numerous anomalous symptoms, which must be attended to as they arise, although they are as unmanageable as they are innoxious.

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XII. *Trismus.* Permanent and rigid fixation of the muscles of the lower jaw.

Epilepsy, convulsions, and hysteria, examples of *clonic* spasm, have been considered; and before we enter into the discussion of trismus and tetanus, specimens of *tonic* spasm, it may not be inexpedient to write a page or two concerning muscular motion; since, in these diseases, the muscles act

a conspicuous part. It deserves to be mentioned, that all *clonic* spasms are usually designated *convulsions;* and all *tonic* spasm is commonly denominated *spasm,* but not convulsions. When the muscles of the body are affected with general alternate or clonic spasms, it is said to be convulsed; whilst when they are subjected to fixed spasm, or the internal organs are so affected, both are affirmed to be the seat of *spasm,* but not of convulsions. This explanation is only offered to the youthful student; for systematic writers err in presuming on too much knowledge in all their readers.

The muscles are the organs of motion. They are of fleshy structure, of moving fibres, and of red colour. Every muscle consists of fibrous bands; these of bundles of fibres, and even these of exceedingly fine fleshy fibrils. Muscles are amply supplied with blood-vessels: hence their red colour; for when macerated, they are quite white. They are also supplied with numerous small branches of nerves, which intimately unite with the fibres, so as to elude discovery. Every muscle has a covering of cellular membrane, which is interwoven with all its fibres and fibrils, forming, as it were, one substance. Most of the muscles terminate in tendons. The grand prerogative of muscles is their irritability*, so named by Haller, by which they

* Haller, Com. Soc. Sc. &c. Gottingen, t. ii; & Nov. Com. t. iv.

act on the application of stimuli: they are voluntary, involuntary, or both.

The highest order of muscles is the hollow, which perform the vital and natural functions,—namely, the heart, endowed with lively and permanent irritability; the stomach; the intestines; and bladder. The respiratory muscles are, the intercostals, triangularis sterni, and diaphragm:—the other muscles need not enumeration. The will acts upon the brain; the brain, upon the nerves, which nerves excite muscular motion; yet the immediate cause is the irritability of the muscles, a power easier acknowledged than explained.

There is considerable variety in the size and arrangement of the fibres of muscles. The greatest number is long, with fleshy bellies, ending in tendinous chords, and fixed to the bones, which they move like levers. Some are without tendons; others not inserted into bones. Muscles are divided into flexors and extensors, names requiring no explanation. The human body is said to possess about 450 muscles; and a person playing on the harp, dancing and singing at the same time, exercises three hundred muscles at once*.

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* G. Ent, Animadv. in Thrustoni, &c. p. 130.

The voluntary muscles contract for some time after death when their nerves are galvanised; not so the involuntary: yet the heart may be excited by the contact of an irritant twenty-four hours after dissolution*. Muscles become remarkably powerful by employment, as is exemplified by the arms of boatmen and the legs of chairmen. According to Blumenbach, muscles abound in azote more than any other animal parts do; and the departure of this from its combination with hydrogen and carbon, which exists during health, entirely converts them, under elephantiasis, and after death†, into *adipocire*, a substance resembling spermaceti.—The subject of muscular motion is most interesting, but unfortunately most obscure: the act itself is palpable—the cause, no doubt, the brain and nerves; but how, or in what mode, will long continue to exercise the mind, and baffle the powers of highly gifted men.

Trismus, or locked jaw, may arise from various causes. Sometimes it affects infants during the first fortnight after birth, probably from some acrimony in the stomach or intestines, when it is termed *trismus nascentium*, and is almost always fatal. In adults trismus commonly originates

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* Wilson, Lectures on the Blood, &c. p. 139.

† Gibbes, Philos. Transac. p. 169. 1794.

from wounds, punctures, or ulcers, chiefly in warm climates; or, indeed, from cold itself: but occasionally it invades without any known cause. Parrots are said to be subject to this disorder*. Trismus will require the same treatment about to be advised for tetanus, and therefore to state it is unnecessary, since the diseases differ only in degree,—the one being an affection of the muscles of the jaw only; the other, of most of the voluntary muscles, with those of the jaw included. Two cases† have been recorded in which complete cures were accomplished by the exhibition of a drachm of tincture of opium every hour, or every two hours, for two days, assisted by strong doses of calomel, jalap, and scammony. This is precisely the practice I should recommend,—only the opium appears to have been prescribed in too small doses: for a disease so intensely spasmodic, thrice the quantity may be administered with safety. When death is inevitable, who would startle at trifles?

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XIII. *Tetanus.* Permanent and rigid fixation of many or of all the voluntary muscles; with incurvation of the body, and dyspnœa.

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* Bajon, Memoires I. Richter, Chir, Bibl. band v, p. 165.

† Trans. of Med. Chir. Soc. vol. ii, p. 284 and 291.

Tetanus is divided into acute and chronic, according to its mildness or severity; into idiopathic; and traumatic, when from a wound. This disease, similar to trismus, originates from the same causes, particularly from small and insignificant punctures, and is commonly without fever or disturbance of the natural functions. Various means have been employed with the most indifferent success: to recapitulate them, or to advise their use here, could answer no useful purpose, since they are to be found ably detailed and illustrated in the fourth edition of Cooper's Surgical Dictionary. It is better to confine the attention to what is novel and plausible.

Mr. Carmichael *, one of the first surgeons in Dublin, says he will try, in the next case of tetanus, alcohol, in any of its various combinations; æther, largely exhibited in the form of draught and of enema, with opium; the tartar emetic ointment rubbed upon the abdomen; and, at the same time, he will open the bowels by castor oil and turpentine. In my judgment this is good practice, and coincides with my own views of this unmanageable disease. All other remedies have more or less failed; and even these will fail, if not administered in enormous doses. Were a case of tetanus to fall to my lot, I should administer four

* Transac. of King and Queen's College, &c. vol. iv, p. 291.

ounces of brandy, and half an ounce of tincture of opium, every hour and a half, until a sensible effect was perceived; and I would rub the abdomen and the affected parts, particularly the jaws, with Jenner's tartar emetic ointment, until vesicles or pustules appeared; and likewise most freely evacuate the intestinal canal, without any intermission, with oil of turpentine, and other powerful cathartics. Tetanus usually ends life before the tenth day, and occasionally on the fourth or fifth; yet it may be protracted longer in mild cases and cold countries.

We are assured a still better mode of practice is reserved for the tetanic sufferer. Dr. O'Beirne communicates that he has lately been singularly successful in the employment of tobacco in tetanus, epilepsy, dysentery, and other diseases; and which is to be used in the form of an enema, and as a fomentation to the belly, in the quantity and manner recommended under dysentery, to which article the reader is referred. Independently of the energetic action of tobacco on almost every part of the body, Dr. O'Beirne is of opinion, that it produces all the immediate effects of blood-letting; and that, on discontinuing its use, the effects of it disappear in a day or two, leaving the patient vigorous*.

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* Transac. of King and Queen's College, &c. vol. iv, p. 386.

Dissection throws little light on tetanus. Effusions have been found within the cranium. The œsophagus, and villous coat of the stomach, near the cardia, are always more or less inflamed. Larrey has seen the pharynx and œsophagus much contracted, and covered with a viscid red mucus; and also numerous lumbrici in the intestines. Dr. M'Arthur has observed the bowels to be inflamed, and to contain an offensive yellow waxy fluid, which smeared their internal surface.

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XIV. *Chorea.* Alternately tremulous and jerking motions of the face, legs and arms, especially when voluntarily called into action; resembling the grimaces and gestures of buffoons; usually appearing before puberty. Mind and body disordered.

Respecting chorea anatomical research gives no information. Hamilton and Camper advise purgatives for the treatment; but nitrate of silver appears to have answered better. Dr. Maton* cured a woman of this disease by musk, whose age was seventy. Dr. Albers†, of Bremen, and others

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* Med. Transac. of Coll. of Physicians, vol. v, p. 188. London.

† Med. Chirurg. Transac. vol. vii, p. 284.

in this country, have observed that a change in the colour of the skin sometimes arises from the administration of the nitrate of silver. Dr. Powell* has treated several cases of chorea with this medicine, and in which even thirteen or fourteen grains were daily exhibited. Some gentlemen eulogise the arsenical liquor. A girl of fourteen years of age was radically cured by it, at the medium dose of ten drops three times a day†.—Such are the remedies for chorea: the best are the nitrate of silver, and powerful cathartics.

Chorea seldom terminates fatally, and therefore there is no aid from dissection, the grand expounder of obscurities and difficulties. It is obviously a congenital disease, depending on certain imperfections of structure and functions, and hence a thorough cure can scarcely be rationally expected. From a want of nervous energy in the muscular coat of the intestines, the bowels are sluggish and loaded with disagreeable feces; and thus purgatives are eminently beneficial by evacuating a morbid mass, and partly improving the general health. The truth is, most cases may be relieved by judicious management; but only slight or acquired ones admit a lasting cure. Dr. Hamilton

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* Med. Transac. of Coll. of Physicians, vol. iv, p. 85.

† Trans. Med. Chir. Soc. vol. iv, p. 45.

is sanguine enough to think that purgation will cure chorea:—he is mistaken: it can no more do so than a child sleeping in the cradle can rival the infant Hercules*. A fictitious chorea, probably the result of irritation, does admit a cure by such means. The nervous system sympathizes most remarkably with peculiar affections; yet the genuine chorea, in my opinion, arises from a hidden and deep-seated morbosity of the brain or spinal marrow, which is evident by the helplessness and fatuous condition of the individual. He is sallow and weakly, irrational in appearance, uninteresting, and uninformed; a living being without animation or intelligence; and sometimes he is an idiot.—Under the circumstances stated, it appears probable that advantage may be derived from cupping or bleeding, setons or issues applied to the nape of the neck and spine.

XV. *Lyssa.* Great restlessness; anxiety; hurry of mind; horror; and constriction of the muscles of the chest; following the bite of a mad dog; wounded part red and painful; spasms of the muscles of deglutition, exasperated by liquids. The first paroxysm fatal.

* Plautus, Amphitruo, Actus V, Scena I.

For this disease medicine is useless, and there is no safety except in the immediate excision of the bitten part.

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XVI. *Neuralgia.* Contraction and distortion of the muscles of one side of the face, especially about the ala nasi and upper lip; pain most excruciating, and shooting into the orbit, ear, over the face, palate, teeth, and fauces.

This disease, which, from the acuteness of its pain, renders life a burthen, originates from a diseased state of the nerve or nerves of the affected part, and is only to be cured by a free division of the nerve*, wheresoever it may run. Whenever the pain returns, the nerve is to be again and again divided†. Every part of the body is obnoxious to this neuralgic affection: it has been observed in the face, female breast, thigh, heel, and little finger. Practitioners, whose happiness it is to discover, and whose privilege it is to record, wonders, inform us they have cured neuralgia, or tic doloreux, as they term it, by internal medicines. I should be willing to credit them, if I were igno-

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* See Dr. Haighton's valuable paper, to whom the merit of first dividing the nerve, and that successfully, is due.

† Darwin's Zoonomia, part ii; Diseases of Irritation, cl. i, ii, &c.

rant that rheumatism often simulates this painful disease of the nerves.

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XVII. *Tremor.* Tremulous agitation of the muscles of the head and limbs: principally upon voluntary motion.

This is the *paralysis agitans*, or shaking palsy of Parkinson. It can scarcely be called palsy, or an idiopathic disease: it is rather a constant trembling of the head and limbs, particularly the arms, in old drunkards, or in feeble and aged women. Tremor seems to be the result of a worn out nervous energy, the consequence of inebriation and depressing passions, where the brain has lost all power over certain voluntary muscles, and they continue to act independent of the will. It is idle to think of a cure, since it can only be accomplished by restoring the selfish drunkard, and the aged and broken male and female, to propriety, youth, health, and vigour. This will require something more than the purgatives of Hamilton, the blue pill of Abernethy, and the blood-letting of Armstrong.

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XVIII. *Raphania.* Spastic contraction of the joints, with trembling and periodical pains.

This disease is chiefly found in Sweden and the adjoining countries, and is occasionally accompanied with cutaneous ulcerations and considerable desquamations of the cutis and cuticle. The cure is to be conducted on common principles.

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XIX. *Beriberia.* Spastic retraction of the knees on walking; trembling and painful stupor of the limbs; sense of formication; voice hoarse.

This affection, like the preceding, is the produce of a distant country; and the author, not having witnessed either the one or the other, has briefly noticed them for the sake of uniformity.

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XX. *Singultus.* Convulsive catch of the stomach, repeated most frequently.

This affection is sometimes symptomatic of dangerous diseases, principally of suppuration or of gangrene of intestinal organs. I remember a singular case of this nature. In the year 1812, at Cork, a most worthy sergeant, who, under another's care, had not been sufficiently bled for pneumonitis, became, in four or five days, perfectly free

from all unpleasant symptoms, but was instantly seized with an almost incessant hiccough, which resisted every remedy I could devise, and continued above a week, when he expired. The body was not examined:—no doubt the inflammation had induced suppuration or gangrene, yet his appearance did not indicate either; and under such circumstances life is generally sooner extinguished. The periodical works* contain numerous cases of chronic hiccough, in which it has existed for three months, four years, and twenty-four years.

For pain and spasm, opium stands unrivalled; but this noble medicine occasionally loses its reputation by the timidity of the prescriber. In severe pain of the stomach, I have given, to a gentleman accustomed to opium, one ounce of the tincture, made of purified opium, in half an hour, with ease, pleasure, and success. Let us hear no more of small doses. In the treatment of painful chronic diseases, opium acts like a charm, and should never be withheld. Pain is a dreadful evil:—he who has felt it can alone appreciate the blessed interval of ease: to remove it can never be wrong. No solid or fluid in the whole range of animated society exercises so delightful an influence over the mind as opium. Within half an hour after its

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* Bonet. Sepulchr.—Schenck—Bartholin.—Albert. &c.

administration it overcomes pain; and in another half hour it banishes despondency, drives away misery, and excites happiness. He that is elevated by wine or spirits feels his head clouded, and knows the hour of retribution is at hand; whilst he who has taken opium not only experiences a much higher degree of gaiety, but a brightness of intellect, which renders him adequate to the finest species of mental exertion, and which is followed by no regretful feelings on the succeeding day, inasmuch as the health and spirits are invigorated.—It is thus that opium is a prime favourite with the talented and the highly gifted, with the needy and the miserable. The victim of prospects for ever ruined, the interesting object of disappointed love, the wretched inmate of a parish poor house, flies to purchase this fascinating drug; while the most brilliant geniuses of the present day, men whose minds will be the light of other ages, indulge in it to an excess which would startle the inexperienced members of the medical profession.

The effects of opium on the system is a subject which has raised the keenest controversy; yet such effects ought to have precluded doubt by their simplicity. Opium acts either as a stimulant or a sedative. If an appropriate dose is exhibited, its effect is decidedly stimulant, resembling wine, yet surpassing it; but if an enormous dose

be swallowed, it is a palpable sedative, the brain is almost instantaneously affected, and the patient is first stupid, then reels, and quickly falls into a death-like state, in which, if permitted, he would sleep away his life.

When opium is taken by mistake, or for poison, one scruple or half a drachm of the sulphate of copper or of zinc must be administered immediately in a little warm water. The patient, who always lies in a dormant state, should be kept in constant motion, and the cold affusion ought to be freely and unceasingly employed. Copious acid drinks are to be given after the operation of the emetic; or should the emetic not operate, another and another may be offered, to evacuate the deadly draught.

## ORDER IV.

## CACHECTIC DISEASES.

THIS order comprises every disease which originates from a vitiated state of the fluids and solids.

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The whole of the species and varieties are arranged under a single genus.

## GENERIC DEFINITION.

Morbosity of the blood-vessels, blood, or other fluids, or of the solid parts, exhibiting itself on the skin, internal organs, arteries, and bones.

### THE SPECIES AND VARIETIES ARE

I. *Plethora.* Complexion florid; obvious signs of strong vascular action; uneasiness, heaviness, and occasional pain in the head, with considerable drowsiness after meals. Pulse quick and full.

This state of the system is exceedingly common, arises from an excess of blood, and cannot be contemplated without apprehension, since it threatens to relieve itself by a rupture of important vessels.

There is in every human body, whether vigorous or debilitated, a weak organ, which usually fails to resist the invasion of disease:—it may be the head, heart, lungs, intestines, or any other important viscus. These truths are confirmed by what occurs in plethora. The vessels are distended with blood, the circulation rapid, an outlet is sought for and must be had:—in some, the vessels of the pituitary membrane only give way; in others, the brain, inducing apoplexy or palsy; in a few, it is the lungs, and hæmoptysis or spurious phthisis is the result; whilst in females it may be the uterus. Thus it is evident that a plethoric state of the system is to be carefully observed, and obviated by venesection, purgatives, exercise, little sleep, and a diet the most confined, in order to prevent the supervention of diseases which embitter life and threaten death.

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II. *Hæmoptysis.* Blood, more or less, dark or scarlet, brought from the lungs by coughing, and sometimes spontaneously; constriction of the chest; dyspnœa; face flushed; pulse soft, yet full.

This is another consequence of plethora, and is occasionally troublesome and dangerous, by injuring the health, and eventually inducing a peculiar kind of phthisis. The treatment consists in bleeding judiciously, opening the bowels with saline medicines, and allaying the cough by a mixture of the compound infusion of roses, mucilage of acacia, and tincture of opium, independently of an anodyne at bedtime. To lower vascular action, and to keep it low, digitalis, with the nitrate of potass, may be tried. Where pain in the chest exists, the application of a blister ought never to be omitted. The acetate of lead is a useful remedy in the proportion of one grain every four or five hours.

Some men, principally drunkards, of weakly frames, are exceedingly prone to hæmoptysis. In them it can scarcely be said to spring from plethora, although it did in the first attack, but rather from an accelerated circulation, in consequence of vinous excitement, and a debilitated state of the vessels of the lungs, which renders them unable to resist the impetus of the blood. Here more caution is required in the treatment, especially with respect to the lancet, which still must not be proscribed. Much advantage will be derived from abstemious living, a complete interdiction of wine, spirits, and malt liquors, and the enjoyment of horse and carriage exercise, agreeable society, wa-

tering places, or a warm climate. Such patients generally die apparently consumptive,—which subject will be adverted to under phthisis pulmonalis; —or chronic inflammation may invade a weak organ, disorganize its structure, and occasion a dropsical effusion.

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III. *Hæmatemesis.* Vomiting of black or grumous blood, preceded by heaviness in the stomach and tensive pain; anxiety and faintness; occasionally a discharge of blood from the rectum.

This disease is generally safe and manageable. It is astonishing how large a quantity of blood may be ejected from the stomach without danger; and it is easily known to proceed from this organ, and not the lungs, by the quantity, dark or grumous colour, and its having been vomited, and not coughed up out of the glottis. In hæmatemesis it is not uncommon for quarts of blood to be evacuated by the mouth in one day.

Emetics are of excellent service, and demand the first care. Dr. Sheridan* and other respectable physicians are strenuous advocates for eme-

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*Transac. of King and Queen's College, &c. vol. iv, p. 43.

tics of ipecachuan; while Dr. Hamilton *, with equal propriety, urges the repeated exhibition of cathartics. In my opinion, purgatives should succeed emetics. Venesection will scarcely be required. Dr. Pickells† narrates a singular case of hæmatemesis in a female, attended by convulsive paroxysms, where nearly 1000 living insects of various kinds were vomited at different periods. Should hæmatemesis become chronic, the vessels of the stomach may be constringed by the exhibition of the preparations of muriated iron, in small bulk, or alum mixed with cold water. In such rare cases, where the hemorrhage is passive, and the body weak, a generous diet and port wine are advisable.

IV. *Hæmaturia.* Discharges of blood from the urethra, preceded by or accompanied with pain in the region of the bladder and kidneys.

This affection is almost always symptomatic of various diseases. The existing cause, therefore, is to be removed, and the effect will follow. Discharges of blood from the urethra are rather ser-

* Hamilton on Purgatives, &c. lib. cit. p. 119.

† Transac. of King and Queen's College, &c. vol. iv, p. 189.

viceable than otherwise, by relieving the tension of the distended vessels; but when idiopathic, and existing in a cachectic state of the body, they should be subdued by astringent injections of the mildest kind, and suitable internal remedies.

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V. *Epistaxis.* Discharges of blood from the nose, scanty, moderate, or profuse.

The nasal membrane is remarkably vascular, and more liable to spontaneous hemorrhage than any other part of the body. Where it relieves plethora, or occurs in youth, it may be disregarded. Again, bleedings from the nose are frequently critical of dangerous disorders, and consequently may be considered as fortunate occurrences. But in old people, where the venous system is greatly overloaded, epistaxis proves singularly distressing and weakening, and sometimes produces death. Here the most active agents are to be employed,—but venesection is not one of them; for here the hemorrhage is passive, the heart beats feebly, the face is pale and sallow, the hands are moist, the legs swell, every symptom is opposite to those which youth, a flushed countenance, and general plethora present. In youth, the arterial system exceeds the venous; in middle life, both are equally balanced;

in old age, the venous far surpasses the arterial, with an uncommon activity of the absorbent system. This species of epistaxis requires large doses of opium, good living, port wine, and the cold affusion to the head. Strong injections of the sulphate of copper, of zinc, and of the acetate of lead, ought to be applied to the bleeding vessels by a syringe; or a dossil of lint may be passed through the nostrils, and kept there, so as to act like a plug.

It has fallen to my lot to observe a similar kind of epistaxis in young and debilitated subjects, suffering under severe disease, where the system is in precisely the same state as that above described. In the summer of the year 1809, the late Mr. Thomas, then a surgeon in Doncaster, requested me to visit a young female of the Society of Friends, who, affected with another serious malady, was attacked with moderate yet incessant bleeding from the nostrils, and to which she fell a victim in a few days. In such cases the practitioner is to pursue the treatment which has been recommended:—the cases are parallel:—venesection and cathartics are destructive.

