

Enchiridion medicum, or, The practice of medicine : the result of fifty years' experience / by C.W. Hufeland.

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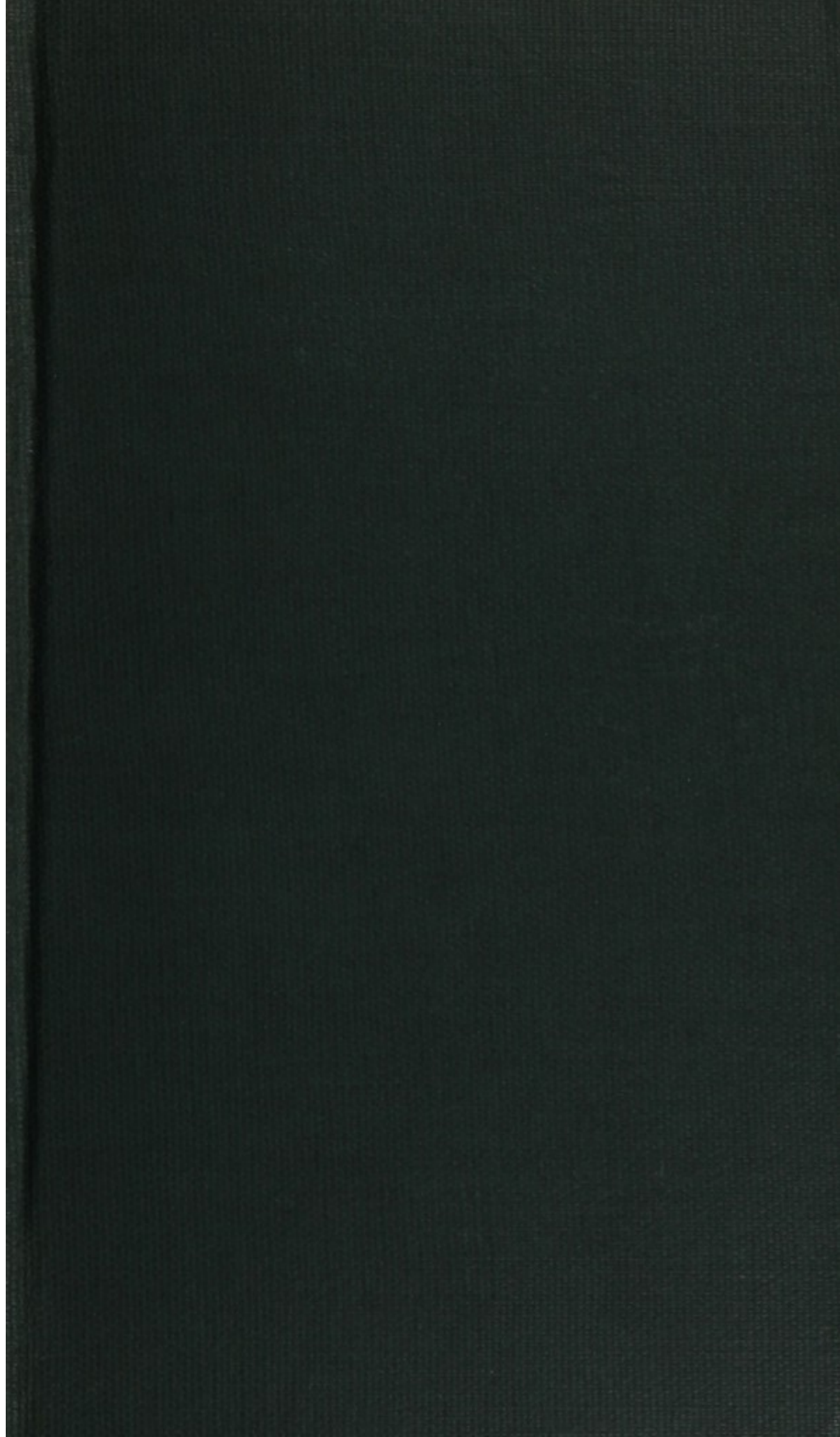
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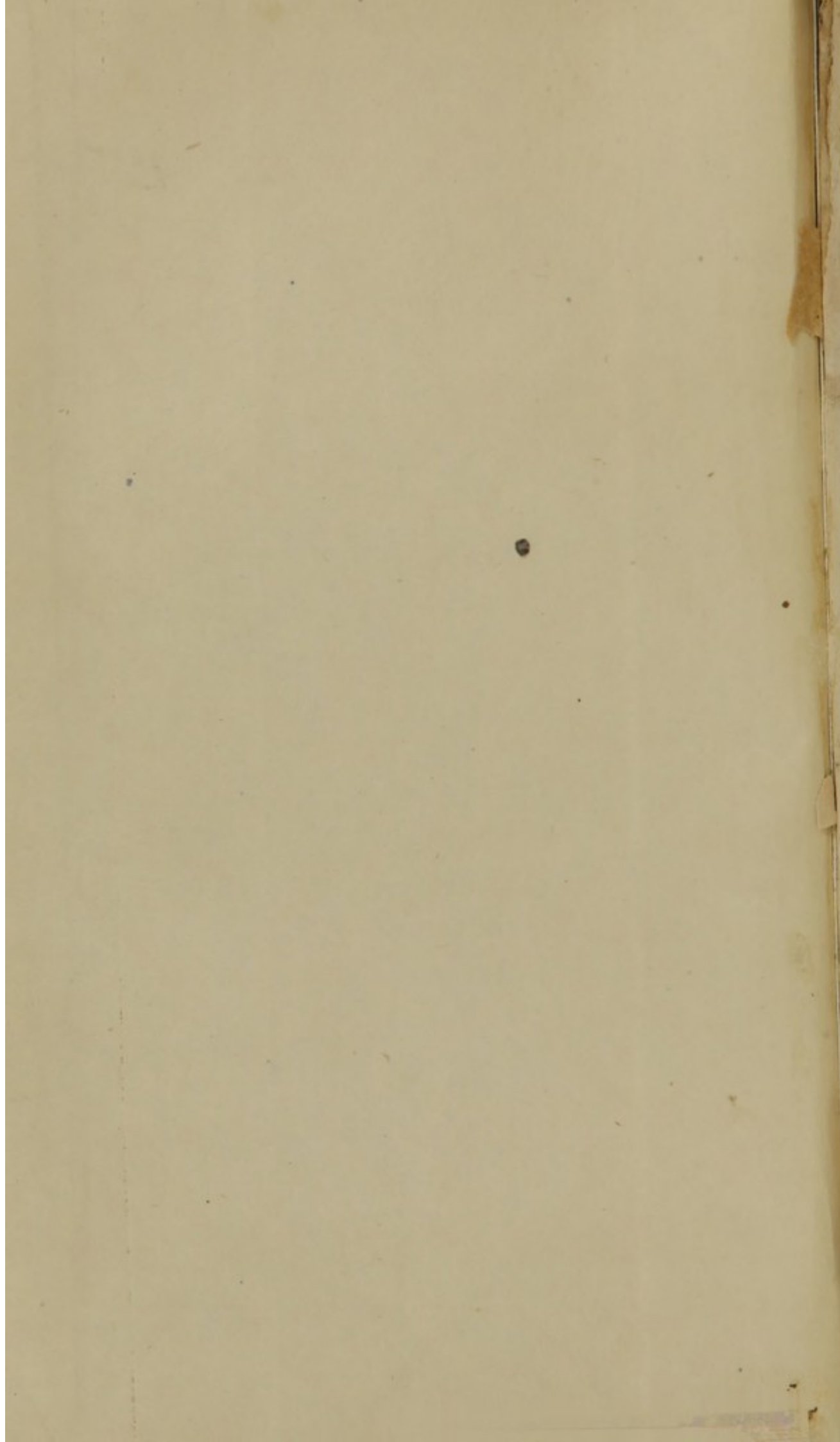
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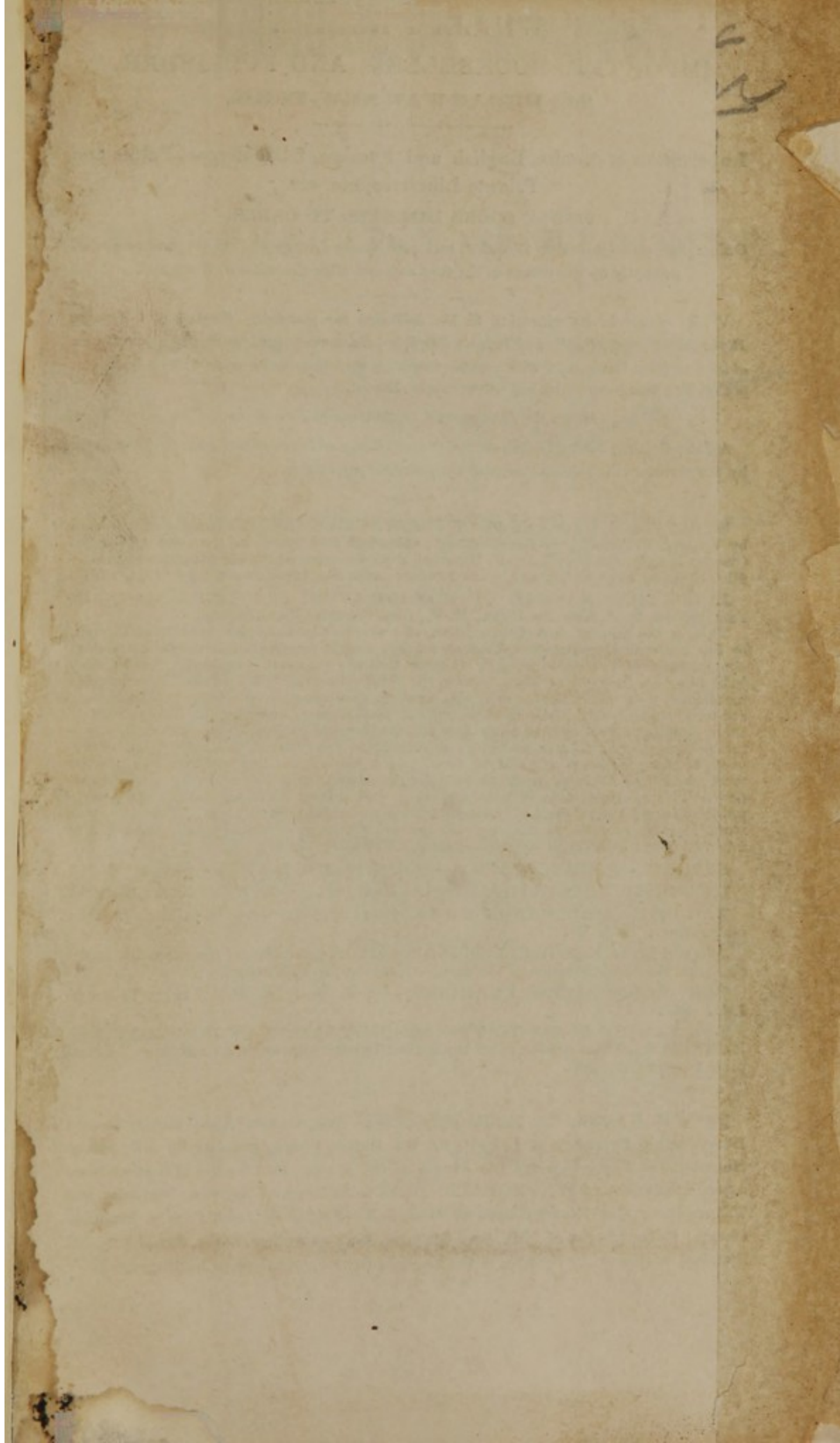
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ENCHIRIDION MEDICUM:

OR

THE PRACTICE OF MEDICINE.

THE RESULT OF FIFTY YEARS' EXPERIENCE.

BY

C. W. HUFELAND,

COUNSELLOR OF STATE, PHYSICIAN IN ORDINARY TO THE LATE KING OF PRUSSIA,
PROFESSOR IN THE UNIVERSITY OF BERLIN.

FROM THE SIXTH GERMAN EDITION.

TRANSLATED BY

CASPAR BRUCHHAUSEN, M. S.

REVISED FOR THE PROPRIETOR,

BY

ROBERT NELSON, M. D.

SECOND EDITION.

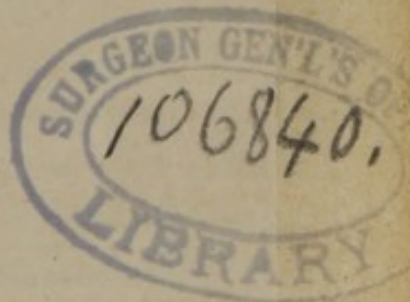
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H. BALLIERE, 219 REGENT STREET.

1844.



ANNEX
Mey. Clin.

Was mich das Leben gelehrt, was mir durchs Leben geholfen,
Leg' ich dankbar und treu hier auf Hygieens Altar.
Helfen durch Lehre und That, war meines Lebens Bestimmung,
Möchte im Tode auch noch Lehrer und Helfer euch sein.

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The following lines from Dr. Manley, formerly President of the Medical Society of the State of New York, contains his opinion in few words of the merits of the book :—

I am happy to have the opportunity of recommending to the medical profession the *Manual of the Practice of Medicine*, by Hufeland. It is not often that books of this character, on perusal make good the claims which their titles assume, but this is a well marked exception: its description of diseases though concise are comprehensive; its reasoning just and philosophical, and its practice, as a consequence, intelligible and rational. The character of the author, and his experience of more than half a century, together with the unexampled popularity of the work in its original language, render in my opinion all individual recommendation superfluous. I hope that it may soon be found in the hands of every medical man, whether pupil or practitioner.

JAMES R. MANLEY, M. D.

New York, September 7, 1842.

The following is my opinion of Hufeland's Practice of Medicine.—The merits of that great professor in the Healing Art have been so long known, and his contributions to medical science so highly appreciated, that his renown may be safely pronounced national. His late work, *Enchiridion Medicum*, has met in its rapid and extensive circulation in his own country with no more than its just claims to regard. As a body of the Practice of Physic it abounds in facts and principles of substantial value, the results of close observation, patient discrimination and sound judgment: its excellence is such as could have been secured only by long experience and freedom from the restraints of scholastic authority. Hufeland is eminently an eclectic philosopher, competent to discharge the responsible trust with impartiality and ability, arising from the vast stores of his clinical knowledge, and the exercise of a mind of great self-reliance. The publication of his work in this country will aid the cause of sound medical practice, and the deepest interest of humanity.

JOHN W. FRANCIS, M. D.,

late Professor of the Institutes of Medicine, Obstetrics

Medical Jurisprudence, etc., New York,

New York, August 23, 1842.

I have read the edition of Professor Hufeland's Manual of the Practice of Medicine, and am of opinion it fully sustains the high reputation of its author. Both in arrangement and details it is fully equal to any work on the same subject I am acquainted with, and I cheerfully recommend it to the patronage of the profession.

J. H. JOHNSTON, M. D.

New York, August 31, 1842.

The writings of the great Hufeland need no recommendation of mine. His name, as a medical authority, is so well established, that I have no doubt this work will find a ready and extensive sale.

JOHN B. BECK, M. D.

Professor of Materia Medica and Medical Jurisprudence, in the College of Physicians and Surgeons of New York.

New York, 14 Le Roy Place, September 6, 1842.

I have looked over the *Enchiridion Medicum* of Professor Hufeland. It is an excellent compendium of German practice, and will be found a valuable vade mecum to the student and practitioner. It can profitably be perused, and ought to be in the hands of all physicians. The justly distinguished reputation of the author will make it a work generally sought for.

VALENTINE MOTT, M. D.

The publishers have conferred a benefit upon the medical literature of our country, by producing this translation of the *Enchiridion Medicum* of Hufeland. Few works on practice contain so much useful matter in so small compass. But independently of the value attached to any work from the pen of Hufeland, this book is especially useful to Americans, by furnishing them with the modes of thinking and practising, peculiar to the medical men of a large portion of continental Europe, to which they have few means of access.

EDWARD DELAFIELD, M. D.

108, Bleecker-street, September 5, 1842.

LIFE OF THE AUTHOR.

CHRISTOPHER WILLIAM HUFELAND was born at Langensalza, August 12, 1762. His father held some rank in the medical profession, was Aulic counsellor and physician in ordinary to the court of Weimar. After our author had finished his studies he began practice as a physician at Weimar. In 1793 he was appointed professor of medicine in Jena; and in 1796 the title of Aulic counsellor of Weimar and physician in ordinary to the Duke was conferred on him. He left Weimar for Berlin in 1801, where he was employed as one of the physicians to the King of Prussia; here he was made Director of the Medico-chirurgical Academy, and appointed superintendent physician to the Charity—both renowned institutions. In 1810 he was raised to the rank of counsellor of state, became a member of the medical section of the Home Department, knight of the Red Order of the Eagle, and professor of the New University established at Berlin in 1809. Such were his honorable titles and his external relations, and he enjoyed them until his death. We shall now review his labors; works which gained him a reputation that was European and almost universal.

In a pamphlet "On the Uncertainty of the Signs of Death, and hints for the establishment of burial houses," published at Weimar in 1791 and republished in 1824 at Berlin, he broached the subject of the burial of persons apparently dead. It is in a great measure owing to his indefatigable efforts and representations that such houses are now so general throughout Germany,—receptacles which remove from the feeling mind that horror which is inseparable from the idea of living sepulture.

Of almost equal importance are his "Remarks on Small-pox which prevailed epidemically at Weimar," first published at Leipzig in 1789, and in a 3d edition in 1798. His "Experience of the use and effects of Muriate of Barytes," first published at Erfurt in 1792, and again at Berlin in 1794, has been of great use in the treatment of scrofula. In 1795 he published his "Ideas on Pathogeny," which work was re-

printed in 1798 under the name of "Pathology," and later as his "System of Practical Medicine." He derived great reputation by his "Journal of Practical Medicine," not only from the usefulness of that work, but also from the ability he displayed in it as its editor. It first appeared at Jena in 1795; subsequently he had Himly and Harless as associate editors; and since 1824, Osann. This Journal soon became, and continued to be the vehicle through which the most eminent German practitioners communicated their ideas and discoveries to their brethren, and was emphatically called *the German Medical Journal*. It ranked with that of Edinburgh. Hufeland, unlike sectarian writers, of whom we have too many, was a sincere searcher after truth, and readily admitted into his journal every thing which promised advancement to science, in order that it might get an impartial hearing.

He endeavored to convey useful information to non-professional people in his work "Macrobioicon, or the art of prolonging human life." It gained great favor in the estimation of those for whom it was composed, and has been translated into several languages.

The same philanthropic purpose he tried to serve by editing Darwin's book "On the physical and moral education of females," with annotations and additions of his own. In 1822—24 he published his "Minor Medical Writings" in 3 vols.* The last, but not the least of his works was his *Enchiridion Medicum*, which we now offer to the public, and which he considered as his Legacy, to be useful even after his death, which soon followed its publication. It was at the same time an act of charity, for the proceeds went to a fund for the support of indigent physicians.

Hufeland possessed a great mind, the strength of which shone brightly in the investigation of Nature. He was never limited in his view by the narrowness of systems, but was eclectic, impartial, unprejudiced and a competent judge; indefatigable in the promotion of the best interests of mankind, and took an elevated stand not only in his profession as a physician, but also in society as a truly moral and philanthropic man.

* In 1833 this noble old man celebrated the jubilee of his Doctorship with honors commensurate with his merits.

PREFACE.

THERE are already so many Manuals of the practice of medicine, that it seems almost useless to add a new one to the number. But a mere glance at this branch of medical literature will detect a deficiency. While our bookstores abound in epitomies of English, and translations of French practice, they are destitute of any thing on the subject from the rest of Europe. This is the more to be regretted, since we know that Germany has long been celebrated, not only for the profound abstractions and vast erudition which distinguish every branch of science in that country; but also, for many practical, though peculiar, methods of exercising the healing art. This hiatus has not escaped the observation of the publisher,—himself a German, and from this circumstance capable of selecting the most celebrated work of his countrymen. He, therefore, thinks that such a work as he now offers to the English reader is not only wanted, but that he has chosen as a specimen of German medicine the best manual extant; for, who is there that enjoys a higher reputation in the medical profession than did the late venerable and learned Hufeland? This work of the patriarch of German medicine first appeared in 1836, and has already passed through eight large editions in Germany; has been translated into French by that great judge of medical literature, Jourdan, member of almost all the scientific societies of Europe, and in this language it has already passed through several editions.

In order to expose the object and plan of the work, we shall let the author speak for himself.

In his preface he says: "This book is intended to be a clinical guide for junior practitioners; for such as just enter into practice;—to serve them as a guide and give to the mind a right direction; to point out every disease; to point out that which is essential in a practical point of view; to point out the treatment to be adopted, and the most approved remedies;—in short, it is intended to be a complete, though a compact manual, divested of all hypothesis.

"In the second place, this book is the *Depository* into which I cast the final result of *my long experience*.

"As regards the *Classification* which I have adopted, I may simply say that it is the same as that which I followed when a teacher, and which I ever found to be the most appropriate for clinical instruction; the principal feature of which is:—the division of diseases into species according to the most prominent morbid phenomena, this being the path traced to us by Nature herself. The first thing which she presents to us is the external appearance—the image of disease; she strikes our senses with it; through this physiognomy we must penetrate ere we reach the interior in search of the invisible, there to investigate the nature of disease, its seat and causal relations; and it is on all these that we must base the method of our treatment.

"Such a course presents one great advantage—that of making us familiar with the generalities which belong to all the classes—with the fundamental ideas of pathogeny, and thereby with the chief indications of cure: hence results a correct view of all the species belonging to a class so seen, and consequently an equally correct plan of treatment, making allowance only for difference of location."

TABLE OF CONTENTS.

	Page		Page
THE RELATIONS OF		THERAPEUTICS	70
THE PHYSICIAN	1	Order of the rational	
NATURE AND ART—		mode of healing	73
PHYSIATRIC	19	PRACTICE	75
Sanative power of Na-		Maxims and general	
ture	19	rules for beginning	
Medicine, its idea and		practitioners	75
limits	22	FIRST CLASS. <i>Acute Fe-</i>	
Its tendency, recogni-		<i>vers</i>	79
tion and action	23	Generalities	79
DIAGNOSTICS, IATROG-		Simple Fever	84
NOMIC	24	Inflammatory Fever	85
COGNITION OF THE SICK	25	Nervous Fever	90
<i>Constitution of Patient</i>	25	Putrid Fever	99
<i>Hereditariness</i>	26	Gastric Fever	100
<i>Sex</i>	27	Rheumatic, Catarrhal	
<i>Age and period of life</i>	27	Fever	105
<i>Temperaments</i>	28	Contagious Fever	107
<i>Idiosyncrasy</i>	29	Typhus Contagiosus	110
<i>Weak part</i>	29	Levantine, or Bubon	
<i>Habit, Mode of Living,</i>		plague	111
<i>Occupation</i>	29	Yellow Fever, Black	
<i>Habitual Diseases and</i>		Vomit	112
<i>Crises</i>	30	Oriental Cholera	112
<i>Climate</i>	30	Hydrophobia	113
COGNITION OF DISEASE	30	Carbuncle	115
<i>Pathogenesis</i>	31	SECOND CLASS. <i>Intermit-</i>	
<i>Symptomatology</i>	32	<i>tent and Chronic Fe-</i>	
Pulse	33	<i>vers</i>	116
Art of feeling the Pulse	44	Fever and Ague	117
Respiration	45	Chronic, Symptomatic,	
Blood	52	Hæctic, Consumptive	
Digestion	53	Fevers	123
Secretions and Excre-		THIRD CLASS. <i>Inflamma-</i>	
tions	56	<i>tions and Sanguineous</i>	
Affections of the mind		<i>Congestions</i>	125
and nerves	61	Generalities	125
Complexion, Structure,		Inflammat. of the Brain	138
External appearance,		Myelitis, Spondilitis	142
Carriage, Position	67	Anginæ	143

Stomatitis	146	Cough	228
Glossitis	147	Whooping cough	232
Pneumonia	147	Chronic vomiting	235
Carditis	157	Hiccup	239
Abdominal Inflammations	158	Neuralgia	240
Gastritis	158	Pruritus	240
Enteritis	159	Headache	241
Hepatitis	161	Tic Douloureux	242
Splenitis	163	Toothache	243
Diaphragmatis	163	Earache	244
Mesenteritis	163	Cardialgia, Gastrodynia	244
Pancreatitis	164	Pyrosis	245
Peritonitis	164	Colic	245
Omentitis	164	Hydrophobia	249
Nephritis	164	Polydipsia	249
Cystitis	165	Pseudacutis, Paracutis	250
Metritis	166	Pseudopia	250
Oophoritis	166	Nymphomania, Satyria- sis, Onanismus	251
Psoitis	167	3. Paralytic diseases	252
Ophthalmitis	168	Apoplexy of the brain	253
Otitis	168	Apoplexy of the lungs	259
Erysipelas	169	Syncope	259
Zona	172	Asphyxia	261
FOURTH CLASS. <i>Rheumatoses</i>		Vertigo	263
Generalities	172	Lethargy	263
Rheumatism	173	Local paralysis	264
Ischias	180	Dysphagia	270
Lumbago	181	Aphonia, Dysphonia, Dys- logia	271
Catarrhus	181	Apepsy, Dyspepsy	273
FIFTH CLASS. <i>Gastroses</i>	184	Pica. Malacia	274
Gastric diseases. Gas- tric Impurities	184	Impotency	274
Various Species	187	Amaurosis	276
SIXTH CLASS. <i>Nervous Diseases</i>	190	Deafness	277
Generalities	190	Anosmia, Agusia	278
1. Mental diseases	196	Anaesthesia	278
Insania	196	Anorexia	279
Hypochondria, Hysteria	203	Anaphrodisia	279
2. Spasmodic diseases	210	SEVENTH CLASS. <i>Emaciations</i>	280
Epilepsy	210	Generalities	280
St. Vitus' Dance	214	1. Phthisis	281
Catalepsy	215	Pulmonary consumption	281
Somnambulism	216	Phthisis purulenta	291
Nightmare	217	Vomica	296
Agripnia	218	Phthisis Florida	298
Raphania	218	Tracheitis, Laryngitis	298
Tremor	219	Phthisis hepatica, rena- lis vesicalis, mesente- rica	299
Tetanus, Trismus	219	2. Tabes	300
Asthma	222	Pituitous consumption	301
Palpitation of the heart	227		

Nervous consumption	302	Constipation	371
Dorsal consumption	304	Ileus	372
Marasmus	305	Ischury, Dysury, Stran-	
3. Atrophy	306	gury, Anury	375
Tuberculous consump-		Anidrosis	378
tion	307	ELEVENTH CLASS. <i>Cuta-</i>	
4. Hectica	309	<i>neous diseases</i>	380
EIGHTH CLASS. <i>Hydro-</i>		Generalities	380
<i>pes, Pneumatoses</i>	310	Variola	386
1. Accumulations of water	310	Varicella	395
Generalities	310	Vaccinella	396
Ascites	312	Varioloides	398
Hydrothorax	315	Morbilli	400
Hydrops Pericardii	316	Scarlatina	405
Hydrocephalus	317	Rubeolæ	409
Anasarca, Oedema	317	Essera	409
2. Accumulations of air	318	Urticaria	410
Generalities	318	Miliaria	410
Flatulency	319	Petechiæ	413
Tympanitis	321	Pemphigus	414
Emphysema	322	Aphthæ	415
Physometra	323	Scabies	417
NINTH CLASS. <i>Profluvia</i>	323	Herpes	420
Generalities	323	Crusta serpigiosa	423
1. Hæmorrhagiæ	324	Lepa	423
Generalities	324	Erythema, Phlyctænæ	424
Epistaxis	326	Tinea capitis	425
Hæmoptysis	327	Gutta rosacea. Vari	426
Hæmatemesis	331	Furuncle, Carbuncle	427
Hæmorrhoids	332	Intertrigo. Rhagades	428
Melæna	341	Freckles	429
Hæmaturia	343	Comedones	429
Hæmatosis	345	Callositas cutis. Excre-	
2. Blennorrhœæ	346	scientiæ. Clavus. Ver-	
Generalities	346	ruæ	430
Ptyalismus	347	Plica polonica	431
Epidrosis	347	Mole	432
Enuresis	348	Alopecia	433
Diabetes	350	Ulcers	434
Cystorrhœa	352	TWELFTH CLASS. <i>Dyscra-</i>	
Gonorrhœa	353	<i>sies</i>	434
Pollutio	354	Generalities	434
Otorrhœa	356	Chlorosis	438
Lienteria	357	Cyanosis	439
Fluxus coeliacus	358	Scorbutus	440
Fluxus hepaticus	358	Icterus	441
Diarrhœa	359	Scrofula	444
Dysentery	363	Struma	452
Cholera	367	Rhachitis	452
TENTH CLASS. <i>Suppres-</i>		Arthritis	453
<i>sions</i>	369	Syphilis	462
Generalities	369	Polysarca	480

THIRTEENTH CLASS. Dis-	
<i>organizations, Pseudo-</i>	
<i>organizations, Para-</i>	
<i>siles</i>	481
Helminthiasis	486
Lithiasis	492
Stone in the Bladder	493
Stone in the Kidneys	493
Gall-stone	496
DISEASES OF FEMALES.	
<i>Sexual Diseases of</i>	
<i>Females</i>	498
Physical characteristics	
of the female	498
Menstruation	499
Diseases of menstruation	500
First development of	
menstruation, Puberty,	
Morbid obstruction of	
it	500
Regimen menstruale	503
Suppression of the men-	
ses	503
Immoderate flow of the	
menses. Metrorrhagia	505
Painful, difficult mens-	
truation. Menstrual	
spasms	507
Cessation of the menses	508
Pregnancy	510
General rules for preg-	
nant women	511
Headache and tooth-	
ache	513
Vomiting of pregnant	
women	513
Prevention of abortion	514
Convulsions of pregnant	
women	515
Parturition and childbed	516
Characteristics of this	
state	516
Treatment after delivery	517
Puerperal fever	519
Lacteal secretion, and	
its treatment in cases	
of suckling and not	
suckling	521
Flux of milk	522
White swelling of lying-	
in women	523
Whites	524

Barrenness,	526
DISEASES OF CHILDREN.	
<i>Characteristics of In-</i>	
<i>fancy and its Diseases</i>	529
Diagnostics in children	531
Therapeutics for chil-	
dren	532
Regimen for children	535
Diseases of the new-born	
and infants	536
Asphyxia neonatorum	537
Icterus neonatorum	538
Excoriationes neonato-	
rum	538
Thrush	539
Ophthalmia neonato-	
rum	539
Erysipelas of infants	540
Trismus and tetanus of	
Neonatorum	540
Asthma thymicum	541
Syphilis congenita	541
Diarrhœa	542
Vomiting	544
Nervous attacks, spasms,	
convulsions	545
Fevers	546
Gastric fever	546
Catarrhal fever	547
Worm fever	547
Inflammatory, Pectoral,	
Brain fever	547
Exanthematic fevers	548
Difficult teething	548
Cutaneous acrimony.	
Biles. Crusta lactea.	
Scaldhead	550
Croup	551
Millar's Asthma	553
Dropsies of the head and	
brain	554
Decay of Children	557
Limping	558
Receipts	561
INDEX	621
APPENDIX, OR THE	
THREE CARDINAL	
MEANS:	
VENESECTION	4
OPIUM	15
VOMITS	49

The Relations of the Physician.

AN instinctive impulse to relieve a sufferer was the origin of the healing art. This pure and noble sentiment must always prevail, to make the practice of medicine answer its ideal, and render it a blessing to both physician and patient.

To live for others and not for himself is a physician's vocation. He must be ever ready to sacrifice his repose, advantages and comforts, yea, even higher considerations, to the end of saving the life and health of his fellow-men.

The healing art, therefore, is something sublime and really divine; for its duties coincide with the first and most sacred laws of religion and philanthropy, and require resignation and an elevation of mind far above worldly desires. None but a really moral man can be a physician in the true sense of the word, and it is such a one only that can find satisfaction in his vocation; for he alone is conscious of a higher end of existence, which exalts him above earthly considerations and the joys and troubles of life. To improve his mind, to sacrifice his person for the public good and a better world, and to disseminate good around him as much as lies in his power—is what he aims at; and where can he attain that end better than in a profession which gives him daily opportunities, yea, compels him to perform philanthropic acts, acts that are incompatible with selfishness? His professional duties therefore will always beautifully harmonize with his convictions and principles, and, so to say, flow from them. What he ought to do, he does with pleasure; and the consequence will be the highest happiness of man, a consonance of external and internal life. Wo to the physician, who makes honor with men, or money the end of his efforts! He will be in continual contradiction with himself and his duties; he will find his hopes disappointed and his efforts unproductive; he will curse a vocation which does not reward—because he knows not true reward.

This simple view embodies the whole moral or policy so called of the physician. Policy—an improper word; for nowhere more than in the medical profession do we see it exemplified, that the best and only policy is that which emanates from an honest and sensitive man. The rule resulting therefrom, and which must remain a fundamental law for all the relations of a physician is: "*Regulate all your actions in a manner, that the highest end of your vocation, which is saving life, restoring health, and relieving the sufferings of humanity, be attained as far as possible.*"

This rule must ever be present to our mind; it will always direct us to the right point, and guide us safely in the most complicated cases.

From this point of view let us now consider and regulate the duties of a physician. They are triple: towards the sick, towards the public, and towards his colleagues.

A. RELATION TO THE SICK.

The physician in the exercise of his art must regard only man, and make no difference between rich and poor, high or low. He who suffers most or is in the greatest danger, has a privilege over all others, whatever be their station or condition in society. I pity the physician who appreciates his patients according to rank or fortune; he knows not the finest reward of a physician. What is a hand full of gold compared with the tears of gratitude shed by the poor, who, unable to speak or to give, pours out a confession of eternal indebtedness? But the rich man believes himself redeemed by his donations of all obligations of thankfulness, not aware that the fee receives its value only through a deeper feeling; and the assistance rendered, without this, is placed in the range of common services and works of trade. How often is the physician the sole friend left to the poor in distress! Like an angel of consolation he appears to him, and raises the vanishing hopes by the interest he takes, and by his art he pours new strength into his veins.

Should some one be so unfortunate as not to find satisfaction in this sublime feeling, or should he believe the practice among the poor will not promote his interests, he may remember, that the voice of the poor who has been saved, speaks much louder and in a more thrilling tone than that of the rich, who frequently, by his compensation,

thinks himself entitled to be ungrateful and to undervalue the services rendered.

In medical treatment the physician must exercise his *greatest attention, accuracy and conscientiousness*. He must not proceed superficially, but with research and knowledge. He must never consider the patient as a means, but always as an end; never as an object of a natural experiment or of art alone, but as a man, as the highest scope of nature itself.—Seldom, it is true, can the faults of the physician be brought before, and punished by, a tribunal, as this retribution depends upon accurate evidence of the case, but which is scarcely ever obtained. However, the most certain and the most formidable tribunal is waiting for him—his conscience—where no subterfuge, no palliation, no want of a complainant can guard him, where nothing will absolve him but a pure and guiltless mind, and the conviction of having done all within his power and knowledge towards saving his patient. Though he may learn through improved knowledge and experience subsequently acquired that he might have done more and better, he may regret his former deficiency, but not feel remorse, for at that time he did all he was capable of performing. He must, however, be mindful that neither levity, his own ease, or any personal consideration, or—what may happen to a better one—that no predilection for a system or fondness of experimenting, lead him to neglect his duties; for then the internal judge will not remain silent. Such cases will sooner or later meet with adequate punishment from tormenting reproaches.

But skill and art alone are not sufficient. He must be particularly mindful of his *conduct*. It is this which recommends him to the public, and creates confidence and admittance; for the generality of people are incompetent of pronouncing on his science; it is, then, natural for them to take their measure of his ability from the measure of his conduct. By force of conduct alone a physician of very moderate talents can become the favorite of the public, and without it the most skillful professional man remain unnoticed and unappreciated. Of his external appearance also he must not be regardless; it should comport with the dignity of his station and the importance of his duties.—The main features of his conduct should be: aptitude to create confidence, friendly with dignity, decent without affectation, gay but not ludicrous, serious when he ought to give importance to his subject and his words, complaisant and indulgent in all insignificant matters, but firm while execut-

ing important measures and sustaining the pronounced sentence; sympathizing and cordial, of sound sense and regard for religion and its consolations; neither taciturn nor loquacious, much less a messenger of news, but devoting his whole attention to the sick, noticing every circumstance, careful in the examination of the patient, observing even those around him, neither eccentric nor vulgar, neither coxcomb nor pedant, but holding to the middle way in all things; especially not passionate and angry, but calm and circumspect; for a quiet and sober sense creates confidence.—It is a great fault common to young practitioners, particularly of late, that they strive principally to create sensation, whether it be by the newest fashion of dress or science, or by paradoxism and singularities, or even by charlatanism.

But there is a great difference between exciting sensation and creating confidence; yea, the former prevents the latter from taking place, and it is only by the latter that a lasting prosperity is founded. Exciting sensation can, of course, have the effect of making a physician the topic of conversation for some time, even of procuring him a large concourse of patients, but the attraction of novelty soon ceases, and the meteor vanishes into nothingness. On the other hand, the silently meritorious, honestly persevering and unwearied may remain for a time unnoticed, but in establishing himself slowly in the love and confidence of the better ones, he lays a surer and firmer foundation for future prosperity.

A most important point for attaining this end, but rather too much neglected by our young practitioners, is keeping a *journal* of cases. When the noise of the day has terminated, and the silence of the evening invites to reflection, then the physician may yet devote a few hours of calm contemplation to his patients, write down the most important points in the history of a malady, the alterations which have occurred, his remarks and ideas on the origin and treatment of disease, the remedies prescribed, and reconsider the whole maturely.—No evening must pass without paying this last duty to his patients, and thereby adding the keystone to his work. Here, in the silence of night, many a thing will appear to him in quite a different light than during the day; revelations and inspirations will come over him, such as cannot find birth in the distraction of busy day. Only in this period when internal life awakens, also this subject can enter into internal life, and only now it will receive true interest and reflection. For

that alone which affects and fills our mind, which accompanies us always even unconsciously, is ours; and solely penetrated by such an object, we may hope to become great and perfect in it and to arrive at new discoveries.—Great Newton once was asked, how he had come to his extraordinary discoveries. “I always thought of them,” was his reply, simple but certainly all embracing.

It is not mechanical dexterity, however careful it be, but a deep conception of his object, which makes the accomplished artist. Every cure, in order to be good, must not be a servile imitation of others, but an original in itself.

I do not, therefore, deny that I consider this daily habit not solely a principal means, but an indispensable condition for becoming great and perfect in the practice as well as in the art;—an assertion which is confirmed by the examples of our most eminent physicians, of Boerhaave, Fr. Hofmann, Stoll, Lentin, etc., who all observed this habit and praised its utility. Moreover, there grows out of it this other great advantage—that of obtaining a collection of complete histories of maladies upon which we have, ourselves, reflected,—a treasure of experience, which will not fail in after-times to yield much instruction, and enlighten us by a comparison of the successive changes of our opinions and methods;—to say nothing of the great utility which may be derived therefrom for the patient, serving as an accurate register of his state of health, of his maladies, the remedies which proved particularly beneficial in such or such a case,—a circumstance of egregious moment.