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VI. *Aneurisma.* Pale and pulsating tumour of an artery, originating from the rupture and dilitation of one or other of its tunics.

The treatment of aneurism is the province of surgery, which subject has been distinguished by the talents of Abernethy, Scarpa, Cooper, and Hodgson.

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VII. *Melæna.* Viscid dejections of black fluid and grumous blood; pungent and tensive pain of the hypochondria; occasional vomiting of green, acid, or dark matters; eyes and skin of a sooty yellow colour, or leaden and livid; vertigo, languor, and anxiety.

This disease, sometimes termed morbus niger, black jaundice or vomit, is exceedingly rare, and commonly fatal. The victims of it are old drunkards and immoderate eaters, who have long suffered under jaundice, liver complaints, and stomachic and intestinal disorders. Indeed, melæna is not so much a disease as the invincible symptom of a disease in a broken constitution. The discharges, whether by the mouth or anus, appear to consist of dark-coloured blood, poured out by the vessels of the villous coat of the stomach and intestines whilst in a state of disorganization, with an admixture of vitiated bile, and gastric and intestinal secretions. Hippocrates* has particularly

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* De Morbis, lib. ii.

described melæna:—drunkards and gluttons have disgraced society in every age.

The proper treatment will be to subdue pain, occasionally considerable, and to assuage anxiety and distress by liberal doses of opium. To which may be joined a mild laxative, the warm bath, a diet of animal food, with wine, and the administration of a grain of calomel, and another of opium, every night at bedtime. In melæna, a complete cure cannot be expected; for,—

"——— in æthere non arbor, non æquore in alto
Nubes esse queunt, nec pisces vivere in arvis,
Nec cruor in lignis, nec saxis succus inesse."

Lucretius, De Natura Rerum, lib. iii, v. 785.

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VIII. *Angina Pectoris.* Excessive pain about the sternum, extending towards and down the arms; anxiety; difficulty of breathing, and sense of suffocation, compelling the subject to stand, if he be walking. Occasional syncope.

This is a most obscure disease, and has engaged considerable attention. Dr. Heberden first observed this curious disorder, and brought it before the London College of Physicians, in the year 1768; yet there is a passage quoted below which seems plainly to allude to this affection.—"*Respi-*

*randi difficultas quæ per intervalla deambulantibus incidit:—hi ut plurimum derepente moriuntur**." It is said by Dr. Good, whose knowledge, like his learning, is almost universal, that angina pectoris seems to be referred to by Hoffman in his *Consultationes Medicæ*, and occasionally by Morgagni.

Percival, Fothergill, Black, and other physicians, are of opinion this disease is spasmodic; whilst Parry thinks it to arise from a diseased state, generally ossification, of the coronary arteries of the heart. This may be sometimes, but certainly not always, the cause, inasmuch as people have died of this complaint, in whom these arteries were sound. In my opinion, the genuine angina pectoris,—for there is a spasmodic affection of the respiratory muscles which at times simulates it,—originates from a diseased condition, or state appertaining to it, of the heart or its vessels. This state or condition will vary in individuals:—it may be a partially chronic inflammation, collections of water being the usual result; or it may spring from ossification, or other structural disease. These views are rendered exceedingly probable, by the incurability of the affection, and the appearances after death hereafter to be described.

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* Poterii Opp. Cent. 3. N. 22.

Men are more prone to angina pectoris than women, and they are commonly beyond middle life, with short necks and a disposition to corpulency. In general, the attack is sudden :—the subject is in good health, but remarks that, on ascending a hill or a flight of stairs, he is occasionally and instantaneously seized with a pain in his sternum, which shoots to and down the arms, and forces him to stop until it ceases. The attack is at first short, afterwards of more frequent occurrence and of longer continuance; sometimes in the evening, but more generally from two to four in the morning. During the paroxysm the pulse sinks and becomes irregular, but it is not always so; the face and extremities are pale, and bathed with a cold sweat: for a time the patient is deprived of the powers of sense and of voluntary motion, and appears to be dying as if from suffocation. In some instances the stomach is irritable. Thus does the disease proceed from indifferent to bad, from bad to worse: it may continue one, two, or three years; sometimes induces hydrothorax, or apoplexy,—a strong proof of disease of the heart, affecting the circulation, and producing rupture of the cerebral vessels.

The appearances after dissolution shall first be mentioned, to complete the picture of this disease. The cartilages of the ribs are occasionally ossi-

fied*. The cellular membrane has been found loaded with fat. The cavities of the thorax and pericardium have contained large quantities of water. The heart is sometimes covered with fat; and it is flabby and enlarged. Osseous scales have been seen in the internal coat of the aorta, and close to its origin; while the coronary arteries have displayed ossification almost through their whole extent. There is a general appearance of emaciation, and also occasional affections of the abdominal viscera.

The treatment of angina pectoris can only be palliative; for to propose to cure a disease of the heart or of its great vessels, or other consequences resulting therefrom, would be an insult to common sense. During the paroxysm there is faintness, from which the patient should be aroused by stimuli; and if the heart or vessels labour hard, a vein may be freely opened. The grand object is to preserve him in a state of tranquillity, by the regular and constant exhibition of opium, the black drop, or the *liquor opii sedativus;* for he is usually irritable and apprehensive. The sternum may be covered with a blister, and its surface kept discharging by the cerate of savin. The general

* Med. Chirurg. Transac. vol. vii.

health is to be attended to; and the bowels ought not to be neglected.

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IX. *Purpura Nautica.* Livid spots of different hues, from extravasated blood, principally at the roots of the hair; teeth loose; gums spongy and bleeding; fetid breath; debility great and general.

This is the sea scurvy of authors, and prevails at sea after exposure to a moist, cold and foul atmosphere, with a long use of salted food and stagnant water. Boerhaave, in his 1151st aphorism, has concisely described scurvy; but the subject has ceased to be interesting; for, in consequence of the excellent regulations and admirable living established on board of his Majesty's ships of war, the disease is almost unknown, and when known easily controlled.

The proper treatment is to enjoin a diet of fresh vegetables, and to exhibit lemon juice, and similar acids. The learned Dr. Young* observes, that in purpura, or land scurvy, "the sulphuric acid is a powerful remedy, the citric ineffectual: in true

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* Introduction to Medical Literature, &c. p. 229.

scurvy, or purpura nautica, the reverse." Great attention is to be directed to ventilation.

Upon dissection, the blood is found in a dissolved state. Partial hydrothorax is occasionally discoverable; and there is likewise water in the cavity of the peritonæum. The lungs are seen black and putrid: sometimes the heart is in the same condition, with a fetid fluid within its cavities. The epiphyses have been separated from the bones; the cartilages, from the ribs; and many of the bones have shewn caries.

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X. *Purpura Hæmorrhagica.* Spots circular, of different sizes, sometimes in stripes or patches, or unequally dispersed over the trunk, arms, and thighs; occasional bleedings from the mouth, nostrils, or viscera; considerable debility and depression of spirits.

Purpura hæmorrhagica is usually termed the land scurvy, and is most justly considered to be a dangerous disease. Like its kinsman, it seems to arise in a cachectic habit, where the blood is in an impure state, and the vessels so weak as to rupture on the slightest occasions. The disorder is often preceded for weeks by lassitude, faintness, and pains

in the limbs, which render exertion impossible; and occasionally by febrile symptoms, affections of the chest, hypochondria, and bowels. Dolæus*, Zwingerus†, and Werlhoff‡, have described cases resembling purpura hæmorrhagica, and which shew it to be a well-known disease. The duration is uncertain:—a few days, weeks, months, and even years. When the disease terminates fatally, agreeably to the experience of Bateman, it is commonly from a copious discharge of blood, either suddenly effused from some important organ, or more slowly from several parts simultaneously.

The treatment of this affection must vary with its appearances. Where there are febrile symptoms, internal pains, cough, and disordered bowels, mercurial purgatives should be freely given, and as freely repeated. If there be disturbance of the vascular system, venesection may be had recourse to with caution and judgment. Dr. Parry‖, of Bath, cured two cases of purpura by blood-letting; and the blood drawn displayed a tenacious contracted coagulum, covered with a thick coat of

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* Ephem. Nat. Cur. dec. ii, ann. iv, obs. 118.

† Act. Nat. Cur. vol. ii, obs. 79.

‡ Commerc. Liter. Norimberg. ann. 1735, hebd. 7 & 2.

‖ Edin. Med. and Surg. Journal, vol. v, p. 7. Jan. 1809.

lymph. Acids will be of the most essential service, particularly the sulphuric: but in every case where debility is obvious, and the body, as well as the fluids, is in a disordered state, acids and laxatives are alone to be prescribed, along with a nourishing diet and port wine. With great truth Dr. Willan* observes, that "without air, exercise, and an easy state of mind, the effect of medicines is very uncertain": yet perhaps this excellent author is too unguarded when he asserts, "the mode of treatment is simple, and may be comprised in very few words. It is proper to recommend a generous diet, the use of wine, peruvian bark, and acids†." Occasionally, such treatment is invaluable; but it will prove injurious under febrile irritation and an inflammatory tendency.

Dissection does not cast a steady light upon purpura hæmorrhagica. The ancients referred these hemorrhagic affections to enlargement of the spleen. Celsus‡ remarks, "at quibus magni lienes sunt, his gingivæ malæ sunt, et os olet, aut sanguis aliqua parte prorumpit." Dr. Bateman once found the spleen enormously enlarged in a boy who had died under this disease.

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* On Cutaneous Diseases, p. 461.

† Report on the Diseases of London, p. 93, for May, 1797.

‡ De Medicina, lib. ii, cap. vii.

XI. *Diabetes Mellitus.* Urine discharged freely and profusely, of a sweet smell and taste; dry skin; insatiable thirst; great emaciation; occasionally a voracious appetite.

Diabetes was known to the Greek and Roman physicians; but with them the term only signified an immoderate flow of urine. In this way it was understood among the moderns, until Willis, an acute observer of nature, explained its saccharine quality. Diabetic urine contains neither urea nor earthy phosphates, but a considerable quantity of a brown extract, combined with a proportion of sugar; and, finally, when there is no sugar, its substitute is a bitter principle.

Occasionally, many pints of urine are discharged daily in diabetes for weeks and months. The patient is commonly in a debilitated state, and has long laboured under stomachic and intestinal disorders. The eyes and skin are of a fuliginous colour; the surface dry and cold, as if there were a complete constriction of the capillaries. The spirits are low indeed; and there is an inaptitude to the usual pursuits and desires of life. The appetite is at times most voracious; the gums and tongue are often ulcerated; and he frequently complains of a sense of weight in the region of the kidneys, as well as of pain, extending along the ureters into the bladder.

Without enquiring into the opinions of other physicians, I shall proceed to state my own. Diabetes mellitus originates from a morbid state of the kidneys, whereby the minute vessels of the cortical part secrete a saccharine fluid in lieu of healthy urine. Let us not rest here. What causes this morbid condition?—Inflammation; and hence the success of venesection as first recommended by Dr. Watt*, of Glasgow. As yet little is known relative to the effects of inflammation on the secreting surfaces, and the more perfect glands. We generalize too much, and overlook striking facts:—because inflammation has commonly certain results, it is thought that when an unusual result occurs, its cause was not that action. Yet nothing can be more incorrect or less consonant with observation. Pause for a moment:—look into nature's book of disease, and reason on passing facts. Under pertussis it was proved that inflammation of a mucous membrane shall at one time only excite a discharge of pus; at a second, a layer of coagulable lymph which blocks up a natural outlet essential to vitality; at a third, a remarkably sonorous and hooping inspiration. In conjunction with these, the different and even opposite secretions of the circumscribed cavities were dwelt upon; and to which other instances might

* Cases of Diabetes and Consumption, by Robt. Watt, M. D. Paisley. 8vo. 1808.

be added. Since, then, these facts daily appear above the horizon of practical medicine, where is the improbability in supposing that a peculiar inflammation of a gland may so change its secretory apparatus that it produces a *saccharine* instead of a *saline* fluid?—He that is sceptical will, perhaps, favour me with an answer. The visionary theories of Rollo have ceased to please: like base coin, they were only current for a while, and have deservedly sunk into oblivion.

In this disease blood-lettings are to be performed according to the precise nature of the case, and agreeably to the principles promulgated by Watt. Dr. Satterley* has published an account of several cases of diabetes which were cured by venesection. At first the blood drawn resembled a black homogeneous mass, without firmness, and incapable of separating into serum and crassamentum; yet after every bleeding the blood improved in appearance, and, finally, the crassamentum exhibited on its surface a membrane of an intense bright scarlet colour, analogous to the buffy coat. The quantity of saccharine matter decreased as the urine itself diminished; and even when it was reduced to two quarts daily, the sugar was still discoverable. A cure was ultimately obtained, after a loss of one

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* Transac. of London College of Physicians, vol. v.

hundred and twenty-six ounces of blood, in one case, and at seven bleedings. Besides venesection, mild laxatives and a spare diet are to be advised. After all, this disease is generally fatal, under the most approved treatment,—nor can this excite any surprise; for diabetes is a disease not assailing an healthy, but a broken, constitution, and which is too often the result of intemperance and vice. It was the shattered frame and debilitated stomach which led Dr. Rollo to attribute the origin of this disease to that organ.

The dissection of diabetic sufferers displays various and considerable affections of the kidneys,—the obvious consequences of long continued and neglected inflammation. These glands are in a loose and flabby state, of a pale ash colour, and greatly enlarged: sometimes they are exceedingly vascular, with apparent pus in their infundibula, but no ulceration. The mesentery is very often diseased, and its glands increased in size; some hard, and of an irregular texture; others soft. The lacteals are likewise enlarged. The stomach, liver, pancreas, and spleen, are seldom affected. The bladder occasionally suffers, being less than natural, with its tunics thickened. Mr. Hodgson* found the *calibre* of one renal artery obliterated by

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*Treatise on the Diseases of Arteries and Veins, &c. London, 1815.

an accumulation of atheromatous and calcareous matter within its tunics. The structure of the kidney was uninjured. The pelvis contained urine, and a large quantity was in the bladder. The kidney was supplied with blood by the arteries of the renal capsule, and by a large branch from one of the lumbar arteries.

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XII. *Cholelithia.* Excruciating pain in the region of the liver and epigastrium; sickness; frequent vomitings; pulse natural, followed by discharges of gall stones at an indefinite period. Occasional jaundice.

Gall stones are frequently voided in great numbers,—one hundred, two hundred, or more, and sometimes only to the amount of ten or twenty; but they are almost always preceded by excruciating pain, which is occasionally of long continuance, with a general state of ill health. The alvine evacuations are usually scanty and white in colour. To allay the pain, most violent indeed, particularly during the actual passage of the stones, large doses of purified opium are to be given, and the intestines preserved in an open state by mercurial purgatives. Where the system appears to have suffered, and the stomach and liver to have partici-

pated, the mouth is to be affected by calomel or the blue pill. When the ductus communis choledochus is obstructed by one or more gall stones, jaundice occurs, from the bile not passing into the duodenum, but regurgitating into the liver. Here emetics, followed by opiates, are beneficial.

Biliary or hepatic calculi, or gall stones, as they are indifferently called, form in every part of the liver and its appendages; yet they are most common in the gall-bladder. Sometimes they are single, and of a size to fill the cavity of it; whilst, occasionally, their number amounts to a hundred or thousand, all varying in size. When the diameter of the bile duct allows a calculus or calculi to pass with facility into the duodenum, there is little pain; but when the reverse, there are pains the most agonizing. Sometimes the ductus communis choledochus dilates itself to a great extent, as has been ascertained by the dissections of Heister, Vicq D' Azyr, Galeazzi, Thomas, Morgagni, Bezold, Trew, and Verney. Richter* has recorded a case in which the duct contained a calculus weighing three ounces and a half. Human biliary calculi yield the same products as the bile; and there is contained in them more or less of a peculiar

* Rubini, p. 7—10. Verona. 1808.

substance, termed by Fourcroy* *adipocire*. The *adipocire*, which is the base of all human calculi, resembles spermaceti; and, according to Fourcroy and Bostock, it is composed entirely of carbon, hydrogen, and oxygen†. This is a most interesting subject; but narrow limits oblige me to refer to the fourth edition of Cooper's Surgical Dictionary, where there is an excellent article on biliary calculi, as well as on alvine concretions and urinary calculus. For alvine concretions, usually formed on a nucleus, purgatives are the most effectual remedies; and for urinary calculus, the subject of the next essay, there is no hope, except from nature, or an operation; yet pain is mitigable by opium.

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XIII. *Lithiasis.* Calculous concretions, of various sizes, in the bladder and other urinary organs.

For this disorder medicine is useless; yet I am anxious to introduce the interesting case of Augustus Cæsar, the first emperor of Rome, who

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* Mem. de l'Acad. des Sciences, p. 323. 1789.

† See Nicholson's Journal, vol. iv, p. 137. 8vo.

appears to have suffered severely from affections of the skin, urinary calculus, and disease of the liver, probably melæna.—"*Corpore traditur maculoso, dispersis per pectus atque alvum genitivis notis, in modum et ordinem ac numerum stellarum cœlestis Ursæ: sedet callis quibusdam ex prurigine corporis, assiduoque et vehementi strigilis usu, plurifariam concretis, ad impetiginis formam. Coxendice, et femore, et crure sinistro, non perinde valebat, ut sæpe etiam inde claudicaret; sed remedio harenarum atque arundinum confirmabatur. Dextræ quoque manus digitum salutarem, tam imbecillum interdum sentiebat, ut torpentem contractumque frigore, vix cornei circuli supplemento scripturæ admoveret. Questus est et de vesica, cujus dolore, calculis demum per urinam ejectis, levabatur. Graves et periculosas valetudines per omnem vitam aliquot expertus est: præcipue Cantabria domita, cum etiam distillationibus jocinore vitiato, ad desperationem redactus**."

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XIV. *Struma.* Indolent tumours of the conglobate glands, chiefly in the neck, of various sizes, colourless and painless, suppurating slowly

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* C. Suetonius Tranquillus, in Vita Augusti

and imperfectly, appearing during infancy and youth; upper lip thickened; skin smooth and soft; countenance commonly florid and engaging: hereditary.

The name of struma for scrofula is taken from Celsus*; and Cicero, with his accustomed elegance and knowledge, writes "*struma civitatis.*" Sometimes the lacteal glands are affected with scrofulous inflammation in persons of advanced age. Many negroes are afflicted with scrofula in this country, and not in their own,—which fact indicates that climate is an active agent in its production. In the opinion of Alibert†, females are more subject to this disease than males. Mr. White thinks struma frequently prevails in temperate latitudes, and much less so in hot or cold climates.

The proximate cause of scrofula is unknown; and it would be idle to notice futile theories. It is an unmanageable, and, to a certain extent, an incurable, disorder; since there is no specific, or even tolerably certain, medicine on which reliance can be placed. Dr. Thomson‡ truly observes, that

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* De Medicina, lib. v. cap. xxviii.

† Nosol. Naturelle, p. 449.

‡ Lectures on Inflammation, p. 131. Edinburgh. 1813.

scrofula readily forms an alliance with almost every morbid affection occurring either from external injury or internal disease; modifies the appearance of other diseases, and converts them gradually into its own nature. The disposition to struma diminishes as age advances; and if a person reach his twenty-fifth year, he has little cause for apprehension with respect to a first attack.

It ought not to be forgotten, that scrofula, like mania, selects its favourites amongst the engaging, accomplished, and talented. Scrofulous children are generally possessed of fine and rosy faces, silken skins, blue eyes, and docile and intelligent dispositions, inducing commiseration for their sufferings and deformities. It would seem that every human good has its concomitant evil—that pure and unmixed felicity is the lot of few—that talents, like vices, are not without blemishes. When diseases are hereditary, it is difficult to determine where they have commenced, or to predict when they will terminate; for they may, and do, exercise a pernicious influence over countless millions yet unborn. Wherever an hereditary disease prevails in a family, whether mania, struma, or idiotism, it is the bounden duty of its youthful members not to engage in matrimony, and poison the blood of their unoffending offspring. Let it not be urged, passion is strong, desire vehement:—man and woman were born for higher purposes:—there are

such things as virtue, conscience, honour; before which all meaner considerations ought to fall prostrate. The woman who makes a false step is covered with shame: the cold hearted seducer of unsuspecting innocence receives the contempt of every honourable mind; but these are saints, compared with him or her who, stained by hereditary disease, dares falsely and wickedly to marry a healthy object, and to embitter the marriage state by the birth of mad, scrofulous, or foolish children, who, in their turns, are equally base and criminal. Mental defects are propagated, as well as corporeal. "We know," says Haller*, "a very remarkable instance of two noble females, who got husbands on account of their wealth, although they were nearly idiots, and from whom this mental defect has extended for a century into several families; so that some of all their descendants still continue idiots in the fourth, and even in the fifth, generation." A scrofulous family is almost always consumptive,—another serious obstacle to gratifying the tenderest affection. Again, for though bad begins, worse remains behind, contrary to what might have been expected, hereditary diseases are great promoters of population: the world is considerably more full in consequence of their existence. The Jews, through whose veins leprosy

* Elem. Physiol. lib. xxix, sec. ii, §. 8.

flowed, increased faster than any other nation. In a few districts in the north of Europe, scrofula prevails as much as leprosy did among the Jews; and children are as numerous. Particular families, subject to either or any of these diseases, are commonly very prolific: it counteracts, in a great measure, the influence of those causes that have a tendency to occasion sterility; and preserves names that would and ought to have been extinct*.