The same is true in regard to *visiting* the sick. When shall we cease to place confidence in the mere presence of the physician, and to esteem his care by the number of his visits? Alas! the head cannot keep pace with the feet, as Zimmermann has well remarked. Such mere corporeal presence and looking-on, however often repeated, will not promote a cure; and, properly speaking, amounts to nothing more than rendering honors—paying one’s respects—to the disease according to its rank. A visit must be made with deliberation, a collected mind, and be of sufficient duration. The physician must not be present in body only, but in mind; and must direct his whole attention to his patient and study him. It is only such visits that will answer the purpose sought. They will result in a double advantage to the physician, firstly, in convincing the patient of the interest which he takes in him, and there-

by gaining his confidence; secondly, in creating that reciprocity of feeling and familiarity, which permits of a deep insight into the nature of the case; in short, to use an expression of the magnetizers, "place the sick in perfect rapport with the physician,"—certainly, in quite a particular state of mind; one which admits of particularization and a deep insight into the "inward man;" teaches us to form more correct feelings and ideas regarding the suffering of nature and her wants from art, and gives thoughts which strike us the more forcibly since they arise directly from the patient. One such visit is worth more than many made in haste. Too many visits in chronic cases, since they render the patient too common to our senses, may blunt the keenness of our perception, and obstruct our vision; as the saying is—"we cannot see the forest for the trees." I have experienced, in such cases, that an interruption of the usual visits for several days will enable us to gain a new view of the subject, and to bring phenomena to light which heretofore had escaped observation. It must, however, be remarked here, on account of young physicians, who, through delicacy confine their visits to too small a number, that in general frequent visits are more requisite, since they enable one to arrive at a more perfect knowledge of the disease, and also preserve the confidence of the patient. Too frequent visits, unnecessary visits, are to be avoided, for they give useless anxiety to the patient, and expose the physician to be suspected of interested motives.

The office of the physician is not confined to curing diseases; it behooves him as a duty and merit also to *prolong life*, and *relieve sufferings* in maladies pronounced incurable. How much, then, at fault are they who grow disgusted or lazy, and neglect or forsake a patient when there is no prospect of cure! The interest of the artist, it is true, may be annihilated; but humanity must persist, yea, increase. Verily, the unfortunate, who labors under torturing pain, distress and despair, is still more entitled to our commiseration than he, to whom the prospect of recovery lessens all suffering. It is an act of pity, natural to every generous heart, in such cases to make life tolerable, to raise dying hope, and to bring consolation at least where there is no salvation. Moreover, we are too short-sighted to be capable of always deciding with certainty that help is not possible. In the course of a disease favorable internal revolutions may take place, or external influences may operate and give a new turn, or give to art oppor-

tunity for successful interference.—Yea, I consider it as one of the most important rules of practice, never to give up hope. Hope generates ideas, elevates the mind to new views and new endeavors, and can render impossibility possible. He who has given up hope, has given up reflection, to which apathy and paralysis of the mind follow, and the sick must invariably die, because he who has been called to his assistance is already dead. Even in the stage of dying the physician ought not to forsake the sick; even then he may become a benefactor, and if he cannot save, may at least relieve departing life. *which augments the power of life.*

To preserve and, if possible, to prolong life is the highest end of the medical art; every physician has vowed to do nothing which might shorten the days of a man. This point is of great weight, and is one of those from which he must not depart the breadth of a line, lest his practice be productive of uncountable distress. Now, is it always pondered on with sufficient conscientiousness and strictness? When a patient is tortured by incurable evils, when he prays for death as the end of his suffering, when pregnancy engenders disease and danger to life, how readily, even from the mind of the best the idea will emerge:—would it not be permitted, be even a duty, to rid the miserable sufferer of his burden a little earlier, or to sacrifice the life of the fœtus to the safety of the mother? Though such reasoning be plausible, be supported even by the suggestions of the heart, it is false, and a mode of action based upon such principles would be a crime. It annihilates the vocation of the physician. He is bound in duty to do nothing but what tends to save life; whether existence be fortunate or unfortunate, whether life be valuable or not, is not for the physician to decide. If he once permits such considerations to influence his actions, the consequences cannot be estimated, and he becomes the most dangerous person of the community. For if he once trespass his line of duty, and think himself entitled to decide on the necessity of an individual's life, he may by gradual progressions apply that measure to other cases.

Now, the life of a sick person can be shortened not only by acts, but also by the words or the manner of a physician, and that most unintentionally on his part. It is, therefore, his sacred duty to guard himself carefully in this respect, and to avoid all things which have a tendency to discourage the patient and lower his spirits. He must never forget that nothing ought to emanate from him, which might have the effect of injuring the patient or of

shortening his days; every word, every look, his whole conduct must be of an enlivening tendency. He must not forget that his patient looks upon him as judge of life and death, and anxiously scrutinizes the glances of his eyes, the gay or sad features of his countenance, in order to discover his sentence. Is it not a fact that fear, especially of death, anxiety and fright are pernicious poisons, that they directly paralyze the vital power; while hope and courage are the most efficacious animatives, frequently surpassing all medicines, nay, without which even the best medicines are unavailing? The physician, therefore, must be careful to preserve hope and courage in the patient's mind, represent his case in a favorable light, conceal all danger from him, and, the more serious it becomes, show a more cheerful appearance; and least of all betray uncertainty and irresolution, although there be cause for doubt. He can guard himself from the suspicion of not having fully appreciated the nature of the case, by giving a true description of the patient's situation to the relatives, and if they be fickle and negligent, to state it rather darker than lighter. Hence it will appear, how blamable is the conduct of those physicians, who do not hesitate to announce to the sick the danger, even fatality of their situation, and how injudiciously those relatives act, who desire the physician to do so. To announce death is to give death, which is never the business of him, who is employed to save life.—Even if the sick person desires to know the truth, under a pretence of arranging his affairs or the like, it is not advisable to pronounce his sentence. I have heard of two cases, wherein two excellent practitioners were induced by the entreaties of the patient, to reveal to him the incurability of his evil, and the consequence was that each patient committed suicide.

It is not life alone, but what is still more, reputation, that the physician must risk, when the life of a sick person is at stake. We meet here with a case, which undoubtedly is one of the most difficult in the medical profession, and in which a false sense of honor is so apt to mislead, while nothing but correct considerations and true principles can safely guide us. The physician sees, that the patient can be saved only by one means; but that means is dubious and the trial is dangerous, and at the same time there is nothing more certain, should it prove a failure, than guilt will be attributed to him. The false politician will be prevailed on by this consideration, thinking it were better that the sick die than that he appear

to be killed by the prescription, and will neglect to make this trial. But the honest physician knows of no other consideration, than benefiting the sick; he conceives that to estimate his reputation higher than the life of the patient, is to be guilty of an act of selfishness totally incompatible with his vocation; he believes that it is not a hope of success but an honest intention which is to direct his actions, and that he has only to consult duty and conscience, regardless of the result. Therefore, he does not hesitate to use also this last resort in order to save his patient, and will either enjoy the triumph of seeing his honest attempt crowned with success, or the still greater triumph, of having sacrificed to his duty that which is most dear to him; and the more he is misjudged by the public, the more he feels himself exalted above all opinions of men, and rewarded in a more divine manner, than by the honor and fame which men can bestow. In general, the physician must be prepared to bear the false and unjust judgment of the public, as soon as he engages in the treatment of a patient. The result and the opinions based upon it are not within our power, and must consequently be quite indifferent to us. Interrogate the best physicians, and they will tell you, that they, in cases which terminated fatally, have often used more pains and skill, redounding in intrinsic merit, than in some most successful cures. In the cure of disease, all that we may glory in, is to have complied with our duty. This conviction is sufficient; of this reward nobody can deprive us, for it places us above the injustice done to us by others, in the same proportion that a rational soul is exalted above brute temporality.

A circumstance which frequently gives him more distress than the disease, and renders his profession a painful one, is the humor of men. Prejudices of all kinds, the difference of education, character, temper, and surrounding objects, unite in hindering good. In such an instance the physician must be deeply skilled in human nature. But what physician will not become familiar with it, provided he is not destitute of common sense! I do not know of any profession which affords so many opportunities.

Knowledge of man is derived through correct feeling, and prudence, which alone can rightly guide him in this point, and, in spite of all obstacles, lead to an accomplishment of his end. I shall only mention the most usual of these characters:—the anxious, the fickle, the credulous, the incredulous, the obedient, the taciturn, the loquacious, the conceited, the demiphysician. The most troublesome

are the two latter, for they do not say what they really feel; they are not satisfied with good advice, they want to reason with and consult, and they arrogantly make alterations in the use of the remedies. To such patients we must particularly inculcate the general rule, to throw the care of the disease, as well as the contemplation of it, which is sometimes more painful than disease itself, upon the physician, and free themselves entirely of it.

The art of *writing prescriptions* is very important, and worthy of more attention than is generally bestowed upon it. It is the last result of the whole examination of the physician, and the only perpetual document of his insight and skill (genius), which has even legal authority bearing for or against him. How readily a little fault committed in precipitation, an error in writing, may decide the fate of the patient and the physician's reputation! Therefore, it should always be made with a mind most concentrated and attentive, and it ought to be an inviolable rule with every physician, "to peruse every prescription after it has been written."

Dangerous remedies ought never to pass into the hands of the patient, at least not in such a quantity as might endanger life. It is a horrible sight to see vials of an ounce or half an ounce of opium in the sick room. If an accident happens in such a case, the fault lies always with the physician.

No honest practitioner will sell, nor even allow to patients, nostrums; for how can he judge of things which he does not know himself?

Wherever it is possible without detriment to the main end, the practitioner must always prefer the cheaper to the more precious, the native to the foreign remedies. It is also a relief of the evil, with which the physician is charged, to diminish the expenses, at least not to increase them without necessity, and it is one of the duties of a good citizen, by using domestic remedies, to save the commonwealth from sending money into foreign countries. It is indeed cruel to neglect this consideration in the case of indigent people, and to take away the means of living in saving their lives.

In this respect he can become a real benefactor to his patients, if he regards their financial circumstances not only with benevolence but with delicacy. I do not speak here of the really poor, whom the state or public charity takes care of, but of that class of persons, who, whilst in good health, barely make their living, and as soon as at-

tacked by sickness are thrown into indigence, and those who are really poor, although they do not wish to seem so—the bashful poor. It is almost only the physician who has a chance to find them out, and he also is best able to relieve their misery, and—what is the main thing—without allowing them to perceive it. I will only refer to one means, by which the expenses of cure may be exceedingly diminished without the appearance of gratuitous medication, which would place the patient amongst the poor: it is to make an agreement with an apothecary of a charitable mind to this effect, that he will not charge profit on receipts marked with a concerted sign, by which expedient the sick may save a third, sometimes a half, of the expenses. In this way we may succor the indigent, and not offend the feeling of honor, so sacred a circumstance. To do this is really to benefit. In extending benefits all depends upon the manner in which it is done. How happy is the physician when he is enabled by his profession to do good, complying with the injunction, that the “left hand must not know what the right does,” and that even the indigent does not know whence the benefit comes, and receives it, thanking God as he would for a heavenly donation. It is in this way that in every act of kindness, the true sense and object on the part of the giver as well as of the receiver, is attained.

B. RELATION TO THE PUBLIC.

To no one is *public opinion* so important as to the physician. He is the man of the people in a true sense; the voice of the people decides what shall be his station. He must, therefore, be most anxious to win reputation, and not unmindful of the means proper for that purpose. It is a vain and unseasonable pride in young practitioners, to boast of being elevated above public opinion and not to care for it. The pride of a wise man is, to accomplish his end in the most correct manner: now he who aims at an end, must use also the means necessary for attaining it. The principal end of the physician is curing; the more opportunity he can find for practising it, the more completely he will attain it, and become a benefactor of mankind. Now, that depends mainly on the good opinion of the community, and consequently it devolves upon the physician as a duty, to make efforts for acquiring and establishing himself in it.

Extraordinary talents and striking success, it is true, can, so to say, force public opinion, and raise a physician even in spite of general dislike. But these are rare exceptions. The common course is this: the young practitioner has gradually to raise a public sentiment in his favor, by which the public may be encouraged to commit to him the highest earthly goods—life and health.

The principal means for obtaining that end, are, (besides careful and conscientious attendance on his patients,) unshaken probity, regularity of habits, temperance, prudent conduct, as previously described, modesty, discretion in all his utterances and judgments, precaution in the selection of his company, attention, not alone to essentials but also to appearances. The physician, especially the beginner, must never forget that he is more observed than other men. He belongs to the community; it is the interest of every one to become acquainted with him, lest he may at some time have to commit his life to his care; and every one arrogates for himself a right to judge him.

The physician is of no party, he belongs to all. *Popularity* is his element, and freedom of mind and of political relations his noblest prerogative. He must therefore carefully avoid to join a party, or enter into connections which compel him to do so. On the contrary he may congratulate himself, that his vocation permits, even obliges him, to take no notice of parties and the external relations of men, and see only mere man.

It is also highly recommendable and advantageous to disseminate, by conversation or by writing, sound ideas, and correct notions respecting the preservation of health and a rational treatment of diseases, to combat prejudices, and to promote institutions ameliorative of the general state of health. This is certainly one of the surest and most glorious ways, by which the physician can be useful, bring his name into notice, and acquire a reputation and public confidence. He must, however, proceed cautiously and prudently, in attacking deeply rooted prejudices and favorite habits of the public; for, by treating them impetuously and sarcastically, he is likely to fail and render himself hateful without correcting the evil.

Wit and a satirical disposition are dangerous gifts to a young practitioner. In no man are they so prejudicial and incompatible with the nature of his vocation, as in the person, to whom man has to expose himself in all his nakedness, and has to detect infirmities and secrets, which nobody else is destined to learn. The greater part of the

public will rather have recourse to a man of small capacity, than to a scoffer and witling. How many have contracted irreconcilable enemies by a single pun! A real injury is more readily pardoned than mockery.

Secrecy is one of the first and indispensable qualities of a physician; for, by his vocation he learns the most important secrets, and takes the place of a confessor. The happiness, not only of single men, but of whole families, lies at his discretion, and it would be an act of baseness to betray such confidence, or abuse it intentionally. He is to avoid not only being, but even appearing to be indiscreet; therefore, he must speak as little as possible of other patients, answer laconically and indefinitely questions asked about others, and the least of all to go into particulars and narratives of domestic life.

Above all things the physician should not be reputed a gamester, a tippler, or a libertine, for these habits are in strict contradiction with his profession, and infallibly will take from him the confidence of the public. The first of these vices interferes with that interest which is due to the patient; the second deprives him of the command of his senses; and the third of that purity and respectability of character, which is absolutely indispensable in his professional relations. It is, therefore, an advantage that the physician be married, and lead a good domestic life. He hereby will acquire more confidence, especially among females, and also escape many a suspicion, even improper desires.

He must not appear too desirous of gain. It debases the physician and his art, deters the poor from applying to him, and takes away that which is worth more than all riches—good repute.

C. RELATION TO COLLEAGUES,

Is double, partly general, partly in regard to the sick.

The first embraces mutual respect, and when that is not possible, let at least indulgence be the principal law of conduct. Nothing is more difficult than to judge others; but nowhere is it more so than in the practice of medicine. It is, therefore, unpardonable in the public; but it is revolting to hear physicians, who know the difficulties of the art and of forming opinions regarding it, judge their colleagues with severity, harshness, contempt, or disclose their faults, and try to raise themselves by lowering others.

Oh! that I were as able to impress the minds of my brethren with the truism, as forcibly as I am penetrated by it: He who degrades a colleague, degrades himself and his art.—For, in the first place, the more the public becomes acquainted with faults of physicians, the more will physicians become exposed as contemptible and suspicious, and the more will such exposure impair confidence; and confidence in the whole body being diminished, every single one, and the censurer included, will lose a share of it. The public would be less prone to censure the medical profession, and its faults would not be a favorite topic of conversation, if the members themselves did not broach it, and set the bad example. It shows a shortsighted selfishness, and want of all common spirit, when a physician acts in such a manner, and thereby hopes to raise himself in the same proportion as he degrades others. Further, such conduct is in opposition to the first principles of morals and religion, which command us, not to lay bare the faults of others, but to overlook and excuse them. Such a character will be more lowered in the esteem of sensible men, than he whom he endeavored to degrade; for, the detracted loses only as an artist, while he loses as a man, and a bad action is esteemed worse than a bad medical treatment. Finally, they should reflect, that the same measure they apply to others is applied to themselves. He, who treats others in a harsh and haughty manner, may rest assured, that he will be dealt with in the same way—which is but justice. Modesty in conduct and judgment behooves every one, most of all a young physician; it will procure him friends and opportunities for instruction, and promote his external interests as well as his internal improvement.

The medical art is still far from that degree of perfection and certainty, which would enable us to pronounce sentence on all methods of curing diseases; we do not yet possess a legitimate universal code; every one is still at liberty to form his own views about the human system and its treatment, provided they are not against reason and experience. Nobody will deny, that cures may be effected in quite different ways, and that the apparent contradictions in treatment may dissolve into unity, by the various operations of the organism. Organic nature is not confined within such narrow limits as are our systems; if it were so, one after the other would not have had its ascendancy, and been applied with success.—After all, our experience, and the result rightly derived therefrom, are the only true and constant rules to be followed in medicine; and the longer

and the more sagaciously a physician has observed the operation of the living organism against the influence of the external world, and especially the influence of medicaments; the more he has learnt to appreciate the powers of the latter, and to use them with adroitness, the more perfect physician has he become. Let every one, therefore, have his own system, his own views of things; let, especially, the young practitioner feel happy to possess the newest and most finished theory, and to be able to deduct all according to the rules of the school; but none must believe that he is alone in possession of truth; he must respect the opinions of other physicians, particularly of old ones, matured in experience; and he must often admonish himself that he, who believes himself sage, is only on the threshold of art, and that to doubt, and to search for that which is unknown to us, is the surest sign, and at the same time the only means, of proficiency.

The young physician will see in the old practitioner maturity of experience; profound practical scrutiny; extent and solidity of knowledge; discrimination of what is essential and proper in art from what is accessory and vain; practical tact; the art to transfer generalities into the specific form of the subject, and to individualize the case as well as its treatment—an art which is not to be acquired by science, but by practice, and which makes the great practitioner; a knowledge and appreciation of the medicaments and their specific niceties; and finally, an adroitness in hitting the right place, time and measure. He must try to acquire the confidence and friendship of the elder one by modesty, and a desire of knowledge; to profit by his conversation, and in this he will not only improve himself, but also gain a support, of which a young practitioner is so much in need. On the other hand, it behooves the old practitioner, to respect in the younger one the freshness of his insight; the modern view he has learnt regarding nature and art; the vigor, desire for knowledge, research after truth, diligence and application, the merit of honest earnestness, the scientific and systematic education; the old one will remember that he had to travel the same road, and how difficult it was to the beginner; and will not withhold from him that paternal benevolence, but give to him from the treasure of his experience; point out to him his faults with friendship, palliating and excusing them before the public; especially in case of treatment and consultation in common, he may be cautious and kind, for it is here that a word from the old master may be decisive of the fate of the young man.

Moreover, it is an axiom in medicine, that the most trifling circumstance is capable of altering the state of things and their signification, and it is utterly impossible to judge of the medical treatment of another, unless one has himself been present, and has been informed of all the particulars.

It consequently follows that it is always indicative of a deficiency of mind, or of knowledge, or of malignity and bad conscience, in a physician, to speak ill of his colleagues, and it behooves the honest practitioner, when he is asked his opinion, to excuse himself from giving it, by saying that it is impossible to judge in medicine, without a most accurate knowledge of the case; or if this is not practicable, to give explanations favorable to his professional brother, which is not a difficult thing to do. Thus he will ever respect himself and his profession.

As to the second point,—the relation of colleagues to the sick,—consultation is first to be discussed.

In general, the use of consultations, especially when they are numerous, is very problematical. When opinions are alike, consultation is of no avail; when they are diverse, confusion and disorder in the treatment is likely to ensue. It too easily happens that passions and personal feeling get mixed up in a consultation; and what is still worse, a regard for the sick and desire of cure are but too readily divided and diminished, even in a well disposed physician, by the interference of plurality. But there may be cases, in which consultations are useful, yea, unavoidable: as when a disease is very complicated and obstinate, and the physician grows uncertain in his view and his course; when the patient hesitates and loses confidence in him; when there is great responsibility attached to the treatment, or there intervenes the feeling of a relative, in which we dare not trust ourselves.

However, in order that a consultation may prove really useful, the following conditions must be complied with:

The consultations must not be numerous; two, at most three physicians are sufficient; and they must not be decided enemies of each other, obstinate partisans of different sects, but be ripened by mature experience, and have a talent to understand and to enter into the ideas of others.

Their office is principally to ascertain the diagnostic causes and character of the disease, and then the mode of cure to be pursued. The execution and guidance of a cure, however, must not devolve on a committee, but only on one, the physician in ordinary.

The great principle to be observed by every consulting

physician, must, however, always remain this, namely, to have in view nothing but the welfare of the patient, and to that end he must entirely sacrifice his personal feeling, in order that all his powers may unite for a common purpose. If physicians in their consultations would be penetrated by this simple sentiment, there never would be altercations, scandalous scenes, and misunderstandings; and consultations would always prove beneficial to the patient. But on the contrary, physicians often seem to assemble only to show their reciprocal importance, and to discredit the treatment of the ordinary; and instead of harmonizing together, to sustain their individual opinions.

Consequently, in the first place, the patient is never permitted to be witness of the consultation, but learns the result of it as well as he is able, after the deliberation is over. It would be most ungenerous, and at the same time cruelty to the sick in the consulted physician, to intimate that the treatment hitherto used had been wrong. Every one should express his opinion modestly and show his reasons for it, and if the opinions differ, they must mutually try to make themselves understood, to give explanations without caprice, and to enter into the ideas of each other, in order either to join opinions, or by a more efficacious persuasion to create a better one. For, now-a-days especially, the cause of quarrel lies only in a difference of view and of language, and it is only necessary to translate the opinion of one, into the parlance of the other, to do away with all difference. Should one be prepossessed of a favorite idea, or of a favorite remedy, the other ought to yield willingly, if there is nothing injurious to the patient in it; to do so will make it apparent, that we are not led by caprice, and the more complaisance in return may we expect in the main matter. But should it happen, that the opinions and the plan of treatment can by no means be agreed on, there is no other expedient left, but an appeal to the decision of the patient. He must declare to whom his confidence leans, and the plan of this one must be prosecuted.

Nothing is worse than the habit of some patients to clandestinely consult other physicians, besides the physician in ordinary; and nothing is more reproachable than the habit of some physicians to yield to such demands, even to profit by them, to raise suspicion against the ordinary, and to procure admittance for themselves. No honest professional man can act so base a part; he will rebut such a demand, and insinuate to its authors, how indiscreet and impossible it is, to judge and to give advice without

consulting the physician in ordinary, and without knowing the plan of cure which he pursues. No one must think that there is no harm in giving a general opinion on a disease and a cure. Such utterances made without the least bad intention, tend to raise doubts and suspicions in the mind of the sick, and create difficulties and disagreeable embarrassment for the ordinary physician. But should he be convinced that the sick is falsely treated—salvation of the patient being the supreme end of the healing art—regardless of all political and collegial considerations it must prevail. This end must be attained, and in cases of urgent danger, he must immediately do what conscience and duty advise, without farther reference. No physician of a reasonable mind can find fault with such a proceeding. But on the contrary, when the case is not urgent, he must either propose a consultation, or, if the patient will not agree to this, he must clandestinely suggest to the physician in ordinary, what kind of treatment would be better according to his opinion. Thus he can comply simultaneously with the obligations towards the sick as well as his colleague, and relieve the one, without injuring the other. But when the sick has entirely lost confidence in his physician, and he is resolved, to give himself up to the care of another, the latter dare not and cannot refuse to comply, nor the other take it ill, for the confidence of a man rests with himself and is to be respected. Each one must, however, proceed with that frankness and forbearance which becomes well educated gentlemen.

When a sick person passes from one physician to another, it is very common, in order to excuse this step, that he speaks ill of the former physician, right or wrong, and, alas! it is the policy of the common practitioners to countenance this conduct, and to find the treatment hitherto used erroneous. But it is not so with the honest professional man. He is aware, that such conduct is ungenerous towards his colleague, and cruel towards the patient, who will certainly feel double grief on becoming convinced, that he has lost, not only time and pain, but that his disease has perhaps become worse and incurable. I cannot conceive how it is possible for a man of sense and feeling to embitter the last days of a sufferer's life by such declarations. Consequently, the treatment hitherto pursued is to be approved, if not as a matter of collegial politeness, at least in pity for the patient; the doubts of the patient are to be appeased, and the want of success in the treatment attributed to other causes.

Nature and Art.

PHYSIATRIC.

Natura sanat, Medicus curat morbos.

ALL cures of diseases are effected by nature ; art is only her assistant and cures but by her means.

As the external appearance of a disease is caused and exists only by an internal morbid state of organic life, an internal process of disease, so is every external cure dependent on an internal curative process, an activity of organic life for altering and restoring the abnormal condition into the normal, and it is in this way alone, that cure is possible.

This is true of all diseases without exception. In visible diseases, surgical so called, nobody doubts that this is the case. Every surgeon admits, that it is not he who cures a fracture, a wound, or an ulcer ; but it is Nature, the vital power, which restores health through her wonderful operations of exsudation, conglutination, suppuration, expulsion of corrupt matter and regeneration ; and that his office is merely to guide these operations regularly and properly, and to remove obstacles.

The same principle holds good in internal diseases, the internal relations of which are hidden from our senses ; differing only in this, that in the latter case we cannot see with our eyes the curative operations of alteration, secretion of corrupt matter, regeneration and restoration of the balance. This observation applies not only to acute diseases, in which life is most agitated, but also to chronic maladies, where vital activity is less prominent. In slight cases we daily see health restored without the assistance of art ; the same, however, may be met with in serious, even in the most serious maladies. In the whole catalogue of diseases there is none, from the most violent inflammatory fever to the putrid plague, from suppressions to pro-

fluvia, from dynamic diseases to dyscrasias, that has not been cured by Nature alone. What then does art do towards curing? We bleed in inflammations, abstract powers, and are under the impression, that we have cured by that process. But the sole merit, which we can claim is, that we have removed impediments, excess of blood and agitation; and have thereby enabled nature to accomplish that internal healing process, which is peculiarly her own, and which must always take place, when our treatment is successful. In the adynamic nervous state we support the powers, and believe we thereby make a cure; but in so doing we only raise the curative power of nature to a degree that is requisite for performing those internal curative operations, which are necessary to recovery. Even the direct cure of diseases by specifics, so called, is the work of nature; for the remedy used acts only as an excitative, and the reaction it awakens, and the alteration for the better, are solely owing to the internally working power of nature. Thus far also homœopathy, which claims so high a stand above nature, is the best proof of her power; for Hahnemann's doctrine is nothing more than a method of curing diseases by specifics, and in selecting such a remedy as will create a disease similar to that which already exists, affecting the very organ diseased, excites the reaction of nature in this part, and produces that internal curative process which heals the disease. Even in dyscrasias, where a specific poison has been received into the system, the curative power of nature might possibly suffice. Need we mention the thousands who have been restored without any remedy in venereal affections; yea, intentionally without the use of mercury? Now, in venereal diseases deeply seated in the organism, what could mercury do without the co-operation of this internal curative power, which alone effects the secretion of the virus and simultaneously of the poisonous remedy administered against it, the regeneration of healthy humors indispensable for completing the cure, the normalization of specifically altered secretions, and the restoration of disorganized organs? How often does the use of quicksilver in its different forms prove useless, until the vital power of the enfeebled body is raised by generous diet and strengthening medicines, to that degree of energy which is requisite for the internal curative operation and even for mercurial action?

The internal curative power is most conspicuous in those wonderful changes which are often produced by it alone, in quite an unexpected and most surprising manner,

to wit—in crises, metaschematisms and metastases, which entirely remove or alter severe chronic maladies that have withstood for a long time all artificial means. The patient whom we in the evening considered fated to death, has in the night a profuse perspiration, and we find him in the morning out of danger. In a severe acute disease, which we combat in vain by our remedies, suddenly an abscess is formed in some external part, and the disease is gone. The greatest triumph yet of the curative power of nature is manifested in her conquering the multifarious, most opposite and injudicious methods of medical treatment. Is it not of daily occurrence that sick people living in the country get well without any assistance, yea, in spite of the most perverse treatment? And even as regards rational treatment, I have long since become convinced, that the greater number of cures are not due to the labors of the physician, but to nature; the patients get well with the physician assisting, but by far the least solely by his assistance.

This is the true meaning of the great word *crisis*, handed down to us from the remotest antiquity with sublime and mysterious significance! Not the critical evacuation, not the external change, but the internal healing process, the disease internally operated upon, the work of the internal vital power, which assimilates, secretes, metamorphoses and creates anew, that alone lies at the bottom of those external appearances: this is what is comprised in that word, and was understood by it by all professional men, who, true to nature, penetrated into her mysteries, unblinded by scholastic systems, since the time of Hippocrates to the days of Sydenham, Hofmann and Boerhaave.

A system of medicine which embraces nature in this sense,—which acknowledges and respects the laws of life, and the activity of nature as its superior,—which regards not itself as the agent, but merely as an instrument of this internal healing process, which takes its indications for acting only from the wants and demands of morbid nature, and determines accordingly,—which appreciates all that is going on in the organism (disease as well as its own curative operations, and the effects of medicaments) as living and as actions of life;—in short, which lives in life itself, and as it considers all that lives, exalted by life to a higher sphere of existence, and which therefore only moves and acts in this sphere and becomes one and the same with curative nature,—such a system I call *Physiatic*.

In a general sense this word signifies natural cure; I

mean to designate by it the healing art founded on natural principles. It is the only true art of healing, based on the eternal laws of nature. It is this system which since the time of Hippocrates has been the *Ideal* of physicians, and which has never departed from skillful practitioners, even amid the changes of schools. It is this which I profess and have ever professed.

From these preliminaries a correct idea may be formed of art, of its relation to nature, and of the position of the physician. As certain as it is that every recovery depends upon the curative process of nature, and cannot be accomplished without it, as certain is it too, that the cure can be facilitated, aided, promoted, yea, sometimes made possible only by art. In this truth resides the necessity and the value of art.

I shall now point out its province more distinctly in the following lines.

1. Art sometimes can take away the whole disease by removing the exciting cause, and so dispense with the internal curative process of nature, e. g. by removing a foreign body, a poison, a gastric accumulation which produces the disease.

2. The vital power is sometimes too exalted, and its operations too impetuous and violent, so much so, that it may consume itself or injure noble organs. Here art can effect that degree of reduction and depression, which is requisite to bring on a perfect crisis, and to prevent dangerous occurrences.

3. On the other hand nature may not have sufficient power, to perform the internal curative process. Here art interferes, raises and makes up, by suitable strengthening remedies, the deficiency, and thereby only renders the internal cure possible.

4. Art can remove obstacles, which render the curative process of nature difficult or impossible. Under this head falls the important point of a proper diet, quietness in febrile diseases, guarding from the influence of impure air, injurious aliments and the like.

5. Art can support nature in combating particular forms of disease by appropriate remedies, conformable to the malady.

6. Art can assist nature in the commencing crisis and bring it to perfection.

7. Finally, there are morbid matters and conditions of which unassisted nature cannot get rid, e. g. the syphilitic virus, mechanical lesions. In such cases the assistance of

art is indispensable either for improving the quality of that matter by means of agents counteracting its virulence, or for lending mechanical or surgical assistance.

Such is the province of the art of healing, and such are its limits. The physician must not pretend to be *magister*, but *minister naturæ*, her servant or rather assistant, ally, friend. He is to go with nature hand in hand, and in performing his great task he must never forget that it is not he, but nature who operates;—regard nature, be always guided by her, and never interfere to disturb her.

Two errors hence may originate, which the physician must carefully avoid.

The first is doing too little, the negative treatment which leaves all to nature. To this fault especially is the new (homœopathic) school liable; a fault which may be followed by fatal consequences in those cases, where there is really something positive to be done. Such a course is proper only when there is no definite indication for action;—where time and patience are necessary for a cure, or where nature takes upon herself, her powers being well balanced, to carry the disease through a certain space of time and wear it out, e. g. mild small pox, measles and the like.

A second error is that of doing too much. Here it will not be amiss to caution against carrying venesection and the use of other remedies to such an extent, that the organism suffers more by their administration than by the disease.

The art of healing comprises two parts: recognizing diseases, and acting against them.

Diagnosics, Iatrognoimic.

COGNITION OF THE OBJECT TO BE CURED.

COGNITION of disease is the first condition of cure. Now, what is meant by cognition of disease? It does not mean to give a name to disease, or to conceive solely its external phenomena. Such is nominal, physio-historical, nosological diagnostics, which can only lead to an external, superficial, symptomatic method of curing. What is meant by cognition of disease, is a knowledge of the internal morbid state, which causes the external phenomena: this alone is the object of every radically curative treatment. This is the idea of practical diagnostics, of which I am now going to speak. It is the art of recognizing the internal morbid state, the seat of disease, and consequently the object of cure; the demands of morbid nature on art, and thereby the indication of treatment, as far as it is founded on these premises.

Practical diagnostics not only comprises the cognition of disease, but also a knowledge of the sick person, i. e. of the individual affected with disease, and the most accurate determination of his individuality and his characteristics. For there is a vast difference between the same disease existing in this or in that subject,—a difference which influences most essentially the formation, modification, and treatment of disease. The niceties of it can be determined upon only by a knowledge and consideration of these particularities. Experience teaches us, that in the judicious observation of them rests the eminency of the most skilled and successful practitioners.

We shall first treat of the cognition of the sick, and then pass on to the cognition of the disease.

I.

COGNITION OF THE SICK.

CHARACTERISTICS OF THE INDIVIDUAL.

We have to consider :

1. *Constitution of the Patient.*

We distinguish the following principal species of physical difference in man.

a. The plethoric, phlogistic, or sthenitic constitution. The sanguineous system is predominant ; quick and rich sanguification, full, strong pulse, florid complexion, warmth of body, energy in all the manifestations of life, disposition to congestions of blood, hemorrhages and inflammations.

b. The adynamic, weak, feeble constitution. Pulse weak, easily compressible, deficiency of warmth, weakness of all the functions, particularly the voluntary ; easily fatigued, dyspnoë in exercise, necessity of frequent restoration by nutriment as well as by fresh air, perverse condition of excitability, either too much exalted or diminished ; the same habitude as regards secretions, which are either too copious or too scanty. Disposition to adynamic diseases, stagnations, profluvia.

c. The nervous constitution. Nervous system predominant, great irritability and sensibility of both body and mind ; inequality and changeability of habit ; disposition to spasms, and other anomalies.

d. The dry or rigid constitution. (*Constitutio rigida, sicca.*) Firm fibre, dryness, meagerness of the whole body, scanty secretions and excretions, deeply colored urine, small and hard stools, dry skin, and commonly of brown complexion, disposition to congestions of blood, obstructions, especially in the abdomen, sthenic diseases.

e. The lax, spungy constitution. (*Constitutio laxa, humida.*) Lax fibre, soft spungy flesh, bloatedness, pale color, deficiency of warmth, chilliness, generally a fair complexion, liable to catarrhs, mucous accumulations in all organs, which secrete mucus, either in the head, chest, or abdomen, to serous and lymphatic accumulations and extravasations, to profluvia, obstructions, and imperfect crises ; chronic character of diseases.

f. The *lymphatic, mucous constitution* coincides with the foregoing.

g. The *gastric, bilious, atrabilious constitution*. Irregular and imperfect digestion and evacuations, constant disposition to disorders of the stomach and intestines, hypochondriasis, in the bilious a morbid irritability of the liver, so that from the most trifling cause effusions or retentions of gall arise, in the atrabilious yellowish hue of the skin, dark urine, constipation of the bowels, hemorrhoidal complaints.

h. The *rheumatic, catarrhal constitution*. Feebleness, morbid sensitiveness of the skin, therefore defective and easily suppressed perspiration, great disposition to rheums and catarrhs.

i. The *psoric constitution*. Apt to disordered secretion of the skin and appendages, hence always foul skin, prone to eruptions and ulcers; therefore in all diseases and crises a tendency to shift to the skin.

k. The *venous hemorrhoidal constitution*. The venous system and venous blood predominate, especially in the abdomen, the portal system is liable to plethora, causing hemorrhoidal congestions.

l. The *phthisical constitution*. A long slender body, rapid growth, long neck, flat chest, depressed thorax, wing-like protruding shoulder-blades, excitable vascular system, quick pulse, red circumscribed cheeks, hot hands after eating, disposition to ebullitions and congestions of blood, want of breath in exercise, great liability to diseases of the lungs, pneumony, hemoptysis and pthisis throughout life.

m. The *apoplectic constitution*. Short thick neck, large head, closely attached to the shoulders, short stout body. Disposition to affections of the head, to apoplexy.

2. Hereditariness.

The state of health the parents have enjoyed, or the diseases they may have suffered under, is of the greatest importance for the recognition and characteristics of the individual state of health of a patient. For by procreation not only real diseases are transmitted, but also the disposition to diseases, which at certain periods of life, or under favoring circumstances, will break out into actual maladies. Of that number are consumption, gout, calculus, scrofula, piles. Enfeebled and aged parents engender weakly children. Even syphilis is transmissible to offspring.

3. *Sex.*

Sexual difference imparts to the organism a different pathological character, and establishes a disposition to different maladies. The male possesses more power, energy, constancy, and disposition to sthenic diseases; the female more sensibility, greater excitability, with less energy and stability of reaction, delicacy and laxity of fibre, is liable to lymphatic and adipose accumulations, to nervous diseases, hysterics. Powerful influence of the sexual organization and its functions, menstruation, pregnancy, parturition, lactation, cessation of the sexual functions, (catamenia.)

4. *Age and Period of Life.*

Every age has its peculiar character and maladies, and disposition to diseases of its own; mortality also varies according to the periods of life.

From *birth to first dentition* presents an imperfect half finished life, progressive development and creation, great irritability and sensitiveness, violent excitability from slight irritating causes, disposition to spasms and congestions to the head; the largest mortality, one-fourth die.

Infancy, up to the 7th year, is marked by laxity of fibre, great excitability and little strength, easy exhaustion and easy restoration, disposition to congestions, inflammations, disorders of the vegetative and productive system (encephalitis, exsudatoria, angina polyposa, hypertrophy and atrophy, dyscrasias, scrofulosis, helminthiasis). Great mortality, one sixth of all born. The second period of infancy (from the 7th to the 14th year,) or age of puberty, shows more harmony in the functions and powers, less disposition to diseases, a smaller amount of mortality. *nearby one half*

The *period of youth* from the 14th to the 21st or 24th year, (young man and virgin,) is distinguished by growth, predominance of the vascular system, disposition to inflammations, particularly congestions to the lungs and the brain; commencing of the sexual functions.

The *period of the full-grown*, from the 24th to the 50th year, is of a stationary character, showing no increase or decrease; equilibrium, the least of sickness or mortality.

The *period of advancing age*, from the 50th to the 60th year, may be recognized by decrease of strength, indolence and disturbance of functions, cessation of sexual desires.

Senility is characterized by decreasing sensibility, by

diminution of the five senses and of memory, of muscular strength, of secretions, of nutrition, rigidity, dryness, even tendency to ossification, disposition to dyscrasias, degenerations and disorganizations, to lithiasis.

5. *The Temperaments,*

Exhibit the relation of the mental influence on organism, and the different characters resulting therefrom. The temperaments are infinitely diversified; they may, however, be reduced to four principal categories; each of them admits of two subdivisions; either irritability is easily aroused (*irritable temper*), with reaction of short duration in the sanguine, or with reaction long and lasting in the choleric; or the irritability is defective which forms the *torpid temperament*, called phlegmatic, if of short and difficult reaction; melancholic, if of lasting and strong reaction.

The following is a delineation of the different temperaments.

The *sanguine temperament*. All irritations and impressions, corporeal as well as mental, are easily aroused, but transient; which is productive of an easy mind, hilarity and gayety. As for the body, it is easily excited, but long intervals of ill health are of rare occurrence. It is further marked by quick and abundant sanguification, which gives rise to plethora, predominance of the vascular system, and creates disposition to congestions of blood and inflammations.

The *choleric* temperament exhibits great excitability with violent reaction of the whole organism, but particularly of the biliar system. Thence all irritations and excitements readily create an increased secretion of bile altered in its quality; but on the other hand the biliar stimulus reacts and imparts even to the mental more inclination for anger, bitterness and violence of effect. Abundance of bile, yellowish or brownish tint; black hair; firm dry fibre. Disposition to violent excitements and inflammatory diseases, to bilious affections; also all other diseases are prone to partake of the bilious character.

The *phlegmatic temperament* is characterized by not being easily affected, and exhibiting only weak, tardy reaction, tardiness in all functions, corporeal as well as mental; betrays a deficiency of warmth, laxity of fibre, disposition to lymphatic accumulations, profluvia, chronic diseases of atony and weakness.

The *melancholic temperament* is excited with difficulty, but exhibits deeply seated, not violent but lasting reaction. The feelings are not lively nor easily excited; but such impressions as are made, penetrate deep and are lasting, producing physical as well as mental effects which progress in a concealed manner. Hence a tendency to reflect, to meditate, a disposition to hypochondriasis, sadness and melancholy. As for the physical, a disposition to all chronic diseases, especially of the abdomen, obstructions of the intestines.

It is well to observe that the temperaments do not always occur simple, but are more frequently mixed, compound of several.

6. *Idiosyncrasy.*

A mode of perceiving impressions and reacting upon them, which is peculiar only to certain individuals. Such oddities are of physiological, pathological and therapeutical importance, and must be carefully regarded by the physician, since they are essential to recognition and treatment of diseases.

7. *The Weak Part.*

Every man has an organ relatively weak, which is most susceptible of disease, and which deserves particular attention. We may ascertain which it is, by inquiring what part is most frequently subject to morbid affections, what part is most directly influenced by morbid causes, colds, heat, mental affections.

8. *Habit, Mode of Living, Occupation.*

Habit becomes second nature. Reference to this has diet, the usual articles of food and the usual remedies, e. g. the habit of bleeding, purging, etc. at a certain time.

As for occupation, all that live can, pathogenetically, be divided into two principal classes,—each of which imparts to man an essentially different character, thus constituting two classes of men differently characterized; the sedentary life, and the motory life.

The sedentary life, which is usually connected with confined air, predisposes to maladies of the abdomen, obstructions of the intestines, especially of the liver, hemorrhoids, hypochondriasis, and by corrupt air to diseases of the lungs.

The motory life in free air (the life of the country people) is in accordance with nature, and secures against the disease before mentioned. This accounts for the striking disproportion of consumption between the inhabitants of cities and those of the country. Also the various ways of living, whether rich, luxurious, idle, poor, or exhausting; the occupation, whether more mental or corporeal, makes momentous differences and forms the character of the individual.

9. *Habitual Diseases and Crises.*

Every man has his particular disposition to disease and to crises. In one, nature has a tendency to restore all morbid disturbances by sweat, in the other by diarrhœa, etc. This the physician must not disregard.

10. *Climate.*

The influence of climate on the character of the inhabitants is exceedingly great. Remember the difference between the inhabitants of warm and cold regions, of the coast and of the continent, of mountains and of plains.

II.

COGNITION OF DISEASE,

Is obtained from the following sources :

Pathogenesis, which embraces what has past—a knowledge of the preceding and actual state of internal and external morbid influences, the *phenomena* of an actual morbid state which strike the senses; *analogy*, *reagency*.

The two first sources, namely, pathogenesis and symptomatology are the most important. Analogy, which compares the case under consideration with similar cases which have been observed by us or others,—is an auxiliary for distinguishing disease in difficult cases, where the first do not furnish sufficient light. The same may be said of reagency—the administration of external agents, in order to judge by the reaction they produce, what may be the state of organic life—as the chemist uses reagents for his purposes: abstraction of a little blood, the use of wine in order to determine in dubious cases, whether there is an inflammatory or an adynamic state.

By the proper use of these modes we arrive at a rational idea of the essence of the disease—the image of the internal state of the sick, of the internal change of organic life which lies at the bottom of the external phenomena—the very object of cure.

I. PATHOGENESIS.

To determine the origin of disease, we have to ascertain the following points :

1. The *prevalent constitution of disease*. It deserves the first attention of the practitioner. He must always live in and be familiar with it ; it is to him of the same importance as the spirit of the age is to the philosopher, or the state of the money market to the merchant. It is the product of generally predominant influences, therefore, of universal nature, of which man is a component part, and which is manifested in and by him. The means for ascertaining this condition are a daily observation of the barometer and thermometer ; the direction of the winds ; humidity and dryness ; sudden changes ; state of atmospheric electricity. Besides these, we must also regard the generally prevalent injurious influences of moral and physical causes, e. g. universal failure of the crops, famine, anxiety, calamities, horrors of war.

The morbid constitution is either subject to regular changes dependent on the seasons (*constitutio annua*), or to a character persisting through all changes of season, even for years (*c. stationaria*) ; or is accidentally created anew (*epidemica*) ; finally, a real epidemic, that is to say a newly created disease of a decided form and character, often quite a novel pathological creation, which never existed before, which seizes a multitude of persons simultaneously and irresistibly, continues a while, and runs, like any other disease, through its stages of increase, acme and decline. It bears to the epidemic constitution the same relation as disease does to a morbid disposition.

2. The *genius loci*, the endemic constitution—climatic influence. Every place has its own peculiar character, and which it impresses on its inhabitants, influences their health and modifies their diseases. The physician must carefully study it ; for it will afford him excellent information both for distinguishing diseases, and treating them ; indeed there are diseases which are peculiar only to such and such a place or climate (endemic maladies).

The circumstances which determine the *genius loci*, and the climatic influence are : the degree of latitude, elevation above the surface of the sea,—the prevalent winds, the drafts of air, frequent and sudden change of temperature—quality of the ground (mountainous or flat), quality of the soil (moist, marshy or dry, sandy or rocky), vegetation (sterile, meadows, cultivated fields, forest),—water (stagnant, running),—neighborhood of the sea (important difference between islands and riparian countries of continental regions),—way of living and occupation, (difference between the pathological character of large populous cities and the plain country,—between the inhabitants of manufacturing places and those of agricultural districts.)

3. *Predisposing causes* (morbific disposition), are such as are inherent to the individual—hereditariness, one part of the body weaker than the rest, long continued external influences, e. g. dwelling, business, surrounding persons, disposition of mind, etc.

4. *Exciting causes* (causae occasionales). Of that number are all potencies pathogenetically affecting the human system, mechanical, chemical, psychical, especially air, temperature, food and drinks, poisons, contagions, overheating, taking cold, excessive exertion and prostration, suppressed secretions, passions.

5. *Preceding or lingering diseases*. The whole pathological life of the patient may be a remote cause of the actual state ; for the present evil is often traceable to an ancient one, and not to be discovered but by a careful examination of the intermediate metamorphoses. Here may be mentioned also the method of curing and the medicines previously used, yea, all other habits.

In order to find out those pathogenetic relations, the physician must necessarily command a thorough knowledge of anatomy and physiology, of general pathology, especially ætiology, as well as of natural philosophy, chemistry, and of nature in general, as far as it respects living organization.

II. SYMPTOMATOLOGY.

Interpretatio Naturæ.

The physician must be the *interpres et minister naturæ*. The first requirement and essential qualification of a practitioner is to understand the language of nature,—the voice

in which she utters her sufferings and demands relief. This language consists in the perceptible phenomena of the morbid action, generally called symptoms or signs (*signa*). They are a vocabulary, in which each word has its definite and original meaning. As words are susceptible of different significations by combination with other words, so in diseases does the simple meaning of a sign, when connected with other signs, become susceptible of various significations and interpretations. In this instance, however, as well as in others, the original import remains always the principal one, and diseases as well as compositions will be never correctly understood and interpreted without reflecting on this truth.

It is impossible for me to expose all the inferences which these signs tend to, unless I were to write a complete semiotic, for which space is here wanting. I shall content myself with laying before the eyes of the beginner the original signification of the most important phenomena and their practical value; I cannot omit to recommend to him the careful study of a complete system of semiology.*

1. THE PULSE.

When you see a sick person for the first time, the pulse may guide you in determining upon the four principal questions: what state of life is existing, what kind of disease is he affected with, of which character is the disease, and whether there is danger of life or not? It would be more practicable to judge and treat rightly the patient according to the pulse, without knowing any thing else of his malady, than to do so without the pulse, after having been made acquainted with all other symptoms.† Even of life the pulse is decisive. There are cases, in which we may learn only by this sign, if the sick person is really or only apparently dead.

As for the *first* question, that of life, the pulse is the only certain determinative, for it indicates the power of the heart and blood; the first being the central point of life, the latter is the vehicle of the vital power.

* Besides the older writings on that subject, I would recommend particularly the Semiotic of Professor Albers of Bonn, as a classical work.

† The Chinese physicians prove, in a most striking manner, how much may be ascertained by the pulse by a competent person. They rarely ask a single question, they go only by feeling.

The *second* and most important diagnosis afforded by the pulse is, whether the disease is febrile or not. This question is only answered by the quickness or slowness of the pulse.

We distinguish farther by the pulse the two principal forms of fever,—the intermittent and the remittent. In the first the pulse is at certain periods entirely free of fever, and calm; in the latter it never becomes entirely calm, but is always, sometimes more, sometimes less agitated; by which in remittents the period of remission and exacerbation, in the former that of apyrexia and paroxysmus is determined.—This distinction is very momentous towards a cure; for, in complete intermission some remedies, e. g. cinchona, can be used, which would be injurious in the remittent state. Yea, in the *febris intermittens perniciosa* life depends upon this distinction, for an *apoplexia intermittens* must be treated in quite a different way from an intermittent fever.

It is by the pulse that we recognise in chronic diseases, whether they have already attained to the hectic stage, i. e. lingering fever, or not.

By the pulse we distinguish between *asthma* and *phthisis*, for in the first disease the pulse is quiet, in the latter quick and feverish.

In all fevers the pulse is the main sign for determining the increasing or decreasing febrile action, and, consequently, danger. Increasing quickness of the pulse shows always increase of disease and danger, diminution of quickness decrease of disease and danger. The more the pulse approaches to the normal one, the more the sick approaches to health.—This sign is the most certain of all; so that, notwithstanding all other symptoms being unfavorable, if the pulse becomes more tranquil and normal, amelioration is to be expected; and on the other hand, though all other symptoms appear favorable, yet if the pulse be frequent, a bad issue is to be looked for.

In termination of the fevers, in the period of crisis, it is the pulse alone which decides, whether the crisis was perfect or imperfect, i. e. if the disease has entirely ended. When the pulse continues irritated and quick, we may rest assured, in spite of all other important signs, that the curative process is not finished, and that either a relapse or a metastasis, or a metaschematism, that is to say, a transition into hectic fever, in short no perfect recovery is to be expected.—An exception to this rule marks the nervous fevers, wherein the pulse retains an unusual frequency some-

times for weeks, solely by a continuation of increased irritability in the vascular system; and here, also, it indicates a slow convalescency.

The *third* question: whether disease be of a sthenic or of an adynamic character, is likewise best determined by the pulse: a strong hard pulse, difficult to compress, is always indicative of a sthenic character; a soft pulse, easily compressible (unless local causes impart to it this character), is indicative of an adynamic state. In this respect it is very important to observe what are direct and indirect relations, which heat and other febrile symptoms bear to the pulse.—When the relation is direct, i. e. when the heat, pain, delirium, or any other symptom is increased, in proportion as the pulse rises and becomes more frequent, the disease is of an inflammatory character, and requires a debilitating method. When, on the contrary, the relation is indirect, i. e. the more the pulse decreases, the more does heat, pain, delirium, etc., increase, in such a case it is a sure sign of an adynamic character, and indicates a strengthening method. In the first case an abundance of power, in the latter a deficiency of it is the cause; in the first, diminution, in the last augmentation of power corrects the attacks. Wine cools, and assuages the pulse, the delirious state, and the pains.

Moreover, by the pulse the nervous character is best recognised, in acute as well as in chronic diseases. When the pulse is unequal (one beat different from the other), or changeable (for some minutes or even hours slow, full, large, then small or quick) in fevers, it is a sign, that the fever under consideration is not inflammatory but nervous; and in chronic diseases, that the blood is not affected, but only the nerves, hypochondriac or hysteric, and consequently requires quite a different treatment. Here must be mentioned a most important distinction between the character of different local affections, and merely spasmodic inflammations. There can be a most violent pleuritic pain, with oppression and threatening suffocation; or the most violent fixed pain in a part of the abdomen, which might lead one to consider it a violent local inflammation; and yet a venesection would kill the patient. Here it is only the pulse, and some other accessory circumstances which can inform us of the true nature of the case. If the pulse be at the same time small, unequal or remittent; urine pale and watery; the extremities cold; and the patient inclined to weeping, the disorder is spasmodic and requires the use of *nervina*. If, on the contrary, the pulse be hard,

full, and strong; the urine red and fiery; and the patient hot, then it is inflammation, and bleeding is called for.

The *fourth* question—how far has danger advanced? is likewise decided most satisfactorily by the pulse; for, it is from the exertions of the heart, as *punctum movens* of all life, and from the phenomena exhibited by the circulation and the impediments to vital action as immediately connected with it, that the actual stock of vital power is ascertained. The more unequal and remittent therefore the pulse is, or extremely small and quick, the more imminent will be the danger.

But also in the *selection of medicaments* the pulse is a principal guide; yea, in some cases of danger of life, it is the only one on which salvation depends. I allude here to those cases in which the administration of Peruvian bark prevents fatal apoplexy (*F. intermittens perniciosa*), and to some dangerous inflammations and congestions of blood, where phlebotomy must be resorted to.

Even for *appreciating the effects* of medicines and determining their application, the pulse is a principal sign. In the first place, it indicates generally whether the remedies affect the system or not; and in the second place, whether that effect is good or pernicious, whether to be increased or to be diminished.—This observation applies to either species of fever.

In inflammatory fevers the pulse is the chief guide, in resorting to the most important remedy—venesection. Blood must be abstracted, until the pulse is reduced from its inflammatory height and strength to one that is normal; the pulse is here the *votum decisivum*. Although the local affection (*oppressio pectoris, dolores pleuritici, delirium, etc.*), to relieve which bleeding has been resorted to, does not cease; if the pulse sinks, venesection must be discontinued. In like manner the repetition of phlebotomy is decided upon, according as the pulse again increases in height, or is contra-indicated by its decrease.

To ascertain, in a dubious case, whether the state is a phlogistic, or an adynamic one, the pulse, as qualified by venesections, is the best diagnostic sign. But this requires accurate and practical observers. If you feel the pulse, as soon as blood begins to run, simultaneously becoming smaller and quicker, it surely shows an asthenic character, and the vein is immediately to be closed. But when the pulse from the beginning becomes somewhat fuller, and then softer, more quiet and not smaller, there is certainly an inflammatory disease.

In adynamic fevers the pulse is the only sign even for knowing whether the organism reacts against the medicines, and whether they have produced a sufficient degree of irritation.

All depends on this—whether the administration of a new remedy is followed by a change in the pulse for the better; whether the quick, small pulse becomes slower and fuller; the tardy oppressed one more vivacious. This alone is sufficient to prove the curability of the disease, and at the same time the propriety of the remedy, for its quantity as well as for its quality. When there is no change at all in the pulse, even by increased doses, it is the worst sign and announces a bad issue.—Augmented quickness and irritation of the pulse is generally a proof that our remedies are too strong and ardent, and we must diminish them, unless we would kill the patient by over-action.

(In general the young practitioner must be very cautious, not to consider the increasing rapidity of the pulse always as a sign of increasing weakness, but first to examine whether it is not rather the consequence of too strong irritatives, and of which he will soon be made aware by a small diminution of them; while on the contrary, led by the former supposition, he will attack the patient with stronger irritant medicines and destroy him.)

In all evacuations, whether of blood or of other humors, in fevers as well as in chronic diseases, the pulse is the only sure sign, whether they are critical or symptomatical, wholesome or injurious, and consequently to be suppressed or allowed to go on.

From the pulse in general we may recognise the following:

1. *The power of the heart*, and, by this, the *vigor of the vital power* in the whole body. The pulse is nothing else but the rebounding of blood in the arteries, caused by the contraction of the heart; and it is therefore evident, that by the stronger or weaker resistance, which the blood makes against the pressure of the finger, the stronger or weaker power of the heart, and consequently of the whole vital power, of which the heart is the principal source and central seat, may be recognised. Therefore, it is by the pulse that the greatest abundance of vital energy (inflammatory state) as well as vital weakness is so surely recognised. The greater the power of the heart, the more powerfully will it impel the blood into the arteries, causing it to strike harder against the fingers placed over the vessels,

and make them more resistant against compression. The weaker the heart, the weaker will be that rebound and counterpressure.

2. The *quality of the irritability of the vascular and nervous systems*.^{*} The contraction of the heart is caused by the entering blood operating as an irritative on the internal partitions, and brings their irritability into action. The greater the irritability, the quicker and livelier will the contractions be excited, and the more rapid and frequent will be the pulse; the weaker the irritability, the slower and tardier the pulse will be. This does not apply to the arterial system. But, as the nervous system is intimately connected with it, it will also express the changes which occur in nervous irritability, and the pulse becomes thereby a very important sign of nervous irritations, such as—pain, emotions, gastric irritants, worms, flatulency, etc. being present. By change of irritability the pulse is altered, not alone in regard of quickness and frequency, but also of regularity and equality (unequal, remittent pulse), and even abnormal irritability is communicated to the heart and exhibited by the pulse; therefore, inequality and remission. Likewise, by the influence of nervous irritation the vessels can be affected, and become harder, tenser, and more contracted.

3. The *quantity and quality of the blood*. The more blood, the fuller and less yielding the artery; the less, the less distended and empty is the vessel to the touch. Even the quality of the blood may be recognised in the pulse: inasmuch as it is richer in cruor and fibrine, the firmer and more difficult to compress will it be; the more watery and serous the blood, the softer and more yielding the pulse;

* In modern times, especially since Parry's experiments, the part which the arteries take in pulsation, has been too much undervalued. It is forgotten, as it happens too frequently now-a-days, that the pathological state is different from the physiological; and that in the former, powers may become effective in some part or other, of which the physiological condition might not give the least anticipation. It is undeniable and is plain to the touch, that the contractility of the arteries is increased by inflammatory or nervous irritation and by spasm; and that the arteries acquire by increased contractility more hardness, tension, and even diminution; whereas they become softer and more extensile by an absence of such influences. Yea, that the operation of the arteries is essential for moving the blood we clearly perceive in paralyses of single limbs, where the pulse is much weaker, and sometimes even entirely stopped, although the heart propels the blood into them with the same power as into the rest of the arterial system. Even the increased pulsation in an inflamed part, as well as the difference of the pulse in different arteries, which is observed in some diseases, is a proof in favor of my assertion.

farther, the richer the blood in irritant substances or caloric, the more frequent and rapid it is.

4. *Mechanical impediments in the vascular system*, which are due to obstructions, hepatisation of the lungs, polypi, enlargement of the heart and the large vessels, hydropic accumulations in the pericardium and the chest, also to considerable impediments in more remote systems, especially of the abdomen.

The Most Important Varieties of Pulse,

Are the frequent and rare (*pulsus frequens et rarus*); the quick and slow (*pulsus celer et tardus*).

The pulse is called *frequens*, when the heart contracts oftener than in the healthy state, in adults more than 70 times in a minute, varying however according to individuality; in children of less than two years more than 90 times. *Celer*, when the act of contraction of the heart is quicker than in the normal state. It is *rarus*, when it beats less frequently than in the healthy state, i. e. less than 70 times in a minute; *tardus*, when a single contraction happens more slowly and tardily.

Frequentia and *raritas* have reference to the number, *celeritas* and *tarditas* to the quality of contraction.

Acceleration of the pulse indicates either an increase of irritability, or an increase of irritation. It is therefore, in the first case, the most common sign of fever; and as augmented irritability can be the consequence of exalted as well as of sinking vital power, quickness of pulse can arise from either state; nay, be still greater in weakness, inasmuch as the irritability from weakness is still more abnormal than that from strength. In the latter case it is due either to idiopathic augmentation of the irritant mass in the vascular system, i. e. an increase of the quantity of blood, or apparent plethora occasioned by distention, or relatively greater accumulation of blood in the heart, owing to retrocession from the periphery occasioned by cold, contraction of the skin, tight lacing or mechanical pressure; or sympathetic irritation arising from the mind, the senses, pain, inflammation; in short any irritation in whatever part of the body has a tendency to produce it, the more so, the more sensitive the part is.

Diminishing frequency of the pulse in fevers is the surest sign of abating disease; continued frequency after the crisis shows that the crisis is not perfect, that something

of the disease remains, and that there is reason to fear metastases.

The utmost frequency (150—200 beatings in a minute; a greater number cannot be counted, and becomes trembling of the artery) indicates extreme weakness or a putrid state. The weak heart tries to make up by frequent and imperfect contractions, to carry off the blood, what it is not able to perform by slow and energetic ones; hence the pulse is frequent and small. We need not therefore conclude from the increased frequency in such cases, that the circulation of the blood *en masse* is accelerated; quite the contrary.—The utmost frequency accompanied with smallness, celerity and cessations, is the pulse of the dying.

Pulsus rarus. Rareness of the pulse is natural to some individuals; there are men, who have only 50, nay 30 beatings per minute. In diseases it indicates decrease of irritability, therefore decrease or entire intermission of fever (*apyrexia*); decrease of the quantity of blood (therefore to be found after great loss of blood); old age; also in cases of pressure on the brain, which diminishes the sensibility and irritability of the vascular system.

Pulsus celer is produced by the heart contracting too quickly, so that no perfect distention is possible, and in this case the pulse is pointed to the touch. It is generally connected with frequency; it can, however, be also *rarus*. It indicates a spasmodic state and great weakness, the last in most cases, where it is *rarus* at the same time.

Pulsus tardus, tardy contraction of the heart, indicates great deficiency of irritability, a typhoid, or a torpid state in fevers, especially a pressure on the brain. For that reason *pulsus rarus et tardus* is called *pulsus cephalicus*, *apoplectic*, and is indicative of pressure on the brain, which brings on the threatening or already existing apoplectic state; such a pulse is therefore ominous after injuries received on the head, also in other diseases, which threaten exsudation.

The hard and soft pulse (*pulsus durus et mollis*). The feeling of hardness or softness determines this difference. Hardness of pulse depends either upon the membranes of the artery, and then indicates a distended and irritated state of the vessel, a most important sign of local inflammation and of convulsions, which the accompanying symptoms are to decide. Sometimes it (hardness) is owing to exsiccation, approaching to ossification of the arteries, which happens in old age; it is therefore the usual pulse of persons advanced in years. Or it is caused by a forced

action of the heart, which impels the blood with great power into the arteries ; here the pulse is at the same time *magnus*, and accompanied with great warmth of the body. Or it is due to great solidity, dryness, or coagulability of the blood. Thin watery blood renders the pulse soft.

Softness of the pulse is indicative of the reverse, of absence of inflammation and convulsions.

The strong pulse, difficult to compress (*pulsus fortis*), and the feeble pulse (*pulsus debilis*).

The pulse is called *fortis*, when it strikes powerfully the finger placed upon it ; in a high degree it cannot be compressed at all, but leaves a feeling of puffing up under the strongest pressure.

Debilis, when it strikes but feebly and can be easily or entirely compressed.

Pulsus frequens, fortis et durus, always indicates inflammatory fever, and in consequence the propriety of venesection. Sydenham says: In such a pulse bleeding must be resorted to, even if the disease was the plague.

If with such a pulse there is also pain in some one of the important viscera, an inflammation is supposed to be coming on or to exist already. Inflammation of the internal substance of the lungs, and inflammations of the abdominal viscera, especially of the intestinal canal, are not to be judged of by this rule. Here the pulse is often very small ; in the first case small and soft ; in abdominal inflammation small and hard, like a tense string. The cause of it in pulmonary inflammations is due to the passage of the blood through the lungs being obstructed, or the inspiration impeded by pain ; by which too small a quantity of blood enters into the aorta and the general circulation.

But we must be careful not to confound it with the pulse of debility. The discriminative signs of which are the preceding symptoms expressive of an inflammatory character, the accompanying symptoms and the momentary rising of the pulse, if you cause, in the first case, the breath to be forcibly retained, and in both cases the pulse becoming fuller, as soon as a vein is opened and some blood let out.

On that the following maxim is founded: *Pulsus debilis et facile comprimendus* (if the local affections just mentioned do not exist), shows always vital weakness and indicates the administration of wine.

The large and the small pulse (*pulsus magnus et parvus*), the full and the empty pulse (*pulsus plenus et vacuus*).

The pulse is called *magnus*, when the artery is large and

extended to the touch; *parvus*, when on the contrary, the artery appears diminished, almost as thin to the touch as a thread.

Largeness indicates full extensibility of the artery (therefore absence of cramp and irritation, a fine sign of perfect crisis), plenitude of blood (which however may be a turgescence, a distention produced by heat, fever, abnormal irritation of the nerves, distinguishable by being at the same time full or not), and vigor of the heart.

The small pulse indicates that the artery is not sufficiently distended by the blood. This may result from two causes, cramp or weakness. We must also discriminate, whether it is at the same time hard or soft.

Pulsus parvus et durus is the convulsive pulse; it shows that the artery is so contracted by spasm as not to allow of proper distention.

Pulsus parvus et mollis indicates that the heart has not sufficient power to force enough blood into the arteries; therefore it is a pulse of the utmost debility or deficiency of blood.

Pulsus plenus, the full pulse, differs from the *magnus* in this, that the artery is not only perfectly distended, but presents to the touch a feeling of being entirely filled; wherefore it is more difficult to compress it. It is indicative of that sanguineous plenitude called plethora. When large and at the same time easily compressed, the fullness exists only in appearance,—turgescence of blood. This is particularly observable in adynamic typhous fevers, in which the pulse sometimes appears full; but to take this for a sign of real plenitude and act accordingly would be a dangerous mistake. It is discriminated by being easily compressed.

Pulsus vacuus, the empty pulse, is always small, and therefore coincides with the *pulsus parvus et mollis*, and is indicative of the same state.

I will further remark that the pulse can appear periodically; large and full on account of local congestions of blood to the heart, especially of a hemorrhoidal character, and it is then a sign of accumulation of blood in the portal system.

The unequal pulse (*pulsus inæqualis*), the intermittent pulse (*pulsus intermittens*).

The pulse is called unequal, when the beatings do not follow each other regularly in number, or when the beatings differ from each other in largeness, fullness, vigor.

It indicates a disturbance of the regular motions of the

heart dependent either upon spasm, to which the heart, like every other muscle is liable, or upon deficiency of vigor in it, sometimes also, but more seldom, upon obstruction of the circulation either in the lungs (as in the last stage of pneumonia), or upon organic derangement of the heart. Therefore it is a principal sign of nervous and adynamic fevers, and in general of a nervous state.

The intermittent pulse (when one or more beats entirely fail) indicates in the first place a momentary stoppage of the contractions of the heart, which is most frequently owing to spasm, sometimes also to weakness and organic derangement. Most commonly, however, this pulse is indicative of a spasmodic affection of the heart, created by sympathy with the abdomen, and it is therefore rightly termed *pulsus abdominalis et intestinalis*, for it arises most commonly from diarrhœa or a disposition to it; likewise from local congestion of blood in the abdomen caused by hemorrhoids. Is it at the same time full and strong; it shows then abundance of blood and indicates phlebotomy.

A few particular kinds of the *pulsus inæqualis* deserve special attention.

Pulsus myurus, where a series of beatings becomes smaller and smaller, so that they cannot be felt; it is the pulse of the dying.

Pulsus dicrotus, where one beat seems to be divided in two; generally a foreboding of critical bleeding at the nose.

Pulsus inciduus, where a series of beatings succeeds becoming slower and slower, and then again quicker and quicker; it is commonly a sign of an approaching crisis, especially by perspiration.

Palpitatio Cordis.

The beating of the heart, a too violent and irregular motion of the heart, which can be felt and sometimes heard, when it is called the sounding heart. It is indicative either of too much rushing of blood to the heart, which can arise from plethora general as well as local, e. g. hemorrhoidal and menstrual congestion; or it shows nervous irritation, especially violent emotions, as fright or anxiety, violent pains, consensual irritations from the abdomen, particularly worms, spasms, especially hysteria and hypochondria, metastases; or it indicates great weakness (*spasmus a depletionem*), e. g. in too profuse evacuations of blood and other

humors, and is then a forerunner of fainting; or finally, local diseases of the heart and organic derangement, hypertrophy, aneurisms, *polypus*, *hydrops pericardii*. In hysterical and hypochondriacal subjects it is of no significance. A continual or always returning beating of the heart with fainting leads to suspect organic diseases of the heart.

Art of Feeling the Pulse.

In order to arrive at such conclusions as we have stated above, we must know how to feel the pulse. It is not sufficient to place carelessly the finger over the artery. We must apply three or four fingers, so as to be able to observe a piece of several inches of it at once; we must continue touching it at least a minute, sometimes longer, with our attention intensely concentrated to that point; we must increase, diminish and variously modify the pressure of the fingers, compressing sometimes the artery, then quickly letting loose, in order to ascertain whether the blood can be entirely displaced by this compression, or not, whether the artery refills quickly or slowly, etc. In short, one must have practice in it. The physician must act with the pulse, like the virtuoso with his instrument; he must learn to play it and become familiar with it just as well as the musician with his instrument. It is only such a physician that will make discoveries in and by the pulse which another one cannot think of. Such an adept discovered by this means a concealed love as the cause of a malady. It is therefore advisable, that tyros in medicine should very frequently feel the pulse, even in healthy persons.

Nor must the physician feel the pulse immediately after entering the sick room; for being looked upon as a judge of life and death, his visit will not fail to produce an alteration in the pulse of a sick person. He will soothe the patient by friendly conversation, and then proceed calmly and naturally to feel the pulse.

Not less recommendable, in order to avoid delusion, is a careful attention to those accessory circumstances which often alter the pulse. These are especially warmth, or certain stimulants, by which the pulse small in itself can be made full and large,—preceding emotions, and corporeal exercise.

2. RESPIRATION.

Next after the pulse this function affords the most momentous signs, penetrating into the innermost life, as it is immediately connected with life and its conservation. Hippocrates says: *Respiratione bonâ semper salus speranda est, etiamsi reliqua non bona essent.* (Respiration being good, salvation may always be hoped, although the rest be not good.) This is true especially of fevers. Farther, it is in many diseases the only *signum diagnosticum* in asthma, tussis, pneumonia, catarrhus suffocativus and apoplexia.

Respiration indicates :

1. The *state of the lungs*, as regards their mobility, and extensibility, or the hinderances to these, arising from inflammation, or spasm, or accumulation of mucus and other matters in the bronchia or in the substance of the lungs, hepatisation, emphysema, œdema, tubercles, vomica and other organic disorders.

2. The *state of the trachea*, its permeability or obstruction caused either by inflammation or spasms, or foreign bodies therein, which close or straiten it mechanically, or external compression from strumatoze tumors.

3. *Obstacles within the pleura to the free motion and extension of the lungs*, consist of either an accumulation of water, air, fat, pus ; or by inflammation of the membranes, spasm, or inactivity of the muscles, ossification of the costal cartilages, malformations of the osseous system ; also impeded motion of the diaphragm from inflammation, abdominal intumescence caused by water and swellings of the viscera.

4. *Organic disorders of the heart*, hypertrophy, aneurisms.

5. *Condition of the circulation*, especially the important distinction between a truly accelerated motion of the blood from only an apparent one, since a quickness of the pulse is by no means always a proof of a truly accelerated motion of the sanguineous mass. To discriminate this difference, observation of the proportion of pulsations to respiration is serviceable. For there are in a perfectly normal circulation four pulsations to one respiration, and in the healthy normal state this proportion remains the same in the accelerated, as well as in the retarded circulation ; likewise in all fevers, and it serves to prove a truly accelerated motion of the sanguineous mass. But when this proportion ceases and the breathing is not accelerated proportionally with the accelerated pulse, it proves that the contractions are augmented, but that the sanguineous

mass itself, from want of power, is not quickened, and the necessity of accelerated respiration is not called for.

6. The *condition of the vital power* in general,—as far as a sufficient degree of power is required to put the pectoral muscles and lungs into proper activity. Therefore great prostration renders breathing difficult; weak men are very apt to get out of breath by exercise.

7. The *condition of the nervous system*. As respiration is a voluntary operation, it is influenced by the different degrees of sensibility. Thus a state of low sensibility, or of surprise, can have this effect, to cause the sick person to feel less the want of respiration, and therefore breathes more slowly, as it should happen in accordance with the condition of the circulation, as in typhous fevers, in a pressure on the brain, the snoring in apoplexy.

8. The *condition of external air*. Air saturated with impurities, not fit for breathing, can be a cause of difficult respiration.

Varieties of Anomalous Respiration.

The *frequent and rare respiration* (*respiratio frequens et rara*).

Respiration is called *frequens* when it happens in a certain space of time oftener than in the normal state; *rara*, if it is the contrary.

Frequency indicates: in the first place accelerated circulation, therefore, is met with in fevers; and the more frequent the respiration, the more violent the fever; weak lungs, when it is produced by the least exercise; in men who get easily out of breath, the lungs try to make up by frequent repetition what they are unable to accomplish by energy in single respirations; finally, an impediment, which hinders the lungs from perfectly distending themselves; therefore the respiration is at the same time *parva*, e. g. in pneumonia, hepatitis, hydrothorax, flatulency.

Respiratio rara is indicative of easy circulation of the blood, of sound lungs, free circulation through them and unimpeded distention of them.

Respiratio magna et rara (deep and unfrequent breathing) accompanied with great exertion of the muscles, shows great deficiency of power; mixed with groaning, threatening fainting and spasms. *Resp. rara, parva et frigida* is a sign of dying.

The *quick and tardy respiration* (*resp. velox et tarda*) has reference to the mode in which the act of respiration is

performed, whether the expiration succeeds the inspiration quickly or tardily.

Velox indicates: painful affections of the chest and the abdomen, which are increased by a distention of the chest; therefore we endeavor to diminish and shorten these affections as in cases of abdominal and pulmonic inflammations; or such an irritability of the bronchia, that the extension causes at the same time spasmodic contraction, (generally connected with *convulsio pectoris* (tussis) as in catarrhs); or an obstacle which does not allow the lungs to expand, e. g. tuberculous condition, suppuration.

Tarda is indicative of the contrary, free extensibility of the lungs, free circulation through them, absence of irritation and spasm. It is therefore the *fairest* sign of pectoral health, and the best test of the lungs, when a man can take a deep inspiration and retain the air for a long time. There is, however, also an excessive *tarditas* in diseases indicative of great weakness.

The *long* (deep) and the *short respiration* (*resp. magna* [profunda] et *parva*).

It is called *magna*, when a great quantity of air is taken in by inspiration and thrown out by expiration; it is in general a good sign that the lungs and circulation are free; of absence of spasms and power of the muscles for the perfect dilatation of the thorax. But it must be simultaneously long and without any difficulty, when it is at the same time tardy.

It has a different meaning when, with great exertion of power and force it is accompanied with anxiety and audibility (*magna cum molestiis*). Then it indicates plethora, spasms, especially in the præcordia, also a soporous and delirious state, particularly when the intervals are long.

Parva is indicative of the contrary. Here the distention is impeded by spasm and weakness.

The *difficult* and the *easy respiration* (*respiratio difficilis* et *facilis*).

Difficilis has various degrees: *dyspnæa*, oppression of the chest; *resp. anhelosa*, the panting (asthmatic), *suspiriosa*, the groaning, *orthopnæa*, the suffocating respiration, the highest degree, of which the following is a description. The patient can breathe only in a sitting or upright posture, with his neck protracted and great exertion of all pectoral muscles.

In every kind of difficult respiration the circulation of blood through the lungs is more or less impeded; and in consequence a smaller quantity of blood streams to the

left of the heart, whence arises either an accumulation of blood in the head by the reflux being obstructed, therefore a soporous state, or diminished influx of the blood through the aorta into the whole body, and therefore small, empty, and remittent pulse, and cold extremities.

Difficulty of breathing indicates either an impediment within or without the respiratory organs (in men, besides a good state of health, plethora, and abundance of blood in the lungs); or a spasmodic condition of the respiratory organs; orthopnœa; an insurmountable obstacle, the highest degree of pneumony, hepatisation of the lungs, extravasated matter in the bronchia, trachea, external compression of the lungs by water, pus and the like, suffocation.

The *equal* and the *unequal respiration* (*respiratio æqualis et inæqualis*).

Inæqualis indicates either an irritation which affects spasmodically the pulmonary nerves, or an impediment to respiration.

The *sonorous respiration* (*resp. sonora*). There are the following varieties:

Stertorosa,—a rattling respiration; it indicates an accumulation of mucus or pus, or blood in the bronchia, or a paralytic state of the lungs, consequently the rattling of the dying.

Clangosa, sibilans,—the whizzing respiration, shows a straitening of the tracheal tube, which is due either to spasm (as in spasmodic asthma) or to exsudation of coagulable lymph, as in *angina polyposa*.

Crepitans, uttering a crackling noise at every inspiration like that of dry paper or parchment, shows great dryness in the mucous membrane of the bronchia, or accumulation of very tenacious mucus or pus.

The *hot* and the *cold respiration* (*resp. calida et frigida*).

Calida indicates, in general, an accelerated circulation of the blood; *fervens*,—very hot breath, either universal inflammatory diathesis, or inflammation of the lungs, also of other abdominal viscera situated near by, (is especially important for their diagnosis, in infants often the only sign.) In consequence, the worst sign of an inflammation is hot respiration, and at the same time cold extremities.

Frigida,—cool respiration indicates a slow, tardy circulation of the blood, watery blood, stoppages in the lungs; cold respiration indicates departing life, therefore is present in internal mortification (gangrene) and in dying persons.

Offensive breath (resp. male olens), indicates often only uncleanness of the sick, decayed teeth; besides impurities in the stomach, worms, or long fasting; or a putrid diathesis of the blood (therefore in excess of animal food, especially of raw meat, as in all carnivorous animals), scorbutus, of which it is a principal sign; putrid typhus; purulent cacochymy, or suppuration of the lungs, of the larynx; likewise abuse of mercury. In some females it is indicative of menstruation.

Pressure, Straining, Pain in the Chest.

All these complaints point either to congestion in the lungs, or to a spasmodic affection, a nervous irritation (frequently merely consensual or metastastical), or local derangement of the lungs. Therefore, they are of momentous significance only in a phthisical disposition. Pain in the chest with fever indicates either a rheumatic or an inflammatory affection of the pleura.

Sounds in the Chest.

We distinguish two kinds,—the sound which the chest renders on percussion, and that which one perceives in the chest during inspiration, either by placing the ear or the stethoscope on it.

The sound from percussion is either clear as from an empty barrel, or dull as from a full barrel. The first shows the lungs and thorax free of morbid accumulation, the latter the presence of it.

The various sounds different from the normal one, which are heard by means of the stethoscope during inspiration, may indicate either an impervious spot in the lungs (therefore inflammation, hepatisation, tubercles, vomica), or matter existing in the bronchia (mucus, blood, pus); or hydropic accumulations in the thorax and adhesions of the pleuræ. Also organic disorders of the heart are recognizable by particular sounds.