Now for the treatment of scrofula. Children scrofulous, or so disposed, ought to wear warm clothing constantly; live on animal food principally; reside in the country, or near the sea; and practise sea bathing during the whole of every summer, along with considerable exercise. The alimentary canal is never to be neglected. If there be only tumid glands, pale and painless, in the neck or on the sides of the face, the best plan is to keep them warm, interdicting every topical application. Sometimes nature effects their absorption: whether or not, suppuration is an evil to be averted; since the suppuration is of the most imperfect kind, and the discharge a white and caseous fluid. The suppurated glands heal with difficulty, and with puckered edges, break out again and again, and add scar to scar, deformity to defor-

* Jarrold's Dissertations on Man, p. 303. London. 8vo. 1806.

mity. If, however, scrofulous glands become red and painful,—rare circumstances,—leeches and cold washes may be applied. Generally, such glands suppurate without inflammation or pain; and when they palpably contain a fluid, the introduction of a lancet is advisable. Afterwards the resin cerate may be employed, along with the frequent application of cold salt water; but warm cataplasms are on every occasion to be avoided. Tonic medicines deserve to be administered,—such as cinchona, preparations of iron, calumba, or gentian. The nitric acid is highly spoken of by respectable men. The constitutional symptoms which spring from scrofula must be treated on common principles; while other and external ones belong to the department of surgery, but which shall be glanced at with brevity.

Under struma should be ranked, they being true scrofulous diseases, first, disease of the vertebræ; secondly, psoas, or lumbar abscess; thirdly, disease of the hip joint; fourthly, of the joint of the knee. For the whole, no means surpass topical bleedings, caustic issues, blisters, and rest: yet for the most part they seldom admit a cure. Psoas abscess is a most absurd name; for the disease has its origin in the ligaments or other soft parts of the spine, and the matter simply passes through the psoas muscle in its transit to the groin and thigh. Disease of the hip joint is a most insidi-

ous affection; since, in the first instance, the knee rather than the hip appears to be disordered. Most commonly, if life be saved, this disease leaves behind a considerably shortened limb, requiring the constant use of a high heeled shoe. Dr. Akenside, author of that much admired poem, "The Pleasures of Imagination," had undergone this disease, and always wore a high heeled shoe; yet, with a weakness unworthy of a man of genius, he concealed the fact, and told Mr. Cline his lameness arose from a fall during infancy.

Monkeys die in these climates of affections much resembling scrofula. The lymphatic glands, lungs, and other viscera, are diseased; usually tuberculated; and the bones are often affected*.— A monkey at Amsterdam contracted a local ulcer from the contagion of small-pox, but had no fever†.

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XV. *Rachitis.* Head bulky, especially anteriorly; stature short and incurvated; principally affecting the limbs and body; spine crooked; ribs

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* Lawrence's Lectures, &c. p. 223.

† Blumenbach, De G. H. Var. Nat. p. 59.

depressed; sternum prominent; belly tumid; feet thrown outwards; early display of talent.

This disease affects children, commonly between the ages of seven or eight months and two years. It is said the child in utero may suffer from it, and that adults posses no exemption. The disease evidently consists of a softness of the bones from a want of phosphate of lime. Rickety children are frequently scrofulous, are of a bad constitution, and their bones and limbs are bent into every form by the action of the muscles and their own weakness. The most important parts of the body, such as the thorax, spine, pelvis, and limbs, are more or less deformed: such instances are frequently seen in the public streets, and hence result difficult parturition and thoracic disorders.

Boyer* has described the appearance of rickety bones with singular accuracy. They are lighter than natural, and of a red or brown colour, and are penetrated by many enlarged blood-vessels, being porous, and, as it were, spongy, soft, and compressible. They are moistened by a kind of sanies, which may be pressed out of their texture. The parietes of the medullary cylinder of the great bones of the extremities are very thin; while the

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* Traite des Maladies Chir. t. iii, p. 619.

bones of the cranium are much thickened, spongy, and reticular. All the affected bones are remarkably supple; but if considerably bent, they break. In the place of marrow, the medullary cavity of the long bones contains only a reddish serum, devoid of fat. Bichat* informs us that the periosteum of rickety bones is thickened; but this has not been confirmed by the dissections of Stanley.

Those individuals who survive rachitis gradually acquire strength, the deformity of the limbs partly diminishes, and the bones acquire firmness from the deposition of phosphate of lime into their texture. To effect purposes so desirable, bandages and mechanical instruments have been recommended; yet they do more harm than good, and are strongly objected to by Boyer and Delpech. It is nature, not medicine, which must cure rickets. The same treatment and mode of living as advised for struma are equally applicable here. Because there is in rickets a want of the phosphate of lime in the bones, a few have proposed the internal exhibition of it into the system; but the proposition has made no converts, and is deservedly neglected. Indeed, to place credence in it would be to rival the credulity of the early Arcadians, who believed they could catch the sun when it shone on the opposite bank.

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* Anatomie Generale, t. iii.

XVI. *Mollities Ossium.* Substance of the bones soft, and apt to curve on slight exertions, with scarcely any pain.

The fluids give origin to the solids. This is exemplified in utero and through life. Bone is formed of gelatinous matter and lime, which, combined with phosphoric acid, constitutes phosphate of lime. According to the quantity of calcareous earth, so are the bones soft, flexible, or brittle. Membrane, or ligament, is gelatine only: a small proportion of earthy matter added to it forms cartilage; whilst a still larger proportion, united with cartilage, constitutes bone. In childhood, the gelatinous matter abounds; in manhood and middle life, the proportion of earth and gelatine is just; in old age, the earth preponderates over the gelatinous matter, and hence the brittleness of the bones of old people. In the healthy bone of an adult there is rather more of earth than gelatine.

The texture of the bones, or solids of the human body, principally consists of parallel fibres, and which are singularly striking in fetal bones, and in muscles, tendons, ligaments, aponeuroses, and other membranes. In the other parts of the body, properly designated soft, there are no visible fibres, but a peculiar texture, termed parenchyma, which differs in different organs. Yet let it not be forgotten, that in all structures, whether fibrous or

parenchymatous, the cellular membrane is interwoven.

Mollities ossium arises from a deficiency of lime in the structure of the bones, so that they bend on the most insignificant exertions, and may be cut with a knife. This disease is of rare occurrence; and its causes are wrapped in mystery. The case of Madame Supiot is interesting; but its length precludes insertion. The appearances on the dissection of her body shall be stated. The muscles, in general, were soft and pale: those of the fore part of the thigh were firm, tense, and shorter; whilst those on the opposite side were thin, tender, and elongated. The bones were entirely dissolved; and the periosteum, remaining untouched, exhibited the form of a cylinder. The heart and large blood-vessels, both arteries and veins, contained large black polypi, of a viscid consistence, and unlike what is commonly found.—In mollities ossium the stature is considerably shortened; and Mr. Gooch mentions a case, in which two feet two inches of the female's natural height were lost. Upon dissection, the heart and lungs of this person appeared sound, but had been much compressed, especially by the liver, which was considerably enlarged, but not otherwise diseased. The spleen was small; and one of the glands of the mesentery was scirrhous. Every bone, except the teeth, was softened, and unable to resist a scalpel;

but those of the inferior extremities were most dissolved, and converted into a kind of parenchymatous substance, resembling soft dark-coloured liver, yet without smell. The most compact bones were the most dissolved: the dissolution began internally; for the bony laminæ partly remained on the outside. The periosteum was slightly thickened, and the cartilages thinner, but not in a state of dissolution, The bones contained a great quantity of oily matter, and very little earth.—Dr. Bostock* ascertained that the quantity of earthy matter in the dorsal vertebra of a woman only amounted to one fifth of its weight; and in another case, only to one eighth; whilst the proportion, in healthy bones, exceeds one half of their whole weight. Boyer and Richerand pronounce rickets and mollities ossium to be the same disease: but they are obviously in error; for the last principally attacks those of middle age; while the former commits its ravages on helpless infancy.

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XVII. *Fragilitas Ossium.* Substance of the bones brittle; disposed to break on the most insignificant exertions: pain trifling.

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* Med. Chirurg. Transac. vol. iv. p. 42.

This disease is the reverse of the preceding, and originates from a want of the soft matter entering into the texture of bones. Saviard and Louis narrate cases to prove that the bones become brittle in cancerous diseases, as if they had been calcined. The same is alleged with respect to the latter stages of syphilis; but in both instances erroneously, except, indeed, as an accidental occurrence. Inveterate scurvy, it is said, renders the bones brittle. In fragilitas ossium, a union of the fractured bones seldom takes place: however, it should always be attempted.

It has already been stated, that the bones of the aged are remarkably fragile, yet not to such an extent as to constitute the present disease; yet the following case, extracted from the epistles of the younger Pliny, is too valuable to be omitted. In literal strictness, it is not given as a case of fragilitas ossium, but as probably a fracture of the neck of the thigh bone within the capsule of the joint; and in which, union scarcely ever takes place. To the accident stated, old people are most liable; and the Roman senator, Virginius Rufus, was eighty-three years of age when he died in consequence of it.—"Quum vocem præpararet, acturus in consulatu principi gratias, liber, quem forte acceperat grandiorem, et seni et stanti ipso pondere elapsus est. *Hunc dum consequitur colligitque, perleve et lubricum pavimentum, fallente*

*vestigio, cecidit: coxamque fregit, quæ parum apte collocata, reluctante ætate, male coiit*."*

XVIII. *Marasmus.* Considerable debility; morbid state of the bowels; constipation, alternating with diarrhœa; evacuations fetid and unnatural; fever.

This affection is almost peculiar to children. It commences with lassitude and debility, loss of appetite, fetid breath and stools, tumid belly, and a complexion of a waxy paleness. If these symptoms be not checked by the timely exhibition of calomel purgatives, fever soon supervenes, the face becomes flushed at intervals, the skin hot and dry, and the pulse greatly accelerated. There are thirst, restlessness, picking of the nose, and disturbed sleep. The debility increases; the symptoms proceed from bad to worse; the emaciation is considerable; and death alone brings relief.

Marasmus may be divided into two stages:—the first, prior to the accession of fever; the second, when that fever is fully developed. Both stages require a course of purgative medicines, composed

* C. Plinius Voconio Romano suos, liber. ii, liter. i.

of calomel, which are to be repeated according to individual cases, and until stools of a healthy appearance and consistence be procured. The strength is to be preserved by tonics, or light and elegant chalybeates,—such as the *vinum ferri*, or similar preparations. Sea bathing is not without its use.

The causes of marasmus are to be sought for in the unlimited eating of improper food or fruits; or where the digestive organs have been deranged by long confinement, noxious airs, or much neglected bowels. Marasmus would seem occasionally to attack adults; but in them it is almost always the result of organic disease, which, being hidden, is sometimes unsuspected. Most generally, it is disease of the cardia, or pylorus, whence digestion is impeded, the mesenteric glands suffer, perfect chyle is not elaborated, an imperfect supply reaches the heart, and overwhelming debility is the result. The same may be affirmed respecting atrophia, if there be any who suppose it to be a different disorder from marasmus.

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XIX. *Tabes Mesenterica.* Disease of the glands of the mesentery, with hectic fever.

This is of frequent occurrence, and most commonly prevails between the first and eighth year.

The mesenteric glands are sometimes universally affected; but they are principally enlarged into an indurated mass about the root of the mesentery. Occasionally, the thymus gland and lymphatic glands of the neck are tumefied. The enlarged mesenteric glands, if life be prolonged, make an imperfect attempt to suppurate; and the formation of a curdy and caseous substance is all they can accomplish. Sometimes a hard tumour may be felt within the abdomen, and in the right side, near the origin of the colon; and even early in the disease.

The commencement of tabes mesenterica is neither rapid nor obvious. The patient experiences little pain, is constipated, or evacuates loose and dark feces. There are occasional attacks of fever; and the urine is white or turbid, while the face betrays ill health. The appetite is unchanged; digestion is unimpeded: the belly, however, is hard and swelled. Every day adds to the irritability of the child; and it is annoyed by vomiting. Such is the first stage of tabes, which does not materially differ from marasmus; but presently the disease advances with rapid strides. The body is reduced to a mere skeleton; the face exhibits a deadly white; the features assume a melancholy sharpness. Now the abdomen daily increases in size; and lancinating pains, of short duration, are felt within the belly or near the back. The alvine

discharges may be hardness itself; but much more frequently they are loose, frothy, and intermixed with bile. At this period, diarrhœa and vomiting are not uncommon. The fever, in the first instance, irregular, doubtful, and indeterminate, becomes of the true hectic kind,—acute and distinct, with an exacerbation every evening, accompanied with great restlessness, and a rapidity of pulse, exceeding 120 beats in a minute. Although the sufferer is inactive and indifferent, he yet dwells on a recovery, which strikingly mocks all his hopes. Now the symptoms imitate those of a confirmed and fatal pulmonary consumption. The tongue is mostly clean, yet occasionally covered, particularly in the centre, with a white or brown crust. Ultimately, apthæ occupy the mouth and throat. The appetite is bad, there is little thirst, and a short and tickling cough shews itself. The body becomes emaciated in the extreme; every feature is altered; the nose is sharp, and appears elongated; the lips are sometimes florid; and, by night, the cheeks are flushed. The belly is uncommonly hard, and sounds like a drum; and in a few cases, where no tension exists, the mesenteric glands may be felt enlarged, by pressing the parietes of the abdomen against the spine. The quantity of urine is lessened, and often deposits a white or lateritious sediment. The feet swell; and during sleep the head, and at times the chest, sweats profusely, while every other part of the surface is

dry and constricted. How long tabes mesenterica may be in destroying life is indeterminable:—a few weeks, or months, and, perhaps, one or two years.

During the first stage of tabes, a steady perseverance in the daily administration of calomel, in doses of six, seven, or eight grains, assisted by tonics, will remove the morbid state of the alimentary canal, and effect a thorough restoration of the general health. But in the second stage, where the constitution has received a shock, and where the fever is nearly or altogether formed, and the mesenteric glands in a state of disease,—it is clear that any treatment must necessarily be precarious. When there is no specific medicine, little prospect of relief, much less of cure, can be expected in structural disease. The part affected implicates the whole of the chyliferous system, one of the main props of life, and co-important with respiration. Purgatives must be given in small quantities; for the bowels are in a lax or feeble state. Tonics and opiates, with a generous diet, and small doses of mercury, are all which can be prescribed; and they will be prescribed in vain.

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XX. *Phthisis Pulmonalis.* Cough; pain or uneasiness in the chest; hectic fever; debility; night sweats; delusive hope of recovery.

The amiable and venerable Dr. Duncan*, of Edinburgh, has divided phthisis pulmonalis into three kinds, namely, the *catarrhal, apostematous,* and *tubercular;* and, agreeably to his views of the subject, he might have added a fourth, and designated it the *hemoptyst.* The *hemoptyst* arises in this manner.—A person, most generally of a bad or weak constitution, suffers an attack or attacks of hæmoptysis; but a vessel, or, perhaps, vessels in his lungs, instead of healing, degenerate into a small ulcer or ulcers; and thus originate cough, expectoration, irritation, and other symptoms. It was the frequency of this occurrence which led Cullen† to contemplate phthisis as nothing more than a sequel of hæmoptysis. For my own part, I attach no importance to these divisions; and consider them, with the exception of the *tubercular,* to be fundamentally erroneous. Let us pursue this subject farther, to prevent misconception, and to establish precision. There is only one kind of phthisis pulmonalis, and that is the *tubercular,* which may be conveniently and practically divided into two stages:—the first, the occasional forma-

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* Observations on Pulmonary Consumption. Edinburgh. 8vo. 1813.

† "Hæmoptyseos sequela est *Phthisis.* Corporis emaciatio et debilitas, cum tussi, febre hectica, et plerumque expectoratione purulenta."

Nosol. Class. Pyrexiæ, Ordo, Hæmorr.

tion and inflammation of tubercles in the lungs; the second, the suppuration of them. The tubercles in a suppurative state constitute genuine pulmonary consumption: there is no other. The *catarrhal*, *apostematous*, and *hemoptyst*, confessedly *imitate* this disease; but they are only *imitators*, and are no more entitled to the appellation of *phthisis pulmonalis*, than Silius Italicus* was to the name of Virgil, because he imitated his manner of writing, and was termed his ape. Indeed, Dr. Baillie distinctly says, "*when tubercles are converted into abscesses, phthisis pulmonalis is produced*†,"—thus leaving the reader to infer there was no other phthisis pulmonalis. To call diseases by the same name, because they strongly resemble each other, would be to confound the distinctions of pathological science, which defines, separates, and arranges morbid phenomena. But although Dr. Duncan's *catarrhal* and *apostematous* affections must be cashiered from the rank of consumption, they are of considerable practical utility; for their author, with a modesty and good

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* When I had written the name of Silius Italicus, I naturally turned to his history; and it is a singular coincidence, of which I was totally ignorant, that he actually died of the *apostematous* consumption of Duncan, aged seventy-five, having starved himself to death because he despaired of a cure.

† Morbid Anatomy, p. 72.

sense which have accompanied him through a long and respectable life, has explained them and their treatment with great ability. Yet it is singular he should have overlooked the *hemoptyst*, which is of common occurrence, and was thought by Cullen to be the only phthisis pulmonalis.

The present is a convenient opportunity of entering into the description of tubercles. No morbid appearance is more common :—they consist of firm, white, and rounded bodies, which are interspersed through the substance of the lungs. The formation of them is most obscure :—they display no glandular structure, and are at first exceedingly small, not larger than the heads of pins, and are often accumulated in clusters. The most usual size is that of a pea. They adhere firmly to the substance of the lungs, are without a capsule, and are nearly destitute of vascularity. When incised they exhibit a white smooth substance, of firm texture, and contain a thick curdy pus. A tubercle changed into pus resembles a white capsule. Occasionally, a number of abscesses is discovered in the lungs, in consequence of the larger tubercles having proceeded to suppuration. In the interstices between these tubercles the lungs are frequently of a harder and firmer texture, with their cells partly obliterated. Tubercles are sometimes seen in the lungs of very young children; but they more commonly occur prior to the comple-

tion of growth. Even in advanced age tubercles in the lungs have been visible. Soft and pulpy tubercles, formed of a light brown and smooth substance, are seldom seen; yet they have been observed.

From what has been said it will be obvious that tubercles of the lungs, undergoing the suppurative process, alone constitute phthisis pulmonalis, and not the mere existence of tubercles, which may remain harmless for life. For a person to be disposed to phthisis, it is necessary he should have tubercles, or the disposition to them, in his lungs: —for him actually to labour under this disease, it is indispensable that these tubercles should inflame and suppurate. These truths admitted, there are something like principles to conduct us—a kind of distant star which partially illumines a dreary and solitary waste.

When a patient with a consumptive tendency becomes ill, it is a probable conjecture that the tubercles of his lungs disdain a passive, and seek an active, condition. It is idle to imagine that tubercles are always formed during illness: it is rational to think that they frequently have existed previously, and were the exciting cause of the illness. When such a patient complains of pain shooting through his lungs, it is said the tubercles are inflaming. To this I cannot sub-

scribe. Tubercles are evidently of a scrofulous nature, and, like scrofula, inflame and suppurate without pain. It is to be wished that such a criterion did exist, for it would be most valuable in practice.

Can phthisis pulmonalis be cured? Let us be precise: the question is too general. When a person is affected with a pulmonic complaint, and some of the tubercles are slightly inflamed, can he be restored to health?—It may be so: such appears to have been the case with that estimable individual, Dr. Young, in the fifteenth year of his age, who was fortunately preserved, for the sake of science and of literature. What is the proper treatment?—Small bleedings, if the pulse be hard or sharp, the face flushed, or the chest pained; blisters; gentle laxatives; opiates and demulcents; a milk diet; and horse or carriage exercise, with change of air. Yet, after all, this is not phthisis pulmonalis. If a patient suffer under genuine pulmonary consumption,—namely, suppurated tubercles, hectic fever, and other concomitant symptoms, can he be cured?—Impossible! Palliative treatment ought never to be neglected, especially anodynes, which sooth the sufferer, and slope the path which leads to the grave.

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XXI. *Syphilis.* Ulcers on the genitals; buboes in the groins; ulcers in the throat; affections of

the skin and bones,—generally the consequences of impure coition :—curable with or without mercury.

There was once a time, when mercury was thought to be the only curative agent for this disease; but the abundant and scientifically conducted experiments of the surgeons of the British army have incontestably established that syphilis may be cured by other means: but while I do most unequivocally admit this important fact, and express my approbation of the laudable efforts of these gentlemen, I must be permitted to observe, that mercury is the safest and best remedy, and deserves to possess an exclusive preference.

The symptoms of syphilis are primary and secondary :—the primary are chancres and buboes; the secondary, ulcers in the throat, blotches on the skin, and nodes of the bones: and this is the usual order in which each arises. It is the superficial bones which are most obnoxious to this disease, particularly the tibiæ, ossa nasi, and cranium. The syphilitic poison never affects the brain and viscera. The discharge of a chancre will produce a chancre. The matter originating from a bubo or an ulcer in the throat is considered to be harmless.

For a chancre, the best application is an ointment composed of finely levigated *hydr. nit.-oxyd.*

and calamine cerate, viz. a scruple to half an ounce. The mouth should be gently affected by the daily and nightly exhibition of the *pil. hydr.* or by mercurial frictions, and kept so for ten days after the disappearance of every symptom. If a bubo,—there is seldom more than one truly venereal,—disperse, it is well; if not, a warm cataplasm may be applied, and an early opening made by a lancet. Secondary symptoms usually appear within a few months, and demand the employment of mercury, which ought to be continued two or three weeks after an apparent cure is obtained. Other occurrences must be treated consentaneous with common principles. Care must be taken not to confound *herpes preputialis* with chancre; and for which subject, the reader is referred to a practical essay of mine, inserted in one of the most respectable London monthly journals*.

XXII. *Carcinoma.* Scirrhous, livid tumour, intersected with firm, whitish, divergent bands, chiefly of the secernent glands: pain acute and lancinating; often propagated to neighbouring parts; terminating in a fetid and ichorous ulcer.