But all these audible signs are only auxiliary, they prove nothing, when there are not other signs which confirm and rectify the sentence.

Cough,

Indicates next, and in general, an irritation and momentary convulsion of the respiratory organs, and is therefore of various significance. For the irritation which excites it,

may originate in enhanced irritability of the lungs, as well as in something irritant, which may be either idiopathic, i. e. having its seat in the lungs, or consensual and antagonistic, i. e. out of the lungs. It may consequently be a sign both of an affection of the lungs, either of an irritability of them augmented by inflammation, or nervousness, or catarrh, or of something irritating, e. g. congestion of blood, tubercles, metastasis, suppuration, as well as a sign of disordered digestion and gastric impurities (stomach cough); or of morbid liver, spleen, and other abdominal viscera. This word therefore, in order to be explicit, always requires an attributive which points out the special diagnosis.

The following generalities will be serviceable in practical cases.

In every acute (not catarrhal) fever a cough setting in deserves the greatest attention; for it may be the first indication of a commencing pneumonia. It may, however, arise also from the irritation of an exanthematic matter; for instance, a short dry cough with much sneezing and lachrymation, in the onset, is indicative of the measles.

In all individuals of a phthisical disposition every attack of cough must be carefully attended to; for it indicates the commencement of consumption.

Men, in whom every morbid irritation excites coughing, and such as are affected with cough after the least exertion of the lungs, as running, speaking, laughing, even emotions, labor under a morbid irritability of the lungs and phthisical disposition.

Chronic dry cough, easily excited by the least exertion of the lungs, with stitches in the chest once in a while appearing, and breath not entirely free, indicate the existence of tubercles.

Chronic cough with much expectoration of mucus leads to suspect the beginning of phthisis pituitosa.

Absence of cough is the best sign of pulmonary health. In healthy as well as in sick persons, in acute as well as in chronic maladies, it is the best test of the lungs. We may cause the patient to make a deep inspiration and to retain the breath for some time. If he is capable of doing this, without perceiving an irritation to cough, his lungs are sound; the reverse is always suspicious.

Voice and Speech.

Vox rauca—hoarseness—indicates that mucus or pus exists in the larynx, or an inflammation of the mucous mem-

brane; therefore it is a sign of catarrh, phthisis laryngea and angina.

Aphonia indicates the highest degree of inflammation of the throat or phthisis of the throat, or spasm or paralysis of the vocal organs.

Loss of speech indicates either spasm when it appears periodically, most frequently caused by hysterics and consensual gastric irritations, especially verminous; or paralysis of the organs of speech, as in apoplexy and typhous fevers, injuries of the head, in which cases it is always ominous.

Vox balbutiens—stammering—indicates in fevers always a dangerous affection of the nerves of speech and of the brain, bordering on a paralytic state, which very often in the onset of fevers is manifested by the patient not clearly pronouncing single letters; a circumstance worthy of the physician's attention.

Yawning, Groaning, Sneezing.

Yawning always indicates a too tardy circulation of the blood through the lungs, which nature endeavors to promote by a very deep inspiration and forced expansion of the respiratory organs. It indicates therefore weakness or spasm, in the onset of the fever and ague.

Groaning without moral cause, is of the same signification.

Sneezing is a convulsive expiration, and indicates an irritation of the nose, therefore catarrh or measles; or of the lungs, therefore it is present in pneumonia, commencing suppuration; or an irritation in the abdomen, therefore the frequent sneezing of children indicates worms.

Weeping and Laughing.

Weeping in disease always indicates spasm, nervousness; therefore an inclination to weep is a principal sign of a hysteric state.

Profuse lachrymation in fevers indicates congestion in the head; in the beginning of fevers it indicates measles.

Laughing always indicates considerable irritation of the nervous system, mental or physical; therefore, in fevers it is often foreboding of delirium and convulsions. An inclination to laugh at trifles indicates a hysterical state, as inclination to weeping does, and therefore often pass from one into the other.

Risus sardonicus, violent convulsive laughter, may set in as a symptom of diaphragmitis.

3. THE BLOOD.

The blood evacuated by venesection or hemorrhage shows various anomalies differing from the normal state, which may serve as signs of diseases or morbid dispositions.

In the first place the varieties of CONSISTENCY come into consideration. They indicate either an abnormal coagulability, or an abnormal proportion of the watery constituents to the cruor.

Too firm consistency indicates :

Either an *increased coagulability*, plasticity of the blood (the inflammatory consistence). The blood coagulates quickly and forms a firm mass, from which only a little serum is separated. It indicates in healthy persons a strong constitution and an inflammatory disposition in diseases, an inflammatory diathesis, or an already existing inflammation. The signs of inflamed blood are:—it coagulates quickly, often immediately after escaping from the vein, into a very firm cake, from which only a little serum is separated, on the surface of which a white firm coriaceous coat (*corium*, *crusta pleuritica*) is formed ; the firmer and thicker it is, the higher the degree of inflammation, yea, in the highest degrees it is so firm that it is difficult to cut through it. But it may be well to observe, that it is sometimes wanting in inflammations, and that its absence must not lead to a conclusion that there is no inflammation ; farther, that its formation may depend upon the opening in the vein, and that a small opening, where the blood does not run freely, prevents it ; and finally, that it may be found also in rheumatic complaints and in pregnant women. But in this last case this coriaceous crust is not solid, and is less tough. The genuine inflammatory corium is distinguished by its whiteness and solidity. When it is yellowish, greenish, flocky, loose, it indicates a nervous state, not genuine inflammation.

Or *deficiency of water*,—dryness of blood,—atrabilious condition.

Too little consistency indicates either a deficiency of plastic constituency and coagulability or an abundance of lymph (the watery part of the blood), and is therefore of a double kind.

Thinness (fluidity) of blood (*tenuitas serosa*). Abundance of serum indicates feeble assimilation, chlorotic diathesis,

hydropic disposition ; *dissolution* of blood (*colliquatio sanguinis*), deficiency of coagulability and plasticity ; the blood is dark and does not form into a solid coagulum, but into a pap-like mass, in which cruor and serum remain mixed, indicates a disposition to putrid dissolution, a scorbutic state, putrid typhus.

Secondly, the COLOR. Dark red and solidly coagulable blood indicates a strong constitution. Too dark, black blood indicates an abundance of carbon, of venosity ; it is found in scorbutic atrabilious diseases of the abdomen, cyanosis. Too pale, limpid blood, indicates an abundance of serum, and is indicative of weakness. If it is at the same time light red, it indicates dyscrasia, e. g. an arthritic or rheumatic state. Also the color of the serum deserves attention. If it be distinctly separated, it is an excellent sign of good sanguification and health ; if it be cloudy, milky, it indicates weakness ; if it be very yellow, bile in the blood ; if it be bloody, a putrid state.

4. DIGESTION.

After the circulation of blood and the respiration, digestion is the most important function of the human system, and therefore also the most important for the practitioner to understand ; for we may recognize by it

1. The state of the digestive organs, which is the chief source of support.

2. The state of the whole organism by reason of the innumerable nervous combinations which connect this system with all parts of the body.

3. The quality of the humors, for this system is the seat of the principal emunctory and secretory organs.

In general a good digestion indicates a strong, vigorous constitution, little susceptibility to external physical or mental morbid influences, vivid and easy reaction in diseases, and a macrobiotic disposition.

Men of strong digestive power are more liable to acute, those of weak digestion, to chronic diseases.

Hiccough.

Impeded swallowing indicates either, if connected with pain, inflammation of the throat, or spasm, or paralysis, or a mechanical obstruction ; or, if it be only for fluids, hydrophobia.

Hunger.

Want of appetite is next in order, and indicates most frequently noxious indigestible matters existing in the stomach, besides a febrile state, for all fevers take away appetite, except the rheumatic and hectic; or finally, nervous discordance, as in hysterics, melancholy, weakness of the stomach or organic disorder of it.

Excessive appetite, greediness—*pica*—indicates want of nutritious substance in the stomach as well as in the blood; therefore accompanies diseases which evacuate quickly the food from the stomach, chronic vomiting, diarrhœa, likewise in hectic and phthisical maladies; or an irritation of the nerves of the stomach and intestines, as in worms, acrid gastric matters, metastases; or morbidly increased irritability of the stomachical nerves, as in nervous diseases, hysterics, frenzy, *pica*, in pregnant women.

Extraordinarily strong desire of certain things is a sign of a salutary and natural instinct, and must be profited of in diagnostics as well as in therapeutics. Thus an appetite for lime and earth, for salted things, is indicative of slime in the stomach; for acids, of putrid corruption; for wine, of weakness and a need of strengthening.

Thirst,

Indicates dryness of the mouth, want of exhalation, consequently internal heat (is therefore a sign of fever and inflammation); or of spasm as in chills; or an acidity in the stomach or blood; or finally, a deficiency of water in the blood, hence the insatiable thirst in fevers, a sign of the highest inflammatory degree of the blood.

Nausea and Vomiting.

Vomiting is a convulsive affection of the stomach, and indicates either an extraordinary irritation in the stomach or without it, which affects the stomach consensually; or an increased irritability, consequently injurious irritating matters in the stomach itself, which is proved by the condition of the tongue, and the vomited matter; or spasmodically increased irritability; or inflammation, if the patient instantly ejects food and drink; or a consensually operating irritation, as from inflammation of the liver, of the intestines, accumulation of fæces in the intestines, gall, or nephritic stones, concussion of the brain, and accu-

mulation of water ; or finally, organic derangements of the stomach and neighboring viscera.

Nausea or vomiting in the morning without signs of gastric impurities is often a sign of gravel ;—in women, of incipient pregnancy.

Flatulence, Meteorismus.

Frequent winds indicate accumulations of injurious substances which disengage much air, *ructus* if in the stomach, *flatus* if in the intestinal canal. A continual disposition to it indicates weakness, especially atony.

Meteorismus or flatus in fevers is always a bad sign, and indicates either a great accumulation of corrupt and putrid matters, at the same time great atony ; or if the belly is much distended and painful, inflammability. Meteoric distention of the abdomen in children indicates worms.

Evacuation from the Intestines.

The examination of the matter discharged from the intestines is important ; partly to recognize the matters contained in them ; partly to distinguish their morbid state and that of the abdominal viscera connected with them ; partly to discover the substances separated from the blood in the intestinal canal, and in consequence, the disordered quality of humors in general ; partly for ascertaining the dynamic consensual and antagonistic affections of the organism.

It is therefore necessary in all diseases of the abdomen to examine the quality of the excrements ; in gastric maladies their morbid quality calls for the administration of evacuants.

We must regard their consistency, color, smell and kind of discharge.

We must distinguish between increased and diminished evacuation from the rectum.

Increased evacuation (diarrhæa) indicates either the presence of injurious and excessively irritating substances in the intestinal canal, of which number are worms ; or an irritation in its membranes, as ulcers, metastases ; or increased irritability of the canal, either inflammatory or nervous ; or a deposition of injurious matters in it, such as pus, critical secretions ; or consensual, even mental (e. g. fright) and antagonistic irritation, that is to say, suppressed function of the skin ; or finally, the highest degree of

weakness of the intestinal canal, even of the whole system, colliquation.

Green stools in infants indicate acidity ; dark brown ones, abundance of bile ; not colored ones, want of bile.

Diminution of discharge from the rectum (*obstructio alvi*), indicates either a deficiency of the natural irritability of the intestines, of bile ; or atony, spasmodic contraction, or want of fluids, neglect of drinking, or turning of the humors towards other parts, especially to the skin by perspiration, or mechanical obstacles, organic disorders.

Painful discharge from the rectum (*colica*) and forced straining to stool (*tenesmus*) indicates either irritating acrid matters in the intestinal canal or increased sensibility of it, which may be either nervous or inflammatory. Tenesmus indicates hemorrhoids or dysentery.

Involuntary discharge from the rectum. We must distinguish the unconscious (*inscia*) which happens in dreams, in delirium or by too fluid excrements, and is insignificant, from the involuntary (*involuntaria*), which indicates a paralytic state, and is indicative of great danger in fevers.

5. SECRETIONS AND EXCRETIONS.

Perspiration and Sweat.

From the state of cutaneous secretion we may in general deduce the following inferences : in *the first place*, the state of vital power. The more vigorous the impulse is towards the periphery, the more lively, i. e. gas-like, will be the secretion, the more vital power. *Secondly*, the free unimpeded condition of the blood. *Thirdly*, the quality of the blood and humors. *Fourthly*, the crisis, the critical process of healing ; for sweat produces the most perfect crisis, and without the perspiration accompanying, all other crises are imperfect.

We must make a distinction between *perspiration* (*transpiratio insensibilis*) and *sweat* (*sudor*). The first one is an imperceptible gas-like secretion, never ceasing and indispensable to life ; the latter is a dropping, watery secretion, taking place only under certain circumstances.—The first, gas-like, is the living normal secretion ; the sweat a newly created abnormal chemical process, even sometimes a merely passive profluvium.

A soft, open, slightly perspiring skin shows undisturbed imperceptible perspiration, and is therefore in all diseases,

particularly in fevers, a favorable sign, and a proof that there is no spasm, no disturbance of circulation, and no impediment to the crisis.

Dry, rough, parchment-like skin is indicative of the contrary.

In diseases, especially the febrile, it is most important to discriminate between critical sweats and symptomatic sweats. The former is a salutary operation of nature, the latter is a sign of a morbid state.

Critical sweat may be distinguished by the following observations: When it does not arise immediately in the commencement, but in the critical period, that is to say, about the seventh or fourteenth day of the fever (mere catarrhal and rheumatic fevers make an exception); when it is general (local sweats, e. g. on the head, on the chest, indicate congestion or inflammation in these parts); when it is clammy; when it is warm (cold sweats indicate excessive weakness, and are forerunners of death); when it is not light and disappears quickly, but continuous, and when it alleviates the malady, and soothes the pulse in fevers.

Symptomatic, premature, excessive, not alleviating sweats indicate either a very violent motion of the blood with debilitated skin (frequently caused only by too warm clothing, feather beds, confined air); or gastric accumulations; or great general weakness and colliquative disposition. They always lead us to expect febris or petechiæ.

Sour-smelling sweats indicate miliary fever; fetid sweats putrid typhus.

Sweats in the morning, not usual, indicate a hectic fever.

To be easily thrown into perspiration shows a weak constitution.

Secretion of Urine.

The urine affords the most important diagnostic sign for distinguishing the quality of the blood, and the chemical processes going on in the system, since no secretion is so immediately connected with the circulation as this one; for this may already be conceived by the circumstance that the nutriments taken, and the admixture of chyle are recognized in it. It therefore deserves the greatest professional attention that has been bestowed upon it in so high a degree by the ancient physicians, and is now-a-days too much neglected.

In order to judge rightly concerning morbid urine, we

must first know the discriminating signs of that which is healthy. They are the following: It is straw-colored, of a specific but not fetid odor; and remains clear. The following circumstances, however, which the physician must carefully consider, have an influence on it.

The constitution—a strong one has higher colored and more odorous urine, weak persons more pale and frothy urine with some sediment.

Season—in summer it is scanty and more dark colored, in winter more copious and paler.

Mode of living—motory labor reduces its quantity, and makes it darker; sedentary life increases the quantity and the paleness.

Age—in old persons it is diminished, darker, and fetid.

Sex—females have always paler urine and more sediment in it.

Digestion and food.—Much drinking augments the urine more in quantity and paleness; rhubarb and curcuma make it light yellow; asparagus, fetid. During digestion it is cloudy on account of the admixed chyle. We distinguish, therefore, *urina potus*, 1 to 4 hours after a meal, which proves nothing; and *urina sanguinis*, 6 hours after a meal, which alone is to be used for examination.

In order to form a correct judgment it is farther necessary, that the urine be left untroubled for 2 hours in a cool temperature, and be not brought quickly from a cold into a warm place, or the reverse.

We recognize by it,

1. The condition of the blood, of the organic matter, and of the chemical process of life.—Especially the presence of the phlogistic state; therefore the red (*rubra*) urine with accelerated pulse is the principal sign of fever, internal heat and inflammation; this sign is so momentous, that it is decisive in dubious cases, whether the affection be inflammatory or spasmodic.—Farther, the colliquative state of the blood inclined to dissolution, is indicated by a muddy thick urine, with much sediment, and bloody (*turbida, crassa*); a high degree of putridity, and inflammation terminating in gangrene, by a thick black urine (*nigra*); in a high degree of hectic dissolution, it is greasy on its surface. Also foreign substances contained in the blood, e. g. bile, which is seen in the saffron-colored urine (*crocea*), is a sign of gall-stones, and if it gives a yellow color to linen or paper dipped in it, is a principal sign of *icterus*; *urina viridis* is a sign of corrupt bile; of matter in internal suppuration.

2. The internal chemical process accompanies every general curative process, and is the process of crisis. This imparts to urine a diagnostic importance in fevers. We distinguish here three stages of critical operation; the *crudity*, that state in which there is not yet a vestige of critical working; the *coction*, a commencement of critical operation in which particular indications of the crisis are visible; the *crisis*, the finished critical operation, and the secretion of the morbid substance. This affords the three varieties of critical urine: *urina cruda*, *cocta*, *critica*.

Urina cruda. Signs of crudity exist when the urine, (the pale as well as the red,) is perfectly clear and pellucid, and remains so; or when it (as it happens often in nervous and gastric fevers) is cloudy, thick, and jumentous (like turbid water or a cooled decoction of Peruvian bark), and remains so.

Urina cocta. Signs of coction, when the urine, heretofore clear, grows muddy and exhibits a light little cloud. This happens sometimes only on the 4th or 11th day (*dies index*) and then disappears, but leads to a hope, that a critical urine will succeed the 7th or 14th day. The coction and beginning crisis show themselves sometimes also in the clear urine by a *nubecula* (a light little cloud which remains on the surface), or by an *enæorema* (a cloud which sinks to the bottom of the glass). The latter is a favorable foreboding of an approaching crisis; but the little cloud which remains on the surface, or after it had subsided, rises up again, indicates, it is true, a commencement of crisis, but leads to a fear that it will be imperfect.

Urina critica, sign of completed crisis, when the urine, before clear, leaves a sediment, or the urine, before thick and turbid, decants clear from above, and leaves a sediment below.

But the *sediment* may be also critical and not critical, the knowledge and discrimination of which are very important. The critical sediment is of this character: it falls down soon after urination, is not too much nor too little in quantity (about $\frac{1}{4}$ or $\frac{1}{6}$ of the whole), white or grayish, light, uniform, and a little convex on the surface.

The sediment is not critical and ominous when it is too large, filling $\frac{1}{2}$ or $\frac{2}{3}$ of the glass, thick and heavy, distracted and livid. Red, bile-colored sediment indicates intermittent fever, or a rheumatic character of the disease; a white chalky sediment in thick dark-colored urine, indicates an athritic character, also urinary calculus; dark, black sediment, a putrid state.

3. The nervous spasmodic state, limpid, aqueous urine, which is generally accompanied with frequent urgency to urinate, indicates spasm; pale, turbid urine, but particularly changeable urine in fevers, indicates a nervous character.

4. The condition of the digestive system. *Urina jumentosa* is a principal sign of a gastric state; milky urine in children, of worms.

5. Augmentation or diminution of other serous secretions. Thus sweat and diarrhœa, even the use of purgatives, produce dark-colored urine. Suppression of perspiration by the skin renders it watery and increased in quantity, even to diabetes.

6. Local diseases of the kidneys and the bladder. Slimy urine indicates blennorrhœa vesicæ or calculus vesicæ; purulent urine, suppuration of the bladder or prostate gland; bloody urine, a bleeding from the kidneys or bladder; excessive quantity and aqueous quality of urine, *diabetes*.

Also the chemical examination must not be neglected in some cases; the most usual is that on litmus paper, in order to ascertain the presence of a free acid; still more important is the discovery of sugar in it, in order to discover diabetes mellitus, a disease, the existence of which cannot be recognized in any other way, and which may terminate fatally by emaciation. Never omit this examination in all kinds of emaciation which cannot be accounted for.

Also the manner of discharge is of diagnostic importance in the evacuation of urine as well as is that of fæces. It is either painful, difficult, impeded, and then indicates spasm, inflammation, local diseases; or it is passed involuntarily, indicating paralysis; in fevers the highest, fatal weakness, in which, however, as in the evacuation of fæces, the unknowing is to be distinguished.

Salivary Secretion, Expectoration.

Increased flux of saliva indicates either a local irritation of the salivary glands, e. g. angina, or is consensual with the abdominal disorders, especially impurities in the stomach, worms, constipation of the abdominal viscera, particularly of the pancreas, therefore frequent spitting is a sign of hypochondriasis; also congestion of the salivary glands, and the head, as in apoplectic dispositions. Here critical salivation is to be also mentioned, which in diseases may arise from suppressed perspiration of the skin, in lingering nervous fevers, and in small-pox.

Deficiency of saliva indicates spasm and great dryness of the blood.

Expectoration (*sputa*). All that which is expectorated after hawking or coughing, indicates increased secretion in the mucous membrane of the throat or trachea, or of the lungs, or also the existence of foreign matter in these organs, e. g. pus, blood, tubercles, even calculary substances; pituitous mucus, continually discharged, and in great quantity, blennorrhœa pulmonum, phthisis pituitosa, purulent matter, phthisis purulenta; sweet salty matter, gray, blackish, cloddy tubercles; yellow-colored bitter bile in the blood, liver complaints.

In inflammatory pulmonary diseases the expectoration is the most important local crisis, and is indispensable to a perfect resolution of the disease. The signs of the critical expectoration are: *sputa cocta, subacta*, i. e. expectoration thick, yellowish, like a thick emulsion, sometimes mixed with small streaks of blood and easily expectorated.

We must distinguish spitting of blood (*sputum sanguineum*) and bloody cough. The first is only a secretion of blood from the mouth and the upper parts of the throat and the windpipe, which is in nowise related to the lungs.

Evacuations of Blood,

Indicate either true plenitude or turgescence of blood, distention by the blood, or local congestion, or inflammation of a part, or relative weakness of a part, so that it cannot resist the impetus of the blood; or a dissolution, putrid state of the blood; sometimes also a crisis, especially in acute fevers. Thus bleeding at the nose in inflammatory fevers, congestion and inflammation of the brain, is the most salutary and decisive crisis.

6. AFFECTIONS OF THE MIND AND NERVES.

Activity of the Mind, Senses, Feeling.

Delirium—raving—indicates always an affection of the brain; but, as this may arise from various causes, it is also of different significance and importance.

In the first place, however, we must remark, that there are persons who, in the slightest feverish indisposition, even in a slight catarrhal fever, rave during sleep, yea, who speak while asleep even in good health; hence, in judging of delirium, we have to make inquiries on that account.

Morbid raving always indicates a disturbance of the normal activity of the brain, either an excitement of it, in which case the delirium is active, with excitement, accompanied frequently with violent exertion or fury (*delirium activum, furibundum*); is either *idiopathic*, such as arises from a violent rushing of blood to the brain, indicative in fevers of the higher degrees of inflammatory diathesis, or real inflammation of the brain, metastases, the irritation of exanthematic matters, e. g. of small-pox; or *consensual*, and here especially proceeding from the stomach and intestinal canal, e. g. accumulation of bile, worms, narcotic poisons.

Or want of cerebral action. Here the delirium is silent, internal, as it were, accompanied with slumber and other signs of weakness (*delirium blandum, somnolentum typhosum*), such as in nervous fevers, in typhus, pressure on the brain, parenchymatic accumulation of blood in cerebral inflammation, or extravasation, hydropic accumulation.

Also chronic deliria may arise from both sources. Here, however, it will be well to observe two points: hypochondriacal and hysterical persons are very liable to delirious attacks, which are only symptoms of these diseases and of no other signification. We must distinguish delirium from insanity and frenzy. We call a person insane, in whom delirium has become permanent and isolate.

Sleep and waking. A quiet, natural, and not too long continued sleep is in all diseases one of the most favorable signs, in crises the best companion, and a sign that they are perfect. Children sleep generally more than adults, and we must not conclude too quickly, that there is here an affection of the brain. There are also men who, in fevers, like animals, sleep continually and recover best by it.

Sleep is morbid when it is connected with delirium, convulsive movements and starting up, which is continual, and in which the patient awakes by the slightest noise and falls again asleep instantly (*coma vigil*), or cannot at all be roused (*coma somnolentum, sopor*). It indicates great affection of the brain (hence a sign of typhus or cerebral inflammation); the worst, when it sets in immediately from the commencement of the fever.

Restlessness (*agrypnia*) is less dangerous than somnolency, but in fevers is a sign of a continued irritation of the sensorial system.

Giddiness (*vertigo*), indicates either plenitude of blood (general or local congestion of the brain), or a nervous affection, most frequently proceeding from the stom-

ach and abdomen, in which case it is a principal sign of gastric turgescence upwards. In old age and in persons disposed to apoplexy, it is a bad omen of that disease.

Eye and sight. The eye and look afford very important expressions of internal life in general, and of the sensorium in particular; and are worthy, therefore, of the greatest attention on the part of the diagnostician.

Squinting (*strabismus*), when it is not habitual, always indicates spasm of the ophthalmic nerves, and shows either an affection of the sensorium (thus in the commencement of the *hydrops cerebri acutus* of children), or consensual gastric irritation, impurities in the stomach, especially worms. Staring look, fixed on one object, betrays delirium. Languid look of the eyes suddenly setting in, indicates either sinking of the vital powers or gastric turgescence, or imminent vomiting. Dilatation of the pupil indicates either pressure on the brain, a principal sign of encephalitis and *hydrops cerebri*; or gastric irritation, especially from worms; also abdominal stagnation and amaurosis. Contracted pupil and great sensibility to light indicates increased sensibility; on the contrary, a desire for light great weakness, and is a bad omen in fevers.

Black flocks before the eyes or obscuration of sight indicate either congestion of blood to the head or gastric turgescence, or sinking of power, imminent fainting.

Double-seeing (*diplopia*), and half-seeing is always a sign of spasm, and indicates commonly gastric irritation, frequently it is also only a hypochondriac or hysterical symptom. Protruded, reddened, glittering eyes indicate great sanguineous congestion in the brain; sunken eyes, weakness.

Hearing. Too sensible hearing indicates in fevers an excessive sensibility of the whole nervous system, or an inflammatory affection of the brain. In fevers weak hearing is better than too sharp hearing. Tingling and buzzing in the ears indicate sanguineous congestion, frequently also catarrhal, serous congestion to the ears. Weak hearing, deafness in fevers, especially typhus, is a good sign.

Smelling. Loss of smell indicates either a catarrhal state or an important nervous affection; putrid smell indicates a putrid ulcerous local disease in the nose, or palate, or a putrid diathesis of the blood; an uncommon smell like to burnt feathers, spasmodic nervous affection.

Taste. Loss of taste is indicative of the same as that of smelling, also great stoppage with phlegm. Foreign taste indicates either diseases of the mouth and throat, or of the

lungs (thus the putrid or salty taste in *phthisis purulenta*), or gastric impurities (the bitter bile, the slimy phlegm, the sour acidity); or where these causes do not exist, either a false tone of the nervous system (as for instance in hysterical, also in some pregnant women), or in fevers a putrid diathesis of the blood.

Cutaneous feeling. Chill and heat, itching without eruption, indicate in fevers imminent eruption of critical sweat, without fever—acrimony of humors; deafness, want of feeling in single parts, stagnation of the blood or nervous affection, spasm, sometimes concealed gout.

In the *changes of temperature* we must distinguish the sensation of it (*frigus et calor ad sensum*) and the real physical alteration (*frigus et calor ad thermometrum*); for both cold as well as heat may sometimes be only a sensation of the skin, a nervous affection, without a real increase or diminution of caloric.

The sensation of chill is always due to a cutaneous spasm, and is of different degrees: shivering, *chair de poule*, cold trembling fit, numbness (*horripilatio*, *horror*, *rigor*). It is always a momentous sign. We must distinguish chills in the commencement of fever and in the course of it. When the first chill is very violent, it indicates either a violent fever, generally of an inflammatory character, or the beginning of an intermittent fever; when it is weak, alternating with heat, either a catarrhal, rheumatic or a nervous fever. In acute fevers it sets in only once, in intermittent fevers it repeats with every paroxysm. When a chill sets in in the course of an acute fever, it must always excite the greatest attention of the physician, and is indicative of the following: either an intermittent fever, added to the acute (*hemitritaeus*), or an incipient local inflammation, and in inflammations already existing, a transition into suppuration (very important in pneumonias), or into gangrene, or a metastasis, or also sometimes an imminent crisis, especially by the skin. In intermittent fevers, slight chill with great heat indicates an inclination to change into an acute fever; great and long-continued chill with little heat, inclination to a chronic state.

Coldness of the extremities indicates impeded circulation of the blood (hence accompanies fevers, internal inflammations), or spasm, or vital weakness; and hence the icy cold of the dying.

Heat in diseases indicates either an accelerated circulation of the blood and of vital action, and is therefore a general sign of acute fevers, which are thence called hot

fevers, and of inflammation, *calor vivus* ; or commencing dissolution of the blood and of organic matter, *calor chemicus s. mortuus*, as seen in putrid fevers. On this depends the important distinction of heat in inflammatory and in putrid fevers. In the first it is a vital heat, and is distinguished by this, that it is very violent but not disagreeable to the touch of the hand laid on the sick body, assimilates, so to say, with the sense of feeling after being dwelt upon for some time, and corresponds with the strength and hardness of the pulse. In putrid fevers it is the product of an incipient chemical dissolution, a chemical dead heat (*calor mordax*), and is distinguished by its violence, and a sensation of burning and stinging to the touch, and is disagreeable, and this effect increases, the longer the hand is held on the sick body, leaving that impression for some time after the hand is removed : it is further to be remarked, that this kind of heat augments in proportion as the pulse sinks and becomes weaker.

Heat of one part, either to be felt externally or internally by the patient himself, indicates sanguineous congestion or inflammation of that part. Thus heat in the præcordia is always a critical sign of an internal inflammatory state.—Flying heat is a nervous symptom, and common in females after the *cessatio mensium*. Hot hands after eating, indicate hectic, and in healthy persons a hectic disposition.

Pain and anxiety. Pain is the most general expression of nature, to indicate the existence of a local complaint. This can be either inflammatory or spasmodic ; and we can therefore always conclude regarding one or the other ; every pain, however, if it be violent, creates at last sanguineous congestion. One of the worst signs is, when the patient does not feel any pain, although there exist causes of pain. Sudden ceasing of violent pains in inflammations indicates transition into gangrene, if there does not follow a metastasis.

Pressing headache in the forehead with vertigo indicates gastric impurities ; in the back part of the head, sanguineous congestion ; semilateral cephalagia or headache of only a small spot of the head, hypochondriasis and hysterics ; pain in the back and the loins, piles. Pain in the præcordia by external pressure, is in fevers always ominous, and indicates, especially if connected with heat and straining of this region—inflammation of the abdomen or chest.

Anxiety, a particular sensation of the præcordial nerves, still more disagreeable and insupportable than pain, indi-

cates either great sanguineous congestion in the præcordial region, and hence is present in inflammation of the heart, lungs, liver, stomach, and other abdominal viscera, organic diseases of the heart, plethora abdominalis, or accumulation of injurious, irritating, flatulent substances in the stomach, especially of bile and eructations; or a mechanical hindrance to expansion of the lungs, seen in pectoral and abdominal hydrops; or mere spasm; of this kind is the anxiety of hypochondriacs, which may increase to desperation.

Muscular Motion.

Trembling (*tremor*) indicates either weakness or plenitude of the vessels, (e. g. plethora) or nervous irritation; thus it is in the beginning of a fever a principal sign of its nervous character.

Spasms with convulsions are indicative either of a nervous irritation, such as gastric irritation owing to impurities, worms, exanthematic and contagious irritatives, small-pox, purples, typhus, foreign bodies which affect the nerves, brain, or spinal marrow; wounds of tendons; or they indicate plenitude of the vessels and sanguineous congestion to the head and spinal marrow; or exhaustion of power (hence most ominous in hemorrhages and other profluvia). But we must bear in mind, that in children and hysterical persons they may arise from trifling causes, and are not so significant; generally, in either of them, they originate in the intestinal canal.

By cramps (*spasmus*) we understand, accurately speaking, a continued contraction of the muscular fibre, by *convulsio*—contraction and relaxation alternating. The highest degree of spasm is tetanus; the highest degree of convulsion is epilepsy. Spasm and convulsion may take place alike internally and externally; thus a number of internal affections, e. g. *palpitatio*, *vomit*us, *tussis*, *colica*, *ischuria*, *singultus*, fall under this category. In the widest sense, also, all anomalies of sensibility, are called spasmodic affections.

Singultus indicates in the first place a little convulsion of the diaphragm which arises from very different causes, and therefore is of different significance. Thus it is commonly indicative of distention of the stomach in infants; also of cold, and is of no significance at all. But in hot fevers it indicates either abdominal inflammation, or is in nervous fevers a malignant nervous symptom.

Paralysis indicates an enfeebled or annihilated activity

of the motory organs of the muscles, in a more extensive sense, also of sensation even of the mental faculties, e. g. loss of memory, *stupor*, *fatuitas*, and in all these cases is either a sign of nervous power impeded and bound up by external influence, or weakened and annihilated in its internal sources; hence of different significance. In the first case it is often very insignificant and transitory; in the latter case it is very momentous and dangerous, most so when it proceeds from a weakness or affection of the original source of sensibility, of the brain and spinal marrow, e. g. from apoplexy.

Fainting (Lipothymia, Syncope), and Apoplexy (Apoplexia.)

In either there is debilitation or entire annihilation of nervous activity, sensation, motion and consciousness, with this difference, that in syncope there is also a reduction of the activity of the heart and circulation, hence pulsation and warmth are alike weakened, even sometimes entirely annihilated; in apoplexy on the contrary, the circulation continues undebilitated, even frequently is increased; and it often leaves the body paralyzed, which is not the case in faintings. Syncope, therefore, indicates a momentary annihilation of the activity of the heart; apoplexy, a ceasing of the activity of the brain and nervous life. Fainting, therefore, is of little significance in hysterical persons, and is to be considered only as a common attack of spasm. It is of consequence in the onset of fever, and a certain sign of its nervous character; and in cardial affections is confirmatory of an organic derangement of the heart. Apoplexy indicates always the most important and highest affection of the brain in its inmost life.

7. COMPLEXION, STRUCTURE, EXTERNAL APPEARANCE, CARRIAGE, POSITION,

Serve as signs, not only of actual diseases, but also of morbid dispositions.

Frame and structure.—Broad, high chest, and a good proportion of all the limbs, indicates a robust constitution, and durable health. Tall, slender and quick grown bodies with a long neck, flat chest and wing-like shoulders, are feeble, and show a constitution disposed to consumption. Short, stout bodies are always stronger, and with a short neck, are liable to apoplexy. In general, inequality in the

proportion of the limbs indicates a disposition to disturbances of circulation and sanguineous congestions, e. g. too short feet or curvations of the spine.

Excessive emaciation, when not due to a want of aliments or mental affections, or fever, must always lead our attention to a disorder in the abdominal and digestive organs, or in the lungs, or to a morbid excretion, e. g. of blood or of semen, diabetes. Extraordinary obesity is always suspicious, and generally indicates disease of the liver.

In all chronic diseases, examination of the abdomen ought never to be neglected, in order to discover whether one part of it be distended more than another, or hardness, indicative of physcony, obstruction, or other organic derangements of some one of the viscera. But we must not allow ourselves to be deceived by this appearance in infarctions, and accumulation of hard excrements in the colon, which are recognizable by their being movable from one place to another.

Complexion. Pale color indicates the presence of morbid substances in the primæ viæ, especially acidity and worms, or spasm, or want of blood, or watery blood, or tardy sanguineous circulation and weakness; white complexion, chlorosis; red complexion, plethora or sanguineous congestion to the head; circumscribed red cheeks, hectic disposition. Light yellow complexion (abdominal complexion), diseases of the abdominal viscera; yellow complexion, diseases of the liver, *icterus*; blue complexion, *cyanosis*; blue spots, scorbutis, dissolution of the blood; in old age, stagnation of it, danger of apoplexy. Suddenly and entirely changed appearance of the sick, indicates great danger; the same is true of an entire change of habit.

Position of the sick. The more it is in accordance with his natural habit, the better. To lay immovably in one spot, shows either stupor or great weakness. Continual moving about, indicates either internal anxiety and pains, or some irritating quality in the blood, e. g. an exanthematic matter, frequently also gastric accumulations, and on critical days, a coming crisis. To be able to lay on either side and on the back equally well, indicates that the chest and abdomen are free from considerable disorders of the viscera; the first especially when the patient can breathe well with the head bent back. Not to be able to lay well on one side indicates, generally, a disorder of a viscus in the opposite side. Throwing the feet towards the abdomen, indicates abdominal pains; indecent denudation, either

great delirium or great anxiety ; the same, when the sick cannot endure clothing on the body ; still more, when he continually rises and starts ; the sinking of the patient in his feet, greatest vital weakness ; still more the catching after illusory objects, which is generally, but not always, the forerunner of death.

Also the *chemical examination* of the evacuated substances may be used for throwing light on the disease, especially for discovering its chemical character. This applies mostly to the analysis of urine.

Also the examination of *animal electricity*, whether it be positive or negative, and the examination by the stethoscope, both of which, however, give disclosures more of a physical and material than of a dynamic state of the system, and are consequently of more value in regard to the natural history of the patient at the time, than of practical utility.

Therapeutics.

DISEASE is a deviation of life from the normal state; consequently an internal change of life itself. Cure is a reduction of this deviation to the normal state, and restoration of health. Disease, therefore, as well as cure, must be regarded as vital operations, and in order to conceive and appreciate them, we need correct ideas of life and of the origin of disease.

All external phenomena of life, and also the abnormal one, disease, are nothing else than the manifestation of an internal prevailing power, which cannot be seen or imagined—the vital power.

This manifestation appears in a threefold manner; and in these actions consist the phenomena of life and the distinction between living and dead bodies.

In the first place, the body enters into a particular relation towards external things,—into the irritative relation. It perceives and reacts differently on external influences from what the dead body does. It is irritable, excitable, and external impressions become irritations to it. This quality of the living body is manifested in two principal forms,—firstly, by a contraction and oscillation of the fibre (*irritability, contractility*), and secondly, without a perceptible alteration of the fibre, by internal reception and propagation of the irritation (*sensibility*)—a property of the nervous fibre.

In the second place, the general chemical laws of nature are thereby partly annihilated, partly modified, so that matter puts on a particular character (living organic chemistry, vitality of organic matter), and in so far also the humors, especially the blood, are animated.

In the third place, all ingredients, powers and operations of the body constitute a unity, and tend and are excited to one end—its formation and preservation; i. e. the body be-

comes an individual, possessed of the power to form and develop itself, according to a specific character, and to defend itself against injurious influences, to transmute and excrete the incongruous, to regenerate the loss, to keep the whole in balance and proper mutuality, and to restore it when disturbances occur (the plastic creative power, in diseases the healing power of the organism).

Every living body is consequently elevated to a higher degree of existence.

Every action in the living body is a living action, and comprises always an alteration of all the relations mentioned heretofore, material as well as dynamic.

Every morbid influence operates as an *actio viva*, and only as such can excite disease.

Every effect of a remedy is likewise an *actio viva*, and can only as such produce a healing effect.

In every disease we must, therefore, ascertain the internal change of life, a change which lies at the bottom of the malady, and the perceptible external phenomena produced by it, and which are called the symptoms of disease. These are differently related to disease. Some are inseparably connected with it (*symptomata essentialia, pathognomica*); some are not so, and are only accidental (*symptomata accidentalia*.)

The internal alteration of life, which gives rise to the external phenomena, is termed the proximate cause (*causa proxima*). A *causa proxima*, therefore, is one, in which disease originates, with whose existence the disease exists, and with whose removal disease ceases.

The causes which produce the internal alterations are termed *remote causes*, and bear a different relation to the generation of disease, sometimes nearer, sometimes remoter. They may be external and internal, and are discriminated from the proximate cause by this, that their existence does not always give rise to the disease; therefore they also can exist without producing disease.

These remote causes are divided into predisposing and exciting (*occasionales*).

To cure is to change the abnormal state of life into the normal; that is to say, not only to take away the external phenomena of disease (symptoms), which never will effect a radical, permanent cure, since the symptoms, when the internal cause continues, of necessity return (*symptomatic*

cure), but to remove and annihilate the internal change of life, the proximate cause, which lies at the bottom of the perceptible disease; thus by pulling out the root, the fruits and blossoms fall of themselves (the *radical cure*).

Now this can be effected either by *taking away the remote cause*, which gave occasion to that internal change; as when we take away a splinter, or any other foreign body, we remove the irritation and inflammation created by it; by removing gastric impurities the complaints arising therefrom; in suppressed excretions by restoring them; in too profuse ones by stopping them. Thus, even other diseases can be causes of the present malady, and the cure of the first will effect the cure of the latter (*causal cure*). We easily conceive, that this cure is preferable to any other; for if the cause continues, either amelioration is impossible, or if it is effected in another way, the evil will return. Or a cure may be effected, by attacking the internal alteration of life, which is indispensable to disease, indeed is the disease itself, and changing it into the normal state (*direct or specific method*).—This method is adopted when no rational cure is indicated or possible.

But since every abnormal state of life can be changed into the normal, only by the reaction and co-operation of the vital power, and every cure depends on an internal curative process (as shown above), it follows that direct curing by art consists only in supporting this internal curative process of nature and bringing it to perfection. This is done either

By removing the cause of disturbance and the obstacles to its action;

Or, by supporting and raising the vital power when it is too weak;

Or, by reducing it, when it is too strongly and tumultuously excited;

Or, by remedies, which have either a specific action on the suffering organ, so as to give it another character, or to arouse properly the vital activity, or which are capable of producing an amelioration of the morbid matter and all the material relations.

This is the *causal, rational, radical method of curing*.

We can also perform cures which are only apparent, as removing the morbid symptoms while the cause of the disease continues (the *symptomatic palliative method of curing*). This is only sometimes practicable; but we may

easily conceive that this cure cannot be permanent and radical. The accidents sooner or later reappear, either in their former shape, or, what is still worse, in another and more dangerous form. It is the method of quacks, and will be avoided by every rational physician. It is only in two cases that it may be resorted to:—in the first, when a symptom is accompanied with imminent danger of life; in the second place, if one symptom hinders even the radical cure, or makes it difficult, such as violent pain and diarrhœa, which evacuates the remedies as soon as taken.

Finally, the treatment can refer to a disease not actually existing, and have for its end prevention of it (the *preservative cure*). This is done either by removing the disposition, or taking away the causes as far as they are within our control. But we must here be careful not to carry it to abuse, or undertake it without sufficient reason.

The MEANS for obtaining the end of healing embrace all nature, not alone corporeal but also spiritual and mental. All that affects the human system, can be used as a remedy.

The SELECTION (*heuristic*) of the remedies is made:

Either in the rational way, as by a plain recognition of the wants of morbid nature, and of a remedy which has reference to them,—a venesection in plethora or excessive sanguineous excitement, wine and cinchona in deficiency of power:

Or in an empirical way, i. e. through the knowledge acquired by experience, that such or such a remedy has a particular relation, and curative power, as regards a certain organ or morbid condition of the system; such are the effects of cantharides on the urinary organs, of mercury on syphilis—*specifica*.—Also the principle: "*Similia similibus curantur*," the knowledge of medicines, which produce in a healthy state symptoms similar to the disease, may be very well profited of, in order to discover such remedies.

The ORDER of a rational mode of healing is therefore as follows:

First, to recognise the *present morbid* state, which requires of us to carefully ascertain all phenomena heterogeneous to a normal state. In doing so, we must not consider any thing as trifling and insignificant; for a symptom may in the beginning appear trifling and insignificant, but

which will become very important and momentous. It will be best—that we may not forget any thing—to observe a certain order in our method, and that according to the functions. First the vital functions, pulse and respiration; then digestion, secretions, and excretions; mental and nervous condition.

Then to *inquire* for the *precedent* or *causal relations*.

It is not proper to commence with this, as some do; for the mind gets thereby preoccupied with an idea of the disease, and then it considers also the phenomena in and by this view, consequently not in a mere objective manner, as they are and ought to be seen by him. Every prejudiced opinion disturbs the correct and complete conception of the actual image of disease. In the anamnestic investigation we must go back as far as possible.

Then *examine the constitution*, the individuality of the patient as well as the general prevailing epidemic, endemic, stationary constitution.

This finished, we must turn our attention to the internal state, and try to form a correct idea of the *internal morbid condition*, the seat and character of the disease, whether it be inflammatory, nervous, adynamic, dyscrasic; and in difficult cases we may have recourse to analogy and reagen-cies.

By this will appear the *object of cure* and the *indication*, for whose fulfillment the proper remedies will be found either in the rational or in the empiric way.

Practice.

MAXIMS AND GENERAL RULES FOR BEGINNING PRACTITIONERS.

ART is eternal, system transient.

Art pertains to the internal sanctuary of man ; system to time, whose product it is.

We have names, even forms of diseases, remedies, notions and explanations different from those of antiquity ; but the art of healing is still the same, nature the same, and the same capacities are required for becoming an adept in medicine as at the time of Hippocrates.

There is only one art of healing ; for it is something internal resting on the eternal laws of nature ; but there are many systems, and they are of necessity ; for they are something external, dependent upon the spirit prevailing at the time, and on the degree of external knowledge which we have attained.

We have had systems enough to know, that medicine does not lie in scholastic systems. This has been incontestably demonstrated by history, especially of the last 30 years. Every one pretended to be the only true one, the only beatifying one, until it was destroyed by a new one, which made the same pretensions as its predecessor. This X will always continue, to the end of time.

But there is a consolation and a gratification in observing, that amid all the changes of systems, and the greatest aberrations of schools, the sense of true art has been preserved in the minds of some single individuals. There has ever been an invisible church of genuine physicians, who, always faithful to nature, animated by her spirit, acted according to her intimation, and preserved her holy word ; who ever and anon thought and willed one and the same thing, who understood and ever will understand each other through all changes of ages and languages. There have always been such men as Hippocrates, Aëtius, Aretæus, Baglivi, Sydenham, Huxham, Boerhaave, Werlhof, Brendel, Zimmermann, Lentin, Frank.

Let us then no longer catch at shadows, but seize the internal essence of science itself; let us discriminate between word and spirit, form and life, or—what is the same—system and art, that we may no more lose the spirit by the letter, the art by the system, as but lately it threatened to happen.

Every art has a secret of its own. This cannot be learnt or acquired from without, nor can it be conjured by certain formulæ and ceremonies; every one must have it generated within himself, and only such a one will participate in it, as he who imbibes it from the spirit of nature, conceives it purely in his inmost mind; lives in and becomes familiar with it. Such a one only is initiated and receives revelations; he alone understands the word.

Without reflection there is no reasonable action. Thus also medical action presupposes something reflected upon (theory). But the practitioner's reflection must proceed from nature and life,—not from a system.

There is therefore a particular theory of practice, as there is a theory of science. The latter always appears more consequent in itself; for it is mind's own primitive product, and holds good in the school. The first appears less agreeing with scholastic rules; for it is the reflection of nature, and its principles are derived from nature, a *datum*, not an *excogitatum*; and it holds good in the operation of nature, i. e. by the sick bed.

As organic life is nothing else, but an exaltation of things to a higher degree of existence, thus also the essence of the healing art is nothing else but an exaltation of empirico-historical knowledge to a higher degree of existence in mind. All knowledge must become animated, every phenomenon elevated to a higher sphere, every action to an act of life; then art lives in life, then it is true art. Hence true medicine has had a language of its own, since the days of Hippocrates, to designate the world of life, which is its element, and which is properly inexpressible. Hence such words as coction, crisis, metastasis, even reproduction, assimilation, and metamorphosis, etc., are ever like symbola or mythes, inaccessible to systems, but intelligible to him who can fathom the depths of life.

The most accurate systematizers are the worst empirics.

It is far worse to urge a system than a medicament or nature.

What is developed, so to say, in conversation with and intuition of nature, is of more value than all that which has been excogitated and learnt. It alone is possessed of true life, i. e. the spirit of nature, and is as eternally true as nature is.

Familiarity with nature, intuition, and observation are the only true ways to obtain it, and the internal requirement for it is a direction and exertion of an appropriate mind—a spirit of observation. It is acquired partly by the careful study of nature itself, partly by studying the works of such men, who observed her, who looked at her and described her in a pure unadulterated hippocratic light. What the study of anticks is to the artist, the study of Hippocrates is to the physician.

Every sick person is a temple of nature ;—approach it with awe and devotion, devoid of frivolity, egotism and want of principles ; then nature will look at you with grace and disclose you her secret.

Bear always in mind, who you are and what your office is. You are employed by God as a priest of the holy flame of life, and as administrator and distributor of the highest gifts, health and life, and of the secret powers, which he has bestowed throughout nature for the benefit of mankind. A sublime, a sacred task ! Perform it purely, not to your advantage, nor to your fame, but to the glory of the Lord, and to the salvation of your fellow man. You shall have once to give an account for it.

Maintain always the dignity of the profession in yourself and in others ; and never degrade it so as to make it a trade, and the means of bad purposes.

Discriminate well the malady and the patient, and always regard both in the act of curing. The same disease in one individual requires often a method of cure quite different from what is proper in another.

The principle of the art consists in generalizing diseases, and individualizing the patient as much as is possible.

It is better that the patient die than be killed by you.

If you cannot help, at least do no harm.

The cure must not be more pernicious than the disease.

Dubious remedies are better than none.

In imminent danger to the sick you must risk all, even reputation.

In general, never think of yourself, but of the patient.

Be not tardy to do what is necessary. The favorable moment does never return.

Do nothing without sufficient reason. It is better to let nature operate alone, than to do something wrong or unseasonable.

Especially in chronic diseases, get accustomed to patience, and know how to wait for the time. For they are curable at one time, and incurable at another. You will not succeed by impetuosity, but more frequently do injury. Nature undisturbed often continues her work secretly, and effects improvement, even cure; or changes the form of the disease into another which is curable; or creates a crisis, a metastasis, of which the physician can profit to perform a cure.

Never forget, that it is not you who heals diseases; but that it is nature which accomplishes the cure; and that you have to consider yourselves only as assistants, who can promote, support, aid her work, even make it possible and introduce it, but also, alas! hinder and render it impossible.

Never forget to regulate the diet of the patient. Many a cure has been effected by a strict regimen, excluding all injurious matters, which nourish the disease; and on the other hand, the best medicinal treatment can be frustrated by excess or faults in diet. We have in this to regard not only the quantity, but also the quality of the aliments; a department which requires a competent acquaintance with the qualitative differences of food, etc.

The most sublime vocation of man, after worship of the Deity, is that of being priest of the holy vital flame, and an administrator of the highest divine goods, and the most secret powers of nature—physician.

Do you think, when you appear before the throne of eternal truth, you will be asked, According to what system did you act? Did you comply with it, and have you brought it to perfection? The question will be this: I

made you steward of the wonderful powers which I have placed in nature, and of her products to benefit mankind; how did you distribute those treasures? To the benefit of mankind, with gratitude and veneration? or to honor your name,—with selfishness and egotism? Did you, in your researches and actions, strive merely for truth, to save your brethren, or was it all for self-interest?

To him, to whom medicine becomes not a religion, it is the most disconsolate, troublesome and ungrateful art on earth; yea, it must become with him the greatest frivolity and sin, for only that which is done in God, is holy and beatifying. How is it now-a-days with many? Nothing but mere speculation, a means to make a fortune, to win money; notoriety; even with the better sort of practitioners, the pursuit of the healing art reaches no higher than an investigation of Nature.

FIRST CLASS.

ACUTE FEVERS.

FEBRES ACUTÆ, FEBRES CONTINUÆ

Generalities.

THERE is only one acute disease,—it is fever. The fundamental character of it is: *increased activity of the vascular system, and accelerated vital action*, indispensably accompanied with *increased generation of warmth*. Every fever, consequently, has for its essential character a phlogistic (i. e. inflammatory) state, from which a real inflammation may easily be developed merely by graduation. Therefore, it is confined within certain limits of duration. Life cannot long continue in such an exalted, accelerated state, without either destroying itself, or retrograding, or assuming another form of malady. Every fever, in the very same individual, can be transformed into all the different species of fever, and exhibit them successively. It may be first a simple irritative fever, which, by hot drinks may be changed into an inflammatory one, and again altered into a nervous one by too much bloodletting or an omission of it and over-action; finally, it can pass into an intermittent.

Diagnosis. Cold, heat, accelerated pulse, lassitude, altered urine. The fever never entirely leaves the patient; sometimes it persists in an unvarying degree (*feb. continens*); more frequently in a degree varying in virulence (*feb. remittens, exacerbatio, remissio*).

Course, duration and crisis. The duration is from 7 to 14, 21, 28 days, which are called critical days, since the decision of the morbid state happens on them. The course comprises five stages; the onset, the increase, the acme, decrease, convalescence.

The acme, the point of culmination, is the period when the crisis, the decision, succeeds. A good and perfect crisis is always accompanied with critical evacuations; especially by the skin, and sediment in the urine. This continues through the whole stage of decrease. The imperfect crisis creates, either a local change (*metastasis*), or a change of form (*metaschematismus*) of disease. It terminates in either health or another malady, or in death. Death follows either by a general exhaustion of the vital power, or by the disease attacking an organ, the disorder of which (especially of the lungs) impedes directly the process of life, or whose affection injures the whole system.

The only sure signs of a perfect crisis and of real improvement are: a uniformly open, moist skin, a critical urine, (i. e. a urine, which after it has previously been entirely clear or thick and turbid, clears up and becomes straw-colored on the surface, and has a uniform, gray, white, or reddish sediment on the bottom); but before all stands the pulse,—a decrease in its quickness, and a transition into a calm, soft one. Without this diminution of the pulse, all other signs of improvement, even the feeling ease and comfort, are illusory. If the pulse remains quick and irritated, even whilst the other symptoms have ceased, a transition into an after-malady is to be feared.

Pathogenesis. The causes may be manifold; all that can excite a considerable irritation, or disturb the equilibrium of the organism, can excite fever; most frequently change of temperature, gastric accumulations, epidemic and contagious influence. There is also a certain disposition not to be denied. It rests more in the irritable than in the sensitive system, for nervous, hypochondriacal, and hysterical persons are much less liable to acute fevers than others.

It is an error to suppose, that fever always originates in a local irritation. This is, of course, true in the plurality of cases; but very often a general feverish excitement

appears first, and the local irritation, inflammation, etc., is only the effect of the former.

Variety of the Acute Fevers, Practical Division of them.

Fever, although essentially one and the same thing, assumes several modifications by the variety of the system, from which it proceeds, or which it particularly attacks. We determine accordingly the various kinds, or character of fever, and base upon them the various methods of cure.

Either no system is particularly affected, or there exists at least, no symptom of the various species—in this case it is simple fever (*febris simplex*).

Or the system most affected is the cordial and vascular system, which always acquires an increased vital activity in the heart and blood—this is inflammatory or vascular fever (*febris inflammatoria, synocha*).

Or the nervous system is particularly affected, always accompanied with an inclination to diminished vital energy, nervous fever (*febris nervosa, typhus*). When the vital power of the blood is destroyed by the disease, it is termed putrid fever (*typhus putridus, febris putrida*).

Or the gastric system is particularly affected by morbid substances (*febris gastrica*).

Or the fever proceeds from the cutaneous system, and affects chiefly the serous and mucous membranes, and is accompanied with a serous morbid matter (*febris rheumatica, catarrhalis*).

The CAUSES producing the various febrile characters are:

1. The character of the exciting causes which imparts itself immediately to the whole fever succeeding; e. g. violent fright creates a nervous fever, violent anger a bilious fever, excess in overheating and wine, an inflammatory fever, communication of putrid substances or contagion, a putrid fever.

2. The constitution and disposition of the individual, on whom the exciting cause operates, as the soil in which the seed is developed. Thus, e. g. the very same exciting cause produces in a debilitated person a nervous fever, in a plethoric one, an inflammatory fever.

3. The prevalent epidemic constitution. Its power is extraordinary, and it can impart to all individuals an identical febrile character.

4. The course of the fever itself can alter its character. Thus e. g. exhaustion follows immoderate exertion. Thus,

an inflammatory fever passes into a nervous one ; thus, by febrile irritation, corrupt secretions of the intestinal canal, and gastric impurities, are frequently engendered.

5. From accidental causes.—Thus, fright operating during the fever, or anger, or faulty diet, even the medical treatment. Very often a simple fever is transmuted into an inflammatory ; a simple or inflammatory into a nervous or putrid fever, by excessive overheating.

Therapeutics.—Every acute fever is a phlogistic state of the body, and consequently the remedial means called for is antiphlogistic. Therefore, in the commencement, and as long as the character of the fever is not established, the antiphlogistic treatment is the best.

Further, we must never forget, that in every acute fever the healing principle and the vital power are one and the same thing ; nay more, fever itself is nothing else than a curative process which brings about critical alterations, termination, and a restoration from disturbance to healthy equilibrium,—yea, in many cases, nature uses no other means than fever to cure disease. Therefore the office of art is by no means to remove fever itself, but solely to guide its operation in such a manner, that it attains the end of effecting a perfect crisis ; art can do no more than to clear away obstacles which oppose it, to moderate the vital power, when too violently excited, to raise and strengthen it when too weak ; in short, to confine it within that medium degree of activity, which alone can effectuate a critical operation.

The GENERAL INDICATIONS are the following :

The *first* is, to remove the exciting cause, e. g. gastric matter.

The *second* is, to ascertain what is the febrile character, and to adapt to it a method of cure.

The following principal methods for curing a fever are advised : the *antiphlogistic* ; the *nervine* ; and the *exciting* ; the *roborant*, *antiseptic* ; the *gastric* ; and the *diaphoretic* or *anti-rheumatic*.

The *third*, to treat the local affections according to circumstances.

The *fourth*, to regard carefully the crisis and curative operations of nature, here so important, and to aid them, the least of all to counteract them.

The *fifth*, to watch attentively the changes going on in the fever, and the transition of its character into another. Here it may be well to remark, that the species of fever are by no means so clearly and distinctly separated from

each other by nature as they appear in a printed compendium. Frequently, several become mixed ; and there often occur complications of several species, e. g. of the inflammatory and nervous, of the gastric, with all other kinds of fever, etc. ; often the species shows itself only in a low degree, e. g. the nervous fever merely as a nervous state.

The practitioner has to look upon the original fever as a unity, as a phlogosis ; and all the so called species and sorts as mere deviations and modifications of this fundamental state, which they always retain as their base, and to which they may easily return again.

Therefore, in a case of decidedly and clearly marked febrile character, the best mode of treatment is to use opposite means ; but in all other cases, a more negative course is to be observed—an antiphlogistic temporizing one, and a vegetable diet.

General Diet in Fevers.

1. Every febrile patient must lie down and *rest*, corporeally as well as mentally. This is an essential rule, which nature herself prescribes through a feeling of fatigue felt in every fever. It is incredible, how much a horizontal position contributes towards diminishing a fever ; it calms the pulse, renders the circulation of the blood uniform, permits nature to dispose of all her vital powers for curative operations, and thus promotes and alleviates a crisis. In short, it is an indispensable condition in the cure of every fever.

2. Every febrile patient must *drink freely of diluents*, for the thirst which accompanies every fever is the voice of nature calling for fluid. Water is the best beverage ; but when the stomach is weak, let the water be boiled—as barley, toast, or apple water ; in this form it is more readily taken into the circulation.

3. A febrile patient must *not be allowed food*. This, also, is a commandment of nature, for she refuses appetite in fever. Let no substantial food be taken. Nature cannot bear it ; she wants the digestive powers to aid in procuring a crisis. Should aliment be taken, it would remain undigested in the stomach, and form sordes. It will nourish the disease, not the sick. Nothing stronger than gruel and the like, and stewed fruit should be allowed. All ani-

mal food is generally forbidden, since it increases phlogosis.

4. The *air* of the apartment must always be *cool* and *pure*, an essential rule for diminishing febrile actions, and preventing them from being changed into inflammatory or putrid fevers. Impure, hot, confined air of the sick room is sufficient to transform a simple fever into a putrid typhus. The temperature must range between 14—15° of Reaumur (50 to 55° Fahrenheit).

The best means for purifying the air of a sick room is by renovation—admitting fresh air. All chemical amelioratives do not accomplish this end, and they are especially apt to injure the lungs. The only chemical means advisable is to sprinkle the apartment with vinegar.

5. The *covering* of the sick must be *sufficient* but *light*. Discard feather beds, and take mattresses and a woollen covering (blankets).

6. The greatest mental *tranquillity* is indispensable. Every emotion, of joy as well as of grief, is pernicious.

7. Daily *discharge* from the *bowels* is necessary, if only to expel flatulencies. Therefore, if stewed fruits have not the effect of moving them, emollient injections must be administered in the evening.

SIMPLE FEVER.

Febris Simplex, Nullius Generis.

Diagnosis. The general symptoms of that fever which has no distinct character. It lasts sometimes only 24 hours, and performs in this short time its course and crisis (*ephemera*, fever of a day).

The simple irritative fever occurs commonly in healthy individuals, in the middle and stationary period of life; it is acted on by slight causes or even by contagious influences, giving rise to what is called mild small-pox, measles, scarlatina, and the like.

Simple fever is very often the commencement—the *morbus fiens*—of a case, the character of which is not yet apparent, but is about to be developed. While the case retains this undecided character, we must look upon it simply as one of irritative fever, and be careful not to decide upon what it may turn out to be, without sufficient reason; nor to attack the system vigorously, since it is possible

that the fever, if left to itself, might have easily yielded, but now increased by our treatment is made a dangerous malady. An erroneous anticipation of what the fever is to be, may lead to the application of irritants in an incipient inflammation, or to debilitating means in an incipient nervous fever.

Therapeutics. The cure is the general cure of fever and the general febrile diet, described above.

The best treatment is a negative, temporizing, indirect one; consisting in rest, horizontal position, abstaining from food, and slight antiphlogistic remedies, such as the Rive-rian saturation (s. No. 1.) or pulvis aërophorus (s. No. 2), cremor tartari, especially in solution (s. No. 3), frequent drinking; and this will often suffice for a cure.

It will, however, be very useful to give a mild, cooling purgative of sulph. sodæ, tamarinds, or manna, because, very frequently impurities in the primæ viæ do exist, and are retained there by the fever. Besides, it is of great advantage in cases of incipient violent fever to clear the primæ viæ early.

INFLAMMATORY FEVER.

Febris Inflammatoria, Synocha.

Diagnosis. Great chill in the onset; hard, strong and frequent pulse; great but lively heat; thirst; red urine; dryness of the skin and tongue; continuance of the same state of the pulse and all the other symptoms; pulse harmonizing with the respiration; increase and decrease of all the symptoms in accordance with the pulse. Rapidity and regularity of the course; strict observance of the stages and critical days; perfect crises by sweat, urine, or hemorrhages.

Duration. It does not exceed 14 days. Sometimes it mutates into nervous and putrid fever.

The character is not malignant. It is ardent, but easily soothed by an appropriate antiphlogistic treatment in the beginning. Apt to local inflammations.

Pathogenesis. The proximate cause is excessively increased sanguine life; therefore increased energy and irritability of the arterial system, and augmented coagulability and plasticity of the blood. It coincides with what the moderns term *phlebitis universalis*; for in so general an inflam-

matory diathesis of the blood, the internal surfaces of the vessels cannot fail to become inflamed.

The remote causes are: epidemical, endemical, an individually inflammatory constitution, dry severe cold, high stand of the barometer, north and northeast winds, age of 15 to 30 years, sanguineous plenitude, motory life in free air, living on meat and wine.

Exciting causes: violent overheating, taking cold, violent emotions, wounds, local inflammations; and in general every febrile irritation, which affects internally or externally, an individual disposed to synocha; every pyrexia enhanced by mismanagement.

Therapeutics. The indications are: to reduce the vital power, and that of the cardial and sanguineous systems; to relax the fibre; to fluidify the coagulable blood, to abstract warmth. The remedies are very simple: in the first place bleeding, nitre and all antiphlogistic salts, cooling purgatives; secondly: water, drinking largely; in the third place: calomel and nitre, potassa, soda; fourthly: cool air and cool water.

The chief remedy for this fever is venesection; it combines the attainment of all the indications. But we must never forget that it is the most potent remedy within our reach, since it takes away from the patient a part of life itself, a bold liberty which our art must not abuse. As certain as it is that bleeding is the only remedy in high inflammations, and one that cannot be replaced by any other, and that life exalted by inflammation often requires and bears large abstractions of blood, we must nevertheless be cautious not to lavish it to too great an extent, or to no purpose, since grave and irreparable consequences may follow such prodigality. For, in the first place, a merely inflammatory state may suddenly change into a nervous one, yea, into an adynamic or putrid state; in the second place, it may deprive nature of the power requisite for effecting what is indispensable—a crisis; in local affections, resolution, without which no perfect restoration and return to the normal state is possible; and finally, in the third place, it may bring on a chronic weakness and slow recovery, and even important subsequent maladies.

It is therefore necessary to make a distinction between the two degrees, in which this fever occurs.

1. The mild degree. Here the indirect method of cure is needed. It consists in withholding aliments from the patient; in a strictly antiphlogistic diet, rest, drinking water, in short, has reference to the general cure of fever;

and the use of cooling purgatives and of nitre. Should the digestive powers be impaired, and nitre purge too much, sal ammoniacum, with a little addition of emetic tartar will be proper (vide No. 4). Should it be necessary to continue the use of nitre, while there is some fear of debility, nitrate of soda in the same dose and form will prove serviceable (vide No. 5). Here, also a cooling purgative is very recommendable (No. 6).

2. The higher degree is indicated by great violence in all symptoms, but especially by a strong, full, hard pulse. Here venesection is the principal agent, and it often happens that nothing else is required, besides a proper regimen, to perform the cure. But in this case, as in many others, all depends upon the right form and the quantity of bleeding, to attain fully the desired result. When too small, it will be unavailing; when too large, it will prove pernicious. By a judicious, a right administration of it, we may even save much blood; for a single venesection done in the right manner, operates more decisively towards the removal of inflammation, than several repeated abstractions of blood inappropriately performed.

The following are the rules to be complied with, which I cannot recommend too urgently:

Venesection must be performed at an early time. The earlier it is resorted to in the incipient inflammatory state, with the more certainty, and with less loss of blood shall we subdue the inflammation in its rise; but at a later period, when the inflammation is fully formed, the same effect can scarcely be accomplished by three or four times as many repeated venesections, and the loss of much blood.

A quantity of blood requisite to annihilate inflammation, and no more, must be abstracted. This quantity is not to be determined by measure and weight, but by the state of the pulse; for a pound in one constitution will equal one and a half or even two pounds in another. We must therefore feel the pulse during the venesection, and allow the blood to flow until the hard, strong, full, frequent pulse becomes soft, less agitated, and calm. But we must, however, not continue bleeding unto fainting; for when there is a great disposition to coagulability, a coagulation of blood in the heart or the great vessels, and thereby polypous formations, even pneumony might arise during the stoppage of the circulation. This danger will be prevented by a horizontal position, and by closing the vein as soon as the pulse becomes unequal.

We must effect a quick evacuation, which is best done

by a sufficiently large opening of the vein. It is only when the blood spouts out arch-like, that it produces the salutary *collapsus vasorum*, which is indispensable for subduing inflammation. When the blood trickles down the arm, or is forced out by pressing, no benefit will result. The velocity of discharge will supply the quantity, and one pound evacuated in this manner, is of more use than three or four pounds abstracted slowly.

The best place for venesection in inflammatory diseases, is the arm, and as near to the heart as possible.

The indication for venesection is urgent in the following cases: when the constitution of the patient is plethoric, robust, youthful—between 18 and 30 years; when he is accustomed to bloodletting, or the usual time for habitual venesection is arrived, at which natural hemorrhages, such as hemorrhoidal flux, bleeding at the nose, would relieve him; when the prevalent (morbid) constitution or epidemic is of an inflammatory character, in the months of January, February, March, especially when severe dry cold, with a high stand of the barometer, shows the period at which the human system bears venesection best, and in large quantity; finally, when there are indications of an incipient local inflammation, as a short cough, a little pain in breathing.

These considerations can serve as auxiliary indications, and confirmatory in those cases where we are in doubt, whether we are to let blood or not; and where the physician finds himself in the dilemma, that if he does not bleed, the patient must die under an inflammatory fever, if he does, under a nervous one. Here one expedient is yet left: a testing venesection cautiously performed. We open the vein, and observe accurately the pulse whilst the blood flows. If, after a few ounces are drawn, the pulse becomes smaller and quicker, the vein must immediately be closed. So small a loss of blood can do no injury to the patient, and by its effect we discover what is the real condition of the system—a *local inflammation*.

It is an error of judgment to believe that leeching or cupping can replace venesection; for, the inflammatory germ in the blood can only be annihilated by a quick and large evacuation of blood so as to produce *collapsus cordis et vasorum*. It is a great mistake to believe that a gradual evacuation of the cuticular vessels, even if 40 or 60 leeches are applied, and they draw several pounds of blood, would answer the same end. It is only in infants, or in very feeble persons, laboring under local inflammations, that we may substitute leeches for venesection. One venesection is

not always sufficient. Inflammation is not always entirely subdued by the first evacuation. It may attain, after the lapse of 8, 12, or 24 hours, new vigor and ascendancy ; the fever reaching again to its former height. Here a repetition of phlebotomy is necessary. The rule is to repeat venesection as often as the pulse reacquires its former hardness and strength ; the more will this practice be useful, the quicker it is done, and the less blood has been abstracted formerly and the firmer and stronger the inflammatory crust on the blood. Thus we are sometimes obliged to repeat venesection three or four times. As for the quantity, we must always be guided by the state of the pulse, since the inflammatory crust does not always give a decisive sign ; for we might take away all the blood the patient has, and the crust still continue.

Conjoined with, or after venesection, an antiphlogistic purgative must be given in divided doses, so as to produce three or four stools. Here also it is to be borne in mind, that an excess of purging is noxious, and can operate as an irritation to increase the fever. After this, two to three drachms of nitre may be given within 24 hours, along with small doses of emetic tartar ; also sal ammoniac, according to the prescription already given.

By such treatment a favorable case of fever will entirely cease, and we shall have nothing else to do from the beginning to the end, but to continue the antiphlogistic diet and to attend to the crisis, and keep the patient in bed.

Metastasis is not uncommon in this fever, especially when the general crises have been disturbed by colds or other accidents ; but this happens more frequently in nervous and putrid fevers. Such metastases are either dynamic, as when the morbid principle acts on the nerves, producing paralysis, deafness, loss of memory ; or material, as when abscesses, or exanthemata appear. In the first case, vesicatories, kept up for a long time, will be proper ; and in the second, to accelerate suppuration and breaking, we must apply emollient, or even stimulating cataplasms.

Sometimes, however, the fever continues, or even it increases, without showing signs of an inflammatory state ; or the crises do not duly succeed on the sixth or seventh day. Here spiritus Mindereri, 30 to 60 drops every two hours is the best remedy to bring about the crisis, and to pass from a debilitating to a mild stimulating method of cure. In these cases we must carefully avoid the use of such stimulants as would tend to reproduce the phlogistic state. If this be unavailing, the case must be of a double

nature : Either that which is the most frequent, the phlogistic state is removed, but an erethic (nervous) irritability of the vascular system has remained. Here we must combine with spirit. *Mindereri aqua laurocerasi* one drachm within 24 hours. Or, as it commonly happens after too copious bleeding, there has been a transition into an adynamic state ; nervous, putrid, or hectic fever, are the consequences. Now the treatment must accord with the respective species of fevers.

After simple fever, strengthening remedies are seldom needed ; on the contrary, we must avoid cinchona and similar medicines, which might easily again create sanguineous agitation. The most serviceable remedy is elixir *viscerale Hofmanni*, 60 drops to be taken twice a day.

NERVOUS FEVER.

Febris Nervosa, Typhus Nervosus.

Diagnosis. The beginning is not announced by a severe chill as in inflammatory fevers, but imperceptibly sets in with slight chills, alternating with heat. The head and nervous system are particularly affected, as is made manifest in the commencement by headache, giddiness, and vertigo ; sometimes there is also fainting and trembling ; and later in the disease, we meet with delirium, stupor, spasms of all kinds, external as well as internal, convulsions ; great debility and lassitude ; the pulse is small, weak, soft, easily compressible, moderately frequent, sometimes even slow, and very changeable, not harmonizing with respiration, being quick, while the latter is moderate. In general there is great changeability in all the symptoms, especially of the urine, which is sometimes red, sometimes pale, most frequently jumentous ; discordance between the symptoms themselves and the condition of the disease : dryness in the mouth, and no thirst ; cause for pain, as from sinapisms, yet no pain felt ; violent sickness, and no perception of it, yea, assurance of feeling well ; hence the name *maligna*, malicious (*specie levis, revera gravis*), absence of the signs of other species of fever, particularly of the purely inflammatory, which is characterized by the strength and hardness of the pulse, constancy of symptoms, especially of the pulse and urine, the regularity of the course of the malady, and the harmony of the phenomena among each other, especially the correspondence of the pulse with respiration.

Sometimes, however, all signs are so uncertain that it becomes very difficult, especially in severe local affections of noble viscera, to decide whether the fever is purely nervous or inflammatory. Here it may be permitted to use with cautiousness re agencies, in order to discover the true character of the malady. Of this number is a testing venesection, performed with great care. We let a few ounces of blood run, and attentively observe the effect. If the pulse is raised and becomes slow, it indicates an inflammatory character, and you may let more blood flow; if it sinks, becomes smaller and quicker, the disease is evidently of a nervous character. In this case, the vein must immediately be closed and an anti-nervous treatment is to be pursued.

The difficulty of diagnosis produced by the deceitfulness, contradiction and inequality of the phenomena, has often been the cause of mistaking and confounding these fevers. They have been called nervous fevers, when they were not such, and the reverse.—We must also distinguish a nervous state from an actual nervous fever. The first associates itself easily with all other kinds of fevers in nervous and sensitive persons, without being therefore a real nervous fever.

The *course* is likewise very irregular and uncertain. The forerunners (cloudiness, dizziness of the head, vertigo, somewhat trembling in the limbs, headache, sleeplessness, dreams and visions) generally last for several days or even weeks. Duration, 21 to 28 days, or even longer. Convalescency is slow and troublesome, and apt to relapses; after violent nervous fever, a perfect restoration does not happen before two or three months.

The *issue* seldom occurs by a perfect crisis (whence these fevers have been termed *acriticæ*, and on account of their irregularity *atactæ*), but these fevers are characterized by imperfect crises, metastases, or metaschematisms, purples (which are commonly symptomatic, but, if they appear later on the critical days, can be critical), boils, abscesses, even gangrenous (*gangrena critica*), or metastases to the nerves, deafness, blindness, loss of memory and other mental faculties, chronic nervous complaints, pulmonary and abdominal maladies.

Death succeeds either through extreme exhaustion of the vital power, nervous paralysis, nervous apoplexy, or through local affections and inflammations of noble viscera, or by colliquation, putrid dissolution.

The danger in nervous fevers depends on exhaustion of

the vital power, on colliquation or a local affection of some noble viscus, most frequently of the head; and it is very apt to pass into paralysis, or inflammation, or gangrene.

The discrimination of danger is difficult on account of the deceitfulness of the patient's feelings, on account of the uncertainty and fluctuation of the symptoms, and their discordance with the internal parts. The principal rule is: *spera infestis, metue secundis*. With the most favorable signs, a patient may suddenly die by the supervening of a nervous paralysis, and may recover, though the most desperate appearance exists with all the general lethal signs.

The chief sources for forming a judgment are:

a. The pulse. It is here the main sign for determining the danger of life, chiefly its quickness. The more accelerated the pulse, the more the danger increases; the more quiet and equal, the more hope.

b. The urine. When it is perfectly clear, very thick, brown, bloody, or with a cloud floating in, or rising towards the surface, or with a very copious sediment, and which does not clear the urine above, great danger is indicated; on the contrary, gradual clearing up of a previously thick or moderate turbidness of the previously clear urine, is indicative of improvement; finally, moderate sediment succeeding, and the urine above it being entirely clear, citron or straw-yellow, points to recovery.

c. The head and nervous system. The more dizzy, soporous and insensible the head is, when the patient feels well in a severe malady, the more local paralysis shows itself, as of the tongue in speaking, in protruding it, difficult swallowing, incontinence of urine and stool, or violent convulsions, tetanus opisthotonus: the greater is the danger.

d. The skin. The more it is unequally warm or dry and languid, or covered with immoderate local viscous sweat or premature symptomatic purples and petechiæ, the worse.

e. Finally, The signs of colliquation, of putrid dissolution; hemorrhages, especially by urine and stool, colliquative diarrhœa, petechiæ, putrid, fetid smell, local gangrene, decubitus.

The signs of the approaching death are: stupor with silent delirium, coma vigil, crocidismus, carpologia, meteorismus, with colliquative diarrhœa, deglutitio difficilis; but also these are sometimes illusory. I have seen patients who labored under all these symptoms, recover.

It is remarkable that deafness is generally a good sign.

Variety and division.—The difference is in the first place

determined by the degree of virulence: *febris nervosa mitis* and *gravis*; then by the type: *febris nervosa continua* and *intermittens*; then by the duration: *febr. nerv. acuta* and *chronica*, finally by complication, which constitutes the most important difference for practice. We have here to regard chiefly whether the nervous fever attacks more or less the vascular system and the sanguineous mass. Is the affection inconsiderable, it is termed *febr. nerv. simplex*. Is the sanguineous system more violently seized, and augmented in its energy (which is likely to happen in young, robust persons, in rapidly attacking contagious nervous fevers), it becomes *febr. nerv. inflammatoria*. On the other hand, when the sanguineous system is much debilitated, and even the vitality and plasticity of the blood diminished, so that a disposition to dissolution exists, it is called *febris nervosa putrida*. Is the gastric system at the same time affected,—*febris nervosa gastrica*; and does rheumatic or catarrhal complication exist, *febris nervosa rheumatica et catarrhalis* (*catarrhus malignus*).

Pathogenesis. Proximate cause. The power of the fever concentrates in an affection of the brain and nervous system, with more or less sympathy of the vascular system and inclination to debility. Therefore the principal, often the only signs of its existence, are cerebral and nervous symptoms. Hence the varieties of vascular fever, which occur in it. Sometimes the vascular system, the pulse, and warmth, are not in the least altered. Sometimes in an inflammatory disposition there is an inflammatory state, with an asthenic disposition, an anasthenic state, which is apt to pass into a putrid one, by reason of the great disturbance in the nervous systems which preside over nutrition and reproduction.