* Medical Repository. October. 1814.

The female breast and uterus are often the seat of cancer, and so are the testicles, lips, penis, lachrymal gland, eye, and tongue. The description and treatment of this formidable malady are foreign to the object of this work, since they appertain to systems of surgery. The subject is most distressing, and promises results far from satisfactory. When cancer is in a state of scirrhus, Mr. Cline has known great benefit result from the exhibition of the *ferrum ammoniatum*; and if this fail, the other preparations of iron may be substituted. Mr. Carmichael bears abundant testimony to the efficacy of this metal in cancers.

Where the excision of the cancerous part is practicable, and safely practicable, the knife should be employed, and the whole of it ought to be taken away, so as not to leave an atom of the disease. For instance, if the breast be affected, the nipple is invariably to be removed, and the pectoral muscle is to be as cleanly dissected as if for an anatomical demonstration. Let it be a standing rule,—to transgress which is criminal,—that no operation is to be attempted where the axillary and inguinal glands are implicated. From such an operation no good can result: the surgeon is more cruel than the disease; for he is an intelligent being, and ought to blush for his folly and rashness.

**Fungus hæmatodes, the chimney sweeper's cancer, elephantiasis, yaws, and similar rare diseases, belong to this order, but, for various and obvious reasons, they merely require verbal notice.**

## ORDER V.

## FUNCTIONAL DISEASES.

THIS order comprises every disease where the functions of parts are alone affected.

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The whole of the species and varieties are arranged under a single genus.

## GENERIC DEFINITION.

The function or functions of a part or parts deranged, vitiated, or obstructed, primarily unaccompanied with fever, inflammation, or organic disease.

### THE SPECIES AND VARIETIES ARE

I. *Hypochondriasis.* Gloomy ideas of real life; dejected spirits; anxiety; dyspepsy; feeble pulse; indifference and inactivity; fickleness of temper and of opinions; whimsical, suspicious, and appre-

hensive: unaccountable dislikes to men, places, and things. Bowels constipated.

It was the opinion of Galen*, that no one enjoyed perfect health. Although the states of health and disease are sufficiently obvious and distinct, yet it is certainly true, and especially so in the affections now before us, that in some slow, obscure, and insidious complaints, it is exceedingly difficult to determine when good health ceased, and actual disease commenced. A slight headach, a trifling pain in the stomach, an occasional uneasiness in the chest or belly, have ultimately shewn themselves to be the key-stones of most dangerous diseases; but the subjects of them have married, begotten children, pursued their usual avocations for years, without having been considered otherwise than in tolerable health. The mind of every reader will furnish familiar examples amongst his friends and acquaintances. This will prove the importance of every disease involving function only, because it frequently begins with an insidiousness that lulls suspicion, and produces indifference. A febrile or inflammatory affection sounds the tocsin at once:—not so a functional complaint, whose object is sinister and indirect.

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* De sanitate tuenda.

The diseases of human beings, like their conduct, principally depend upon what is called their temperaments. They are of four orders,—the *sanguineous, choleric, melancholic,* and *phlegmatic,* which have their origin from Galen. The functions of the body are likewise divided into four,—namely, the *vital, animal, natural,* and *generative.* The *vital* functions are those of circulation and respiration; so called because their uninterrupted performance is indispensable to life. The *animal* are the functions which distinguish *animals* from *vegetables,*—as, for instance, sense and muscular motion. The *natural* functions are those which support the frame; whilst the *generative,* as the name implies, are the functions which propagate the species.

This order is the proper place for hypochondriasis, it being merely a functional disorder, having its origin in derangements of the stomach and bowels,—probably the sequences of grinding poverty, disappointed expectations, and blasted hopes. Hypochondriasis is invariably the precursor of melancholia. Galen himself attributes one kind of hypochondriasis to an affection of the stomach. He writes thus:—"Est præterea tertium melancholiæ genus, morbi comitialis exemplo, cum ortum *a ventriculo* habuerit: solentque medicorum aliqui hanc dispositionem, *hypochondriacum,* flatu-

osum qui morbum, nominare*." The well-known Diocles, contemporary with Aristotle, and termed the second Hippocrates by the Athenians, has expressed an opinion similar to my own, and pronounced hypochondriasis to be one of the diseases of the stomach; and on which opinion, Galen thus comments:—"Verum satis mihi fuerit, ea *accidentia* percurrere, quæ a Diocle præscripta sint in libro cui titulus sit *Affectio, Causa, Curatio, &c.*"

The subjects of hypochondriasis are the sensitive, delicate, and gifted; for, endowed with the finest feelings of humanity, they are morbidly acute, and singularly apprehensive. Yet although men of rank and genius are notoriously disposed to hypochondriasis, it would seem, upon examining into the annals of the world, that such men oftener attain a long life than any other class. Theseus lived 62 years; Lycurgus, 85; Solon, 80; Pythagoras, 90; Simonides, 90; Æschylus, 69; Pindar, 65; Anaxagoras, 72; Sophocles, 91; Democritus, 90; Euripides, 78; Thucydides, 80; Socrates, 70; Isocrates, 98; Plato, 82; Demosthenes, 63; Aristotle, 62; and Themistocles, 65 years. The same may be shewn with respect to the great men of other nations. The elder Cato

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* De Loc. Affect. lib. iii, cap. 6.

began to learn Greek at eighty*. In England the fact may be proved by a reference to the peerage and bench of bishops, as well as to illustrious authors and British judges. A few recent and popular instances shall be adduced. Johnson lived 75 years; Cumberland, 77; Hayley, above 70; the Bishop of Durham, now alive, near 90; Lord Ellenborough, 68; Baron Maseres, more than 90; Sir Nash Grose, between 70 and 80; Sir Alan Chambre, 83; Baron Wood, 80; and Sir Thomas Plumer, 71. Such are the great ages to which eminent authors and lawyers have attained,—men notorious for dyspeptic and hypochondriacal disorders, in consequence of their sedentary lives. "If dyspepsia were a disorder tending to shorten life," says Mr. Justice Chambre†, "the lives of half the members of the profession of the law would be uninsurable."—Dyspepsia always precedes and attends hypochondriasis; and it would seem, from experience, the never failing tribunal to decide all doubtful matters, that neither the one nor the other has a tendency to curtail the duration of human life.

The causes of hypochondriasis, like those of melancholia and mania, are of a mental nature.

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* Cicero de Senectute, passim.

† On a Case of Life Insurance.

If it be wished to cure this affection, its exciting causes must be first removed; and this is the province of the moralist, rather than of the physician. Medicine can do but little: it can only preserve the intestinal canal in an open state, correct the hepatic secretion by the blue pill, and invigorate the stomach by bitters or chalybeates. It is impossible to reprobate too strongly the cold hearted and unfeeling conduct of some medical men, who listen with indifference and treat with neglect the complaints of the hypochondriac sufferer, as if the contemptible acquisition of paltry gold elsewhere was equal to kindness, or superior to the gratification of soothing a wounded spirit, which has, perhaps, deserved a better fate.

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II. *Dyspepsia.* Appetite fastidious; digestion imperfect, producing the feeling of a heavy load in the stomach; tension of the epigastrium; disagreeable eructations; tongue white or furred; occasional nausea or vomiting; considerable languor, and constipated bowels.

Dyspepsia is a distressing but not a dangerous disease, particularly affects the nervous, delicate, and studious, and, in the opinion of Mr. Justice Chambre, one half of the bar. It has been well

observed, that the stomachs of literary men are like blotting paper; for the stomach, being the seat of universal sympathy*, naturally participates in that excitement of the brain, which all mental studies occasion. Another frequent cause of dyspepsia is a long continued use of tea or watery foods; and to which may be added want of air and exercise. Unfortunate men and women are almost invariably dyspeptic, in consequence of the stomach sympathizing with various passions and conflicting emotions. In my opinion, insane people are generally first unhappy, whether properly or improperly is not germane to the point at issue; next, dyspeptic; then hypochondriacal; and, finally, either the subjects of melancholia or mania, perhaps of both, in regular succession.

No disease affects the spirits more than dyspepsia, which renders meals, once a pleasure, a source of torment; and the uneasy and distressing sensations, acute and fugitive pains, with occasional headaches, and the painful distensions of the abdomen, convert life into a living death. Ixion is said to have rested on his wheel; Sisyphus paused until his stone rolled down again: but the true dyspep-

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* "The seat of universal sympathy"—"the stomach sympathizes with every part of an animal, and every part sympathizes with the stomach."

Hunter on the Animal Economy, p. 132 and 138.

tic sufferer never rests and never pauses—his days are spent in pain and melancholy—he retires to bed distressed and miserable—he attempts to sleep, and either fails, or dreams of horrors—he rises in the morning weak, anxious, languid, anticipating the worst, yet willing to meet it—he neither thinks nor feels like the hypochondriac, who meditates on suicide, and, afraid to look death in the face, throws himself into his arms—he is content to live: life has no charms for him; pleasures, no allurements—he has neither hopes nor wishes of his own—he is miserable, and he knows it. Such is particularly the lot of those who, in conjunction with obstinate dyspepsia, are almost incessantly tormented by flatus in the stomach and intestines, and gastrodynia.

Nothing is more true than that dyspepsia is attended with numerous painful and anomalous symptoms. The fugitive pains are as mutable as the winds, and as unmanageable :—sometimes they are in the head, neck, shoulders, chest, sides of the spine, back, loins, limbs, and arms, so as to create unbelief in the mind of the medical attendant, who oftentimes shews himself to be ignorant and unfeeling on such occasions. The headaches, previously adverted to, it is only in the worst states of a disordered stomach that nausea or vomiting prevails, alternate with uneasiness or pain in the stomach in a most surprising manner,

each being successive and not co-existent. The head, principally the integuments covering the frontal bone, shall be violently pained; yet this pain disappears, like magic, the moment the stomach suffers, and so on *vice versa;* for, like Castor and Pollux, they cannot reign in concert.

Whenever individuals suffer from pain in the head, the attention should be directed to the discovery of its cause. It may be impending apoplexy or palsy; a spiculum of bone irritating and pressing upon the dura mater and other membranes, as well as the brain itself; or it may be a harmless symptom of a disordered stomach. Instances of the latter are too notorious to be either questioned or denied; and when the subject is a nervous or delicate female, such pain is occasionally attended with nausea, and designated a sick headach. The excellent Mr. Whitbread long laboured under excruciating pain in his head, which led to suicide; and on examination, Mr. Cline found a spiculum of bone growing from the internal table of the cranium. To mistake dyspeptic headach for threatening apoplexy, or for a symptom denoting disease of the brain, is a regretful circumstance, since it occasions a great waste of blood, and consequent injury. My much lamented friend Captain * * * * * * *, of St. John's College, Cambridge, an excellent scholar, at the conclusion

of the war experienced the "*res angusta domi**:" the consequences were dyspepsia, pain in the head, and depression of spirits. Under an apprehension of cerebral disease, the temporal artery was repeatedly opened: he grew worse and worse, and, after the lapse of a few months, terminated a once happy life by his own hand.

To cure dyspepsia is exceedingly difficult: it will continue for years without obvious change. Sometimes, but not always, the health suffers. According to my experience, a gentle emetic affords temporary relief; whilst purgatives are rather injurious. The compound infusion of gentian, with an aromatic tincture, or other bitters,—such as quassia with senna, canella bark, or the rhatany root, or buchu leaves, occasionally prove beneficial when tried in regular succession. Where the biliary secretion is disordered, the *pil. hydr.* or *pil. hydr. submur. comp.* may be exhibited. Dyspepsia is at times attended with a cough, which cough is most generally removed by an emetic. Where pain or painful distention exists, opium may be freely administered. The waters of Buxton and Bath are thought to be serviceable in

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* "Haud facile emergunt, quorum virtutibus obstat
Res angusta domi."

Juvenal, sat. iii, ver. 164.

stomachic derangements. Dyspepsia is sometimes connected with strictures of the urethra,—and here the introduction of bougies is demanded; and occasionally the same disease is produced by strictures of the œsophagus*, which also require bougies, small at first, but gradually increased. In pyrosis, cardialgia, gastrodynia, and similar affections of the stomach, the oxyd of bismuth, in doses of three to ten grains, three times a day, mixed with about a scruple of gum tragacanth, is useful. Blisters to the region of the stomach, or the application of the tartar emetic ointment, are promising remedies.

Such are the means commonly recommended for the cure of dyspepsia. The diet ought to be light, nourishing, and not acescent, with a moderate use of sherry, madeira, or French brandy and water, after dinner. Yet as dyspepsia is partly a mental disease, and arises from causes which will never cease to operate, medicine oftener fails than succeeds; and a radical cure is frequently obtained by change of scene, exhilarating society, better hopes, and brighter prospects. That man would neither suffer dyspepsia nor gastrodynia, who could ex-

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* See Sir Everard Home's Practical Observations on Strictures, &c. vol. i. London. 8vo.

claim, with the happy individual in the *Parnasso Italiano*,—

" Mio picciol orto,
A me sei vigna, e campo, e selva, e prato. "

Baldi.

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III. *Gastrodynia.* Excruciating pain in the stomach, of uncertain occurrence and duration. Health commonly unaffected.

Gastrodynia, sometimes, but not always, connected with dyspeptic symptoms, is, and ever has been, a common and agonizing disorder in every age and nation, rendering the subject of it miserable, and inadequate to every exertion, whether of pleasure or business. It can scarcely be termed dangerous; for it often exists a number of years, without destroying the general health. What can be its cause it is difficult to surmise:—probably, flatus in the stomach, or an acrimonious state of the gastric juice:—in other instances, doubtless disease of the stomach; but here death speedily ensues.

Virgil, a name well known to every scholar, "was often troubled with a pain in his head and

Otitis Inflammation of the Ear

Parotitis Mumps

orchitis Swelled Testicle

Pleuritis Inflammation of the Pleura

Pancreatitis &c of the Pancreas

Paristhmitis Sore Throat

Laryngitis } Inflammation of Epiglottis Glottis & Laryngis.

Tracheitis Inflammation of Larynx & Trachea

Phlegmatia Dolens Uterine Irritation

Lethargus } Mental & corporeal torpitude with deep quiet sleep

Asphyxia } Total suspension of all the mental and corporeal functions

Lyssa } Great restlessness anxiety; hurry of mind; horror; and constriction of the muscles of the Chest following the bite of a mad dog.

Neuralgia } Contraction and distortion of the muscles of one side of the face especially about the ala Nasi and upper Lip.

Tremor } Tremulous agitation of the muscles of the head and limbs: principally upon voluntary motion

Beriberia } Spastic retraction of the knees on walking trembling and painful stupor of limbs sense of formication or incubus

Singultus } Convulsive action of the stomach repeated frequently

Plethora } Complexion florid obvious signs of strong vascular action uneasiness heaviness and occasional pain in the head with considerable drowsiness after meals pulse quick and full

Melæna } Rejected dejections of black fluid and grumous blood pungent and tensive pain of the hypochondria occasional vomiting of green acid or dark matters eyes and skin of a sooty yellow colour or leaden and livid ventigo languor and anxiety.

Angina Pectoris } Excessive pain about the sternum, extending towards and down the arms; anxiety; difficulty of breathing; and sense of suffocation compelling the subject to stand if he be walking; occasional syncope.

Purpura Nautica } Livid spots of different hues, from extravasated blood principally at the roots of the hair; teeth loose; gums spongy and bleeding; fetid breath debility great and general

Purpura Hemorrhagica } Spots circular, of different sizes sometimes in stripes or patches, or unequally dispersed over the trunk arms, and thighs; occasional bleeding from the mouth Nostrils & Viscera considerable debility and depression of spirits

Cholelithica } Excruciating pain in the region of the liver and epigastric sickness frequent vomiting; pulse natural followed by discharges of gall stones, and jaundice indefinite periods. Occasionally

Lithiacis } Calculus concretions of various sizes, in the bladder and other urinary organs.

stomach," clearly the consequences of dyspepsia; for he led a sedentary life, and was of a "sickly constitution and swarthy complexion.*" Cicero†, the most anxious of mankind, as he himself acknowledges, suffered severely; and was only relieved by vomiting a fluid which he thought was pure bile. Claudius, the fourth emperor of Rome, endured grievous pain in his stomach, so as to lead him to contemplate suicide:—"*stomachi dolore. Quo se correptum etiam de consciscenda morte cogitasse dixit*‡." A certain well-known London secretary was miserable, from a painful feeling in his stomach, something similar to rats eating the villous coat. Gastrodynia is a more common complaint than the world imagines; yet it attracts no notice, and gains no sympathy, inasmuch as the health is unimpaired and the appetite usually good, although the digestive organs are always more or less disordered. The spirits are invariably depressed; and, during the paroxysm, every sensation is distressing, and every feeling horrible. The time of the accession of the paroxysm, and the duration of it, are alike uncertain. The pain may come on in the morning, afternoon, evening, or

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* Davidson's Virgil, in Vita Virgilii, vol. i. London. 8vo. 1748.

† See his Letters during his Exile. Valpy's Latin Edition. 12mo.

‡ C. Suetonius Tranquillus, in Vita Claudii.

middle of the night:—according to my own experience, night and morning are the most common periods. With regard to the continuance of the pain, it may be an hour, two, three, five or six, and considerably longer, if permitted to proceed unmolested. A hearty meal or a copious drink of a stimulating fluid sometimes brings temporary relief. The pain is aggravated by walking, and slightly mitigated by reclining on the left side, and applying pressure by the hand. In some cases the pain is always in the stomach, and in the stomach only; but in others the pain does occasionally, for a short period, quit that organ, and, as it were, indifferently and fancifully affects the back, sides of the spine, or the integuments covering the sternum and ribs, thus implying the presence of flatus in the stomach. The pain itself is of a peculiar, and even of a varying nature. It is not acute, it is not lancinating, it is not spasmodic; it is neither sickening nor dragging:—they best can tell who have felt it:—the pain is *sui generis:* it is of an excruciating aching kind, and of the most soul-depressing nature. The patient can stand upright, but he naturally bends the body, and presses with his hand, to obtain partial relief. Walking, reading, talking, or sleeping, are absolutely impossible. I have known a gentleman lie on the floor in agony, and have three distinct attacks, of three, four, and six hours, during twenty-four hours. Sometimes the stomach feels empty; at other times it

seems distended, and gives rise to bitter or saltish eructations. Yet the patient, even on the rack of pain, is not ill; and the instant the pain ceases, he is as well as he could wish. It deserves to be noticed, that this pain scarcely ever exists with pain in the head; and if, which seldom happens, the head becomes affected, an almost instantaneous abatement of the gastrodynia occurs. According to my experience, gastrodynia is comparatively harmless when neither vomiting nor emaciation prevails.

Such is a faithful history of gastrodynia, a miserable complaint, which has been scarcely mentioned in medical books. For gastrodynia, medicine, with a single exception, is useless. The blue pill, bitters, purgatives, antispasmodics, all, all are unavailing. Yet fortunately for suffering humanity, fortunately for men of talents and genius, who are the greatest sufferers from it, there is a certain remedy; but, unluckily, being only palliative, it demands repetition. Had the efficacy of this remedy been sooner known to me, it would not have been my painful lot, as it now is, to write of racking paroxysms enduring for hours, or the principal part of a winter's night. The remedy is tincture of opium. Every one naturally flies to this drug in pain; yet its virtue has been unsuspected, once even by myself, in gastrodynia, in consequence of the smallness of the dose. In

fact, the striking efficacy of opium, and the frequency of gastrodynia, amongst the higher ranks of life, are the causes why that medicine is so constantly and liberally taken by the statesmen, judges, lawyers, poets, authors, and actors, of the present day, whose names I conceal from delicacy. They undergo great mental exertion, and enjoy little exercise; meanwhile the stomach, that fruitful source of incalculable ills, disdains to be a passive spectator. I shall cite a single instance of the practice of taking opium, among the intellectual class; and for the truth of which, I pledge my honour. A well-known living poet, sixteen years ago, occasionally walked into a druggist's shop, and swallowed there, with the most perfect indifference, one third of an ounce of Turkey opium, and two ounces of the tincture. His health appeared to be good: he sometimes took wine or spirits; but whether he now continues the use of opium I am ignorant. A deceased and venerable judge, whilst sitting on the bench, has frequently been seen to drink the contents of a small phial, doubtless containing either the tincture of opium or the black drop.

When a patient suffers under a severe attack of gastrodynia,—for during the interval of ease opium is unnecessary,—he should immediately take one hundred drops of the tincture in cold water, presuming he is a total stranger to that drug, and

repeat half of the dose within three quarters of an hour, if the pain continue. The paroxysms are usually daily:—unfortunately, opium is not a preventive, and rarely effects a radical cure:—and, therefore, on their accession, however slight, the dose must be taken; for should it be omitted, the patient will, in a few hours, or next morning, suffer a most severe paroxysm; whereas if he take it, he will certainly remain well until the accustomed period of attack. The opium commonly induces constipation, which may be easily removed by a daily draught of the compound infusion of senna, with quassia. The misfortune is, that a long continuance of the exhibition of opium requires a gradual augmentation of the dose; so that if a person begin with a drachm, and continue it daily or nightly for a year, he will then probably require five or six drachms for a dose. This is, however, unavoidable; and it is the same with stimulants of every class.