Remote causes. All that has a tendency to lower and impair the vital power, and especially the nervous power, such as: deprivation of the necessities of life, starvation, scarcity, corrupt food, deficient vitality of the air (animalized air), crowding many men into small rooms, uncleanness, debilitating epidemic constitution, great loss of blood or other humors; thus excessive venesections can change every fever into a nervous one. Or exhaustion, consumption of the vital, especially nervous power. Overaction, immoderate exertion, corporeal or mental, excesses in venery, excessive heat, loaded beds, confined sick rooms, over-irritation from ardent medicaments, or omission of a necessary abstraction of blood, previous disease, the fever itself; every acute fever can in this manner, by the exhaustion of

power connected with it, pass into a nervous fever. Or finally, the influence of potences directly depressing the vital or nervous power: grief, sorrow, contagia of nervous or putrid character, dampness, cold, atmospherical constitution, deficient in vital power, the epidemic nervous constitution, which is observed especially in continued damps, (west) wind, and low stand of the barometer.

Therapeutics. The fundamental indication is to restore the normal action of the nervous system, and the balance between the vascular and nervous systems; with continued attention to the existing weakness. Therefore, when there is inflammability, depression of the vascular system by antiphlogistics, but never so free and large as in pure synchus, since the inflammation is nervous; in great debility of the vital power, and a disposition to putrescency, vigorous elevation and invigoration of the vital power; in predominant and threatening spasms, and nervous attacks, the soothing antispasmodic method; especially a careful individualization of both the subject and the epidemic, and regard to the exciting cause, whether the disease has been engendered by an external contagion or internal development. This latter circumstance is momentous in the treatment. For, when the fever is due to the contagium typhosum, i. e. to an external cause (which can even happen in a perfectly healthy and strong person), there exists always a state of excitement and inclination to inflammability; on the contrary, in internal development, it has more the character of weakness. We must ever bear in mind, that in this fever the vital power of nature, and the crisis, are less to be depended upon; that it does not terminate within a less period than three weeks; and that the assistance of art consists in keeping the patient alive during this space of time, dangerous to life, and which commonly lasts to the 18th day.

The special treatment is very various, according to the numerous modifications in which nervous fever manifests itself. They are: the simple, mild nervous fever; the violent nervous fever (brain fever); the inflammatory nervous fever, and the putrid; which sometimes succeed each other in the same malady, as so many stages, sometimes remain in one and the same form from the beginning to the end of the disease.

1. *The simple nervous fever of a mild degree*, often the first stage of the violent.

Diagnosis. The general symptoms of nervous fever in a mild degree, with moderate frequency of the pulse, and

only transitory, or no delirium. Here the main rule is more a negative treatment than a positive one, to do rather too little than too much.

The best remedy, and often alone sufficient, is chlorid water, acidum muriat. oxygenatum (vide No. 7), $\frac{1}{2}$ to 1 ounce daily, rest, horizontal position, uniform temperature, sinapisms on the lower extremities. I can assure, that I have seen a great many cases of nervous fever perfectly cured by this simple treatment. Is this not sufficient, then a weak infusion of valerian (vide No. 8), spiritus Mindereri, liquor anodyn. Hofmanni; acet. vin. mixed with the beverage; sinapisms, particularly lukewarm baths, to invite perspiration. The cutaneous crisis is the most important. But we must never neglect to pay attention to the complications, and to act accordingly. In gastric accumulations, an emetic and laxatives, in a rheumatic admixture, mild, not heating diaphoretica, spiritus Mindereri.

2. *Violent nervous fever, typhus.* Great affections of the head, increasing delirium, or a soporose state, incipient convulsive movements of the tendons, are significative of this degree of typhus.

The first question must here be: whether these accidents arise from an inflammatory state of the brain, or from a nervous irritation of this part.

The first—inflammatory state—will be recognized by the eyes of the patient being reddened and glittering; the whole face more red and bloated, the vessels of the head and neck swollen and pulsating, the head hot, the urine red, the pulse more frequent and filled; it may, however, be more slow, occasioned by the pressure on the brain.

Auxiliary signs are: the inflammatory character of the epidemic, the youthful and strong constitution of the patient, and in dubious cases even by the use of reagents, as some spoonfuls of wine, whereby delirium and pulse will increase in an inflammatory, but decrease in a nervous state. Even a small testing venesection is permitted, with the indispensable condition, that the physician be present, and ready to close the vein as soon as the pulse sinks and becomes smaller and more rapid.

Here antiphlogistics are to be resorted to, always bearing in mind the fundamental character of the fever—which is a debility of the nervous system; therefore local abstractions of blood (by leeches, on the temples, by the ears, or the neck, or cupping the neck) are preferable to a general venesection, which is allowed only in youthful plethoric individuals, and subjects accustomed to venesection,

the pulse being strong and full, and in the first stage, especially in the *typhus contagiosus*, and must be made with precaution, not too great a loss of blood at once, but rather to be repeated. Hence no nitre, which would weaken too much the whole tone of the system, but sal. ammoniacum, tartarus potassae, with small doses of tartar emetic; but especially cold fomentations on the head and ice cataplasms; finally, every two hours cold affusions, and injections with three or four ounces of vinegar, and daily repeated sinapisms on the calves of the legs. If this be not soon followed by an alleviation of the cephalic symptoms, then one to two grains of calomel every two or three hours. Generally in every phlogistic nervous fever, cold lotions of the body cannot be too strongly recommended. They ought to be repeated several times a day, as often as a great dry heat sets in; but not during perspiration. Should the pertinent application of these remedies fail to produce within a few days an amelioration of the cephalic symptoms, though the redness and heat may have decreased; should the pulse become small and soft, then the inflammatory irritation has changed into a nervous one of the brain, and the principal, indeed only salvative remedy is opium combined with calomel (every two hours $\frac{1}{4}$ grain of opium with 1 grain of calomel), and a vesicatory on the neck.

Does no inflammability exist, or is it removed and the fever continues violent notwithstanding; or the symptoms even increase—there is always debility of the whole nervous system, yes, of the whole organism, and now the fundamental indication becomes striking: Invigorate, animate and soothe the nervous disorder! Excitantia, analeptica, antispasmodica, acida and fixed roborantia are the remedies. Here the case is the reverse of inflammatory fever. All symptoms, most violent deliria, pain, acceleration of the pulse, indicate weakness, and excitantia are here of the same effects as venesection there. *Vinum refrigerat, sopit, pulsum retardat.* As in the former case, a decrease in the celerity and vigor of the pulse is a sign of amelioration; here an increase and a rising of the pulse is desirable.

But we must here discriminate three states, which modify the cure: the *spasmodic*, *irritable*, *erethic*, the *paralytic*, and the *putrid*.

The first and most common is the spasmodic, irritable, merely nervous state (*typhus irritativus, erethicus, versatilis*).

All the symptoms betray spasm and increased irritability

and sensibility, photophobia, violent phrenetic deliria, convulsions, spasms, even tetanus.—The pulse is small but somewhat hard.

Here, caution is to be observed from the commencement, not to over-excite a system already suffering under exalted irritability, lest by so doing we create an inflammatory state. In this respect we must be guided by the pulse and the symptoms. We may use nervina, antispasmodica, and excitantia both externally and internally, beginning with small doses, and gradually increasing them, if the symptoms do not yield. This increase consists in the augmentation of the doses, in the frequency of repeating them, in varying their quality, and in their mode of application. The remedies are *acida mineralia* and *sulphuricum*, the first to acidulate the beverage, the latter when there is too great a disposition to diarrhœa; Rhenish wine, (better, if twenty years old,) should be given from the commencement until the end of the disease. It alone is often capable to cure, administered in small or large doses, according to the degree of debility; strong infusion of valerian with angelica, arnica (vide No. 9 and 10); *olea ætheriea* (*valeriana*, *cajeputi*, *cinnamomi*) diluted in *liquor anod. Hofmanni*, as debility increases; also *aqua ammoniæ succinata*. Should these not suffice, give *aromatica balsamica* (*balsam. Peruvian.* *Balsam vitæ Hofmanni*), *naphtha*, *sulphuric*, *muriatric*, and *acetic acids*. Finally, in great debility and affections of the head, and small, soft, empty pulse, camphor; in violent spasms, with a small and somewhat hard pulse, musk; *castoreum*, and especially *opium* in violent delirium, spasms, pains, vomiting, diarrhœa, very small and rapid pulse; *opium* in large doses, however, it must be remembered, operates more as a narcotic, in small doses as a stimulant; hence large doses are proper in violent nervous attacks, and small doses in great debility. At the same time lotions, aromatic fomentations to the pit of the stomach, sinapisms every twenty-four hours, in imminent danger to be repeated every twelve hours; strengthening injections, particularly the lukewarm (28°) aromatic bath of ten minutes duration repeated daily. Also lightly nourishing, animating substances, water with eggs and wine, hartshorn-jelly with wine and broth.

When the state changes into paralysis, or when paralysis exists from the beginning (a state recognisable by insensibility, stupor, sopor, bland delirium, coma, and finally paralysis of the sphincters), the united and most vigorous

application of the above named irritative remedies is required, to which must be added ammonium, old wine, alcohol, phosphorus, and the application of cold, cold fresh air, current of air. Life in these cases is often nothing but an artificial state of existence, a true product of art, where the spark of life always near extinction is maintained, and ever rekindled by the renewal of strong irritants.

Even in the highest degree of this state, the approaching weakness of death, when the patient lies debilitated, stupid, unconscious, senseless and motionless; meteorismus, even involuntary discharge of stool and urine have set in, sometimes the following remedies have proved serviceable: very old Rhenish wine, poured in by spoonfuls, four vesicatories simultaneously applied, one on the pit of the stomach, the others on the extremities, a vigorous roborative bath at 28° along with aromatic herbs, mixed with wine or brandy; ice-cold fomentations on the abdomen and head, injections of a few ounces of wine, the analeptic drops (vid. No. 11), even the application of a cautery to the head.

Lastly, the *putrid* state, which may likewise grow out of the foregoing, or, in very malignant fever, can set in immediately from the beginning (vide putrid fever).

Especial consideration is due to

Typhus abdominalis.

What is meant by this, is

1. *Typhus gastricus*, the combination of a gastric, or, what occurs frequently, of a verminous state with nervous fever. It has for signs those of the gastric state and of the nervous fever united. Commonly the first cause of this fever is a gastric putrescency, an accumulation of gastric putrid substances in the intestinal canal, from which the most malignant putrid fevers may arise. The treatment is that which is proper for the cure of nervous and gastric fevers combined, the nervines and gastric purgatives, where great caution is to be observed, lest great debilitation happen.

2. *Typhus enteriticus*, is that state, when the glands of the intestines, especially those of the ileum, become inflamed, forming small inflamed spots, which pass into pustules and ulcers, as have been discovered after death. They are not genuine inflammations, but exanthematic and metastatic depositions of the febrile substance on the intestinal glands, similar to the aphthæ, which are formed in

the upper part of the intestinal canal under similar circumstances, and the formation of pimples on the skin. The signs of this condition are very obscure: diarrhœa with dull pain in the lower abdominal region, especially of the left side, only complained of when pressed upon, and bloatedness of that region.

The treatment consists (besides the general cure of the nervous fever) in the application of leeches to the painful spot, cold fomentations on it, and the internal use of chlorid water (*acidum muriaticum oxygenatum*), with gum arabic; when more violent and obstinate, calomel 3 to 4 grains two or three times a day.

In every nervous fever, that becomes protracted and commences to be chronic, I know of no remedy which is more efficacious for its quick removal than the daily use of lukewarm baths.

The consecutive debility, also, cannot better be removed, and the recovery hastened, than by these daily lukewarm baths, in which malt has been boiled.

PUTRID FEVER.

Typhus Putridus, Febris Putrida.

Diagnosis. The symptoms of typhus, together with the highest degree of vital debility, very rapid, small, easily compressible pulse, *calor mordax* (a particular heat, which communicates to the hand placed on it a disagreeable feeling of pungency and burning, which, instead of abating gradually, and, so to say, assimilating, increases more and more the longer the hand lies on the patient, and leaves an after-feeling—a mixture of the living and dead chemical heat, which is not the product of active secretion, but of already commencing dissolution)—putrid odor of the perspiration, of the breath, and other secretions; the signs of a commencing organic dissolution (colliquation). Such are: petechiæ, profuse, oily, clammy sweats, thick, dark urine, colliquative diarrhœa, discharge of blood by the nose, urine and stool, decubitus, tendency to gangrene; the blood abstracted in venesection is dark colored and does not separate into cruor and serum, but forms a pappy mixture.

Pathogenesis. It is either a consequence or a transition of a preceding ardent fever, most frequently of the nervous fever; it can, however, be developed from every other, even from an inflammatory fever, by keeping too warm, by uncleanness, corrupt air, ardent remedies; or it appears

from the beginning as a putrid fever, engendered by a *contagium putridum*, or in men with very corrupt humors, scorbutic diathesis, and after the abuse of mercury.

The essential character is an extreme vital debility, together with a disposition to putrid dissolution.

Therapeutics. The indications call for a lively arousing and elevation of the prostrated vital power, by which the operation of the dead chemismus in the organism may be counteracted, and dissolution checked by chemically antidotive remedies. This is the particular discrimination which is to be observed in the treatment of the putrid from the purely nervous fever. The first indication is answered by the most efficacious excitantia, especially wine, and all remedies recommended in the more violent degrees of typhus nervosus. The second—by such remedies, as increase the cohesion and contraction of the organic fibre and matter, and chemically resist the putrescent process. Of that number are principally cinchona (also its surrogate, cortex salicis), mineral acids, alum (vid. No. 12), and cold, which latter may be used either in the way of cold fomentations on the head, pit of the stomach, and cold lotions with vinegar of wine, even rubbing with ice, or in cold beverage, but particularly in frequently renewed cold air, since a continual renewal of the atmosphere, which surrounds and evaporates from the sick, is of the greatest importance. Vesicatories are to be avoided, because they have a tendency to pass into mortification.—In local gangrene fomentations of cinchona with wine, alum, sal ammoniac, myrrh, and in order to absorb the fetid smell, chloride of lime.

GASTRIC FEVER.

Febris Gastrica, Mesenterica, Intestinalis, Biliosa, Mucosa, etc.

Diagnosis. Foul tongue, with a yellowish or brownish coat, aversion to food, nausea, bad taste, either bitter, putrid, or slimy, a feeling of pressure, or fullness at the pit of the stomach, unusual lassitude, headache, dizziness, rapid pulse, but it is not so hard as to be considered inflammatory, nor so weak and small as to be mistaken for debility or a putrid fever. Negatively—the signs of another febrile genus are wanting, and as regards the exciting causes that relate to the gastric system and the constitution of the patient, are here of great moment. Frequently,

when the gastric character of the disease is not apparent, the effect of reagents,—such as the fruitless application, or the apparent noxious operation of stimulant and depleting remedies, must be consulted.

Duration and course are very indefinite: simple saburral fevers often last only a few days; others, especially bilious and mucous fevers, several weeks. The stages no less vary: often merely gastric from the beginning to the end; sometimes first gastric, then general; either nervous or inflammatory; sometimes also, in the beginning general, then gastric, then again general, and of various febrile character.—The same is true of crises. In one gastric fever there is only one crisis, gastric evacuations by vomiting or purging; in that which is connected with or passing into a general fever, general crises by sweat and urine succeed and are necessary. Frequently, however, it is imperfect, and there succeed eruptions, aphthæ, petechiæ, abscesses, and other metastases, which happen especially, when in the beginning the necessary evacuants have been neglected, and diaphoretics and stimulants have been administered instead of them, whereby a part of the gastric morbid matters pass into the* *second ways*—the blood. Besides, it is possible for the gastric fever to pass into a nervous, a putrid, or a chronic and hectic fever.

Gastric fever may differ by reason of the different qualities of the gastric contents; it is therefore divided into *febris gastrica saburralis* (from indigestibles); *biliosa*, *mucosa*, *verminosa*; or by the difference in the general febrile character, into *febris gastrica inflammatoria*, *nervosa*, *putrida*; or from the organ which it particularly affects into *febris gastrica pleuritica*, *hepatica*, *cephalica*, *phrenitica*.

Pathogenesis. The essential of the gastric fevers consists in this—that they cannot be cured but by cleansing the first ways. Impurities, morbid matters in the intestinal canal, which cannot be conquered by the ordinary digestive power, and their immediate effects on the intestinal canal, and sympathetically on the whole vascular and nervous system, are consequently to be considered the proximate cause of this fever (*vid. gastrosis*).

These impurities may originate in a double way, either externally or internally. Externally by taking aliments, which surpass the powers of digestion by their quantity or by their quality, and therefore remain undigested masses (crudities); internally from secretions of the stomach and

* *Primæ viæ*, the whole digestive tube; *viæ secundæ*, chyloferous and sanguineous canals.

intestinal canal, or of their annexes—as that from the liver, either increased in quantity or variously corrupted in quality; hence the formation of bilious and mucous accumulations to an incredible extent. Although in the latter case, the liver and its morbid irritation and secretion are to be considered the source of the impurities, and these not as the primary cause but as the material product of it; they are to be regarded in the treatment of the case as the proximate cause of the disease, for no cure is possible without removing them.

The *disposition* to this fever may be partly individual, partly general. Individual—weakness of the stomach and the digestive organs, irritability of the liver; men, who almost continually labor under phlegmasia of the primæ viæ, and from slight causes under bilious accumulations. Sedentary life, debauchery, indigestible aliments. General—continued moist and changeable atmosphere (thence especially accumulation of phlegm), continual heat (by which bilious accumulation is brought on), habitual use of indigestible aliments, melancholy.

Occasional causes must be mentioned: overloading of the stomach, anger, pain, taking cold, every violent irritation in predisposed persons; hence fever of any other kind may excite gastric complications.

In this way gastric fevers become epidemic. These fevers are most frequent in the intermediate climates, in those regions where cold and heat alternate, and the seasons partaking of this character, end of the summer, autumn, and in places where gluttony is indulged in (*vide gastrosis*).

Therapeutics. The cure consists merely in solution and discharge of gastric impurities; for the very doctrine of gastric fevers has originated in the observation of those fevers which yield to no other remedies than emetics and purgatives. At the same time the character of the fever is to be regarded.

Here three cases may possibly occur:

1. The patient shows all the symptoms of gastric fever, but without accumulation of impurities. Here digestive remedies are indicated, as the dissolving neutral and purgative salts, in such doses as do not excite purging: Cream of tartar, Glauber salts in small doses; in tenacious phlegm, sal ammoniacum, sulphate of potash. In very sensitive subjects, pulvis aërophorus, spiritus Mindereri; should watery diarrhœa exist, sal ammoniacum. These remedies mildly promote secretions and excretions, causing the fever to disappear, or produce an accumulation of impurities either

in the stomach, or in the intestines, whence, either emetics or purgatives will discharge them. Sometimes none of these effects take place. The gastric symptoms continue, but show no definite accumulation, and the fever increases. Here, either a phlogistic state exists, which calls for a cautious venesection; or a nervous state with spasmodic symptoms in the abdomen and the præcordia, for which a combination of digestive with antispasmodic remedies, as valerian, hyoscyamus, castoreum, musk, are serviceable.

2. The patient exhibits all the symptoms of accumulation in the stomach. Here an emetic in divided doses must immediately be given (vide No. 13). Let half an hour elapse after the first effect of the emetic, and then repeat the dose, in order that the patient may throw up three times, which is indispensable; after each operation give a cup of chamomile tea. In inflammatory complications, hard full pulse, a venesection first, and immediately after the emetic, next a purgative. The emetic must always be given in divided doses; for we cannot exactly anticipate the degree of irritability of the stomach, which is sometimes very great, and a full dose of the emetic administered at once might produce *hyperemesis*, which may prove dangerous. In great irritability and spontaneous vomiting, it need only be aided, and brought into full operation. Oxymel scilliticum and tea of chamomile will suffice. There is only one exception, when the emetic has been neglected and the stomach has become inactive and inirritable, and the patient labors under watery diarrhœa, every thing tending that way, small doses of the emetic would only increase the diarrhœa, without clearing the stomach. In such a case let the emetic be administered in a full dose, and not tartar. emet. but ipecacuanha; and when the sensibility of the stomach and diarrhœal disposition is too great, let a vesicatory on the gastric region and a few drops of laudanum internally precede the remedy.

One of the greatest and most dangerous errors of practice is to consider the effect of emetics and purgatives alike, and to believe one may be substituted for the other. That which nature will evacuate by emetics, cannot be discharged by purgatives; nor can the dynamic change, which an emetic produces in the nervous and secretory system of the stomach and liver (and which stops in bilious fevers the source of all impurities), be effectuated by purgatives. Besides a purgative is more tardy, thence much more weakening, and favors absorption. Never give an emetic

while the bowels are constipated; for it is apt to create *ileus*; in such cases precede the emetic by an injection, in order to free the intestines.

3. The patient has symptoms of intestinal accumulation, pain in the back and loins, rumbling bloated abdomen, borborigmi, discharge of fetid winds, and vitiated stools. Here purgatives are to be used, also in divided doses, choosing for irritable persons tartarized soda, Glauber salts, manna; in torpid cases Epsom salts and sulphate of potassa, in still more torpid ones the same mixed with *folia sennæ* (vide No. 14), in much debilitated nervous individuals, rhubarb, calomel, *oleum Ricini*.

The continuance and repetition of the evacuants is determined upon only by the signs of impurities, and the increase or decrease of the fever. If the fever and the gastric signs decrease, under the use of laxatives, and the stools continue vitiated, we must persevere in this course until the symptoms disappear and appetite returns, after which we give roborants. Do the evacuations become watery, and the gastric symptoms continue, digestives are again to be resorted to. If new embarrassments appear, we have again to give emetics or purgatives. The cure, therefore, may last three days or three weeks.

Nor must we neglect the complications that may belong to the fever: in the inflammatory—proper antiphlogistics; in the nervous or putrid—stimulants, roborants, antiseptics; in bilious—tartaric acid and tamarinds; in putrid—sulphuric and muriatic acid, also mucilaginous beverages; in mucose—acrid incidentia, sal ammoniac, squills, senega, emetic-tartar.

If, after the proper evacuations and the removal of the gastric symptoms, the fever continues, it is either in consequence of the gastric acidity having passed into the blood, or a persisting febrile complication; this requires the general crisis, which is best produced by *spiritus Mindereri*, antimonials, Selters water, or by treating the prominent complicated fever present, which is commonly nervous; or, if there is great weakness, by roborantia.

Every gastric fever calls at its close for roborantia; they may be required even whilst the gastric signs continue in feeble persons, and when the gastric state is protracted, in order to guard against impurities, which are often engendered by debility.

It is best to prescribe at first dissolving, slightly bitter extracts: *Extr. taraxaci*, *marrubii*, *trifolii fibrini* (vide

No. 15), and then quassia (vide No. 16) according to circumstances mixed with rhubarb, which is best borne by the weakened intestinal canal.

RHEUMATIC FEVER, CATARRHAL FEVER.

Febris Rheumatica, Febris Catarrhalis.

Diagnosis. Chills and heats alternate, painful stretching in the limbs, frequent desire to urinate, which is accompanied with pain, urine turbid and deposits a tile-colored sediment, disposition to perspiration, which evacuation gives immediate relief, while cold, on the contrary, as constantly aggravates. These symptoms are preceded, accompanied, or followed by a local affection, which may be either rheumatism or catarrh.

If rheumatism, there is local pain without swelling most commonly in an aponeurosis, osseous membranes, or muscular structures. It may be fixed or wandering, shifting from part to part, even to distant ones, and when from the surface to an internal organ, there is danger.

If catarrh, the local affection, may be, of the nasal mucous membranes (coryza): there is frequent sneezing, accompanied with an acrid watery discharge, which is sometimes mixed with blood at the commencement, and gradually changes into purulent matter when the local and febrile symptoms abate:—or it may be of the trachea (tracheal, pectoral catarrh), frequent cough, hoarseness, and roughness in the throat, at first expectoration of thin acrid matter, becoming at last concocted and purulent, with a corresponding diminution of the fever. Not unfrequently both kinds of local affection coexist, or one may pass into the other.

Pathogenesis. The proximate cause is an inflammatory irritation, either of a muscular or a membraneous part, or of a mucous membrane, due to a disturbance in the function of the skin (therefore antagonistic), combined with a serous acidity, which has thereby been created, and which keeps up the irritation. Every rheumatic or catarrhal affection is therefore a superficial inflammation, but only of the serous vessels; this is evident from the slight redness and heat, and the rare transition into suppuration. It can, however, by aggravation or additional causes, easily affect the blood-vessels and become true inflammation.

Remote causes. The disposing are: either *individual*, weakness and morbid irritability of the skin, sweaty skin,

general debility produced by bad habit, too warm rooms, too warm clothing, exclusion of free air, a particular mucoserous dyscrasiasis of the blood; or *general* epidemic: rheumatic catarrhal disposition in the spring and autumn, particular atmospheric constitution, by which catarrho-rheumatic epidemics are formed, endemic and climatic disposition, whole countries (the mountainous), places, even single houses, which by their situation and construction are exposed to continual draught of air or change of temperature.

The occasional causes: Taking cold, quick change from warmth to cold, or vice versa, the worst draught of air, leaving off an habitual warm piece of dress.

Therapeutics. The fundamental idea of cure is restoration of the cutaneous action, paying at the same time regard to inflammability, which exists locally as well as generally in every acute rheumatism and catarrh. All depends upon the virulency of the fever; for every rheumatic affection can be changed into a true inflammation merely by augmenting the degree of its intensity. Is the fever violent, or an indication of plethora, venesection is to be resorted to, and nitre with antimonial salts to be administered; a strict antiphlogistic regimen, with a uniform and not too hot temperature must be observed.

Rheumatismus universalis, one of the most painful and afflicting maladies, throws the patient into a state similar to tetanus, yea can pass into it, always requires general venesection, which will often suffice alone to cure. When the fever is slight, or abated by the above treatment, diaphoretic, but not stimulant remedies are of use, such as: spiritus Mindereri, antimonials, flores sambuci (vide No. 17), vesicatories. In still slighter cases camphor with nitre (vide No. 18), aconitum (vide No. 19), radix senegæ, stip. dulcamaræ, gummi guaiaci, sulphur; a principal remedy are vesicatories; in a nervous constitution with violent spasmodic pains, opium.

Too large or unnecessary abstractions of blood will tend to protract rheumatism and make it chronic; nor ought blood to be taken from a rheumatically affected part. In pectoral catarrhs, on the contrary, venesection is indicated not only by the general febrile symptoms, but also by stitches or pains of the chest, dyspnoe, and dry cough (signs of a beginning pneumony, *bronchitis*), also by phthisical disposition and pulmonary maladies, in which catarrh is apt to change into a pneumony, capable of passing into phthisis.

Generally, we must never forget that catarrhal and rheumatic fever may be complicated with every other genus of fever, with the gastric and nervous, and then the treatment must be varied to meet that which these states indicate. Especial attention is due to the momentous, sometimes fatal nervous complications (Hofmann's *febris catarrhalis maligna*) which call for commensurate treatment.

Local treatment. The catarrh requires a diminution of irritation in the mucous membrane, proportioned to the concoction of the expectoration. For that purpose give emollient mucilaginous beverages, warm vapors, mellaginia, linctus, antimonials, sulphur, flor. sambuci, sem. fœniculi, anisi, rad. and succus liquiritiæ, (vide No. 20 and 21), flannel on the chest.

In local pains of chest without indication of venesection, vesicatories on the spot (vide *catarrhus, bronchitis, pleuritis rheumat.*).

Rheumatism requires a local crisis by sweat, which may be brought on by uniform warm covering of flannel, wool, or oiled silk. In very violent pains, vesicatories and keeping up a suppuration near the part; in inflammatory indication, redness, heat of the part, leeches or cups; in irritability and increased sensibility, opiate; ointment and plaster (vide No. 22).

Does the fever cease and rheumatism remain, or catarrh exceed the duration of acute disease, then we are to follow the treatment for chronic rheumatism and catarrh.

CONTAGIOUS FEVERS.

Febres Acutæ Contagiosæ.

They are distinguished by this, that they are caused by contagious matter received from without, that each kind has its peculiar symptoms, course and duration thereby determined, and that the treatment must be modified accordingly, especially in regard to the danger of communication with others.

Of this class are: the *typhus contagiosus*, *typhus icterodes*, *pestis*, *carbunculus malignus contagiosus*, *cholera orientalis*, *variola*, *morbilli*, *scarlatina*, *miliaria*, and *petechiæ contagiosæ*, *tussis convulsiva*, *hydrophobia*.

Pathogenesis. The proximate cause of all is in the communication and operation of a foreign matter, which has the peculiarity of producing the same disease in every in-

dividual, and of engendering its like. It is either the product of a morbid organic body (*contagium*), or is formed in the atmosphere out of an organic matter (*miasma*, epidemic contagious matter).

This contagious matter has a double effect,—first, reproduction of itself; secondly, irritation and excitement, but only where it finds the receptivity requisite for its perception.

The effect of contagious matter has two analogies in nature, fermentation and procreation. In either case the communication of a matter is capable of producing a transmutative or assimilative process in other matter, and of creating its like (a new living something). Every contagion is to be regarded as a semen possessing its own vital and procreative power, parasitic in the system, capable of reproducing its like and the effects dependent on it. Thus far every contagious disease is to be regarded as a heterogeneous pathological vegetation and fructification of two classes: one is remarkable for the fixed duration of its periods of blossom and fruit, quick and regular in its phases like the short-lived or annual plants; it includes the febrile and acute contagia, called exanthemata, and the other secretive products striking the senses:—the other vegetates and is reproduced perpetually in the system comparable to perennial plants, and embraces the permanent contagia. This view is of practical importance, for it shows that we have to treat not the virus communicated, but that which has been generated, multiplied, and reproduced in the system.

Hence arise certain peculiarities proper to this class of fevers, which are: 1. In all there is excitement (on account of the heterogeneous admixed matter), the first and fundamental effect. Thence in the first period an inflammatory character. 2. But this inflammation, since it does not originate from internal causes, but is excited and urged on from without, is not genuine inflammation, therefore it is less permanent, less affecting, apt to pass into a contrary character, except where it finds a soil predisposed to genuine inflammation. 3. Its effect is always modified by the variety of the irritant matter itself, and by the variety of susceptibility in the recipient body.

Firstly, the contagion or miasma by its very nature differs in quality: the one directly asthenizing and depressing the vital power, as the *contagium putridum*, the other exciting it. The second variety, that of the constitution of the individual, is the most frequent cause of the various

reaction; thus the very same contagious irritants may produce multifarious fevers, inflammatory, nervous, putrid, gastric. Moreover, the influence of the epidemic constitution is here most momentous, since it can impart to all organizations a certain tone and disposition to a certain morbid character; hence at particular times small pox, measles, nervous fevers, etc., have an inflammatory, at other times an adynamic, and again a gastric character. 4. All contagious fevers have a disposition to exanthematic phenomena, to metastases, and in general to imperfect crises, since the heterogeneousness and poisonlike quality of the matter does not admit of a perfect assimilation and crisis. 5. In all, the reproduction and multiplication of the contagious matter is proportionate to the height of the fever as well as to the external circumstances favoring or hindering the febrile reaction.

Thereby arise certain external alterations or stages (*stadia*), which every contagious fever goes through: 1. The stage of infection, the period of communication, of sowing, without perceptible effect; it is of uncertain duration, varying from 3 to 14 days. 2. The stage of irritation or fever, the period when the poisonous germ is enlivened and reaction exists. 3. The stage of efflorescence and fructification, the period when the pathological vegetation arrives at blossoming and fruit (*exanthema*). 4. The stage of decrease, the period when the contagious plant dies and fades away.

Therapeutics. The fundamental indication in all is to ascertain what is, and to treat in a proper manner the febrile character, pertinent respect being paid to the contagion and its variable character.

The disease, or the fever, is to be looked upon as the endeavor of nature to operate on and to throw out the poisonous matter, so that in a slight degree of fever nature alone performs the whole cure according to certain *stadia*, and within a definite time, and art ought not to interfere.

In violent and decidedly characterized fevers the treatment must be co-ordinate with the variety of febrile character. It is, however, always better in the onset to use antiphlogistics. Every contagious fever must be regarded as a poisoning, and at the same time as a reproductive and multiplicative process of the poison, and we are to consider, that the more violent the fever and the greater the heat, the more poison is created in the patient. Hence, it appears evident, how great and obnoxious was the error, under which physicians of former times labored, in striving to drive out the

virus by heat and heating diaphoretics, a practice which could only increase the quantity of the virus, and thereby the force of the disease. Hence also appears the momentous advantage of modern practice, which has for rule to moderate the fever and heat as much as possible, and thereby to diminish the regeneration of the virus and augmentation of the disease. It is, consequently, indispensable to keep the patient cool, in an atmosphere not exceeding 14 degrees of Reaumur, to cool and refresh it in the summer season, by placing vessels filled with cold water in and sprinkling the room. Discard feather beds, which keep up heat, and retain noxious exhalations, and substitute a mattress and a light covering, and have recourse to cold fomentations even in the higher degrees of putrid fever.

In all contagious fever the chief rule is: to purify and renew the air, to observe cleanliness and separation of the sick.

Hence results the second rule: to consider the patient as surrounded by a poisonous atmosphere, ever exhaling from his own body, and which continually reacts on himself, consequently careful attention must be paid to its removal, and to renew the atmosphere. Of late many chemical means have been recommended for destroying contagion in the atmosphere. The chief are fumigations of chlorine and nitric acid; but their usefulness has not been confirmed, and their detriment, particularly to the lungs, is certain.

Renewal of air, then, continues to be the best purifying remedy, which is best effected by a draught of air, which, however, must run diagonally through the sick room, coming in at an opening near the floor, and going out at another near the ceiling, for the corrupt atmosphere forms heavier and lighter strata. It is a matter of course that the patient must be protected from the immediate impression of that draught on his body.

Several patients should not be permitted to lie together in one bed or in one room, or in a crowd of men, since that favors the multiplication of the contagion, and all secretions must be speedily removed.

TYPHUS CONTAGIOSUS.

Diagnosis. The symptoms of the nervous or putrid fever generated by infection.

The character is inflammatory in the first stage, and

passes later into the nervous and putrid; the first character may, however, remain. That depends partly on individual disposition, partly on the prevailing epidemic constitution. Therefore we meet with inflammatory, putrid, and nervous epidemics of typhus and military plague.

Therapeutics. The treatment is that which is laid down for typhus, but with a special regard to the variety of character, and particularly to antiphlogistic treatment in the first stage (*vide typhus*), besides an observance of the general rules for contagious diseases, especially free and always renewed air.

THE LEVANTINE OR BUBON PLAGUE.

Pestis Bubonica.

Diagnosis. The appearance of buboes and anthraxes, i. e. inflamed glandular swellings, which are gangrenous from the beginning, and pass rapidly into sphacelus, especially below the shoulders and in the inguinal region; likewise of petechiæ and ecchymoses in the first days of the disease, connected with a very violent fever, great anxiety, vomiting and cerebral affections, putrid fetid smell of all secretions, the highest degree of prostration and vital debility. The fever is *acutissima*, proving fatal often within the first twenty-four hours, generally decided by the third or fourth day; the mortality enormous, generally three-fourths die.

Origin—the coast of the Levant (thence it is also called the Levantine plague), especially Egypt, Smyrna, Constantinople; but by infection it can be spread everywhere, even in the most northern regions (London, Kænigsberg, Moscow).

The infection takes place only by contact, never by the atmosphere; therefore by avoiding to touch the sick, or bodies which have been touched by him, it can be prevented from spreading. On that rests the great benefit of complete extinction and removal by mere separation, by means of quarantine and boundary cordons, a practice observed in all civilized countries since the eighteenth century.

The treatment must conform to the varieties of its character; it may just as well be antiphlogistic as antiseptic, exciting, roborating; even venesection has proved serviceable in some epidemics and constitutions. The main thing is to promote the crisis by a good suppuration of the bu-

boes. The greatest care is to be directed to free ventilation. In the highest degrees of the putrid state, rubbing with ice has sometimes worked wonders; persons already apparently dead have thereby been restored to life.

THE YELLOW FEVER, OR BLACK VOMIT.

Typhus Icterodes.

Diagnosis. Yellow color of the skin; vomiting and purging of black matters, great anxiety and prostration, violent fever. Rapid course, and great fatality, as in the plague. It originates in the coastward regions of the West Indies and the Southern States of North America, but only to the 46th degree of northern latitude. By infection it can be transplanted into Europe, but will not become epidemic above the degree of latitude mentioned.

Therapeutics. Like the plague it is to be treated according to its different febrile characters. Venesection and large doses of calomel have proved the most serviceable.

THE COLD PLAGUE.

Cholera Orientalis.

Diagnosis. Evacuations of thin, gruel-like matter by vomiting and purging, great anxiety, bluish tint of the skin, hoarse voice, pains in the stomach and abdomen, violent cramps in the lower extremities, especially in the calves of the legs, marmorlike coldness of the extremities, of the body, and even of the tongue, suppression of urine, small, intermittent, imperceptible pulse, total want of cutaneous action, asphyxia.

Course as rapid as in the plague and yellow fever, frequently fatal within the first twenty-four hours by asphyxia, generally within two or three days. Mortality always equals one half, even two thirds of the affected. Often, when the cholera abates, it passes into a typhus fever, which may also terminate fatally. For a long time after, there remains a nervous debility, and weakness of the digestive organs.

It originates in the litoral regions of the East Indies, especially of the Ganges, but may spread farther by infection and progressive miasmatic generation over the whole globe, crossing even the ocean (to America). But in this disease, as in the yellow fever and the plague, elevated dry

regions are less exposed to infection ; and personal infection is far more dependent on circumstances, and occurs more rarely than in the plague.

Therapeutics. The principal remedies are, in all cases where the debility of the individual does not forbid, to immediately administer a venesection and an emetic. The latter often removes the whole attack. Sinapisms and warm aromatic fomentations on the stomachical regions are useful. Should it not abate after this, give calomel, injections, and order frequent drinking of cold water ; cold injections, cold applications on the abdomen ; and rhubarb to evacuate the retained bile. In the higher degrees, even cold affusions. The typhus which follows, must be adequately treated, particular attention being paid to the sanguineous congestion to the head, which often requires abstractions of blood.

HYDROPHOBIA.

Rabies.

Diagnosis. Impossibility of swallowing water or fluids in general, extreme aversion, even so as to excite convulsions, against touching, yea, looking at fluid or even bright objects (e. g. looking-glasses) ; and yet the individual is able to swallow solid things freely, and without pain. Such are the diagnostic symptoms of *rabies canina*, either in the onset or associated with it subsequently, a period of anxiety, lassitude, various nervous affections, watchfulness, and frightful dreams, especially of dogs, having preceded. With the appearance of hydrophobia the proper rabies sets in. It is *morbus acutissimus*, lasting not longer than three or four days, and terminates in death under convulsions and apoplexia nervosa. It may exist with or without fever, the sensorium commonly remains free, and the patient is conscious to the last. There occur, however, often violent attacks of rage, compelling the patient to spit out, to bite, to imitate the barking of dogs, intermixed with fits of fainting and convulsions ; great anxiety, and excitement of the genital organs (priapismus) particularly appertains to this malady.

Pathogenesis. The essence of the disease is a poisoning of the nerves, generated by the infection of the canine virus, through wounds or parts covered with tender epidermis as lips, eyelids, internal surface of the nose, genitals. The infection may be direct (by bite), as well as indirect (by

transferring objects). The virus can remain for a long time latent on the spot of infection, commonly two to three weeks, sometimes months, even years. Then appears an itching or smarting, with redness in the place of the bite, long since healed and forgotten; and from this the disease breaks out. An occasion for breaking out, or awakening and enlivening the dormant germ, is given by violent over-heating, passions, ardent spirits.