It may be said, to take opium is a great evil—it is so; a most painful necessity: but it is a far greater evil to pass one half of life in excruciating pain, and the other half in miserable anticipation. It would be madness to reject a positive good for the possibility of a problematical and distant injury. The gastrodynic sufferer has a choice of evils: for him there is no middle path: he must

either contentedly endure a pain which makes life a burthen and renders talents useless, or take opium;—for where is the man who, racked with pain in his stomach night and day, can perform his duties in society, and enjoy human life as it ought to be enjoyed? Again, where is the evil complained of? Excepting idiosyncrasies of constitution, opium apparently does good, and not harm; since it removes, within half an hour, a most agonizing pain, which would, without it, remain for hours, with the probability of a speedy return. It may be observed, certainly the patient is better during the influence of opium; but how does he feel hereafter? What is meant by hereafter?—the next day, or years? If the next day, the answer is most triumphant, inasmuch as the patient feels infinitely more lively and active than at any other period of his life:—if for years, the reply is not less triumphant, if we appeal to notorious facts, the only and best appeal in all doubtful cases, since almost all those who have indulged in the use of opium, probably from pain in the stomach, are now to be seen in the possession of good health and the enjoyment of old age. Many of them are either speaking in the senate, delivering judgment from the bench, exciting emotion on the stage, or producing works which rival those of antiquity.—This ought to be a conclusive answer to the individuals who imagine that opium injures

the health and destroys the intellectual faculties*. The largeness of the dose is sometimes objected to; but this is a most unphilosophical mode of argument, and founded upon ignorance of the principles of the animal economy. Medicines act on the system, according to the impression which they make on the part acted upon:—if, therefore, one ounce of the tincture of opium produces the same effect as a single drachm once did, the one quantity is as harmless and influential as the other. At this moment a sufferer from gastrodynia is near me, who took last night eight drachms of tincture of opium with success and pleasure; and he assures me, that eleven months ago, when he commenced with it, sixty drops occasioned a more lasting and sensible effect.

Where gastrodynia is the result of organic disease the effects of opium are temporary indeed, but most generally it is merely functional; and in such cases, incomparably more numerous, an adequate dose of opium speedily and completely dissipates the pain, invigorates the stomach, raises the spirits, and improves the general health: and when this pain returns, which it mostly does once

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* The poet who took such enormous quantities of opium above sixteen years ago still lives, and continues to write admirable poems, one of which received the particular notice of Lord Byron.

in twenty-four hours, the repetition or augmentation of the dose again subdues it,—so that by such means gastrodynia is reduced to a most insignificant ailment; whereas if not so treated, it would probably terminate life in a few years by anxiety, sleeplessness, exhaustion, and pain. Far be it from my mind to advocate the cause of the unhappy sensualist, who, enduring no pain, takes opium merely for the pleasurable sensations which it excites; no,—I only advocate the cause of him, who, stretched on the rack of pain, swallows that drug to restore him to ease, to talents, to usefulness.

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IV. *Vomitus.* Frequent rejection of the contents of the stomach, with occasional nausea.

Vomiting, especially after meals, is a common, insidious, and dangerous affection. Occasionally, it is a mere symptom of dyspepsia: frequently it shall exist alone, and continue for years, without any injury to the constitution; whilst in a few unhappy cases, it is symptomatic of disease of the stomach, and in which there are considerable pain in that organ, great debility, and extreme emaciation. Even in such cases there is usually a quantity of flatus within the stomach and intestines,

evidently secreted, as in other instances, by the extreme vessels of the villous coat of the alimentary canal.

Whenever frequent vomiting occurs and continues, much care is necessary to elucidate its cause; for on that will the treatment hinge. On many occasions it appears to originate from irritability of the stomach, conjoined with atony,—and here emetics and the free exhibition of opium with tonics will be eminently serviceable. But if the vomiting be the consequence of organic disease, palliatives, such as immense doses of opium, can alone be had recourse to; for who can hope to cure it?

With respect to nausea and vomiting, Dr. Good, in his Nosology, has written so correctly, and so much in accordance with my own opinions, that I am inclined to adopt his sentiments. Where the stimulus is slight, the effect is confined to nausea: if beyond this, the nausea becomes retching; and ultimately the retching is changed to vomiting. It is obvious each may exist separately, since each is produced by a greater or less inversion of the peristaltic motion of the stomach and œsophagus. It is important to notice the different and opposite effects excited in the animal frame by nausea and vomiting. Nausea lowers the pulse, contracts the small vessels, occasions cold perspira-

tions, severe rigors and trembling, and diminishes, as long as it lasts, the action and even the general powers of life. The act of vomiting, on the contrary, rouses rather than depresses, puts to flight all the preceding symptoms, and restores the system to itself. There are few persons so debilitated as not to bear vomiting, but many who would soon sink under nausea.

Vomiting cannot occur unless the stomach has the resistance of the diaphragm and abdominal muscles, or of something in their place. Different physiologists have performed the experiment of exhibiting an emetic to an animal; and after the abdominal muscles were removed, they observed how fruitless all the efforts of the stomach were to reject its contents: yet when their hands supplied the place of these muscles, the stomach, being forced by the diaphragm against them, instantly accomplished vomiting. M. Majendie* now claims to himself the establishment of this important fact; but it is only just to state that such experiments, with similar results, were made above thirty years ago by Dr. Haighton†, one of

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* Precis Elementaire. t. ii, p. 139; and his Memoire sur le Vomissement. 1813.

† Transac. of the London Medical Society, vol. ii. 1788.

the most acute and learned physiologists of his day.

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V. *Obstipatio.* Feces retained in the intestines, and discharged not daily but at uncertain periods, small in quantity and hard in consistence. Health good.

Judging *a priori,* one would suppose that as most men enjoy good health, and as the evacuation of the feces is a natural and necessary function, that the bowels of the generality of mankind would be in an open and healthy state: yet it is far otherwise; and in the main, the majority of men are constipated, even those who are most healthy. But a little reflection explains this supposition satisfactorily. The process which the food undergoes from pultaceous matter to chyme, from chyme to chyle; the different intermixtures of gastric, biliary, and pancreatic fluids; and, finally, the separation of the chyle from the excrementitious substance, resembling so many chemical processes, and requiring the nicest accuracy; and the irregular manner in which people live; the opposite aliments which descend into the stomach; and the conflicting passions under which so many suffer,—appear to be the causes why constipation

of the intestines is so common amongst all classes of human beings, whether strong or weak, healthy or unhealthy.

To some costiveness is an evil; to others, very little inconvenience results. Some will endure it for weeks or months without much distress; whilst others, with a constipation of two or three days, are miserable. How is this to be accounted for? It would seem to arise from a more or less peristaltic motion of the intestines. Where this motion is insignificant, or scarcely exists, little inconvenience is suffered; for the feces remain above the sigmoid flexion of the colon: but when this motion is considerable, and propels the excrements into the rectum, there is much uneasiness or pain from their pressure; and hence hemorrhoids often occur, and ultimately inflammation, abscesses, and fistulæ. In some persons, particularly females, long subject to constipation, nature frequently relieves them in an admirable yet unsuspected manner. The colon, by gradual accumulation, becomes nearly full: its capaciousness* is truly astonishing. Flatulence and disordered stomach, with fugitive muscular pains or stitches in the side, with rumbling in the bowels, are the occasional conse-

* See a case in Good's Nosology, p. 41, in which the colon contained three gallons of fecal matter.

quences; until, at last, the mass of feces acts as an extraneous body, excites the slumbering peristaltic action of the intestines, produces a diarrhœa, or what in vernacular language is termed a purging; and the result is copious discharges of fecal matter, which unload the colon, and restore health. The real cause is unsuspected; and thus, again and again, does the patient suffer, and reap the benefit of nature's kind efforts.

Many remarkable cases of constipation of the bowels are on record. In the case of a young woman, aged twenty-eight, the distention of the abdomen was so general as to be mistaken for pregnancy, especially as there were occasional sickness, menstrual suppression, and sympathetic enlargement of the breasts. The case terminated fatally in three years. The colon is in the possession of Mr. Taunton, and it measures *in circumference more than twenty inches*, and on dissection was found to contain *three gallons of feces**. The feces have been retained within the intestines six months, two, three, and seven years. Sometimes constipation arises from a stricture in the rectum; in which case, the volume of the feces is much lessened, and is something like tape or

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* Good's Nosology, p. 41.

thread. Here medicine is useless, and the use of the bougie indispensable.

In common cases of obstipatio, the diet should be light and of a laxative nature, since it is better to overcome it by aliment than medicine. Different individuals require different medicines. The misfortune is, purgatives leave behind a greater costiveness than they were exhibited to relieve. Senna tea, rendered sweet by manna, or bitter by quassia, occasionally answers very well; and it may be alternated with the sulphate of magnesia or castor oil. In other instances, pills, composed of equal parts of calomel, scammony, gamboge, jalap, and rhubarb, with a sufficient quantity of the compound extract of colocynth and oil of cinnamon,—have been great favourites with those for whom they were prescribed. In obstinate cases of obstipatio, when all other remedies have failed, the making of the patient stand naked on wet napkins, and the dashing of cold water upon his inferior extremities and belly, have occasionally succeeded.

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VI. *Diarrhœa.* Alvine evacuations, loose and frequent. No fever; and scarcely any pain or griping.

Authors divide diarrhœa into different kinds,—such as the loose, bilious, mucous, chylous, serous, and lienterious. Few things are more incorrect than the practice of dividing and subdividing diseases, as if their nature could be changed, or their cause explained, by attempts to fritter away their distinctive characters. In truth there is, as far as practical purposes are concerned, only one diarrhœa. No doubt the dejections vary in frequency, colour, smell, and consistency; but do these accidental circumstances afford grounds for serious distinctions? Admit an opinion so preposterous —apply it to other diseases, and then consider what it will lead to, and how it will end. What is meant by a *diarrhœa fusa?* Surely the word *fusa* is an unnecessary and unmeaning adjunct:—in the sister kingdom this would have been pronounced a *bull.* Again, *mucous, bilious, serous* diarrhœa, which are merely incidental occurrences, and exercise no influence over the disease itself. Why not a *green, black,* or *sanguineous* diarrhœa? The one would be equally proper with the other. What is meant by a *chylous* diarrhœa? Who ever witnessed one? Admitting, for the sake of argument, that chyle can be discharged *per anum,* yet its distinctive character would be totally lost by intermixture with fecal matter and intestinal secretion. Far be it from me to undervalue necessary practical distinctions, which are the boundaries of right and wrong; but distinctions like these

are worse than useless, since they multiply names without adding to the stock of knowledge.

In my opinion, if this disease is to be divided, it should be thus,—*diarrhœa adulta*, and *diarrhœa infantilis*; for in adults the affection *per se* is usually unimportant, whilst in infants it is often the reverse. Still, however, it is diarrhœa; and this diarrhœa is produced by any thing that irritates and excites the muscular fibres of the intestinal canal to inordinate action, which occasions frequent contraction and speedy expulsion. The causes of such irritation are various,—such as worms, acrid substances of whatsoever kind; or constitutional irritations, as dentition, or hectic fever. Cold applied to the skin or feet frequently produces diarrhœa; for the sympathy between the skin and bowels is astonishing.

The simple diarrhœa of adults is neither troublesome nor dangerous. Diarrhœa prevails very much in places where dysentery does,—and this is, perhaps, a satisfactory proof that the opinions I have propounded respecting the proximate causes of these diseases are correct. It has been stated that irritation of some kind or other is the cause of diarrhœa; and that dysentery consists of an inflammation of the mucous membrane of the large intestines, which is preceded by irritation. These facts were abundantly obvious to me several years

ago, where a large body of men, living in the same manner, and exposed to the same causes, were indifferently attacked with diarrhœa and dysentery, —evincing that in some cases irritation relieved itself by diarrhœa; whilst in others, the irritation excited inflammation, or, in other words, dysentery.

Purgatives, whether in adults or children, have always been most efficacious in the treatment of diarrhœa, and especially calomel and rhubarb, castor oil and the neutral salts. In extreme cases, blisters or warm plasters may be applied to the belly with advantage. Where acidity obtains, magnesia claims a decided preference.

A peculiar kind of diarrhœa sometimes affects individuals labouring under marsh fever. The following is offered as an excellent specimen. A man, apparently convalescent, was attacked with violent diarrhœa. His evacuations were numerous, small in quantity, and tinged with blood. There was no pain; and eight days closed the scene. The internal surface of the colon presented granulations, and was covered with innumerable ecchymoses, which imparted a highly inflamed appearance. The coats of the intestines were neither indurated nor ulcerated. The spleen was enlarged, discoloured, and contained a large abscess in that part of it which adhered to the diaphragm. There

were two pints of lymph in the cavity of the peritonæum. In other cases, I have known the villous coat of the intestines to be a little thickened, and to exhibit a great number of points, which were of a beautiful vermilion colour. The liver and spleen were generally found in a diseased state.

In children who sink under diarrhœa inflammation is seldom discoverable in the intestines; but they are usually either much inflated or relaxed, and are frequently the subjects of intussusceptio, of which forty-seven have been seen in one case. Even these portions are not inflamed; yet their valvulæ conniventes are occasionally prominent. A diseased condition of the liver sometimes accompanies diarrhœa. In some cases the intestines are soft, white, diaphanous, easily lacerable, and contain a kind of purulent matter, or a fluid resembling thin custard.

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VII. *Colica.* Griping pain in the bowels, chiefly about the umbilicus; costiveness; vomiting; retraction of the navel, and spasms of the abdominal muscles: in extreme cases, an ejection of feces by the mouth.

There are various kinds of colic,—namely, from indigestion, flatulence, constipation, acrid substances, and other causes; yet the disease is still the same, and consists of a spasmodic affection of the intestinal canal, as well as of the muscles of the belly. Where colic is violent, and attended with a vomiting of stercoraceous matter, it is designated ileus, or iliac passion. Colic is easily distinguished from enteritis; since the pain is not constant, and is alleviated by pressure. In all cases of bowel complaints it is an admirable general rule to examine the abdomen and inguinal regions, to ascertain whether there is a strangulated hernia.

It has been mentioned that in ileus a vomiting of fecal matter often takes place, or of other substances, such as enemata, exhibited by the rectum. This unpleasant occurrence arises from the violent spasm having overcome the valve of the colon, or cœcum, as it is indifferently termed, and which is placed there to prevent the regurgitation of the feces from the large into the small intestines. Respecting this curious valve, Haller* and T. Mich. Röderer† have written at considerable length. Blumenbach is of opinion it was disco-

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* De Valvula Coli. Gottingen. 4to. 1742.

† De Valvula Coli. Argent. 4to 1768.

vered by Gabr. Fallopius; and he says that in their university library there is a manuscript of Fallopius, containing, among other things, his *anatomy of the monkey*, and in which is an account of the structure and use of the valve of the colon, delivered in a public demonstration at Padua, February 2nd, 1553, in these words:—"*The use of the cœcum in the monkey is to prevent the regurgitation of the food during progression on all fours. This is proved by the circumstance of water or air thrown into the rectum, reaching the cœcum, but not passing beyond the large intestines. But if impelled from above it passes into them. The reason is this,—at the insertion of the ileum are two folds, which are compressed by inflation and repletion, as occurs in the heart and prevents retrogression; wherefore, in man, clysters cannot pass and be rejected through the mouth, unless in a weak and diseased state of the intestines**." In my judgment, this is a most valuable and conclusive extract, and incontestably proves that Fallopius first discovered the valve of the colon, notwithstanding the idle disputes which have prevailed.

Colic is commonly a manageable disease; and its prime curative agents are venesection, opium,

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* Elliotson's Translation of Blumenbach, &c. p. 256.

and purgatives. In moderate cases it will often be sufficient to administer a large dose of opium, to overcome pain and spasm, and then to cleanse the alimentary tube by appropriate cathartics and stimulating clysters. But in severe ones, such as the ileus, the subject should instantly be bled to a large amount, so as to effect syncope; and afterwards recourse is to be had to the remedies specified as necessity may require. The fact is, that venesection, in colic and some other disorders, acts like a powerful antispasmodic.—I have seen a man, in a state of stupor and agony from colic, immediately revive and become comparatively well when the blood streamed out of the vein. The warm bath or hot fomentations to the belly are worthy of trial in colic; and where no evacuations can be procured, it is safe and excellent practice to make the patient stand upon a wet floor, and to dash cold water plentifully on his abdomen, thighs, and legs, which very commonly induces griping, and ultimately copious alvine discharges*.

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VIII. *Colica Pictonum.* Pain in the belly, at first dull and remitting, but progressively increas-

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* See the Edinburgh Medical Essays; and Medical and Physical Journal, for 1805.

ing in violence and duration, and extending to the back and arms.

This disease* is occasionally termed the painter's, or Devonshire colic, and originates from lead introduced into the system. Lead is a well-known metal, and so ancient as to have been mentioned by Moses†. In every age it has been considered a dangerous substance; and the practice of permitting water to run in leaden pipes has been condemned by Vitruvius‡ and Lambe‖. The industry, research, and talents, of Sir George Baker, clearly proved, in successive and valuable publications§, that the Devonshire colic, once assigned to acid liquors, arose from the impregnation of lead, and was the same disease as that of Poitou, or which assailed painters. He cites various interesting cases, which place the matter beyond the possibility of doubt; yet the earliest information

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* Called *colica pictonum*, because the *Pictones*, or inhabitants of *Poitou*, were subject to it. *Poitou*, a late province of France, was divided into the three departments of Vendee, Vienne, and the Two Sevres. The Pictones are now termed Poictiers.

† Numbers, xxxi, 22.

‡ De Architect, lib. viii, cap. 7.

‖ On Spring Water. Warwick. 8vo. 1803.

§ Med. Transac. of Coll. of Physicians, vol. i, p. 139. 175. 257.

respecting the Devonshire colic was communicated by Dr. Wm. Musgrave*, and Huxham†.

About the termination of the sixteenth, and the commencement of the seventeenth, century, there raged in the province of Poitou a most violent epidemic colic, which was attributed to the presence of lead in the different wines‡. This induced the Duke of Wirtemberg to ordain it to be a capital crime either to mix lead with wine, or to sell that metal in the shops. Dr. Warren‖ informs us that when the Duke of Newcastle's family resided in Hanover, in June, 1752, thirty-two of them were affected with the colica pictonum, in consequence of having drunk freely a small white wine which had been impregnated by lead.

Men who work among lead are exceedingly prone to colics and palsies. The danger of drinking water which passes through pipes of lead has been already spoken of; and although Dr. Lambe

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* Dissert. de Arthritid. symptom. 1703.

† Morbus Colicus Damnoniorum.

‡ Ephemer. German. Ann. iv.—Observ. 60, by Cockelius.—Obs. 92, by Brunnerus.—Obs. 100, by Wicarius.

‖ Med. Transac. of Coll. of Phys. vol. ii, p. 86.

has recently called the public attention to it, yet it may be mentioned that Galen, as well as Vitruvius, whose writings contain a fund of knowledge, has advised mankind not to use such water, because he had noticed that its sediment disposed those who drank it to intestinal disorders. Indeed, to place milk in leaden vessels is exceedingly reprehensible, as the succeeding case will prove. "A delicate young girl, the daughter of a dairy farmer, who kept his milk in leaden cisterns, used to wipe off the cream from the edges of the lead, and frequently, as she was fond of cream, licked it from her finger. She was seized with the saturnine colic, and semi-paralytic wrists; and sank, from general debility*."

The severity of colica pictonum will depend upon the quantity of lead received into the system. Where a considerable quantity has been taken, the patient soon experiences excruciating pains in the belly, together with sickness and vomiting. These symptoms increase to a violent degree, but admit temporary alleviation by pressure,—a circumstance which at once distinguishes it from the effects of corrosive poisons†. The patient describes the pain as if produced by a

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* Darwin's Zoonomia, vol. iii, cl. 1, 2, 4, 8.

† Paris and Fonblanque, vol. ii, p. 353, &c.

boring instrument, and the muscles of the abdomen become knotted, and occasionally painfully retracted, with all the contents of the belly, towards the spine. The sphincter muscles of the bladder and rectum are always affected:—sometimes strangury and tenesmus result; and, at others, a total retention of urine, with so great a contraction of the sphincter ani, as to preclude the introduction of a clyster pipe*. These torments may continue for an indefinite period:—at last, delirium and cold sweats supervene; and the occurrence of convulsions renders death more horrible. In more favourable cases recovery ensues; yet constipated bowels, and an occasional recurrence of colic, continue to harass the unfortunate sufferer. Sometimes a singular kind of palsy seizes the extremities, particularly the muscles of the fore arm and wrist. Francis Citois, a well-known author on the colica pictonum, has described this stage of the disease with remarkable accuracy. "*Per vicos, veluti larvæ, aut arte progredientes statuæ, pallidi, squalidi, macilenti conspiciuntur, manibus incurvis et suo pondere pendulis, nec nisi arte ad os et cæteras supernas partes sublatis, ac pedibus non suis, sed crurum musculis, ad ridiculum, ni miserandum, incessum compositis, voce*

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* Besides the work of Paris and Fonblanque, which abounds with information concerning lead and other poisons, consult Dr. Warren's Paper on "*Colica Pictonum*" in the Med. Trans. &c. vol. ii, p. 68.

*clangosa et strepera.*" This is a most faithful picture—indeed the writer possesses considerable talent; and were this a proper place, I should enter into an examination of his "*Diatriba de novo et populari apud Pictones, dolore colico bilioso,*" A. D. 1617, in which he has made assertions irreconcilable with notorious facts and sound observation. In writing on so important and even so historical a disease as the present, justice demands it should be stated that Paulus Ægineta* first gave a description of a species of colic which terminated in paralysis. Sennertus, an author comparatively neglected, mentions that this species of colic raged epidemically in Silesia, during the year 1621. Even Baglivi writes these words,—"*nihil facilius colicæ supervenit, quam paralysis.*" Notwithstanding these facts, neither Sennertus nor Baglivi suspected that lead was the cause of the colic which engaged their attention. Having done historical justice, this part of the subject may be concluded by observing, with Dr. Paris, that it does not appear that the train of symptoms above described has ever been excited by any other external cause than the one assigned; and hence it follows, that whenever colic occurs, accompanied with paralytic symptoms of the extremities, it

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* Lib. iii. cap. 18. 43.

may at once be concluded that it has arisen from the influence of lead.