The fundamental character of the disease is therefore only nervous, not inflammatory. This is proved by all the symptoms, the absence of fever, and the manner of death; also in dissections we generally find no vestige of an internal inflammation, for the reddened spots perchance here and there exhibited, may be explained as merely secondary effects of the violent irritation.

The hydrophobic virus seems capable of being generated not only by a system laboring under it, but also by a very violent rabid affection of mind; at least there are instances recorded, that bites of extremely exasperated creatures have produced rabies.

Therapeutics. The only sure cure is prophylactic; the cure of the developed malady is rarely possible.

For that purpose, the diagnosis of the infection is requisite, but this is not always easy, since the dog often escapes or is killed before we can ascertain the existence of the disease in him. In dubious cases, however, it is always better to use the preservatives, since the danger to which one is exposed, is so horrible, that a mere possibility of doing good is sufficient reason for their employment.

The *principal* indication in the *preservative cure* is to destroy the poison in the place of application, since experience teaches, that it can there remain locally fixed for a long time.

The *second* indication is to destroy and neutralize the poison already received in the organism, for which purpose mercury is the principal remedy.

The *third* indication, to remove the receptivity of the nervous system against the poison; for which, according to all experience, belladonna is most efficacious.

We must therefore hasten to act as follows: First, scarification, cupping, and cauterizing the wound by gunpowder, which is preferable to hot iron, for the flame penetrates into the fissures and cavities of the bite, carbonizing them. In this way, the poison, as well as the organ which received it, is destroyed. Next, dress the wound with an ointment containing red precipitate and cantharides, and keep it in

free suppuration for six weeks ; even at the expiration of this time the sore is not to be closed, for we learn that the disease has broken out, after such a sore has long been cicatrized ; change the wound then into a fontanel, which must be kept open a year.—When the wound is so situated, as in the eyelid, the lips, the face, as not to admit of this treatment, we must content ourselves with scarifying and washing it with salt water and lye.

With this local, the following general treatment must be connected. One drachm of mercurial ointment must be rubbed twice every day into the circumference of the wound and to a distance around it, and two grains of calomel, together with one grain of rad. belladonnæ, be taken morning and evening, until a moderate salivation commences, which must be kept up for a fortnight.

The treatment of *rabies when broken out*. The most serviceable has been the following : As soon as the first indication of the disease appears, we must re-apply the local treatment to the original sore as above described, and use embrocations of unguent. mercur. on different parts of the body, especially on the neck, in order to produce salivation as quickly as possible, which alone may create a curative crisis. At the same time administer two grains of calomel together with one grain of rad. belladonnæ, in increasing doses every three hours. In young, plethoric persons, venesection to fainting is good ; if it is practicable in any way, warm baths.

CARBUNCLE.

Carbunculus Contagiosus.

Diagnosis. The carbuncle virus is communicated either by being wounded by animals affected with it, or by eating of their flesh. In either case a fever ensues, which is marked by great prostration, vertigo, anxiety, frequently also by vomiting and diarrhœa, followed after a few days by the eruption of one or several carbuncles. They appear first as little blisters, which are followed by an eruption of several small ones filled with lymph, which assume after a few days a brown, then a black color, and form finally an anthrax, larger or smaller, which often penetrates deeply into the substance, sometimes only superficially ; absence of inflammation or pain ; the limb swells and becomes insensible, and even perishes.

From the commencement, especially after eating much

of the poisonous meat, the fever may pass into a putrid one, generating rapidly spreading putrefaction, and ending in death before pustules can form. Such a case is accompanied with general colliquation, intense anxiety, abdominal pains, bloody diarrhœa, and terminates fatally in twenty-four or forty-eight hours. More frequently, however, it abates on the appearance of a carbuncle, critical perspiration or diarrhœa, and becomes localized, the danger being now confined to the virulency of the local gangrene which can prove fatal in its course. In favorable cases a separation succeeds, with expulsion of the carbuncle; this, however, always takes a long time (six or eight weeks), and is accompanied with weak and bad suppuration, terminating in recovery.

The cause of this malady is infection of the carbuncle virus, which takes effect only by contact, external as well as internal application, never by the atmosphere.

The cure consists in the treatment of the fever and the local one of the carbuncle. The fever calls for an emetic in the onset; and when it is violent, for that which is laid down in the cure of putrid fever, especially camphor and cinchona, vinegar mixed with the beverage; also buttermilk has proved very salutary. The boil must be surgically treated by incisions, and antiseptic cataplasms, to promote reaction and suppuration. — Experience has, however, taught that the continued application of warm emollient cataplasms of linseed and the like, perfectly suffice for the cure.

SECOND CLASS.

INTERMITTENT AND CHRONIC FEVERS.

FEBRES INTERMITTENTES, LENTAE, CHRONICAE.

THE difference between the class of fevers we have now described, and the one we are now entering upon, consists in this—in the former, *fever* essentially constitutes the disease; while in the second class, fever is only a form, producible by various causes, indefinite in its duration, and variable in its treatment.

INTERMITTENT FEVERS, FEVER AND AGUE.

Febres Intermittentes.

Diagnosis. A chill, followed by heat, terminating in sweat, with a urinary deposit of red sediment, constitutes a paroxysm. It returns at definite, sometimes at indefinite periods, leaving an interval entirely free from fever, with good pulse and health. The state of fever is termed *paroxysmus*, and its absence, *apyrexia*. Every paroxysm is an acute fever on a small scale, a series of which constitutes the malady. Generally the paroxysms return at regular and certain periods of time, once in twenty-four hours (*quotidanæ*), or every forty-eight hours (*tertianæ*), or every seventy-two hours (*quartanæ*); even greater intervals have been observed, as of seven days (*octanæ*); or two paroxysms take place within each period of time (*febris duplicata, quotidian., tertian., quartan. duplex*). They are recognizable by the paroxysms which are alternately similar to each other in regard to time, violence, and duration.

Commonly the febrile symptoms are clearly exhibited (*febris intermittens manifesta*); but sometimes they are wanting, being replaced by periodical morbid symptoms, as *cephalaea, colica, cholera, odontalgia, ophthalmia, and pneumonia*; even any kind of disease may put on this form, ceasing in the intervals (*febris intermittens larvata*). They are principally recognized by lateritious sediment appearing in the urine, after the paroxysm. When the attack exhibits danger of life, the cases are termed *febres intermitt. malignæ s. perniciosæ s. lethales*, such as *apoplecticæ, soporosæ, convulsivæ, suffocatoriæ*.

They may be either simple (*simplices*), or, like any other fever, complicated with a variety of febrile character; *inflammatory, gastric, rheumatic, nervous*. They can also be combined with acute fever (*hemitritæus*).

The duration is indefinite. Sometimes they terminate with the third or fourth paroxysm, sometimes they last for weeks, months, years, especially the *quartanæ*.

Intermittent fever in itself is perilless, but it may become dangerous, either by accidental symptoms or by long duration, which may bring on a particular cachexia, obstruction, and physcony of the abdominal viscera, dropsy, and nervous diseases; it may also be very wholesome, and cure obstinate maladies.

Pathogenesis. Intermittent fever presents a particular mix-

ture of acute and chronic disease. Every paroxysm is a *febris acuta* on a small scale, fostered by, and dependent on, a nervous state. The essential character is periodicity, an appearance and disappearance of symptoms at certain periods, not the disease itself; for that can exist without periodicity, as we frequently see an intermittent fever pass into an acute one, and vice versa. It is this periodicity alone which makes the fever an intermittent one. The cause of the periodicity resides in the nervous system; therefore an intermittent fever is essentially a nervous distemper, the *proximate cause* of which is both the material of the fever and that which imparts to it the intermitting form, the latter being due to a particular state of the nervous system. Hence the causes of intermittent fever may exist even in its absence. Hence for a series of years intermittents may frequently occur, and for another series happen rarely. Hence, also, mere mental affections can excite and also cure them; and hence the febrifuge powers of all nervine medicines.

The *remote causes* are all those which can impart to the nervous system a periodic disposition; such are: the endemic constitution, created by marshy regions and stagnant waters; the epidemic constitution, the effect of actual epidemics, frequently subsisting for years, due to atmospheric relations; farinaceous or fish diet for habitual food.

Exciting causes are the same, which generally produce fever, assuming under this disposition the character of an intermittent. The most frequent are; indigestion, taking cold, infarcts and obstructions of the abdominal viscera, also lurking morbid matters, as gout, syphilis, even a mere local irritation, as a carious tooth. But when the fever continues for some time, causes are created by itself, which influence its duration. Here *habitus* is to be mentioned.

Therapeutics. Two principles must be borne in mind in the cure of intermittent fever.

The first: that a too rapid suppression of it may be pernicious, since something critical must be attributed to every intermittent fever, and it is often a very salutary endeavor of Nature, and which a cure would suppress.

The second: that, as every intermittent fever weakens, and can produce bad consequences, an unnecessary continuance of it is just as much to be avoided. It is frequently a difficult task to unite both considerations; therefore I submit the following rules.

The first indication, is to remove the remote cause, and to treat the fever like a remittent. In this way we can

accomplish a cure, especially in the onset of vernal cases, and in those wherein a febrile pulse continues in the apyrexial stage, and where they are disposed to change into acute fever. Therefore, in foul stomachs from overloading or other impurities—emetics, purgatives and digestives; after taking cold or a merely epidemical atmospheric influence—the treatment for rheumatic fever: sal ammoniac, spiritus Mindereri, diaphoretic regimen; in worms, anthelminthica, etc. This treatment will at the same time be the best preparation for the administration of cinchona and other suppressing remedies.

The second indication, is to operate directly on the proximate cause,—the nervous anomaly; it is the *methodus directa, specifica, antifebrilis*. It must take place, when the fever still continues after the remote cause has ceased, or no remote cause can be discovered. In common fevers, and where there is nothing particular to be considered, it is always advisable to wait for five or six paroxysms before we suppress it violently; commencing with such remedies as will cure the fever but not stop it too rapidly. Of that number are sal. ammoniac (two drachms daily), emetics a few hours previous to the paroxysm, flor. chamomillæ romanæ, herb. trifol. fibrin, millefol. in substance or extract. Should the fever not cease by these means, or other reasons exist for stopping it quickly, then cinchona is the principal remedy, and by which we can immediately suppress every fever and have it entirely under our control, provided we understand its power and the manner of administering it. For this purpose, a knowledge of the conditions and rules for its administration is required.

The conditions are the following:

1. The principal one is that the stomach be clean, and the tongue not furred.
2. That the apyrexia be perfect, i. e. the pulse during it entirely normal.
3. That the fever be not complicated, but a pure, simple intermittent.

Cinchona is more sure and safe after an emetic has been given. The mode of administration is this: In the intervals of the paroxysms, one ounce of finely pulverized cortex chinæ regalis is to be taken in doses of half a drachm every two hours, or if the interval is short, every one hour (vide No. 23 and 24). The same effect is obtained by quinine, eight to twelve grains to be taken in the apyrexia, one grain every two hours (vide No. 25). The last dose must be the strongest, and be given immediately before the

paroxysm. If quinine creates purging, it will not cure the intermittent fever; this may easily be prevented by adding one drop of tinctura opii every three or four hours. When it creates costiveness, a few grains of rhubarb may be admixed. When it produces pressure on the stomach, nausea or vomiting, cinnamon or a spoonful of wine must be admixed with every dose; in cramp-like affections, valeriana or castoreum.

This method is generally sufficient; the fever ceases after the first or second paroxysm. In two consecutive apyrexial stages we give a whole dose; in the next two apyrexias only one half, then one third, finally one fourth, and continue thus some eight or fourteen days. The time is determined on according to the duration of the fever. The longer it lasts, the longer must be its subsequent use; as the surest means to prevent a recidive. Simultaneously the patient must observe proper diet, avoid all indigestible, farinaceous food, fish, taking cold, and coitus, and approaching to waters; also purgatives, which are capable of immediately exciting a paroxysm.

Now, the effect of quinine is double. It can increase the fever, give an uneasy feeling in the stomach, and keep the pulse irritated during the apyrexia. This proves that Peruvian bark has been given too early, and it may tend to change the intermittent into an acute fever. When this is the effect, it must be discontinued, and an emetic and purgatives are to be administered; or if there is a complication of deep-seated visceral affections or other complications, they must be removed; after which bark is again admissible. Or it does not make the fever worse nor remove it. Here nothing but an addition of opium is wanted; one grain added to the last dose previous to the paroxysm. In children, or where there is an impossibility of taking this medicine, the same effect may be obtained by injections of cinchona, and at the same time applying a few ounces of the powdered bark steeped in wine to the stomachical and abdominal regions; also according to the endermic method. When quinine cannot be obtained, or the patient is too poor to pay for it, substitutes may be used. The best of them are cortex salicis, hippocastanus, rad. caryophyllat. They are administered in the same form and dose as cinchona. Besides, nearly all amara, nervinæ, æthereæ, aromata (especially pepper) and astringents are also febrifuges; even mechanical means, as hoisting up of the extremities; and superstitiosa, amulets, the efficacy of imagination, of faith, may prove serviceable.

It is of the greatest moment in the use of the bark not to administer it too early, nor too late, nor for too short a time.

Obstinate Fevers, Quartan Fevers, Recidives.

The cure is sometimes very difficult. Either the fever does not cease under the use of cinchona, or it disappears and returns after a longer or shorter interval. The cause of this may be triple. Either the cinchona or another febrifuge has been given too early, and without previously removing the remote cause, which continues to operate and to regenerate the fever. In such a case the remote cause must be first annihilated, and emetics, resolventia, resorted to; sometimes also deeper seated dyscrasias, as latent syphilis, etc., are to be combated. Or cinchona has been given too late, not in sufficient quantity nor for a sufficient time. Here a repeated and long continued use is necessary.

But sometimes all this is unavailing, and the fever persists in returning, which is especially the case with *quartanæ*. Here the principal remedy is belladonna, two or four grains a day; more so especially when there is an indication of obstructio viscerum. Calomel, together with extract. chelidonii; iron, particularly flores ammoniac. martiales. Finally, if all prove inefficacious, phosphorus remains, a remedy, which I can recommend on my own experience (vide No. 26).

Some advise arsenic in these obstinate cases; but it is a remedy too unsafe, inimical to all living organism, and too perilous in its consequences. I have always succeeded with the remedies above stated.

Hemitritæus.

I understand by it a case where intermittent fever is connected with a *febris continua*. The original disease or its commencement is a *continua*, which associates earlier or later with an *intermittent*. The patient is continually feverish, the pulse also remains accelerated; but from time to time, at definite or indefinite periods, he is attacked by chills, followed by increase of heat, accelerated pulse, and other febrile symptoms. It is a complicated morbid state, which makes the malady doubly affective and dangerous. We must hasten to remove at least one of the fevers, in order to simplify the disease. That which may most easily be removed, is the intermittent. Generally, the character of the fever is nervo-gastric. We must, therefore, after having administered eme-

tics, prescribe cinchona according to the rules before mentioned, in the intervals of paroxysms, notwithstanding that the febrile irritation continues; in this way we generally are able to remove the admixed fever.

Febris Intermittens Maligna S. Perniciosa.

Thus the intermittent is called, when every paroxysm is associated with some fatal symptom, as sopor, apoplexia, cholera, suffocatio; according to which the fever receives different names: *feb. soporosa, apoplectica, cholericæ*, etc. Such a variety of the disease is most dangerous; for the patient often dies in the first attack, leaving it, of course, doubtful whether it was an intermittent fever or not; or he dies in the second, certainly in the third attack. Here all depends on preventing the next paroxysm; and that is done by taking in the interval one ounce of pulvis cinchonæ regalis, and shortly before the attack a double dose, together with one grain of opium. Opium is also the chief remedy during the apoplectic fit. One grain must be taken every two hours, and in increasing doses, until the patient recovers his mental and other powers. When he is unable to swallow, an injection of two drachms of laudanum is to be given. We would find ourselves greatly mistaken in attempting to cure such an apoplexy by venesection. For it is not genuine apoplexy, but only a spasmodic symptom of the paroxysm of an intermittent fever, which exists and is cured only in this way. It is only in very plethoric persons that a moderate venesection may be made in the interval, but only as an alleviating, not as a curing remedy. In the apyrexia which succeeds, the same proceeding must be followed as in the first. This suppressive method must, on account of the imminent danger to life, be resorted to even where gastric impurities and indications for purgatives are present. The latter must be retrieved afterwards, after the fever is suppressed.

The Consequences of Intermittent Fever

Are multifarious; almost all kinds of diseases can result from it. Sometimes it is changed into an acute; but more frequently it terminates in chronic distempers, cachexia, hydrops, icterus, asthma, phthisis, nervous maladies, colics, oftenest in obstructions and physconias of the liver, and most frequently of the spleen, in those indurations called ague-cakes.

The causes are either a too quick and premature sup-

pression of the fever, without having previously done away with the remote causes, or a too long duration of the fever and too late or too weak use of cinchona; or finally, the continuance of a disease which originated the fever, in the intermittent or another form.

The cure must vary accordingly. The acute after-fevers are treated according to their character and indications; in the chronic after-maladies it is best to use first resolventia of the strongest kind, calomel, gummi ammoniac, sal ammoniac, chelidonium, belladonna; intermixed between them, evacuants.—Regard must be had to the form of the disease, e. g. hydrops, for which diuretica are serviceable; in physconia viscerum, the emplastr. de galbano worn on the spot. If the patient be feeble, and have taken but little or no cinchona, then the use of bark and martial remedies are proper. In physconias of the spleen (ague-cakes) the use of cinchona has proved exceedingly efficacious. Is there continuance of a previous disease, the cure must be adapted to that, e. g. to syphilis larvata, mercury. If all should fail, the intermittent fever must be regenerated—a difficult task—which may be accomplished by saline purgatives, sometimes also by belladonna.

CHRONIC SYMPTOMATIC FEVERS, HECTIC, CONSUMPTIVE FEVERS.

Febres Chronicæ, Lentæ.

Diagnosis. All fevers, which exceed the space of time, which an acute fever would take. They can continue for months, for years, have the intermittent type so that the pulse always appears irritated and frequent, even in the morning; and when of long duration, are connected with disturbed reproduction (emaciation), finally with dissolution of the organic matter, colliquation, by which they terminate fatally.

Pathogenesis. They originate either in general debility, by which this increased irritability of the vascular system is produced, in consequence of violent, ardent corporeal fatigue, excess in venere et onania, loss of blood, or in a *general chronic irritation*, caused by heterogeneous matters received into the body or engendered in it, e. g. poisons, arthritic, psoric, scrofulous matters; chronic pains, even long continued mental excitement, grief; or in a *chronic local irritation*, e. g. chronic inflammation, suppuration, disorganization of an organ.

Therapeutics. The cure of these fevers consists in taking away the causes, the debilitating potencies, dyscrasias, heterogeneous bodies, chronic inflammation or suppuration, and in raising the sunken vital power by roborantia, and in restoration by nourishing food.

We distinguish

Febris lenta nervosa. It is characterized by this, that it is not causally connected with any local affection of a viscus, exhibits a great debility of the nerves and all functions dependent on them, a quick, small, but variable pulse, variable urine, more chilliness and cold than heat, no or only slight sweats, affections of the head, spasmodic complaints, hypochondriac humor, low spirits, mutability of mental disposition, especially a feeling worse, and increase of fever in the morning, and when jejune; feeling well and the fever diminished after a meal,—the contrary of hectic fever.

It results often as a consequence and continuation of an acute, particularly the nervous fever; after violent and continued exertions of the body or mind, and after violent excess in coitus or masturbation; also from continued loss of humors and blood, chronic hemorrhages and blennorrhœas, fluor albus, gonorrhœa, diarrhœa, epidrosis.

Therapeutics. The cure requires the removal of the debilitating causes—the profluvia, nervous irritation, exertion; a soothing of the increased nervous irritability, and a proper invigoration and a restoration commensurate with the degree of irritability.

Particularly salutary are lukewarm baths, impregnated with aromatic herbs and malt, a pure country air, exhilaration, the use of cinchona in all forms, of iron, especially in subtile, easily digestible mineral waters, mixed with milk; in great irritability, rad. colombo, caryophyllat.; easily digestible animal food, a mild, sweet, but generous wine, as Alicant, Malaga, Xeres, Tokay; a milder, warmer climate.

Febris phthisica. It differs from the slow nervous fever, before mentioned, in this, that there exists more increased warmth and disposition to overheating and inflammatory affections; that the fever is greater after a meal, and the patient gets hot hands, hot and red cheeks; soon also the morning sweat supervenes, as in general a greater disposition to colliquation exists than in any other lingering kind of fever. At the same time there are signs of an internal or external suppuration, with which this fever is always combined, and in which it originates.

Febris hectica is similar to the preceding one, except that

it has less heat and inflammability, and does not pass so quickly into colliquation as the suppurative fever does. It originates in indurations or other disorganizations of essential viscera (vide *f. hectica, atrophica, tabes*).

Febris lenta symptomatica—that chronic fever, which associates with chronic dyscrasias, arthritis, syphilis, scrofulosis, etc. The cure consists in the cure of the original disease, united with nourishing and roborating remedies, especially milk and cinchona.

THIRD CLASS.

INFLAMMATIONS, AND SANGUINEOUS CONGESTIONS.

INFLAMMATIONES TOPICÆ, CONGESTIONES SANGUINÆ.

Generalities.

Diagnosis. Redness, swelling, heat and pain of a part.—In inflammations of the viscera, of course, many of these signs do not exist; often only one of them, pain, besides the disturbance in the function of the part affected, together with an inflammatory fever. Sometimes, however, the heat of the internal part may be perceived by our feeling, when the affected part is near the surface, e. g. the liver; or by the hot condition of its secretion, as of the breath in pulmonary inflammation, of the urine in inflammation of the bladder. The swelling likewise may be recognized by feeling, when the part affected is superficial and not covered by bones. Pain also, which is sometimes great, as in *pleuritis, gastritis*. But this sign is fallacious, for sometimes there are violent inflammations unaccompanied by pain, and which terminate in death (*inflammationes occultæ*). This discrepancy depends on the seat of the inflammation: When it is located in membranes, or the membranous surfaces, there is much pain; less when in the parenchyma of an organ (*pleuritis, peripneumonia, encephalitis dolorifica and stupida*); also less when situated in the gangliary system, the innervation of which is normally insensitive. By an inflammatory action the natural condition may be altered, and the part become affected, sensitively or not. Therefore the physician must not omit to feel and press

the body of the patient in cases of abdominal inflammation ; doing which will enliven the patient's feeling, and cause him to complain of pain, of which he was not before aware, or which he seemed to feel in another spot than the real seat of disease.

It is often very difficult, and always very important in practice, to discriminate internal inflammations from violent internal neuralgias or other spasmodic affections. Pain and oppression of the chest, or pain in the stomach and abdomen can be as violent as in the highest inflammation, although it be but spasm and nervosity which cause it. This discrimination is of the highest importance, yea, often decisive of life ; for in the first case, a venesection is the only serviceable means ; in the latter, opium, and this might prove fatal in the first. Here, therefore, great precaution is to be used, and I recommend the following points for research : 1. The presence of fever, whether the local complaint has set in with chill or heat, thirst, accelerated pulse ; if so, we always suppose the existence of inflammation. 2. Hardness, fulness and strength of the pulse, however, may not exist in abdominal inflammations, and in the higher degrees of pneumonia. 3. The urine, which deserves special attention, if red, is indicative of fever and inflammation ; if pale and watery, a principal sign, often the only one, to distinguish spasm from inflammation. 4. Permanency. Pain always permanent, points to inflammation ; if changeable, to spasm. Finally, 5. In abdominal inflammation, external pressure. If the patient can bear it, even feels the pain diminished by it, his disease is not inflammation. But we must remember, that every long continued painful affection of a viscus, although in the beginning only spasmodic, can at last create inflammation. In dubious cases, a cautious test by abstraction of blood, best local, near the seat of the pain will set us aright.

The *duration* of an acute inflammation is seven to fourteen days, rarely longer. It terminates either in perfect *resolution*, which is always accompanied by general and local crises of sweat, critical urine, hemorrhages, local secretions, as expectoration after pulmonary inflammation ; or glides into *chronic inflammation*, or *induration*, formation of tubercles, all kinds of pseudo-organization, hypertrophy, or *suppuration*, or *mortification*. Frequently it gives rise to after-maladies : *exsudation* of lymphatic and serous humors in the neighboring cavities, as hydrops cerebri, h. thoracis,—*adhesions* after cerebral and pulmonary inflammations. Finally, *local weakness*, even paralysis of the

inflamed part, as imbecility after cerebral inflammation; blennorrhœa pulmonum after pulmonary inflammation; amaurosis after the ophthalmic inflammations; as well as *morbidly increased local irritability*.

Perfect discussion of an internal inflammation is recognized by cessation of the fever and the accompanying crises. Continuation of feverish excitement in the pulse, although the local symptoms have abated, always indicates that the discussion is imperfect. Transition into suppuration is recognized by a chill suddenly setting in, abatement of pain, but not an entire cessation of the local complaint, and continuation of fever;—into gangrene, by sudden and complete cessation of pain and local complaints, immediately followed by a sinking, small, intermittent pulse, and coldness of the extremities.

Pathogenesis. The proximate cause is increased vitality of the vascular system and of the blood; an increased vital and formative process of one part, exhibited by augmented irritability and increased action of the vessels, by equally increased sensibility of the nerves, and by augmented plasticity of the blood.

The immediate consequence is (on account of the increased action of the arterial, and not equally increased action of the less irritable venous vessels), a sanguineous overloading of the part, causing extravasation in the cellular tissue, exsudation of lymph, even of blood, and hence swelling of the part. From the same cause, and from the increased vitality, proceed the augmented warmth, redness, and from enhanced sensibility, pain. Therefore, in the essence of inflammation a double character appears: *phlogosis* (the augmented irritability of the solid parts), and *plasticity* (the augmented vitality of the blood), and on these are founded the two principal varieties of inflammation, when one of both elements is overpowering. The *dry* (*inflam. sicca*), where tension, irritability of the fibre prevails; the *moist* (*inflam. exsudatoria*), where lymphatic coagulability and exsudation preponderates.

A sanguineous congestion exists in every inflammation, but not an inflammation in every congestion. It may exist and continue without inflammation, but can also create inflammation. Congestion becomes inflammation, only when it produces in the part a new state of vitality, that one alone which constitutes the essence and existence of inflammation.—There is likewise irritation in every inflammation; but every irritation is not an inflammation. There is a purely nervous irritation, of which the vascular system

does not partake at all. There is even vascular irritation, which is not inflammation. Therefore, we can call irritation inflammation only when there is generated in the irritated part a new plastic reproductive life in the blood; and which is made apparent by the signs before stated.

This newly created pathological vital process, like a local fever, goes through its stages of increase, acme, and decline, within certain periods of seven, fourteen, or twenty-one days, and may undergo the following internal changes:

a. Perfect crisis (complete resolution), where the phlogosis and extravasation is simultaneously removed, but

b. The plasticity and stagnation (*stasis inflammatoria*) remains, by which are subsequently formed indurations (most frequently due to weakness or abstraction of blood carried too far, or warmth, or local application of cooling remedies which suppress the inflammatory process).

c. Exalted irritability is removed, but augmented sensibility of the part remains (pain, *erethismus nervosus*, most commonly met with in sensitive persons, or in those in whom sanguineous abstraction has been carried too far).

d. Or the inflammation arrives at its height while the vital power continues in force. Here an entirely new and particular vital process, possible only after this augmentation of vitality, is produced,—suppuration, which generally takes place when the debilitating remedies have been neglected, or the inflammatory irritation has been increased by stimulants.

e. Or the inflammation not only reaches its height, but simultaneously consumes the vital power of the part. Here succeeds mortification, when the system or the part was previously feeble or disposed to putrefaction, or has been extravagantly debilitated, or when the necessary debilitating remedies have been neglected; and when on the contrary additional stimulants have been administered, causing excess of irritation. *Summus gradus inflammationis est initium putredinis.*

f. Or finally, there remain watery effusions or pseudo-organic productions and adhesions.

Of the remote *causes* the *predisposing* ones are, augmented irritability of a part, either innate or acquired; general inflammatory diathesis, youth, high living; general inflammatory fever, apt to be associated with local inflammation as effect, as local concentration of the inflammatory state, sanguineous plenitude of a part either natural (as in the lungs) or acquired, as by chronic congestion, local weakness.

The *exciting* are: all that can produce an adequate irri-

tation, either local, such as: mechanical irritation, wounds, concussions, poisons, acids, morbid matters (e. g. arthritic, syphilitic, acid bile); warmth and cold; extravagant exertion (even of thinking) in the brain; local spasm—*summus gradus spasmi est initium inflammationis*—sanguineous congestions, organic disorders, e. g. tubercles in the lungs; or by *sympathy* which can transfer an irritation to remote parts, especially gastric sympathy, or the generation of inflammation by gastric irritants in remote parts, the throat, lungs, brain, skin; in the liver by concussion of the brain; or *antagonistic* by suppression of organic action, by which another can be produced and increased to the degree of inflammation, e. g. inflammation of internal parts by taking cold; suppressed cutaneous action, by metastases.

Variety of inflammation. Inflammation, therefore, differs greatly,

1. As regards its degree; it may be violent or mild.
2. As regards its seat, the constitution, and age of the person affected. It is more violent in the superior vital organs; more chronic in the inferior mucous membranes, lymphatic vessels, bones; more phlogistic and distinguished by increased sensibility in the nerves (*inflammatio erethica nervosa*).
3. In reference to its origin: either in the inflamed part itself (*inflam. idiopathica*); or by a remote cause, engendering it sympathetically (*inflam. sympathica* which is either *consensualis* or *antagonistica*, e. g. the gastric bilious inflammation).
4. As to its character. The inflammation is phlogistic or phlegmonous, dependent on the blood; nervous or erethic, affecting the nerves, and less distinguished by phlogosis than by augmented sensibility; rheumatic or serous (less phlogistic and less resting in the blood and sanguineous vessels, but more in the serous); erysipelatous (slight, more exanthematic, existing only in the epidermis and dependent on a gastric state); putrid (generally secondary, sometimes primary, where the inflammation is accompanied with weakness and exhaustion of the vitality of the part, e. g. the scorbutic, the pestilential, carbunculus malignus, angina gangraenosa); specific (engendered by a particular morbid matter, e. g. the syphilitic, scrofulous, arthritic, etc.).

Finally, the difference of *inflam. sicca* and *exsudatoria*, which is often accompanied from the beginning by lymphatic extravasation, e. g. *angina polyposa*, *peritonitis*, *puerperalis*, *encephalitis exsudatoria*.

Especially important in practice, is the difference be-

tween the proportion of the vital power to the inflammation. In this respect it is divided into *inflam. activa*, where the local inflammation is combined with a generally increased vital energy; and into *passiva*, where vital energy is wanting either in the whole or in the affected part. Of this there are different degrees: the *nervous*, which, so to say, keeps the middle between active and passive inflammation, and where a certain degree of energy in the vascular system may exist; the *atonica*, caused by a violent stroke, a contusion or commotion, by which the power is impaired; the *putrid* or *gangrenosa s. maligna*, which exhibits vitality annihilated, a transition into dissolution and putrescence, created either by general debility of the system, putrid diathesis, or by the paralyzing power of the matter which excites the inflammation, e.g. contagium putridum, carbuncle matter, therefore receiving that character either immediately from the beginning or in the course of the disease; *chronica*, where an inflammatory irritation of a part continues for months and years, without really increased energy of its vascular system, even frequently with impaired energy of it, rather a congestive state than real inflammation, brought on either by former active and not fully resolved inflammation as a consequence, or by continued local irritation, either mechanical or chemical, or metastatic, or organic (tubercles); or by local debility of the part.

Periodical inflammation must yet be mentioned; it is one, which returns according to certain times, and entirely fails in the intervals. It must by no means be considered a real inflammation, but is always the product of the nervous system, on which in general depends all morbid periodicity.

The notion of inflammation, especially of the chronic, as well as the application of the antiphlogistic method, especially of abstractions of blood, has recently been too much extended. Inflammation is thought to exist in every topical affection with pain, or with increased irritability; in every disease, where, after death, redness, or extravasation, or pseudo-organization is found. But that topical affection may depend merely on local erethism, and may be purely nervous; that redness may be merely the consequence of a congestion or sugillation arisen after, or with death. The exsudation and pseudo-organization may be brought on by inactivity and stoppages of reproduction, as well as by inflammation. Even genuine inflammation, as soon as it becomes chronic, is founded on weakness of the part, and must always be considered with the passive.

Therapeutics. The first indication must always be to remove as quickly as possible the irritant morbid matter, that causes the inflammation, e. g. the splinter, poison, or gastric humor. The second: to examine into the character of the inflammation, which may be multifarious, and to adapt to it a proper treatment. The third: to effectuate a perfect resolution of the inflammation, i. e. a perfect local crisis, by which, not only the actual inflammatory affections, but also its consequences, are annihilated.

Perfect resolution, therefore, must be the principal idea and the chief object in the cure of inflammation. Now, this resolution, it is true, is the work of the healing power of Nature, a local as well as a general crisis in the fever; but it must be well understood and pertinently supported by the physician, and in this regard mistakes frequently are committed. Therefore the physician must be careful while annihilating the inflammation not to disturb, nor to impede the operation of healing nature.

Not alone diminution of vital action in the inflamed part, but also removal and re-absorption of the stasis produced by inflammation, stagnation in the venous vessels, even extravasation and exsudation of coagulable lymph are understood by the word of entire resolution of the inflammation. This must always be the object of cure. It comprises, therefore, not only debilitation, but also a solvent and re-absorbent action, a negative and positive part. Hence debilitation (*antiphlogosis*) is the principal indication, but always observe not to carry it too far, so that power may remain to effect solution and resorption of the effusion, and that a transition into a nervous or a paralytic state be prevented, nor stagnations, indurations, exsudations in the inflamed part be left behind.

The principal remedy is abstraction of blood, local and general; above all, venesection, which, if made in time, in the proper quantity, and with quick evacuation, will annihilate the very germ of the inflammatory process and effect the whole cure; but, if carried too far, may cause an imperfect resolution, a transition into induration, gangrene, or into a nervous and putrid febrile state. It is indicated where there exists a general inflammatory diathesis (signs of *febr. inflam. universalis*), and is to be repeated until these symptoms are removed. The first venesection must be made early and boldly, allowing the blood to flow until the hard, full pulse becomes softer and smaller, or the suppressed, small pulse fuller, and the inflammatory symptoms have disappeared or abated. The pulse is the chief sign to

guide us in this case. Generally it is full and hard, but sometimes also small, as in inflammation of the lungs (which impede respiration and the circulation through the lungs), and inflammation of the abdominal viscera, and calls the more urgently for venesection. The main precaution is to prevent fainting, by which, where there is great coagulability, coagulata and concrements are apt to form during the stoppage. Local abstractions of blood are advisable only when a full flow of blood and the general phlogistic diathesis are already diminished by general phlebotomy, since retarded circulation and moderated phlogosis tend to sanguineous congestions in the inflamed part; or in such cases, where general phlebotomy is not necessary, or is injurious on account of a nervous or debilitated state. With abstraction of blood must be combined directly debilitating antiphlogistic remedies, the appropriate application of which can save much blood to the patient. The principal remedies are nitre, and vegetable acids and water, cold, applied locally (*vide inflammatory fever*).

We must next resort to derivation of the irritation by contrastimulants, for which purpose, stirring up the intestinal action and secretion, and cutaneous irritation (by sinapisms, vesicatories), are serviceable; but only, when the violence of the sanguineous phlogosis has been assuaged by abstraction of blood, without which every additional irritation augments inflammation. These derivatives will often remove the remainder of local irritation. In such cases the application of dry cups (*ventoses*) in the neighborhood of the inflamed part, is also of use. They withdraw a part of the blood from the circulation in the inflamed part, without causing debility by direct loss.

While doing all this, we must not lose sight of the necessary dissolution of the inflammatory stagnation, and of resorption. This end is sometimes obtained by the remedies mentioned above; but the symptoms of local stagnation often remain. For this purpose tartar emet., calomel and potassæ carb. are of use, and are the principal remedies for the perfect solution of the inflammation. They must be used in the beginning in exsudatory inflammations, such as *angina polyposa*, *peritonitis*, *puerperalis*, *hydrocephalus acutus*.

Now, the phlogistic state of inflammation may have been removed, and in consequence of having carried debilitation too far, its nervous property may continue as augmented sensibility, erethismus, spasm in the inflamed part. The

local symptoms of irritation do not abate, and there is no further indication for phlebotomy, on the contrary, the pulse and other symptoms indicate nervosity. In this case the phlogistic inflammation has passed into a nervous (erethic) one, and now antispasmodic and narcotic remedies (hyoscyamus, aqua laurocerasi, opium), with derivative contra-stimulants, as vesicatories, are the best, yea, the only means for entirely annihilating the remaining inflammatory state. Regarding vesicatories it is well to observe, that if they are to be of any service in local inflammations, they must be sufficiently large, and remain applied until they draw blisters; for the local evacuation is also important.

When the inflammation passes into gangrene, or shows a tendency to it from the beginning, as in angina gangrænosa, and carbuncles, roborant, animative, antiseptic, anti-dissolvent remedies are called for: acida mineralia, cinchona, serpentaria, arnica, wine, camphor.

It is of great moment to pay due regard to the different *causes, species, character, and localities* of inflammation.

As for the first (causes), we must distinguish:

The purely *phlogistic, phlegmonous* inflammation. Here the treatment just mentioned is to be applied in its full extent.

Nervous (erethic) inflammation requires from the beginning cautiousness in the abstraction of blood, especially general bloodletting. Cupping and leeching are preferable. Here derivatives, especially anti-stimulants, mild, not heating nervines, as aqua laurocerasi, hyoscyamus, connected with antiphlogistics, are most useful; and in extreme weakness, valeriana, arnica, and lukewarm baths.

The *putrid gangrenous* inflammation totally prohibits abstraction of blood, and requires from the commencement the use of strong roboratives and antiseptics.

Gastric, especially *bilious* inflammation, requires emetics and purgatives, combined with antiphlogistics. Sometimes they alone suffice for curing the inflammation, and there is no need of phlebotomy.

Exsudatory inflammation calls for abstractions of blood from the onset, and for the use of dissolvent, resorptive remedies, calomel, digitalis.

Rheumatic and *catarrhal* inflammation, as it is not phlegmonous by its nature, does not call for abstractions of blood, by which, on the contrary, it would be made chronic and its crisis disturbed; but only for antiphlogistic remedies, diaphoretics, antimonialia, cutaneous irritations, especially vesicatories. It is only when the rheumatic catarrhal

inflammation is increased to a phlegmonous one, that phlebotomy is required ; generally, however, local abstractions of blood are sufficient.

Erysipelatous inflammation requires, on account of its nature, no abstractions of blood, which on the contrary are unavailing, or render it chronic, or effect a rapid disappearance and metastasis ; but it calls for purgatives which here fully replace abstractions of blood. When erysipelatous inflammation reaches to a phlegmonous one, abstractions of blood are necessary.

Metastatic, specific inflammation (the arthritic, syphilitic, scrofulous, psoric), requires, besides the antiphlogosis, particular attention and regard to the morbid matter, in order to annihilate, derivate or evacuate it ; that is, in the arthritic, vesicatories, sinapisms, antarthritica ; in the syphilitic, mercury, etc.

Atonic inflammation after commotions, calls for cold and arnica.

Periodic, intermittent inflammation is cured by cinchona, given during the intervals.

Every acute febrile inflammation requires for its perfect cure universal crises by the skin and urine (vide *inflammatory fever*).

Chronic Inflammation.