With respect to the appearances on the dissection of those who have fallen victims to colica pictonum, nothing very satisfactory is on record. Orfila says, "We are under the necessity of declaring that almost all signs are wanting in the majority of the cases of simple colic of lead terminated by death." Fourcroy* observes that the small intestines have been found distended with air, parched, and somewhat changed in colour; and that balls of dry, dark coloured, excrementitious matter have been discovered in the large intestines.

The treatment of colica pictonum remains to be considered. The practice should be bold and decisive; and if so, no consecutive symptoms need be apprehended. Venesection is the grand remedy; and it is to be employed until complete syncope take place. This done, one hundred drops of tincture of opium, or an adequate quantity of the crude opium, are to be administered. From these vigorous means, a cessation of pain and abatement of spasm may be confidently anticipated; yet in a disorder so terrific, no auxiliary resources

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* Translation of Ramazzini, De Morbis Artificum.

ought to be omitted; and, therefore, purgatives, the warm bath, and stimulating clysters, should be called into action. Where the disease is violent, and appears to resist venesection, opium, and purgation, I see no objection to an enema of tobacco, and also fomentations of tobacco applied to the belly, as advised under dysentery. From such a practice I should expect the most beneficial results; and, consequently, recommend its adoption. Whether it is to precede or succeed venesection is to be committed to the judgment of the physician. I lay no stress upon purgatives from the irritability of the stomach; neither do I suggest the application of blisters to the abdomen, believing they will prove distressing rather than advantageous. Some advise cold water to be thrown upon the belly, thighs, legs, and feet; and it is said to have been successful. Where nothing will remain on the stomach, opiate frictions, agreeably to the plan proposed by Mr. Ward*, of Manchester, may be employed. In a few slight cases of colica pictonum, Dr. Percival found alum, in doses of fifteen grains every fourth, fifth, or sixth hour, to be highly serviceable. Dr. Clutterbuck† has published several successful cases, from the administration and application of mer-

* Med. and Phys. Journal for May, 1799, p. 447.

† A Treatise on the Poison of Lead. London. 8vo.

cury, not only in the colic, but the subsequent paralysis of the wrists. Sometimes a drachm of strong mercurial ointment was rubbed on the wrists, every night and morning, until the mouth was affected:—at other times, one grain of calomel was given daily, along with castor oil; or, a quarter of a grain of the *hydrarg. oxymur.* thrice every day. It occasionally happens in this disease, as well as in every other, that the most insignificant and the most active medicines succeed or fail,—just upon the same principle as that the ship which has resisted the cannon is at length destroyed by the worm.

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IX. *Cholera Morbus.* Excessive vomiting and purging of bilious matter; acute pain in the stomach and intestinal canal; spasms of the legs, arms, and other parts: considerable exhaustion.

This disease prevails at all seasons of the year in warm climates, and is of frequent recurrence; but in cold ones it usually obtains in autumn, where there is great heat, or rapid transitions from heat to cold. Cholera invades with nausea, soreness, distention, flatulence, and pain in the stomach, accompanied with acutely griping pains in the intestines, and quickly followed by excessive

and almost constant vomiting and purging of bilious matter: together with heat; thirst; a hurried respiration; a weak, fluttering, yet frequent pulse; spasms; and considerable debility. If cholera be to end favourably, these symptoms, within forty-eight hours, gradually diminish, and leave the patient weak and exhausted, from which, however, he soon recovers: but if the reverse, every symptom is exasperated; the depression of strength advances rapidly; there are clammy sweats, overwhelming anxiety, a short and rapid breathing, cramps in the extremities, coldness, hiccough, a sinking and irregular pulse,—which occasionally close existence before thirty or forty hours have elapsed. In the East Indies cholera morbus is a most dangerous disease, destroying life within a few hours, if not treated with singular skill*. An epidemic cholera, similar to a plague, lately ravaged India—spreading itself in every direction, and contrary to all known laws; and extinguishing life, like an electric shock or deadly poison.

Respecting the treatment of cholera morbus, Sydenham† has written with a quaintness and correctness which are all his own. To commence

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* Consult the admirable work of James Johnson, M. D. on Tropical Climates, &c. London. 8vo.

† Opera Universa, p. 217, sq. Londin. 1685.

with purgatives, says he, is to quench fire with oil; and to exhibit opiates, is to shut up an enemy in the bowels. In my opinion, the treatment of this disease is simple, and generally efficacious. Emetics and cathartics are fraught with danger: there is sufficient of vomiting and purging, without the interference of art. Johnson has a fine piece of pathology on this disease. Most true, in the free discharge of bilious matter consists the safety of the patient: he is alone in danger who has it not. The best practice,—at least it has answered my purpose, and is reconcilable with the phenomena of the disease,—is to allay the acrimony of the fluid in the stomach by the exhibition of copious draughts of light and bland liquids; and to appease irritation, overcome spasm, and subdue pain, by large and oft-repeated doses of opium,—e. g. three or four grains of the soft Turkey. Should local pain or any other circumstance demand a blister, it ought not to be withheld. If inflammatory symptoms supervene, which are not of frequent occurrence, venesection is to be directed, cautiously, yet firmly; for here real debility obtains in a few hours, and to an extent almost incredible. In the last stages of cholera morbus the principal means are opium, the subcarbonate of ammonia, and the purest wines.

Every man in the medical profession ought to understand cholera morbus most thoroughly, be-

cause the symptoms of certain poisons resemble those of that disease. Poison, the vile instrument of cowardly villany, has been known and used in every age and nation. Livy, Plutarch, Quinctilian, and Tacitus, have furnished numerous instances of slow or hidden poisoning. Aratus, of Sicyon, had poison administered to him, which produced consumption and fatuity. Sejanus ordered poison to be given to Drusus by the hand of a eunuch*. Theophrastus† writes of a poison, prepared from aconite, which killed slowly, yet certainly. Livy‡ informs us that two hundred years before the Christian Æra, above one hundred and fifty ladies, belonging to the first families in Rome, were punished for preparing and circulating poison. Tacitus designates poisoners to be "*inter instrumenta regni.*" Locusta, a devil in a woman's form, was the most celebrated poisoner of ancient Rome, and was hired by Agrippina to poison the Emperor Claudius slowly and secretly. The deadly poison was mixed with a dish of mushrooms, "*Boletorum appetentissimus;*" but, according to the historian, it failed. Not at all dismayed, a stronger dose was administered:—"*post quem*

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* Taciti Annal. lib. iv, cap. 8.

† Plant. Histor. lib. ix. cap. 16, p. 189.

‡ Livii Historiæ, lib. viii. cap. 18.

*nihil amplius edit,*" observes Tacitus. This Locusta also poisoned Britannicus, agreeably to the directions of Nero. In comparatively modern times, Tophano, of Palermo, occupies a conspicuous place, who was the inventress of the *Aqua Toffania*, which so kindly liberated wives from their husbands. The names of the Marchioness de Brinvillier, and her infamous partner Saint Croix, stand first in this diabolical practice. This lady poisoned her two brothers, her own father, and numerous innocent and unoffending individuals. Fortunately for suffering humanity, and triumphantly for violated nature, Saint Croix perished in his laboratory, in consequence of his glass mask falling off, which he always wore when he prepared the poison; and his wife was beheaded, and afterwards burnt, at Paris, on the 11th Day of July, 1676*. It were to be wished that the administration of poison was unknown in the present day: but so many melancholy circumstances of this nature occur, as to convince us that some part of human nature is always bad, and will continue so until society has ceased to exist. It has been stated that the effects of certain poisons resemble the symptoms of cholera morbus,—hence the practitioner should be intimately acquainted with each; since when such symptoms occur from

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* Paris and Fonblanque, vol. ii, p. 131, sq.

poison, it is pretended they arose from that disease*.

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X. *Icterus.* Eyes and skin yellow; feces white; urine of a saffron colour, tinges cloth; occasional pain in the stomach, with nausea, dyspepsia, and languor.

In a healthy state of the body the bile, secreted by the liver, passes along the ductus hepaticus and ductus communis choledochus into the duodenum, is mixed with the chyme and pancreatic juice, performs important offices there, and finally imparts a yellow colour to the feces. If, however, these ducts be obstructed, the bile, instead of passing onwards, regurgitates into the liver, is absorbed there, enters into the circulation, and constitutes the disease now under consideration. The absorption of bile into the system produces a general yellowness of the surface, and a change in the appearance of the urine; whilst the want of it in the intestines occasions that whiteness of the stools which is one of the pathognomic symptoms of jaundice.

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* See the trial of Robert Sawle Donnall, Surgeon and Apothecary, for the wilful murder, by poison, of his Mother in Law, Mrs. Eliz. Downing, Widow, at the Assize at Launceston, March 31, 1817.

Various causes may obstruct the bile ducts. Spasm is a common cause. Fear very often induces jaundice, as is frequently shewn in young men about to be examined by the Royal Colleges of Physicians and of Surgeons. The transit of gall stones is another well-known cause. Sometimes the bile ducts are so dilated by the passage of gall stones as to be nearly one inch in the transverse diameter. Tumours pressing upon these ducts may give rise to icterus; or an inflammation of their internal surface, terminating in an adhesion of their sides. A violent inflammation of the duodenum, at the entrance of the ductus communis choledochus, obliterating the cavity of that duct, may be another cause. A scirrhous, or any other enlargement of the round head of the pancreas, compressing the lower extremity of the ductus communis, has occasioned jaundice by the annihilation of its calibre. Such are the various causes of this disease; and upon reflection it will be obvious that some species of it are as easily curable as others are incurable. Richter* is of opinion, that the diseased condition of the liver itself is one of the principal causes; whilst Richerand† asserts that jaundice has been the immediate consequence of a wound of the liver.

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* Med. and Chirurg. Observations.

† Elem. of Physiol. translated by De Lys. p. 153. London. 1812.

When jaundice originates from the pressure of tumours on the bile ducts, or an obliteration of their canals from inflammation, medicine can afford only palliative assistance; but where it springs from fear, anxiety, spasm, or biliary concretions, little danger need be apprehended. When the disease arises from spasm, or other causes, an emetic, and two or three brisk calomel purges, with an opiate, followed by bitters, will accomplish a cure. Where gall stones are seeking a road into the duodenum, the pain is generally most excruciating; and here, in addition to the other remedial agents, large doses of opium are to be exhibited, and assisted by warm fomentations to the regions of the stomach and liver. Simple jaundice usually disappears in a few days, and is neither obstinate nor hazardous. The jaundice of pregnant women and of infants is merely symptomatic, and, therefore, requires no notice. It ought to be mentioned, that in every case of jaundice, or of a morbid condition of the liver, the use of the waters of Cheltenham and of Bath is said to be productive of benefit.

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XI. *Asthma.* Difficulty of breathing, temporary and returning; accompanied with wheezing, and constriction of the chest; cough and expecto-

ration. Nightly paroxysms, sudden, short, and violent; or gradual, heavy, and lasting.

Asthma is a spasmodic affection of the lungs, and is commonly divided into dry and moist. In the dry asthma the paroxysm is sudden, severe, and of short continuance; the constriction of the chest is hard, dry, and spasmodic; the cough is slight; the expectoration scanty, and only appearing towards the termination:—whereas in the moist, the paroxysm is gradual, heavy, and lasting; the constriction is ingravescent, humid, and laborious; the cough severe; and the expectoration commences early, is at first spare and viscid, but ultimately free and copious. This disease seldom shews itself before puberty; and men are more obnoxious to it than women. Dyspepsia is a common accompaniment. The attacks are most generally during the heats of summer, or when the heavy fogs or cold winds of winter prevail.

The patient experiences considerable distress during a paroxysm: besides the symptoms enumerated, he is unable to remain in an horizontal position, so strong is the sense of suffocation. The symptoms abate towards morning; yet he arises languid and unrefreshed, and complains of tightness across his chest, which is only relieved by a free expectoration. The pulse is usually small, and scarcely to be felt during the paroxysm; yet

it is sometimes quickened, along with thirst and other febrile symptoms. In some, the face is turgid and flushed; while in others, it is pale and shrunk. At the commencement of a fit the urine is mostly considerable, and with little colour or odour; but afterwards it is reduced in quantity, of a high colour, and occasionally deposits a sediment. In a word, a patient struggling with a paroxysm of asthma appears to be dying, yet he recovers himself most surprisingly.

In my opinion, the proximate cause of asthma is a spasmodic affection of the lungs and adjacent parts. The phenomena of the disease render this opinion exceedingly probable; for there are a suppressed secretion from the lungs, and an uncommon difficulty of breathing, which invade suddenly, mostly after a first sleep, and abate in a few hours. The lungs being the seat of spasm, their vessels and air cells are in a constricted state; the blood passes through them with difficulty; the mucous surfaces lining the ramifications of the bronchia cease to secrete mucus,—and hence a heaviness of the chest, an impeded respiration, and a distressing cough without expectoration, are the results. In a few hours the spasm ceases; the lungs recover their wonted powers; secretion occurs within the bronchial vessels; expectoration follows; and comparative health is the consequence. All this appears reconcilable with well-

known facts. There is obviously no organic disease:—patients, apparently dying one day, are seemingly well on the next: the seizure is sudden, temporary, and of spontaneous retirement. All these facts, and many others too obvious for recapitulation, favour the idea of spasm being the proximate cause of an asthmatic paroxysm. For my own part, I am averse from affixing the word spasm to any tissue, excepting the muscular:—but for this, asthma would have been placed in the third order of this nosology. Considering the subject somewhat disputable, it was thought better to arrange the disease under this fifth order, which comprehends derangements of functions only; for in asthma it will be readily admitted that the functions of the lungs are considerably disordered.

We are now to enter upon the treatment of asthma,—a subject not very inviting. It ought to be mentioned, that sufferers from the dry asthma have derived a cure from gin and water, when all medicines, and every other kind of spirits, had completely failed. This has happened under my own observation. How far gin and water may be efficacious in the moist asthma I am altogether uncertain. Where the breathing is uncommonly difficult, venesection may be employed, particularly in the strong and plethoric; yet it is a practice more honoured in the breach than in the

observance, since the frequent recurrence of the paroxysm will cause a considerable waste of blood. Dr. Bree, himself an asthmatic sufferer, discommends blood-letting. In fact, opium is the only remedy worthy of notice in the paroxysm; and it only fails in consequence of the smallness of the dose. Not less than two drachms of the tincture, or an adequate quantity of the crude Turkey in a soft state, should be administered for a single dose: and when it is so exhibited, in a reasonable time beneficial consequences will follow; the patient will feel his spirits improved; next, the constriction of the chest and difficulty of respiration will abate; and, finally, respiration becomes easy, he is covered with sweat, coughs more easily, expectorates a little, and sinks into a placid sleep, from which he awakes comfortable and refreshed. After the subsidence of the paroxysm, I have known great relief obtained from the administration of the *mistura ammoniaci*, with a few drops of tincture of opium, which relieves the unpleasant sensations in the chest and lungs, by promoting a copious expectoration. Authors inform us that medicines are to be prescribed, to prevent the recurrence of the asthmatic paroxysm. This is excellent advice: but how this is to be effected they are unable to tell; and hence they indulge in random conjectures.—Tobacco, stramonium, and digitalis, have had their advocates in asthma, and,

as it would seem, with justice. Dr. Philip* says galvanism succeeded better in the Worcester Infirmary than any other remedy, which was used once a day in common cases, and twice in those more severe.

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XII. *Ischuria Renalis.* Uneasiness and heaviness of the lumbar regions; great restlessness; little constitutional indisposition; bladder empty; no urine discharged.

Authors do not establish a sufficient distinction between *ischuria renalis* and *ischuria vesicalis*, nor treat the subject with necessary precision. *Ischuria renalis*, correctly termed a *suppression* of urine, arising from a suspension of the secretion by the kidneys, is quite unconnected with the disease called *nephritis*, and is usually unattended with either pain, inflammation, or fever; while in *ischuria vesicalis*, justly designated *retention* of urine, the kidneys perform their functions properly, and the urine is collected in large quantity

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* Experimental Inquiry into the Laws of the Vital Functions, &c. by A. P. Wilson, M. D. p. 329.

within the bladder, in consequence of the inability of that viscus to expel it.

My reading and my observation lead me almost universally to affirm, that the subjects of ischuria renalis are of a calculous and gouty diathesis, are commonly in the middle or advanced part of life, and usually gross and free livers. To render this affirmation at least probable, the succeeding interesting instance, out of many others, is adduced. In a case of ischuria renalis, in which scarcely a drop of urine was passed during thirteen days, the following appearances were observed on dissection. The omentum was diseased. The kidneys were surrounded by an immense quantity of fat. The right was diminished in size: the cavity of its pelvis was filled with calculi of a whitish grey colour and rough surface, and many of them were as large as small peas. The cortical, or secreting surface, was firmly coated over with fine gravel resembling pulverised freestone; and in the upper part of its ureter a calculus was found equal in size to a small almond, which completely closed the passage. No urine appeared to have been secreted by this kidney. The exterior of the left kidney was of a purple colour; and its pelvis contained a small quantity of urine, together with a few calculi similar to those found in the right one; but no coating of gravelly matter existed. The bladder presented a few calculi and some

urine. The other abdominal viscera were perfectly healthy*. The subject of the above case had long been liable to calculous and gouty symptoms.

Ischuria renalis is a dangerous disorder; for if the secretion of urine remain suspended for a few days, the patient gradually sinks into a state of coma, from which he never recovers. Yet cases are recorded too valuable to be overlooked. Dr. Parr met with a case, in which no urine was *apparently* secreted for six weeks; but at the termination of this period the evacuation of it recurred spontaneously. The Philosophical Transactions contain various similar cases; and Mr. Richardson mentions that of a boy who never secreted urine. This, however, must have arisen from mal-formation, and, therefore, was not an instance of renal ischury. "I have seen but a few cases of the *ischuria renalis*," says the late excellent Mr. Hey, of Leeds†, "and the disease proved fatal to all my patients, except one, in whom it was brought on by the effect of lead taken into the body by working in a pottery. It subsisted three days during a violent attack of the colica pictonum, and was then removed, together with the original disease." But this is not an idiopathic case, for it arose

* Transac. of King and Queen's College, &c. vol. iv, p. 179.

† Practical Observations in Surgery, p. 391. 2nd. Edition. 1810.

from lead: still, however, the extract is valuable, as it proves how rare this disease is and how difficult of cure; since Mr. Hey, during an extensive practice of more than fifty years, had only seen a few cases of it, and all of which had terminated fatally.

Sir Henry Halford, whose high character none will dispute, has written an admirable paper on ischuria renalis; wherein he observes, if the secretion of urine be altogether suspended for two or three days, death may be confidently anticipated; but not so, should there be the smallest secretion possible. This is an important practical observation, and will explain the seeming discrepancies of authors,—inasmuch as some say ischuria renalis is fatal in a few days; and others, that it has existed for weeks and months with impunity. The fact appears to be, and we are indebted to Sir Henry for it, that in the mortal cases, the suspension of the secretion of urine is most complete; whilst in those of a protracted nature, a slight, and, perhaps, imperceptible secretion of that fluid takes place, and preserves life. Indeed, this is in strict accordance with all the known laws of the animal economy. For a gland important to life to suspend its secretion altogether, indicates danger; but it is very different when it secretes even the smallest quantity, since nothing is more capricious than glandular secretion, especially the kid-

neys, which secrete little in summer, and much in winter.

An interesting case of ischuria renalis, which was two years ago under the care of my friend Dr. Brown, a brother physician in the same town with myself, well known for his skill and talents, deserves recital. A gentleman, middle aged, a free liver, comparatively healthy, yet much subject to gouty and calculous disorders, became affected with this disease. He was but little indisposed, apparently discharged no urine whatever, and appeared to derive no advantage from medicine. He remained so for twelve days and three hours; but latterly his health began to suffer, he kept his bed, knew his danger, was prepared to die, refused all medical assistance, and seemed to be verging to a state of coma. At this anxious juncture, being the thirteenth day of his illness, unexpectedly on his part the urine burst out of the urethra with all the velocity and violence of a water-spout; and from that moment his recovery was rapid and complete.—This is a most valuable case, inasmuch as it teaches us not to despair under circumstances the most unpromising. A case of ischuria renalis is narrated by a classical writer*, which terminated in death; and upon

* Cabrolii, Observationes, n. 28.

examination, the kidney was in a state of suppuration, and weighed fourteen pounds. A second* is mentioned, where this organ was twenty-five pounds in weight; and a third† is stated to have been of the same nature; whilst a fourth‡ case presented the gland in an emaciated state, and weighing exactly half a drachm. I call these cases of renal ischuria on the authority of Good; yet I have cited the references to them, that the learned reader may judge for himself. I am persuaded they are mere instances of disease of the kidneys, —probably nephritis, in the beginning; and as such, worthy of transcription. Ischuria renalis shews no propensity to inflammation or suppuration, but destroys life by effusion into the brain, consequent to exhaustion of the system.

According to Richerand||, the secretion of urine is uniformly carried on: it is continual, or, at least, does not exhibit so prominently those alternations of action and repose which are so apparent in other secretory organs. When a catheter is left in the urethra, the urine drops continually, if so permit-

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* Commerc. Later. Nor. p. 326. 1737.

† Histor. de l'Academie des Sciences, p. 45. 1732.

‡ Warthon, Adenographia, p. 96.

|| De Lys's Translation, op. cit. p. 130.

ted. There is related a case* of singular conformation of the urinary bladder, where this viscus protruded through an opening in the lower part of the linea alba, and was turned inside out, so as to present, externally, its mucous membrane. This case clearly proved the continual flow of urine through the orifices of the ureters, because they were open to ocular inspection.

Richerand tied the ureters in a cat and a rabbit. When thirty-six hours had elapsed, the animals became exceedingly thirsty and restless; their eyes glistened; and their saliva, which flowed copiously, exhaled a urinous smell. The cat, on the third day, was seized with vomiting of a slimy substance, obviously impregnated with urine. A convulsive agitation was followed by an excessive prostration of strength; and the animal died on the fifth day. The intestines were not inflamed; the bladder was quite empty; the ureters were distended with urine between the ligatures and the kidneys, and as large as the ring finger. The kidneys, gorged with urine, were turgid, softened, and, as it were, macerated. All the organs, all the fluids, the blood itself, partook of this urinous diathesis. Putrefaction shewed itself immediately after death; and at the expiration of a few days

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* Memoirs of the Academy of Sciences for 1761.

an almost complete decomposition of the body had taken place. In the rabbit the symptoms were less violent and rapid: it did not die until the seventh day: the smell of its whole body, although evidently urinous, was less offensive; and the putrefaction which succeeded was less rapid. The removal of one kidney did not prevent the secretion from being carried on; but in every case in which both kidneys were removed at once the animal died in a few days; and upon opening the body, there was uniformly found a considerable quantity of bile in the gall bladder, the small intestines, and the stomach. In the opinion of this truly acute physiologist, the urinous and ammoniacal smell exhaled from the body of the patients; the yellowish and oily moisture of their skin; the parching thirst with which they are tormented; the dryness and redness of their tongue and throat; their frequent and irritable pulse, combined with a flaccid and doughy feel of the cellular tissue,— indicate that the animal frame is threatened with the most speedy and dangerous decomposition*.

What is the treatment in ischuria renalis, from which we have made so long a digression? Medicine is altogether effete; for we are unacquainted with any that can make the kidneys resume their

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* See De Lys's Translation of Richerand's Physiology, p. 138, &c.

suspended functions. To guard against fever or inflammation, it seems proper to bleed,—for the blood drawn mostly exhibits the buffy coat,—to purge, and to use the warm bath, diuretics, and sudorifics. This will act as a counterpoise to the suppressed secretion; for it is a notorious fact, that in summer, when individuals perspire freely, they scarcely void any urine. If there were pain we might administer opium, but there is hardly any; yet, however, there are much restlessness and considerable anxiety,—in this respect, therefore, opium may be highly serviceable. In truth, I should be inclined to exhibit this medicine very freely in ischuria renalis, and particularly at its onset: and such a practice seems to be plausible and defensible. The disease commonly ends in death: no medicine is known which is of any use; and I have frequently observed, that a moist skin and copious discharges of limpid urine have often been the results of large doses of opium. Any diuretic remedies may be tried; but blisters are altogether inadmissible. In a word, this is the best practice,—venesection, active purgation, large doses of opium, and the warm bath.

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XIII. *Ischuria Vesicalis.* Bladder distended with urine, forming a tense tumour above the

pubes, with complete inability of expulsion. Agonizing pain.

This disease is precisely the reverse of the preceding; for the kidneys are active, but the bladder is passive; yet it is infinitely less dangerous, because it admits relief by the introduction of a catheter. The proximate cause of ischuria vesicalis is a powerless condition of the detrusor urinæ, or muscular coat of the bladder, so that it is unable to contract upon and expel the urine. The retention may be complete or partial:—it is the complete which now engages attention.

Various causes may produce ischuria vesicalis,—such as paralysis of the bladder, from injury of the spine; spasm; inflammation of the cervix; foreign bodies; different kinds of pressure; enlargement of the prostate gland, and strictures of the urethra. Whatever, indeed, be the cause, if the bladder be distended with urine, it is proper to draw it off by the catheter immediately, which is the province of the surgeon. Whether a silver or flexible catheter is to be introduced, how often it is to be used, and whether it is to be allowed to remain within the urethra, will depend upon circumstances. I recommend a flexible catheter to my surgical friends,—but this cannot always be employed; also, to evacuate the urine twice a day, and always to withdraw the instrument. Where

it is suffered to remain, it ought to be made of the least irritating materials. The medical means in cases of ischuria vesicalis are blood-letting, large doses of opium, the warm bath, warm fomentations, the tobacco injection; but these should only be called into action when the introduction of the catheter is apparently impracticable. In cases arising from *spasm only*, Mr. Cline has exhibited twenty drops of the *tinct. ferri muriat.* every ten minutes with success. When the catheter cannot be passed, when all means have failed, when the unhappy sufferer endures inconceivable agony, and when his certain destruction is inevitable,—it is an absolute but a painful duty to puncture the bladder; and this will be best done by the rectum, although the operation by the perineum and above the pubes are not without their advocates. The principal causes, rendering this operation indispensable, are almost total obliteration of the urethra by strictures, or considerable disease of the prostate gland.

If the subject of ischuria vesicalis be left to his fate, the bladder not only loses its contractile power, but is quickly attacked with inflammation and sloughing. Ultimately a small part of it bursts; and the urine is extravasated into the cellular membrane of the pelvis, and spreads behind the peritonæum as far up as the loins, and also into the perineum, scrotum, integuments of

the penis, and upper part of the thighs. The consequences are peritoneal, and intestinal inflammation, and death. The observations of Home and Desault would seem to prove that a total retention of urine, after a certain time, offers a mechanical obstruction to the secretion of that fluid by the kidneys, so that the patient may be said to labour under both vesical and renal ischuria.

When the catheter is in use, and the patient comfortable, means ought to be employed to enable the bladder to regain its contractile power. Sometimes the disease, when arising from spasm or incidental causes, disappears in a few days; but when its invasion has been slow, it occasionally lasts for weeks. Sabatier is of opinion, that if three or four months elapse, the tone of the bladder is irrecoverable; and under such unhappy circumstances, the patient should pass the flexible catheter for himself. The agents for restoring the lost tone of the bladder are the tincture of cantharides, blisters to the sacrum, and cold applications to the hypogastrium, with bark and acid. For paralysis of the bladder, Richerand suggests galvanism by the rectum.

Retention of urine has been unsuspected, particularly where the prostate gland was diseased, as in old men; for there is a partial discharge,

which misleads the inexperienced and ignorant. Because urine passes, it is supposed there is no retention, the accumulation increases, the patient is in extreme agony; at last a catheter is introduced, and instant relief is obtained by the evacuation of several pints of urine. Whenever this fluid is not discharged in its usual quantity—whenever there is any suspicious affection of the urinary organs, even when ischuria renalis is believed to exist; still it is the bounden duty of the medical attendant to introduce the catheter, so that doubt may be relieved by certainty. To neglect this may be ruinous: to adopt it can never be wrong. In other instances, a partial retention of urine has been mistaken for a tumour, pregnancy, or dropsy. A female, so situated, thought to be dropsical, consented to be tapped. The surgeon suspected the real nature of her illness, because she had then a complete retention: he introduced the catheter, and brought away eighteen pints of urine; when the anasarca, only symptomatic, speedily disappeared. By the application of cold water, this patient soon recovered, and evacuated her urine as usual.

The general treatment of ischuria vesicalis will vary according to the nature of the case. If it arise from spasm, or any accidental cause, the catheter alone may suffice; but if from inflammation of the bladder, or urethra, in addition to

this instrument, a most rigorous antiphlogistic plan is to be adopted; and if from strictures of the urethra, injuries of the spine, or perineum, the removal of these should form a part of the cure.

The presence of various kinds of worms in the bladder is sometimes a cause of retention of urine; and, according to Desault, the retention is frequently occasioned by coagula of blood in that viscus. Mr. Lawrence* has narrated a case of ischuria vesicalis from worms, which demanded the continual use of the catheter, and in which not less than 800 or 1000 worms had been discharged.

Authors have published singular cases of retention of urine,—some of them so extraordinary as almost to stagger belief. The retention has been continued from a week to a fortnight†. Of the first, I know a single instance. Paullini‡ relates a case of habitual retention without detriment. Marcellus Donatus‖ mentions one of six months; and Haller§, another of twenty-two weeks. Au-

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* Med. Chirurg. Transac. vol. ii, p. 382, &c.

† Cornarus Obs. n. 21. Ephem. Nat. Cur.

‡ Cent. ii, obs. 26. ‖ Lib. iv. cap. 27. 28.

§ Bibl. Med. Pr. ii, p. 200.

thors are equally staggering with respect to the quantity of urine contained in the bladder:—eight or nine pints*, and even sixteen †, are said to have existed. It is obvious that these were cases of imperfect retention, where the bladder, from partial relief, was capable of undergoing gradual and considerable distension.

XIV. *Incontinentia Urinæ.* Frequent or perpetual discharge of urine, which is involuntary.

Children and adults are equally subject to this affection, which arises from a paralytic state of the sphincter vesicæ. In children, it may be partly the result of an idle habit in bed, or in consequence of the muscular coat of the bladder contracting too quickly and forcibly on the urine; whilst in men it is sometimes of spontaneous origin, or results from severe contusions of the loins, or injuries of the spinal marrow.

I attended an obstinate case in the person of a young man, who had totally lost the use of his

* Bird, Medical Observations and Inquiries, vol. v.

† *Vilde* Journ. de Med. tom. xlvii, p. 134.

inferior extremities by a terrible fall on his loins into the hold of a ship. The incontinency was almost invincible; for even three months after, when he was able to walk on crutches, the urine ran from him as usual: yet he was quite well of it before two months had elapsed. He merely took bark and acid; but I suspect he derived considerable advantage from the copious discharge of a large ulcer near the *os sacrum*, the result of sloughing, produced by lying helpless so many weeks on his back, and which would, perhaps, act on the principle of a drain, or issue from caustic. The limbs recovered under repeated frictions with olive oil and rectified oil of turpentine; and for the first month there was great febrile and pulmonary disturbance, which yielded to common antiphlogistic practice. In this instance, I was unable to discover any injury of the spine; and it is probable that all the symptoms arose from concussion. There was no change in the appearance of the inferior extremities; no coldness; no insensibility; no flaccidity;—a proof rather of concussion than of injury of the spinal chord. At first the limbs were painless; but for a considerable time prior to their restoration they became painful, and were accompanied with a distressing pricking sensation. The bowels were always in a healthy state, and so likewise was every other function; yet, although twenty months have expired, one of the legs displays a slight paralytic affection in walking.

The treatment of incontinence of urine yet remains to be mentioned. In boys, severe admonition, sea bathing, and tonics, will often suffice. But in men the complaint is more obstinate; and if so, no remedies are equal to repeated blisters applied to the sacrum; and in apparently invincible instances, issues, or caustic drains near that bone, are well worthy of trial. Both for men and boys, likewise women, the *tinctura cantharidis* is an excellent medicine; and in every case, where great constitutional irritability exists, an opiate is valuable. The free application of cold water to the pubes and other parts is much to be recommended; and to which bathing in the open sea may be joined.

Dysuria does not deserve a separate place, as it is an affection merely symptomatic of calculus, disease of the prostate, or strictures of the urethra. Gleet is a very common result, either of these diseases, or of virulent gonorrhœa; and for which the copaiba mixture, as prescribed under gonorrhœa virulenta, is an almost infallible cure,—provided it be not too soon discontinued.

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XV. *Chlorosis.* Pale yellowish complexion; depraved appetite; imperfect digestion; menstru-

ation either wanting or vitiated; bowels constipated; languor, sighing, and yawning.

Woman, says the elder Pliny, is the only menstruating animal. Buffon and other authors of Natural History affirm that other animals, and especially the simiæ, menstruate; but Blumenbach, far above them all, asserts, from long and careful observation, that their supposed menstruation is only "a vague and sparing uterine hemorrhage, observing no regular periods*." Menstruation is one of the most important functions of the uterus; and it is a law of nature, that it shall continue above thirty years. From this law no female is exempt; and its operation is necessary for impregnation. The menstrual discharge usually occurs at the fourteenth or fifteenth year, and consists of a reddish fluid, from four to six or eight ounces in quantity, which returns at monthly periods. This discharge continues for three, four, or five days, and is commonly suspended during pregnancy; yet the reverse occasionally occurs, and which only proves the sportiveness of nature without injury to the constitution. Where the climate is warm, it begins earlier and ceases sooner. In Asia, a girl menstruates at nine years of age; in the northern regions, at

* Physiology, sec. xxxviii.

fifteen, eighteen, or twenty; and it is said, no doubt incorrectly, that in some cold countries females only menstruate in summer. This periodical fluid has a peculiar odour, does not coagulate, and becomes of a more sanguineous colour a few months after its first appearance.

Richerand* and some other physiologists have incorrectly supposed the menstrual discharge to be composed of blood, to which, however, it bears no resemblance, except in colour. Mr. John Hunter, who is right here as he almost always is, writes the language of truth and observation. "It is neither similar to blood taken from a vein of the same person, nor to that which is extravasated by accident in any other part of the body; but it is a species of blood, changed, separated, or thrown off from the common mass, by an action of the vessels of the uterus, similar to that of secretion; by which action the blood loses the principle of coagulation, and I suppose life†." This opinion of Hunter is, or ought to be, the received one of the present day, since it is indisputably correct.

A girl usually menstruates at puberty; and if she do not, or does so imperfectly, and labours under the symptoms detailed in the nosology, she

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* Aphor. clxxi. † Hunter on the Blood, &c. p. 88.

is said to be the subject of chlorosis *. Baillou † has informed us that in young females and elderly women, where the catamenia are irregular or obstructed, the spleen occasionally swells, and subsides again when they become regular. This information is only stated by me to expose its absurdity. There is too much of this in medical writings—too much of bold assertion, random conjecture, and insidious falsehood: but such conduct ceases to be pernicious, because it is contemptible. The spleen swells and subsides again. Indeed!—how, Mr. Baillou, did you ascertain this? The spleen is a deep seated viscus, lying behind the stomach; and even in the dead we are obliged to thrust the hand far down to reach it:—how then can you know that this organ sometimes swells and sometimes subsides in a living body?

In chlorosis an emetic ought to be given; and a steady and regular system of purgation should be commenced and persevered in by warm aloetic cathartics. Where the female is of a strong and plethoric habit, there can be no objection to phlebotomy; but in the generality of instances the

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* "Constantius, who from his pale complexion had acquired the denomination of *Chlorus*."

Gibbon, Decline and Fall, &c. op. cit. vol. ii, p. 5.

† De Virgin. et Mulier. Morbis, tomus iv, p. 75.

practice would prove injurious. Where the menses are obstinately retained, the *mistura ferri composita*, or the *pilulæ ferri compositæ*, are excellent remedies.

In conjunction with a tonic plan of treatment, Professor Burns*, of Glasgow, a most able and experienced writer on female complaints, recommends the use of emmenagogues,—such as from five to ten grains of the powdered leaves of savin, three or four times daily; or a drachm of the tincture of hellebore twice or thrice in the day; or myrrh, madder, or nitric acid. There are occasions where the chlorotic sufferer labours under pulmonic symptoms, and appears to be what is termed consumptive. This is a state of extreme delicacy, and requires nice management. Here the symptoms, as they arise, are to be met with appropriate remedies, agreeably to the principles inculcated, since no specific treatment can be advised. It deserves to be noticed, that the patient may only seem to be consumptive; for the exciting cause of the pulmonary symptoms may be uterine irritation; and it has been particularly mentioned, and the sentiments of Frank quoted, that coughs and similar pulmonic ailments do frequently originate from intestinal disorders: and

* Principles of Midwifery, p. 104.

in this enlightened age it need not be observed how much the lungs sympathize with the uterus. A light, nourishing, and milk diet, joined to horse or carriage exercise, agreeable society, and a distant county, are often most effectual. Notwithstanding the prurient observations of some physicians, and the mock prudery of others, men, far greater than I can ever pretend to be, think, with me, that a happy marriage is a most excellent remedy for chlorosis; nor is it difficult to explain why it is so upon the soundest principles of medical science.

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XVI. *Amenorrhœa.* The catamenia, after having appeared, are obstructed or irregular, or painful and difficult. Health variously affected.

When the catamenia are suppressed, after having once been regular, and when common chlorotic symptoms appear, the treatment will not materially vary from that recommended for chlorosis itself. Yet should the woman, upon the suppression of the menstrual discharge, complain of pain in the uterine region, bowels, or back, either with or without febrile disturbance, an anodyne may be exhibited, together with sudorifics and the warm

bath; or should the symptoms be urgent, venesection and cathartics will be required.

Some females menstruate with great pain, and in general very slowly, which affection is termed dysmenorrhœa. Here the uterine vessels, yielding the discharge, have taken on a morbid action. Rue, madder, or saffron, are to be prescribed; pain is to be subdued by opium, and the bowels preserved in an open state by gentle laxatives. In dysmenorrhœa, colic, retention of urine, or strangury, is apt to occur; and each must be removed by suitable means.

There are occasions when the uterus, instead of producing its natural monthly catamenial fluid, generates an apparently membranous and even organized substance, which is ejected with pain or hemorrhage, as if it were an abortion. This singular affection has not escaped the penetrating Morgagni*, who observes it is a triangular membrane, corresponding with the uterine cavity, and that its inner surface is smooth, and appears to contain a fluid. Burns† is of the same opinion, and says the outer surface of it is rough and irregular. Morgagni thinks that the expulsion of

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* Epistol. xlviii, art. 12.

† Principles of Midwifery, p. 107.

this substance is succeeded by lochia, and believes that conception may occur during its progress; whilst Denman* supposes the contrary. A cure is exceedingly difficult—time will do much; yet opium to allay pain must be given, and mild purgatives to open the alimentary canal. Beyond this, and attending to the general health, all is dark and dreary: we have no principles to rest upon, which, like Israel's pillar, might conduct us onwards with pleasure and safety.

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XVII. *Menorrhagia.* Discharges of blood and of coagula from the uterus, which are occasionally mixed with the menstrual fluid. Health much affected.

This disease is often confounded with menstruation; whereas it is a true hemorrhage from the uterus, and to which matrons are infinitely more disposed than virgins. The causes are various and obvious, and principally depend upon general plethora. Menorrhagia will mostly require venesection and digitalis; for an opposite practice is seldom safe, since the large vessels of the uterus are

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* Treatise on Midwifery. London. 8vo.

ruptured, and pouring forth blood copiously. The cold bath, and topical cold applied to the pubes and os externum, are advisable. The female must be placed in an horizontal position, confine herself to a most spare diet, and, if necessary, have the vagina plugged. Where the hemorrhage seems to be of the passive kind, or the constitution has suffered greatly, it is, perhaps, better practice to administer opium freely, to open the bowels; and to support the system by generous diet, and even cordials. Let it not be forgotten, that for overcoming the hemorrhage the plug is the most effective instrument; for, by completely occupying the vagina, it keeps the blood within the uterus, thence coagula form, which by their pressure impede farther bleeding from the open vessels. Astringents, particularly alum or sulphuric acid, are useful in mild cases, and the use of styptic injections. In repeated discharges, emetics* are thought to be serviceable by exciting uterine contraction; and which are to be followed by the exhibition of ipecachuan.

There are some women that menstruate often and copiously, without any menorrhagic affection, in consequence of an increased action of the uterine arteries. Here venesection will be rarely

* M. Gendron, Recueil, Periodique, tom. vii.

needed; yet it will be right to open the bowels, and to employ exercise and cold bathing. In the majority of cases a good diet, port wine, activity of body and mind, chalybeates, or watering places, et vivere absque viro, will prove successful.

Popular error, like popular superstition, has prevailed in every age; since each appeals not to the judgments, but to the passions, of mankind. Credulity flourishes with respect to medical wonders: whatever she believes and promulgates finds willing votaries among certain individuals, who implicitly credit every story which is either marvellous or impossible. Truth, simple and unadorned, sustains an unequal contest, and shrinks from a conflict in which victory would be disgrace. It is obvious that a fluid so important as the menstrual would naturally engage anxious attention whenever it was suppressed for a considerable period. To ignorance nothing is so distressing as doubt, so painful as uncertainty:—because the menstrual discharge did not appear, it was thought it must have a vicarious outlet; and hence the world is gravely informed, by most respectable men, that this fluid has flowed from the eyes, nostrils, socket of a tooth, the ears, nipples of the breasts, or by vomiting, through the intestines, out of the anus, with the urine, and from the navel, finger, and skin. Such accounts may "*point a moral and*

*adorn a tale**," but will obtain no belief in the present day.

Wonders are to be met with in various philosophical works. Pliny informs posterity that Mæcenas, the friend of Augustus and patron of Horace, was affected with a constant fever:—"*Quibusdam perpetua febris est, ut Cilnio Mæcenati.*" It is to this eternal fever Horace alludes when he feelingly exclaims,—

"Cur me querelis exanimas tuis?"

Lib. ii, od. xvii.

It is to be regretted that Pliny did not mention the precise duration of this fever, which, if it really did exist, was doubtless of the hectic kind.

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XVIII. *Abortus.* Severe and forcing pain in the uterus and loins, accompanied with hemorrhage, and consequent expulsion of the ovum or fetus.

If the exclusion of the ovum occur within six weeks after conception, it is denominated a mis-

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* Johnson on the Vanity of Human Wishes: a Satire. London.

carriage; between this period and six months, an abortion; and after six months and upwards, a premature labour.

Abortion consists of two different processes,—detachment and expulsion: the first occasions hemorrhage; the second, pain. Detachment produces rupture of vessels; expulsion excites contraction of the uterus. The causes of abortion are well known, and detailed at length in the midwifery works of the day, which are, in truth, the proper receptacles for the diseases and treatment of women and children, since they may be said to form a distinct branch. Our attention shall be confined to what is new or useful. An experienced physician*, whose name is not mentioned, observes,—a lady, apparently healthy, conceives, and carries her child in the usual way until about the seventh or eighth month of her pregnancy: she, by degrees, ceases to feel the motion of the child; and in ten days or a fortnight after this event labour comes on, and a fetus, evidently long dead, is expelled. This happens three, four, five, or six times in succession. In such cases it is clear that the premature labour arose from the fetus dying in utero.—Dr. Beatty, of Dublin, comments upon this statement, and expresses his

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* Transac. of King and Queen's Coll. &c. vol. iv, p. 28.

opinion, confirmed by experience, that such abortions or premature labours spring from a venereal taint in the mother, and are only to be obviated by a course of mercury.

Helena, the daughter of Constantine the Roman Emperor, according to Gibbon was delivered of a son, who died immediately, "*quod obstetrix corrupta mercede, mox natum prœsecto plusquam convenerat umbilico necavit.*" The probability is, the midwife either neglected to tie the funis, or cut it off close to the belly, so as to render the application of a ligature impracticable. We are informed,—for there were medical wonders and surprising performances even in the Roman age, —that when Helena accompanied the Emperor and Empress in their journey to Rome, the latter lady, "*quæsitum venenum bibere per fraudem illexit, ut quotiescunque concepisset, immaturum abjiceret partum**." The fact is, perhaps, indisputable; but no poison or medicine could accomplish an object so nefarious. It may tend to check the thoughts of crime—it may be the means of preventing villany from exposing itself, to state, most unreservedly, that there is no medicine, or any other substance or fluid exhibited internally,

* Ammian. lib. xvi, cap. 10.

which can occasion a miscarriage, abortion, or premature labour.

Monstrous formation is a common cause of these occurrences. Autenreith communicates, "that he found three abortions monstrous out of nineteen whose parts could be distinguished; that Wrisberg met with two among five; and Ruysch, two in twelve:—altogether, seven to twenty-nine." It is observed by Sömmerring, that most monstrous embryos are of the male sex. The practice of inducing abortion by instruments, the only way in which it can be effected, appears to have been well known in distant ages. Ovid*, in an elegy to one of his mistresses, alludes to it, and writes in a strain of manly and indignant feeling; whilst Tertullian†, the African, as he is commonly called, one of the fathers of the Church, who flourished long after the younger Pliny, says, "*est etiam æneum spiculum quo jugulatio ipsa dirigitur, utique viventis infantis peremptorium.*"

The management of the system before and after abortion takes place yet remains to be considered. The hemorrhage is first to be attended to; yet venesection is not required: a cold room, an hori-

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* Amor. lib. ii, eleg. xiv. Londin. 1686.

† De Anima, apud oper. p. 323.

zontal position, digitalis, and similar means, will suffice. In preference to the internal administration of astringents, the application of cold to the back and external parts is to be employed; but in the severe cases no means are comparable with the plug, as recommended under menorrhagia. Faintness is a favourable state, and is to be encouraged to a safe extent, since it necessarily restrains hemorrhage. When the expulsion has occurred the secundines are to be observed, which are longer in following than in natural labour. If afterwards there is troublesome pain, opium is to be prescribed; but prior to abortion it is injurious, for it suspends muscular action.

It is important to mention, that every part of the fetus and its appendages is to be extracted; since if any of them remain general disorder, febrile irritation, and dangerous consequences, will ensue. I have in my mind a melancholy case of this nature. Early in the year 1812, in Ireland, my friend Dr. Monteath * requested me to visit a woman, where a part of the fetus, during abortion, was unexpelled:—extraction was impossible, inasmuch as the os uteri was closed and undilatable:—death was the result. Another case is within my recollection, where the female lost her life in

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* Now Surgeon to the Glasgow Infirmary, and Translator of Beer's German Work on the Eye.

consequence of the retention of the head. A sensible and practical author observes, and I am disposed to concur with him, that where the os uteri is *dilatable*, it may be *dilated;* but where it is altogether *undilatable*, it cannot be *dilated.* He means by manual attempts; and it is undoubtedly true that neither Dr. Monteath nor I could dilate the mouth of the uterus, which scarcely admitted the point of a finger; and every attempt produced considerable pain. To conclude: if a woman, having suffered abortion or premature labour, become languid, feeble, and disposed to frequent syncope, cordials, liberal doses of opium, madeira, or brandy, are to be given; for this is a state not without danger, requiring powerful stimulants, since no apprehension of hemorrhage or fever need be entertained. Occasionally, there is violent spasmodic pain of the stomach or intestines, which is exceedingly dangerous, and demands the treatment just specified,—only the quantity of opium may be considerably augmented.

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XIX. *Impotentia.* Inability for sexual intercourse.

Impotence in men is most generally functional, or the effect of imagination; yet it is undeniable

that it does sometimes arise from mal-formation or organic disease. The latter shall take precedence.

The testicles were once thought to be unessential to virility; for any thing extraordinary or extravagant is sure to be believed:—but what is singular, no less a person than Aristotle himself entertained such an opinion. Aristotle went farther:—he supposed these organs to be mere weights to prevent the folding of the spermatic chords. Strange to tell, this hypothesis, which sets common sense at defiance, gained advocates; and Marchetti*, of Padua, has related cases and experiments in its support. Sabatier† mentions instances of men perfectly virile, yet having only one, or indeed no testicles; and Cabriolio adverts to a single case, where none were found, although the seminal vesicles were distended with semen. This apparently curious case has been commented on by Scurigio‡ and Lieutaud‖; but it is remarkable that it never struck these eminent individuals, as it did Portal§, that the man really had testicles,

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* Philos. Transac. No. 307, p. 2283.

† Traite de Anatom. tom. iii, p. 29.

‡ Spermatol. p. 393. ‖ Histor. Anatom. Med. tom. ii, p. 334.

§ C. d'Anatom. Med. tom. v, p. 429.

but which, from their unnatural situation, had escaped notice. A man having testicles in his abdomen cannot positively be pronounced impotent, yet it is a suspicious case; neither is he in that state who either has one, or both very small. He that has lost both testes by disease is impotent; but even he may enjoy sexual commerce, although imperfectly, and may have emissions, not seminal, but of the secretions of the vesiculæ seminales and prostate gland. One cause of impotence is a suppuration of the vesiculæ seminales*; another arises from the vasa deferentia terminating in the cul-de-sac of the seminal vesicles; whilst a third may originate from strictures of these vessels. Such are the principal causes of impotence† when it springs from organic disease or mal-formation, and which is incurable; but, fortunately for mankind, it is much oftener the consequence of functional disorder, or of the imagination.

A paralysis of the muscles of the penis is said to be a cause of inability; but whether this ever exists I entertain considerable doubt. The administration of cicuta is thought to produce impotence. A melancholy case of impotence, or of

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* Sommerring's German Translation of Baillie's Morbid Anatomy, p. 194.

† For farther information consult Paris & Fonblanque, vol. i, p. 197.

imaginary impotence, occurred in the person of a young gentleman, who was an apprentice at Guy's Hospital, in the years 1803, 1804, &c. in consequence of his testicles having remained within the abdomen, and for which he terminated his existence a few years afterwards by a large horse pistol, having left a letter on his table addressed to Sir Astley Cooper, alleging "this and only this," his own words, to have driven him to this rash and unhappy act. The sensualist may lament, but the moralist will condemn, and strongly condemn, so serious a crime for so trifling a cause,—as if the pleasures of sense, the most evanescent, gross, and contemptible of all pleasures, were at all comparable with those of intellect, which are at once pure, spotless, and eternal. It was not thus the first characters of antiquity acted:—purified from sensuality, and devoted to intellectual studies, they entertained higher views of the present, and still higher of the life to come. To descend to our own times:—Sir Isaac Newton, and other justly celebrated and virtuous men, never held sexual commerce; and Dr. William Hunter, although suffering severely from stricture of the urethra, declared on his death-bed that he had preserved a similar abstinence.

The act of coition ought to be an act entirely independent of thought: unfortunately, it seldom is so; and where the mind entertains fears, fail-

ures are not uncommon, but which may be generally averted or overcome by suitable means,—such as those recommended and pursued by John Hunter:—moderate stimulants; for instance, a drachm of laudanum in wine, or similar medicines; also, by substituting hope and confidence for anxiety and dismay; and, beyond all, by satisfying and proving to the sufferer that the female attaches no importance to the circumstance, and is not dissatisfied. Few means will succeed so well as this particular one, since a man's chief fear is, that he will receive the contempt of the woman: this intense anxiety aggravates the evil which has caused it; and thus renewed efforts, from this cause and from this alone, end only in regret and disappointment.

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XX. *Sterilitas.* Inability to conceive offspring.

Sterility is most frequently functional, originating from a disordered action of the uterus, or ovaria, or want of consent of parts; yet every one freely acknowledges it does occasionally spring from organic disease of the ovaries, fallopian tubes, or womb. Structural disease of the uterus or its appendages must be more or less difficult of detection; and there will be invariably considerable ambiguity.

To effect impregnation, it is only necessary that the semen should reach the vagina,—which fact was ascertained by the dissections of Harvey*; yet Verheyen, Ruysch, Postellus, and Cheselden, incline to a contrary opinion. Instances of pregnancy are on record, where even this could not have taken place; since the hymen was unbroken and imperforated †. Occasionally, this membrane is so ligamentous that it cannot be destroyed without an operation; and here a temporary cause of sterility will necessarily exist. Sometimes the hymen is an imperforate circular membrane, and completely closes the entrance into the vagina. It is to this Cicero‡ alludes when he writes concerning a dream, in which a woman was seen, "*quæ obsignatam habebat naturam.*" The world is informed by Pliny||, that Cornelia, the daughter of Scipio Africanus and the mother of the Gracchi, distinguished for their devotion to tribunitian, and hatred to patrician, power,—"*concreta genitali nata fuerat.*" In this noble minded woman, as well as in every other, a cure had been,

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* See Harvey, De Generatione, p. 228, &c.—Regn. De Graaf tom. i, p. 310.—Galen, De Semine, lib. i, cap. 2.—Ruysch, Thes. Anat. p. 90, tab. vi, fig. 1.

† See Dr. Tucker's Case, Merriman's Synopsis, &c. p. 218; and numerous other cases.

‡ De Divinatione, lib. ii. || Histor. Natural. lib. vii, cap. 16.

and may be, obtained by the scalpel, which is an operation at once simple, harmless, and successful. Sterility may originate from an obliteration of the vagina, in consequence of ulceration. I knew a case of this nature*, where the female was in labour, with an unsuspected impervious vagina, and in which an incision was required, to liberate the child. There was a small opening between the upper parts of the vagina and rectum :—it was thus the semen had reached that canal, and induced conception ; for sine dubio per rectum erat contrectatio, since the vagina presented an insuperable obstacle.

Gibbon somewhere mentions a certain dignified Roman lady, who was unable to marry because she wanted her "*os patulum.*" I presume the historian meant that the os vaginæ was closed, or the canal itself imperfect ; for the phrase is ambiguous, and may be interpreted either as an open or spreading† bone or mouth. The invincible causes of sterility are a faulty organization of the vagina, which may be too short or narrow, or may have no communication with a uterus. The uterus itself is occasionally absent or imperforate, or its orifice may be permanently obliterated by the

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* Mr. Cribb's.—Medical and Physical Journal. May, 1805.

† See Virgil, eclog. i, l. i.

ulcerative and granulative processes. Morgagni found the vagina only a third part of the usual length, and that its termination was firm and fleshy. In a case which occurred to Marchetti, this canal ran downwards beyond the internal orifice of the uterus, and ended in a cul-de-sac. The ovaria have been wanting: sometimes one,—of which there is a specimen in Hunter's Museum, —or both, as observed by Baillie*. Mr. Pears† has published another instance; and a similar is recorded by Morgagni. Disease of the ovaria, inducing barrenness, and occasioning a thorough disorganization of structure, cannot always be ascertained during life. The fallopian tubes have been obliterated by inflammation, which would oppose an insurmountable barrier to the transit of the ovulum from the ovarium to the uterus. Richerand discovered the fimbriæ of these tubes to be adhering to the lateral and superior parts of the pelvis, and which rendered fecundation impracticable. Dr. Baillie has discovered the fallopian tubes to be without apertures, and their fimbriated extremities to lose themselves in a cul-de-sac. Morgagni has seen these tubes, in courtezans, entirely obliterated by the induration of their parietes, which was doubtless the result of

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* Morbid Anatomy — Philos. Transac. vol. 91.

† Philos. Transac. 1805.

chronic inflammation, originating from continual and excessive excitement*.

Having written concerning the serious causes of sterility, or those principally arising from malformation and structural disease, it remains to discuss those which are pleasant to contemplate, because controllable. Every married woman wishes for a child: for that she marries, for that she lives, and for that she too often dies:—it is a law of nature which she cheerfully admits, and for which she will make any sacrifice. Conception, and the consequent birth of children, being of such importance to society, it is the especial duty of medical men to bestow an undivided attention upon sterility and its causes, so that they may comprehend the nature of each, and thence overcome an evil so detrimental to families. The mind must be attended to; for it exercises a boundless influence. Obesity is said to be a cause of barrenness; and this is one which may be partly subdued. Some females are insusceptible of impregnation from the semen of a particular individual, yet perfectly fruitful by that of another. There are times when irritability† of the genital organs renders coitus exceedingly painful; but this, if only functional,

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* Consult Paris and Fonblanque, vol. i, p. 214, &c.

† Edinburgh Medical Essays, vol. ii, art. 27.

may be removed by purgation and opiates, along with a temporary abstinence. This state may have its origin from internal piles*; and a cure of them, whenever practicable, will be the best treatment possible. Mr. White†, Surgeon to the Westminster Hospital, has recorded three cases, in which the pain during every attempt was so agonizing as nearly to induce syncope. Upon examining each female, he discovered a small fistulous opening in the vagina, leading into a sinus of about two inches and a half in length, and which had arisen from external injury and consequent abscess. A permanent cure was gained by dividing the sinus.

Sterility, originating from organic disease, may be pronounced incurable; but, fortunately, it frequently arises from functional derangement, want of consent of parts, and moral and mental causes. Healthy menstruation is generally a *sine qua non* in pregnancy,—hence conception may be impeded by the catamenia being irregular, vitiated, excessive, or wanting. For impregnation, it is absolutely necessary that the uterus, fallopian tubes, and ovaries, should act in concert: if they do not, which is not an uncommon occurrence, no concep-

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* Palliani Epist. ad Hall. p. 268.—Monteggia. Inst. Chirurg. P. iii, p. 512.

† Medical Repository.

tion can take place. Finally, mental and moral causes exercise an astonishing influence over the sexual organs of both sexes. To affirm that a woman never conceives who has undergone force, or admits the embraces of the man she dislikes or hates, is to write nonsense; but to assert that both one and the other, as well as the operation of moral and mental causes, do very commonly retard conception, is to express the language of truth and of observation. A discontented woman, or one who has not gratified the tenderest affection, is often barren, or, at least, is never the mother of more than one or two children. An honest man is seldom a father in the year he is made a bankrupt. Severe intellectual exertions on the part of the husband will frequently cause temporary sterility in the wife, which will continue until such exertions have ceased. Dr. G*******, now of London, who at this moment is considered by many as one of the ornaments of the medical profession, was married, in 1811, to an interesting and lovely young woman, by whom he had two fine children. He commenced author; bestowed great intellectual labour on three successive works, all well known, and one abundantly praised by the medical world; and when he took up his pen, his wife became sterile, remained so from 1814 to 1818, and then became pregnant, after the publication of his last work.—Again, the fruitful wife of an half-pay officer or distressed gentleman be-

comes suddenly barren, and continues so; but no sooner does hope shew itself, and prospects brighten, than pregnancy takes place, even to the amount of twins. These facts have occurred under my own observation.

No woman is always susceptible of pregnancy: there must be a predisposition in the constitution, brought about by the co-operation of several evolutions: these may be interrupted,—and many such interruptions constitute barrenness; and even when not interrupted, time is required for their developement. After the birth of one child, nature demands time to prepare for a second:—the system must undergo a determined change; and unless this happen, sterility is the result. Pregnancy is neither optional nor certain, but uncertain and capricious. A female susceptible of impregnation to-day may not be so to-morrow: many events that strongly affect the mind may occur to prevent it; or the undisturbed operation of nature may retard it altogether. After child-bearing has commenced, some women are subject to considerable periods of barrenness. A few bear a child every seven, others every fourteen, years; some only give birth to one child in a whole life; and, in rare instances, pregnancy occurs in the twentieth year of marriage. Dr. Jarrold knew a young lady, whose mother married at eighteen:—for several years no conception took place: she mar-

ried again, and, after a lapse of years, became a mother at 45 years of age. The lady of a beloved, patriotic, and now venerable nobleman, produced him a son, who is an old county member of the House of Commons at this moment, in the twentieth year of wedlock; and precisely the same occurred to the wife of Dr. W*****. It is probable, had age permitted, that after another long distance of time, a second child might have been born,—a pre-disposition to pregnancy being indispensable. This pre-disposition may be advanced or retarded by circumstances,—such as anxiety, indisposition, and great susceptibility of temper.

It is not only requisite for pregnancy that the female economy be so disposed, but that there be also *a certain adaptation in the married pair.* There is a striking illustration of this fact in the youths of Georgia and Circassia, whose beauty is proverbial. Exposed to sale in the Turkish markets, the females are purchased by most of the licentious courts of Asia. The Persian nobles especially, who are of Tartar origin, and remarkably ugly, purchase and marry the Circassian girls, that their children may not inherit their ugliness. The boys, who are chiefly bought by the government, and sent into Egypt, are invariably unproductive. If by a connection with an Egyptian,—a very rare circumstance,—one of them become a parent, the race most certainly stops; since never

yet did such a child perpetuate the species. In Circassia and Georgia there is no deficiency of children; but when the natives are united to Egyptians, there is a total want of offspring,—according to Raynal, Volney, and other excellent authors. It is an axiom of almost universal application, that a dissimilarity in the habits and condition of life produces that in-adaptation of constitution, which is the apparent cause of unfruitful marriages*. It has been already observed, that any powerful and long continued exercise of the mind, or any thing that inflames the passions, or in any way subjects the body to the mind, occasions barrenness,—as is particularly exemplified in a certain class of individuals. Women who marry late have few children, although sufficiently young to bear more; yet this admits exceptions. Instances of sterility are far more common among a civilized and luxurious people, than amongst a nation of shepherds and rustics. Immoderate coition is another and frequent cause; whilst the reverse is a great incentive to conception:—hence the barren beds of the idle and lascivious, and the prolific ones of the indigent and laborious. If ancient authors are to be credited, it is not easy to affirm when a rational hope of pregnancy should

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* See Jarrold's Dissertations on Man, p. 291, &c. for much interesting matter respecting sterility and population; and also the elaborate and philosophical works of Malthus and Godwin.

cease to be entertained. Capuron narrates several instances of matrons of sixty and upwards, who have become mothers. I learn, from Pliny, that Cornelia, whose case has been noticed, gave birth to a child in her sixtieth year, which was denominated Volusius Saturninus. Marsa, a physician in Venice, has communicated a similar instance; and De la Mothe has recorded another, in which the female was sixty-one.

The wisdom of God is apparent in all his works. Wicked as human nature always is and ever will be, yet still certain bounds are invariably placed to horrible vice, so that the crime, whether conceived or executed, perishes in its infancy, without leaving a memorial to perpetuate unprecedented infamy. The tenor of these observations will be sufficiently intelligible after a perusal of the following interesting and valuable extracts, which are written, with singular propriety, in a learned language. The curious reader is requested to bestow considerable attention on them; since, with respect to their subject, they have scarcely a parallel in any age or country.—"Non desunt," says Blumenbach, "historiæ nefandæ hominum cum brutis copulæ, quando aut viri cum bestiarum femellis rem habuerunt, sive effrenata libidine rapti*,

* "Audivi ex docto quodam amico, qui per Siciliam insulam iter faciens, ibidem cum vetera monumenta, tum populi mores accura-

sive ex vesana continentiæ opinione*, sive quod medicum usum ex ejusmodi facinore sperarent†; aut feminas a brutorum masculis‡ subactas esse relatum est, sive violenti stupro id acciderit, sive sollicitantibus ex libidine insanientibus feminis‖, sive prostituentibus sese ex religiosa superstitione§, nullum tamen unquam a teste fide digno relatum comperimus exemplum, ubi fecunda evaserit ejusmodi copula, hybridumque ex hominis cum bestia immani coitu prognatum fuerit."

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tius investigaverit, inter confessionis articulos a Siculis capriariis apud montes vitam solitariam degentibus, etiamnum per sacerdotes proprios rite solere exigi, an rem cum hircis suis habuerint!"

*Th. Warton ad Theocriti Idyll.* 1, 88. p. 19.

* "Ex Alchanica Egypti egressi venimus ad casale quoddam Belbes dictum, ubi carabenæ eunti Damascum sumus conjuncti. Ibi vidimus sanctum unum Saracenicum, inter arenarum cumulos, ita ut ex utero matris prodiit, nudum sedentem.—Audivimus sanctum illum, quem eo loco vidimus, publicitus apprime commendari: eum esse hominem sanctum, divinum ac integritate præcipuum, eo quod nec fœminarum unquam esset nec puerorum, sed tantum modo asellarum concubitor atque mularum."

*Mart. a Baumgarten, Peregrinatio in Egyptum, Arabiam, &c.*

† Hoc fine Persas ischiade laborantes onagras inire Pallas auctor est, in *Neuen Nordischen Beytragen*, par. ii, p. 38.

‡ See Phillips, in Churchill's Collection of Voyages, vol. vi, p. 211.

‖ Ita feminas Kamtschadalicas quondam cum canibus coivisse Steller refert, in Beschreibung von Kamtschatha. p. 289.

§ Ut Mendesiæ feminæ cum hirco sacro: de quo singulari ritu videsis uberrime disserentem D'Hancarville, in Recherches sur 'Origine des Arts de la Grece, tom. i, p. 320.

Thus has every circumstance connected with sterility passed in review before us; and nothing interesting or important has been omitted. The treatment, as far as it admits any treatment, ought to be moral rather than medical. To recommend a solitary residence at an agreeable watering place; to remove erroneous impressions; to renovate drooping spirits; to inspire hope and confidence; to regulate the alimentary canal; and to subdue particular morbid affections as they may arise,— are positively all which human ingenuity can devise.

THE END.

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