Its fundamental character must always be considered as weakness, passivity, and therefore the treatment must tend to a proper invigoration, modified according to the different degrees of vascular irritation, which may be sometimes effected by cooling strengthening remedies (cold and cold water are the principal means) ; sometimes also by the strongest and most ardent roborantia, as cinchona, iron. At the same time a special regard must be paid to the sanguineous congestion already existing or accruing from time to time, and which requires in the meanwhile, local abstraction of blood ; and also to the morbid matters and metastases, all which perpetuate the irritation and organic disorders. However, here also let it not be forgotten that sanguineous congestions may be caused by local weakness, and call for abstraction of blood ; a local one is best, and must be done with due respect to the original character of the disease, being regarded only as a palliative and symptomatic not as a radical remedy.

Sanguineous Congestion.

The doctrine of sanguineous congestion is one of the most important of the medical art; for sanguineous congestions are among the most frequent affections, are the foundation of innumerable maladies, and as such, also the true, the only objects of treatment.

Diagnosis. We understand by it every abnormal plenitude of blood in a single organ or system of the body. The signs are: More or less disturbed function of the organ, increased or diminished irritability and sensibility, varying according to the different degrees of congestion; in moderate sanguineous plenitude these symptoms are augmented, and are diminished in great accumulation, distention, and pressure of the vessels, which cause want of action, and even paralysis; especially in cerebral congestions; in moderate accumulation there is liveliness of thoughts; in greater there is stupefaction; in still greater, paralysis, apoplexy, feeling of fullness; increased warmth in the organ affected, the fits augmented by exercise, ardent beverages and meals.

The next effects are all accidents of disturbed function, and thus they can produce all kind of nervous diseases, from the most simple spasm to hypochondria and epilepsy; likewise all kind of local diseases; in the stomach, spasm of this viscus and indigestion; in the intestinal canal, colic, diarrhœa; in the liver, disordered secretion of bile; in the lungs, asthma, cough, phthisis; in the brain, cephalalgia, delirium, madness; in the organs of the senses all kind of diseases peculiar to them; in the secretory organs, profluvia, suppressions, etc. Farther, inflammation of the organ too rich in blood by too highly increased irritation. In an increased degree paralysis, apoplexia, paralysis dorsalis s. medullaris. In still a higher degree of distention, ampliation, tenderness of the vessels, varicous, aneurismatic distention, finally rupture.

The best instance of all these effects is exhibited in the hemorrhoidal disease, which is nothing else than a congestion of the abdomen, *plethora abdominalis* (vide *hemorrhoids*.)

Pathogenesis. Sanguineous congestion consists in too great an accumulation in the vessels of an organ. It differs therefore from inflammation in this, that augmented productivity, that new pathological life, which constitutes the essence of inflammation, is here wanting; but it is com-

bined with every inflammation, and inflammation may arise from every congestion.

Sanguineous congestion may originate in three different ways:

1. In local weakness of a part (passive congestion)—the most frequent cause of congestion, which acts in a double manner. In the first place it is a fundamental law, not only of the human system but of all nature, that an equal impulse given to a fluid, will cause it to accumulate most, where it finds the least resistance; therefore, congestion will take place where there is debility, be it vital weakness, atony, or relaxation. Thus congestion arises in every part debilitated by violent concussion; thus it arises in every relaxed vessel, e. g. the local hemorrhoidal congestion, when the rectum is relaxed by too frequent injections. In the second place, by local weakness: the power of the blood-vessels, principally of the venous, being diminished in an organ, the circulating action is made more difficult and inert, the necessary consequence of which must be stagnation and accumulation of blood in them. Thus hereditary weakness of the lungs engenders continual sanguineous congestion in them (*dispositio phthisica*); the innate weakness of the portal system the *dispositio hæmorrhoidalis*. Thus the most innate or hereditary dispositions may be derived from that original cause.

2. In local irritation of a part (active congestion). *Irritatio attrahit* is a fundamental law of organic life. Every local irritation of a part, be it mechanical, chemical, or organic, produces by the thereby increased action of the arterial vessels an increased afflux; and as the action of the venous vessels is not equally increased, an accumulation of blood in the irritated parts follows. Thus irritation of the skin generates cutaneous congestion, irritation of the eye by a grain of sand, ophthalmic congestion. Thus perpetual mental irritation of the brain by meditation, cerebral congestion. In the same way operate pathological irritations. Tubercles in the lungs entertain, like heterogeneous bodies, a constant irritation; thereby a continual sanguineous congestion in them, which gives rise to hæmoptysis and phthisis. Indurations in the uterus sustain a constant sanguineous congestion in it, thereby frequent hemorrhages. Of particular moment, deserving especial attention, are the metastatic irritation, the shifting of a morbid matter into an internal organ, by which chronic irritation and chronic sanguineous congestion is entertained.

We now come to an important consideration—variety of irritation. It may be either local (idiopathic), or remote (sympathetic), and thus congestion also may be created by local or by remote irritation (idiopathic or sympathetic congestion). The sympathetic, again, may be double, either consensual or antagonistic.

Consensual irritation is that kind which happens according to the law of *consensus*; is a reciprocal concordance, especially of the nerves, a propagation of an irritation from one part to another; it is capable of producing a sanguineous congestion, the primary irritation of which lies remote from the seat of the congestion. The most important centre of irritation lies in the nervous system of the abdomen; whence proceeds the frequent occurrence of consensual sanguineous congestions to the head and lungs.

Antagonistic irritation is that which arises according to the law of opposition (*antagonismus*), which means: the suppression of an organic action (also of a pathological one) calls forth another, operates as an irritant to excite another. It is a rich source of congestions. Thus, suppressed action of the skin generates violent congestions in internal organs; suppression of the catamenia, of the hemorrhoidal flux, congestions to the lungs, stomach, brain, etc.

3. In mechanism. Congestions may arise in obedience to purely mechanical laws, and are of frequent occurrence. A common case is found in the mechanical stoppage of the circulation of the blood in one part, by which there must necessarily occur an accumulation of it in some other correlated part. Thus a ligature produces congestion in parts situated above it. In the same way operates the pressure of tumors, of enlarged viscera, of indurations, as from a wen, sanguineous congestions in the head, from enlarged indurated liver, sanguineous congestions in the portal system, piles. The same effect is produced by tight dress; thus, tight lacing, and compression of the abdomen by continued sitting, produce sanguineous congestions in the portal system. Even the law of gravity produces congestions; as a low position of the head may bring on cerebral congestion, or hanging down of the legs one in the feet.

Hence result two essential differences in regard to the character of congestion: the active and the passive.

Therapeutics. In the first place we must examine, whether general plethora is at the bottom of the congestion. This is recognizable by a full incompressible pulse, connected with heaviness in the limbs, dyspnoë and palpita-

tion of the heart in all kind of exercise. In this case general and local abstractions of blood, cooling derivative remedies ; and for a radical cure of the sanguineous plenitude, meagre diet, diminution of sleep, drinking of water, and consumption of the humors by strong exercise, and a cool regimen, are the principal means of cure. We must next ascertain, whether it is a local irritation (idiopathic or consensual), or a specific humor that gives rise to and sustains the congestion. If so, it must be removed, and it will often suffice alone to cure the congestion ; and without the removal of it all other remedies are of no avail. Regarding the first, attention must be paid to local habitual irritation, as of the brain from continued study ; of the lungs from crying and too loud singing, etc. If from the consensual irritation excited by gastric sordes, infarcts, or worms ; these are to be removed. As for the second, we must investigate, whether there exist a syphilitic, psoric, rheumatic, arthritic cause. But when it is the consequence of a debilitated or spasmodic state, strengthening, antispasmodic remedies are serviceable ; bearing constant respect to the excitement of the vascular system, which forbids the use of heating remedies. At the same time local diminution of the plethora must be resorted to, partly by local abstraction of blood or other humors (artificial sores, derivatives), partly by a local application of repelling and astringent potences, among which cold ranks first.

BRAIN-FEVER, INFLAMMATION OF THE BRAIN.

Encephalitis, Phrenitis.

Modern authors make a further distinction into *meningitis* (inflammation of the dura mater), and *arachnoitis* (inflammation of the arachnoidea) ; but these subdivisions are only of anatomical, not of practical value, and furnish no particular indication.

Diagnosis. Constant delirium or sopor, or both united together, with fever and indications of sanguineous congestion in the head, redness and fullness of the face and eyes, hot forehead, pulsation of the cervical veins, and frequent attempts to grasp the head.

But it is well to remark, that every delirium or sopor together with fever is not inflammation of the brain ; for then every violent inflammatory fever, every nervous fever,

would also be one; but this is not the case. The essential symptoms are: the signs of sanguineous congestion to the head, and the permanence of delirium or sopor. Sometimes also very violent pains in the head are combined with it, sometimes not. This seems to depend on the seat of the inflammation, for when it seizes on the membranes of the brain, there is pain; when it affects the substance of the brain, instead of pain there is a pressing, dull sensation, (similar to the difference between *pleuritis* and *peripneumonia*).

This inflammation terminates either in perfect resolution, or it leaves debility and derangement in the cerebral action (chronic madness, imbecility, loss of single senses); or, what is very common, it ends in effusion, dropsy of the brain; or it passes into disorganizations, as induration, even suppuration of the brain; finally, into gangrene; this is however a rare occurrence, for it is generally anticipated by death. It proves fatal by paralysis of the brain (apoplexia).

Pathogenesis. The proximate cause of the phenomena is *irritatio cerebialis inflammatoria*. As every other kind of violent cerebral irritation can create the same apparent phenomena, delirium and sopor, so also the symptoms of inflammation of the brain may be present when there is none. Hence arose the old dispute whether phrenitis were or not of an inflammatory nature, the decision of which is to be found in the varieties of *encephalitis*, which practice admits and must admit. Irritation of the brain is either of a sanguine character (*enceph. inflammatoria*), or it is merely nervous, without partaking in the vascular system (*enceph. nervosa*), or it is purely consensual, arising from the abdomen, especially from præcordial irritations (*enceph. gastrica*), which also may have an inflammatory or a nervous character.

The *remote* causes are: all that has a tendency to violently irritate the brain, and bring it into increased and anomalous action: as great heat and cold, mental emotions, too great exertion of the intellectual faculties, excess in alcoholic spirits, concussions and wounds of the head, rebounding concussion from falls on the back or buttocks, great sanguineous congestion, metastases, contagia, especially those which tend to the brain, typhous and scarlatina; lacteal, bilious and helmenthic irritation, every violent febrile irritation, and finally, great debilitation of the brain; and as every debilitation may augment irritation and bring on anomalous action, so will excessus in venere

et onania, hysteria, hypochondria, nervous fever by weakness.

The variety of character always depends, partly on the quality of the causes, partly on the existing disposition. As for the first, it is noticeable that the same cause in proportion as it operates quickly and concentratedly, or chronically, may have a quite different effect in regard to character; as when spirituous liquors are taken in large quantity within a short space of time by persons unaccustomed to them will produce inflammatory encephalitis, but when long continued, and become habitual, create a nervous, atonic encephalitis (*delirium tremens*, which has been mistaken and considered as a particular disease, but which is nothing else than *encephalitis nervosa*).

Therapeutics. The fundamental idea of the treatment is to remove the *irritatio cerebialis*. But to do so it is most important to discriminate its different causes and character, by which this end may be attained in quite different ways. We must examine and distinguish carefully the following cases:

1. *Encephalitis inflammatoria.* The patient is all the time in a delirious state, stupid or raging; or lies soporous, with reddened eyes, red tumid face, pulsating arteries, distended veins of the head and throat, heat of the head and forehead, full strong frequent pulse (which, however, may sometimes be rather impeded and suppressed), red urine. Here copious bleeding, general at first, then local by leeches on the neck, temples, or behind the ears, cupping on the neck (in case of necessity opening of the temporal artery); after proper abstraction of blood vesicatories in the neck, cold fomentation on the shaved head, and if these do not suffice, cold affusions of the head every two hours, sinapisms on the calves of the legs; internally nitre, exciting the intestinal canal to frequent evacuations by antiphlogistic purgatives, sulphate of magnesia, tartar. emet., calomel every two hours in one or two grains doses. Regard must be had to the *causa remota*, as to arthritic metastasis.

Now, if the inflammatory state has disappeared, which will be perceived by the fever, redness of the face and eyes, pulsation of tracheal arteries abating, but the delirium and sopor still continuing, then we have reason to suppose that the malady has passed into the *stadium nervosum lymphaticum*. When this happens, the cerebral affection has ceased to be sanguine, inflammatory, and there only remains nervous irritation, dependent on debility, perhaps

already combined with incipient exsudation. Here the mode of cure must immediately be changed, and opium together with calomel and vesicatories on the neck must be employed; also musk, camphor, arnica, digitalis; and when sopor continues, the head must be shaved and a large vesicatory, even cauteries, applied.

2. *Encephalitis nervosa* and *adynamica*; ought properly to be called *phrenitis nervosa*, since in this case there is no inflammation present. The patient is furious, often most violently so, without the least signs of sanguineous congestion to the head, has a febrile but small pulse, and most frequently trembling and other spasmodic symptoms. Under this head falls the *delirium febrile potatorum* (*tremens*), *onaniticorum*, also *hystericum*, on which the preceding causes throw much light. Here nothing more is necessary than to remove the nervous irritation of the brain (cerebral spasm), and opium is most useful for this purpose, together with derivatives, contra-stimulants, tepid baths; in obstinate cases, musk, camphor, castoreum, liq. c. c. succin.; in great debility, cinchona, arnica, wine. Also emetics as strong contra-irritants are often the best sedatives of the brain. Here, however, in plethoric persons, by accidental exciting influences, a sanguine, yea inflammatory complication may be admixed, recognisable by the signs of congestion. The same must be removed by abstractions of blood and other antiphlogistics, but then the antispasmodic exciting method must be again resorted to.

3. *Encephalitis gastrica, biliosa, verminosa*. The signs of a cerebral affection combined with the signs of gastric or verminous accumulation. The cure consists in cleansing the primæ viæ by emetics, laxatives, and vermifuges. This consensual affection however produces a merely nervous as well as a really inflammatory irritation of the brain, and in the latter case the venesection, and in general a combination of antiphlogistic with antigastric remedies are necessary.

In the treatment of all cerebral inflammations respect must be paid to the exciting cause, e. g. metastasis arthritica, psorica, suppressed catamenia, and hemorrhoids, especially to that caused by commotion or vulneration of the brain, in which the necessary surgical assistance must not be neglected; in other cases, however, the entire treatment for *enceph. inflammatoria* is to be employed. This applies also to the *encephalitis of lying-in women*. It is to be treated in accordance with its character, either antiphlogistically or antispasmodically (especially by camphor,

opium, also by belladonna), but with a perpetual regard to lacteal metastasis to the brain and abstraction of milk from the breasts.

When the stadium acutum is over, and mental derangement or paralysis remains, the treatment for madness or paralysis must be resorted to.

Exsudatory inflammation of the brain, *hydrops cerebri acutus infantum*, *hydrencephalus* (vide *diseases of children*).

INFLAMMATION OF THE SPINAL MARROW, INFLAMMATION OF THE LORSAL VERTEBRÆ.

Myelitis, Spondilitis.

Diagnosis. Pain in some spot of the spine, either permanent or returning always on the same side; to which paralysis of the extremities, commonly of the lower, sometimes of the upper, associates sooner or later, and generally beginning at the peripheral termination of the nerves. The pain is sometimes very insignificant, or even entirely wanting. Therefore, to discover the disease, we must feel and press each single vertebra of the whole spinal column; and if there be an inflamed spot, this pressure will cause the patient to feel sensitive there; more so, when the spine is touched by a sponge and warm water.

The inflammation may be acute and febrile; but more frequently it is chronic, and then very difficult to be recognised. This malady brings on paralysis, which affects not only external but also internal parts, e. g. if the disease lies at the upper dorsal vertebræ, single cervical and pectoral nerves will be affected, causing dysphagia, dyspnoë, palpitation; if at the lower dorsal vertebræ—complaints of the stomach and intestinal canal. Thus inflammation of the spinal marrow can assume the form of the most different chronic diseases, and is frequently mistaken for such (vide *paralysis, tabes dorsalis*).

The issue is, if it is not resolved, exsudation, hydrops vertebralis, adhesion, exsiccation, callosity, atrophy of the spinal marrow, suppuration, caries.

The causes are, besides the general, sanguineous congestion, especially hemorrhoidal; rheumatism, metastasis, mechanical lesions.

The cure is antiphlogistic, especially leeches on the affected part and mercurial embrocations, calomel, purgatives, long continued vesicatories on the morbid spot; treatment of the metastasis.

INFLAMMATION OF THE THROAT, QUINSY.

Angina.

Diagnosis. Painful, difficult, often impeded swallowing, or altered voice, difficult, sometimes whistling respiration, or both together.

The variety is determined by the different seats of the inflammation, when it occupies the pharynx (*angina pharyngea*, *pharyngitis*), the larynx (*angina laryngea*, *laryngitis*, *tracheitis*), the tonsils (*angina tonsillaris*), the uvula (*ang. uvularis*), or the tongue (*glossitis*).

The accompanying symptoms are : Afflux of saliva and expectoration (on account of the impeded swallowing); exsudation of viscous mucus from the inflamed parts of the mouth and coating of them thereby ; oppression and hinderance of the circulation of the blood partly of the reflux from the head, by the pressure on the tracheal veins, partly of the circulation in the lungs by the oppressed imperfect respiration, hence in the higher degree of inflammation peripneumonia, sopor, even apoplexy.

The disease is often one of the slightest and most insignificant complaints, but is also liable to become dangerous, even fatal. This depends partly on the intensity of the disease and the swelling of the inflamed parts ; partly on the seat, and in this respect tracheal inflammation is the most perilous.

It terminates either in perfect resolution or passes into induration, or suppuration (especially *angina tonsillaris*) ; in chronic inflammation of the throat, or in death. This follows either by suffocation or by apoplexy. The cause of suffocation is frequently only mechanical, as a swelling of the internal parts compressing the trachea and vessels of the throat, or sometimes merely a spasmodic contraction in consequence of inflammatory irritation.

Pathogenesis. Besides general, local taking cold in the throat, from without, or from within, by cold drinking whilst heated, or by the influence of *cold and northeast winds*,* in the open mouth. Some contagia, e. g. scarlatina and syphilis, specifically affect the throat.

Therapeutics. The cure of inflammation according to its different degrees. In lower degrees, general antiphlogistics, with local dissolvent remedies are sufficient. Such are: gargles (the common elder-tea, with vinegar and honey, vide No. 39), linctus No. 40, or borax half a

* In Europe.

drachm, with two ounces of mulberry syrup (syrup. mororum); still more efficacious is alum, injections of the same, vapors. Externally,—the throat is to be thickly wrapped in flannel; embrocated with linimentum volatile; sinapisms, general and local abstractions of blood. Local bleeding by leeches or by cups on the neck, is often more beneficial than general; but the latter must precede when there is a high degree of inflammatory fever and plethora. In a lower degree, leeches alone are sufficient. The higher degree, like peripneumonia, sopor, oppression of the chest, and small, soft pulse, earnestly call for venesection. If the difficulty of swallowing or breathing does not abate, after all the antiphlogistics have been employed, continued spasm is to be considered as the cause; in which case, opium with calomel, a vesicatory around the neck, and narcotic cataplasmata often bring speedy relief; also an emetic may here be serviceable; the difficulty of swallowing is no contra-indication; the patient throws up easier than he swallows.

The variety of location requires particular auxiliaries. In inflammation of the pharynx, linctus and gargarisms; of the larynx, vapors; of the tonsils, which threaten suffocation by the swelling, scarification of it by means of the pharyngoton, by which the most imminent danger of life may instantaneously be removed; likewise in inflammation of the tongue, the swelling of which frequently fills the whole cavity of the mouth, scarification of the tongue by longitudinal incisions on both sides are necessary.

Especial attention is due to the variety of character, whether it is purely inflammatory, or catarrhal, or gastric, or mixed of several.

Inflammation of the throat of a gastric character (*angina gastrica, biliosa*). The signs are those of the inflammation of the throat, together with the symptoms of a gastric state, coated tongue, etc. Here an emetic is the principal remedy, which often makes a cure by itself; afterwards a purgative. In complication with genuine inflammation, abstractions of blood, and the means necessary on such an occurrence.

Inflammation of the throat of catarrhal character (*angina serosa, catarrhalis, rheumatica*). Signs: little pain but more swelling, more white, covered with viscous mucus; most frequently seizing the tonsils (*ang. tonsillaris*) or the uvula (*ang. uvularis*), but sometimes also the glottis, with or after a rheumatic affection. The fever is slight or entirely absent. The disease in itself is free from peril, being

only a rheum of the mucous membrane of these parts ; but it can even endanger life by the local swelling of the tonsils, or uvula, by a mere mechanical closing up. The cure requires : first, regard to gastric complication, which here exists very frequently. In this case, an emetic, and then purgatives afford the best and quickest relief. When there is no gastric complication, cooling diaphoretics, and above all sal. ammoniac, are the principal remedies ; externally, embrocations of linim. volat. on the throat, and wrapping it in wadding or leaven, emplastrum sinap. around the neck, gargling with stimulant astringent remedies, especially rad. pimpinell. (vide 41, 42, 43), alum, sal. ammoniac, friction, also injections of similar fluids are here particularly necessary, in order to rinse and evacuate the gathering tenacious slime. If this does not succeed, and fever and inflammation increase, then leeches, even venesection, and calomel must be applied. Does the swelling of the tonsils or uvula increase to such a degree as to threaten suffocation, then incisions in the uvula (longitudinal) are the safest and quickest means for relief and saving life.

Inflammation of the parotid glands (*ang. parotidea, parotitis*), mumps, exhibits a swelling of the parotid and submaxillary glands, which sometimes can attain a very high degree, and make even the internal parts swell, even unto suffocation. It is of a purely catarrhal character, and prevails commonly epidemically during other catarrhal maladies. Generally it yields to diaphoretic treatment (by keeping warm externally, being wrapped in worsted) and to antiphlogistic cathartics ; when of a higher degree, to calomel, leeches, and particularly to emetics. It is noticeable that this affection is apt to produce consensual swelling of the testicles, and in general to make metastases ; hence cold lead, camphor, or other repelling remedies must not be applied.

Inflammation of the throat of a putrid character (*ang. gangrænosa, putrida*). Signs : inflammation, swelling of the internal, commonly also of the external parts of the throat, exhibiting immediately from the beginning, bluish, violet-colored spots and putrid stinking smell ; violent fever, delirium, difficult breathing ; black scurfs as early as the second or third day, issuing a very acrid, stinking ichor, which corrodes all parts, even the palate and nasal membrane ; rattling respiration, increase of sopor and suffocative symptoms. Death ensues frequently on the fourth, at latest on the sixth day.

The disease is rare in our climate, and generally a symptom of scarlet fever, often of a concealed one. The cure requires first emetics, and then the most vigorous application of antiseptic, roborant and stimulant remedies: cinchona, serpentaria, wine, mineral acids, externally injections and frictions with the same substances, calx chlorut., vapors of vinegar mixed with myrrh; of great efficacy is also cold, frequent drinking of ice-water, little bags of ice put into the mouth.

Angina pectoris, vide asthma syncopicum.

Angina habitualis, angina chronica, is called so, since it always returns on the least occasion. It is a very troublesome evil, and likely to follow violent inflammations of the throat. It is dependent on continual disposition from remaining local weakness.

The best cure consists in continued gargling with alum-water (two drachms to one pound of water mixed with an agreeable syrup); daily cold washing of the throat, and a neckcloth of flannel or silk, on the bare skin. If this treatment is unavailing, we must search more deeply for the root of the disease—metastasis—specific morbid matters, local derangements.

The chronic angina is sometimes generated also by mere weakness, and is removed by the remedies just mentioned.

But more frequently the cause is a metastasis, of which the most frequent are the rheumatic, arthritic, syphilitic, scrofulous. Here the only treatment is that of the rheumatism, of arthritis, or syphilis, or scrofulosis. Intermediately, when it becomes more phlogistic, application of leeches. Careful attention must be paid to hemorrhoidal congestion and other abdominal accumulations, which but too often are at the bottom of the malady; in this case, the best treatment to remove the angina is, derivation of the piles, a well-conducted dissolving and evacuating visceral course. Not unfrequently I succeeded to cure it by the use of the Carlsbad well, the natural as well as the artificial. Finally, we must not neglect to have regard, whether there exist organic disorders, indurations, ulcers and the like.

Angina polyposa, membranacea, laryngitis exsudatoria, quincy, croup (vide diseases of children).

STOMACACE.

Stomaitis.

Diagnosis. Inflammatory phenomena in the mouth, accompanied by a putrid smell, tongue and gums much

coated. It occurs most frequently among children, and is epidemical.

The cause is catarrhal or gastric. In grown persons it is often a symptom of scorbutis.

The cure consists principally in the prompt administration of an emetic, which alone often removes the whole evil; afterwards laxatives, acids. Locally, gargling and swabbing with a solution of chloride of lime in water.

When it is a symptom of scorbutis, it must be treated accordingly.

GLOSSITIS.

Diagnosis. Inflammation of the tongue exhibits the following signs: swelling, redness, heat of the tongue, great difficulty of swallowing, in a high degree total impossibility, danger of suffocation; it may swell so as to fill the whole mouth; yea, as not to leave room for itself.

Issue, if not in resolution, it terminates in induration, suppuration, or gangrene.

Causes are, besides the general, local lesions, acrid substances, points of decayed teeth, rheumatism, catarrh, metastasis.

The *treatment* is similar to that for inflammation; as general and local abstractions of blood; in great swelling, longitudinal incisions into the tongue, which quickly cause a subsidence of the swelling and removal of the danger. In obstinate cases, mercurial embrocations may be used.

INFLAMMATION OF THE CHEST AND LUNGS.

Pneumonitis, Pneumonia.

It appears under various forms—painful and painless, and accordingly receives various names. It is called

Pleuritis, when it is accompanied with stitches or pain in drawing breath, the pleura, the costal muscles, or the surface of the lungs being the seat of the inflammation.

Peripneumonia (inflammation of the lungs properly so called), when it is not accompanied by any pain, but with oppression, difficulty of respiration and anxiety, the parenchyma of the lungs being the seat of inflammation.

Pleuro-peripneumonia, when both pain and oppression are present, and in this case, superficial and parenchymatous inflammation are combined.

Bronchitis (inflammation of the mucous membrane of the bronchia), when marked by a constant and violent irritation, tickling cough and hoarse voice. It is only a catarrhal inflammatory irritation of the mucous membrane (vide *catarrhus pulmonum inflammatorius*).

The distinction is, however, more anatomical than practical; for the phenomena are rarely thus isolated; at least they do not continue so, and the treatment is the same in all cases. However, parenchymatous inflammation of the lungs (peripneumony) is particularly noticeable on account of the absence of pain, and the small pulse, lest these negative symptoms lead us into error.

Diagnosis. Stitches or pain in one part of the chest, increased by inspiration, and which frequently prevent full breathing, pulse hard and full.

Or pressure, oppression of the chest, anxiety; pulse soft, small, sometimes unequal and remittent.

Cough produced by deep inspiration, or in violent inflammation, even by speaking, or the least exertion of the chest, is a principal sign and constant accompaniment of every inflammation of the chest. Where there is no cough there is no inflammation, even if pain and other signs were present. The cough may be either dry or moist, with expectoration. When dry it indicates either an inflammation of the pleura, or in peripneumonia, the highest degree of inflammation. Expectoration is either serous, mucous, or bloody; pure blood may be expectorated in the highest degrees of the disease.

Inflammatory fever with all its signs, heat, thirst, red urine, hard pulse, is present. The pulse, however, is liable to deviations, which are apt to create illusions, and render diagnosis difficult. It may, in spite of the most violent inflammation, and on account of it, become small and soft, and lead the tyro to consider it the pulse of weakness. The cause of this is double: Either the violent pain felt in inspiration (as in *pleuritis*), prevents the patient from distending the thorax, and therefore causes imperfect respiration, which prevents the free circulation of the blood through the lungs, and thence only partially into the heart and the general circulation; or the stagnation of the blood in the substance of the lungs causes incipient hepatisation (as in *peripneumony*). This also impedes the course of the blood through the lungs, into the heart, and in the general circulation. Hence the pulse is made small and soft, sometimes unequal and remittent, in short, very similar to the pulse of weakness. But this illusion of the pulse, as well

as that of the oppression, can be easily discriminated from real weakness, by ordering the patient to cough or to take a deep inspiration. On doing so the pulse will instantly become full and hard, and its true inflammatory character apparent.

The signs afforded through hearing by means of the stethoscope or percussion, have recently been highly recommended for the diagnosis of pulmonary diseases. But these signs are very illusory, nor will the existence of an inflammation ever be discovered by them alone; while the other signs are sufficient of themselves for the purpose of diagnosis. At most, they may serve to detect the locality of disease, but this affords no indication, and has no influence on the treatment. At best, it will aid to define more accurately the limits of the after-maladies, induration or suppuration.

The disease varies in its severity from slight to most violent degrees, and in the latter case there is delirium (produced by the violence of the fever), and sopor (by the impeded return of the blood from the brain, on account of its stagnation in the lungs).

Pulmonary inflammation is either *primary*, appearing simultaneously with the setting-in of the fever, commencing commonly with a violent chill; or is *secondary*, setting in only in the course of the fever.

The *course* and *duration* are very regular, occupying seven, fourteen, rarely twenty-one days.

Of crises, the general, is manifested by sweat and urine, often also by epistaxis; the local, by pulmonary secretion, and expectoration, which are indispensable to perfect resolution. The wholesome critical sputa is yellowish white, similar to a thick emulsion; and in the beginning may be mixed with dark blood-streaks (the older sanguineous extravasation now becoming loose), and is thrown up easily.

The *issue* is either :

A perfect *resolution*, recognizable by the general crisis; and the local one of sputa, cessation of the cough and fever;

Or is a transition into *suppuration*, either open or incised (*vomica*), marked by abatement of the pain, but continuance of the feeling of pressure, especially in drawing a deep breath or lying on one side; a not entirely free respiration, cough when deep inspiration is made, also by speaking and walking; feverish pulse, apparent good health, returning appetite for three or four weeks; but then a

hectic evening fever commences, hot hands, hot, red cheeks after a meal, expectoration of matter; or in the case of vomica, increase of cough and local complaints, *phthisis purulenta*;

Or is a transition into *induration, tubercles*, characterized by the fever abating, but respiration not entirely free; short, dry cough, especially in drawing a deep breath; sometimes fugitive stitches in the chest; and as for the rest, there is an apparent restoration of health;

Or is a transition into *blennorrhœa of the lungs*, which is distinguished by the fever abating, but copious mucous expectoration continuing, emaciation, finally *phthisis pituitosa*;

Or *death* from suffocation, complete hepatization of the lungs or gangrene, but rarely the two last, since the patient is previously choked.

Not seldom *hydrothorax* is formed during the disease, and becomes a *morbus secundarius*.

Pathogenesis. Besides the general causes of inflammation, there are particularly the following:

1. The *natural inflammatory disposition* of the lungs themselves. No part of the body is so liable to inflammation as this; hence pulmonary inflammations are the most frequent of all. This is due to the abundance of blood it contains, rendering it the most plethoric portion of the body, since it must receive the whole mass of blood; moreover, the lungs are subject to the immediate influence of all nuisances they are exposed to, and finally to their own constant creation of warmth, since they are the hearth of the vital flame, which is kindled anew by every respiration.

2. *Fever.* Every fever increases the circulation, hence congestion in the lungs; and when violent, is so far an inflammatory or morbidly irritated condition, able to bring on pulmonary inflammation.

3. High *standing* of the *barometer* and *dry cold*; it therefore is more frequent and epidemical in a severe winter, and its passing into spring.

4. Much *animal food* and *ardent beverages*.

Exciting causes are especially taking cold, catarrh, rheumatism, suppressed usual hemorrhages, measles, also violent concussions of the body, of the chest as well as of other parts, particularly falls and blows on the back.

Therapeutics. Venesection, tartar emetic, and vesicatories are the principal remedies. First a venesection on the arm of the affected side as soon as possible, and by a large

opening, so that the blood may spout arch-like, and allow it to flow until the hard, full pulse becomes softer and smaller; or the small, soft (in oppression of the chest, or very violent stitches) becomes fuller and larger, and the stitches or oppression abate or entirely cease;—but with constant regard to the pulse, so that the patient approaches to syncope, but does not faint quite away, for this is apt to create stagnation and coagulation of blood in the lungs, heart and great vessels. Accordingly, the patient must lie down during the venesection, and as soon as the pulse becomes unequal or remittent, the vein must be closed. Phlebotomy is to be repeated according to these principles should the same indications return. This inflammation requires and bears most copious bleeding. The earlier venesection is made, and the more copious the first one is, the more decisive is its effect for annihilating the whole inflammatory process. In this way a repetition of venesection may be made superfluous, and much blood saved to the patient. Weak, tuberculous lungs, and phthisical disposition strongly call for abstraction of blood. In such cases, even a lower degree of inflammation, requires at least a moderate venesection; and in the violent degrees of peripneumonia, the veins in both arms should be opened simultaneously. Immediately after venesection, tartar emet., which is the principal and really specific remedy in this disease, must be given together with nitre (vide No. 44), and if the local affection do not entirely abate, a large vesicatory must be applied on the affected part. These remedies will perfectly suffice in most cases.

But when, after a longer or shorter space of time, stitches and oppression return, or, if they had not been entirely removed, increase, and the pulse becomes fuller and harder; or in oppression smaller, then venesection is to be repeated according to the rules mentioned above.

There are cases, where venesection is salutary and necessary, even in the third or fourth week; as when the pneumonic complaints continue, especially if it has been neglected at the commencement, the abstractions have not been sufficiently copious, and in tuberculous lungs.

But, should the pain increase, without fullness and hardness of the pulse also increasing, ten or twelve leeches ought to be applied on the most suffering or oppressed part; after this, should the pneumonic affections persist, calomel together with opium (vide No. 45) is to be administered. Also senna with sal ammoniac (vide No. 46) will prove very wholesome, especially in peripneumonic diffi-

culties, and for promoting the local pulmonary crisis (expectoration).

In the *stadio erethico* of pulmonary as well as in all other local inflammations, the following mixture has an excellent effect :

℞	Supertart. potass.	3ij.
	Nitr. pot.	3i.
	Aquæ laurocerasæ	3ij.
	Vini. antimonii	3i.
	Aquæ fontan.	℥vij.
	Succi Glycirrh.	3ij.
	Syrupi Alth.	℥j.
M. S.	Two table spoonfuls every 2 hours.	

Drinking largely of mucilaginous dissolvent fluids, decoct. hordei with honey, or oxymel simplex, weak elder tea, spec. pectoral. must accompany all these remedies. In those violent pains or great difficulty of breathing, also spasm, which sometimes continue notwithstanding the loss of blood, embrocations of linim. volat. together with opium and warm cataplasms of narcotic herbs, are of excellent use. Expectoration must be properly regarded and supported, since it is a local crisis, indispensable for perfect resolution. For that purpose, lukewarm, dissolvent mucilaginous beverages, as decoct. of barley, gruel, groats, rad. althaeæ, hb. tussilag. with honey must be taken in considerable quantity; also warm vapors of flor. sambuc. are to be inhaled, when the expectoration is very viscous and difficult. Linctus of syrup. liquirit. together with sulph. antimon. aur., oxymel scillit., syrup. senegae, vapors of flor. sambuc. steeped with water and vinegar; when the expectoration is watery and acrid, and there is a continual irritating cough, mucilaginous, salep-decoction; linctus of oleum amygdal. one drachm, mucilag. gumm. arab. q. s. ad subact., aq. font., syrup. amygd. āā one ounce, extract. hyoscyam. four grains; and a vesicatory on the breast, are proper.

When the patient expectorates pure blood, caused by violent inflammation, a venesection must be resorted to; or, if it be black, dissolved and connected with symptoms of debility, acid. sulphur. with mucilage.

In a lower degree of pneumony, the mixture mentioned above (vide No. 44), together with tart. emetic, may immediately be administered. It will often effect the whole cure. If it do not suffice, a venesection is to be made.

But all pneumonies cannot be cured in that manner; there are some in which venesection is unavailing, even injurious. Each different character calls for a different method of cure, and must be carefully discriminated. The following are the varieties, which require difference in the treatment:

1. The gastric, especially bilious inflammation of the lungs.

There are cases, where the pulmonary affection is not real inflammation, but only a consensual affection of congestion, or merely an erysipelatous irritation of the pectoral viscera, caused by a gastric accumulation in the stomach, or a biliary one in the hepatic system, in which a pure phlogistic treatment, especially abstraction of blood is of no use, but on the contrary most pernicious. They are recognized by the absence of hardness and fullness of the pulse, which is frequent and soft, and at the same time the signs of gastric accumulation which bear a clear relation to the affection of the chest, notwithstanding the presence of violent stitches and oppression in the chest. Here the cure must be directed not to the pulmonary and vascular, but to the gastric system.

The case can be double:

Either all the signs of high gastric turgescence are present, such as a thickly pappy-coated tongue, bitter, foul taste, nausea, inclination to vomit or actual vomiting, headache, often also something yellowish in the face, especially about the mouth. Here tart. emet. is to be given, so as to cause sufficient vomiting; the patient will evacuate a great quantity of bile; this treatment will frequently immediately remove the most violent pleuritic pain and other symptoms of inflammation, and cooling laxatives will finish the cure.

Or the signs of gastric impurities are present (vide gastric fever), but at the same time hard, full pulse, red countenance, plethoric constitution. Here a venesection in the arm must first be made, and then tart. emet. is to be given, so as to make vomit; afterwards cooling laxatives. The emetic may be repeated on return of indication. Sometimes the inflammatory symptoms appear only in the course of the disease. In such a case, also, are phlebotomy and leeches to be used.

2. The rheumatic pneumony (*pleuritis rheumatica*). The patient, after taking cold or previously existing rheumatism, is affected by violent stitches, or pain on one spot of the chest, which is increased by pressure. This is the

distinctive sign of this species. It may be connected with cough (by consensual irritation) and difficult breathing, (since pain prevents the patient from distending the thorax). Here the disease is nothing but rheumatism in the pectoral and intercostal muscles, sometimes also of the pleura itself. A vesicatory on the painful part, covering it with flannel, and the internal use of tart. emetic, half a grain every two hours, and a diaphoretic regimen, are the principal remedies. In young plethoric persons, leeches may be previously applied. This rheumatism, however, partly by increase and communication of the irritation, partly by the obstructed respiration, may associate with a sanguineous congestion and inflammation of the lungs; in this case also venesection in the arm is not to be omitted.

3. Putrid inflammation of the lungs (*pleuritis putrida, gangrænosa*), exhibits immediately at the onset the highest vital debility and disposition to putrid dissolution. The signs are those of putrid fever with very low pulse, fetid breath, dark-colored, dissolved bloody sputa. The malady rarely occurs with us, and only epidemically. The cure is the same as that for putrid fever,—mineral acids, Peruvian bark, alum, balsamic, antiseptic inhalations of warm vinegar and myrrh; also cold fomentations on the chest. Venesection is fatal.

4. The adynamic inflammation of the lungs (*pleur. notha*). It occurs in aged people, and is marked with difficulty of breathing and weak pulse. It easily passes into a complete paralysis of the lungs and catarrhus suffocativus. The chief remedies are: arnica, senega, sulphur antimon. aur., kermes, liquor c. c. succin., vesicatories, sinapisms. Venesection will be but rarely needed, and when so, always, however, with precaution.

Pleuritis Chronica.

By this name are signified chronic pains in the chest, either constant or returning from time to time, generally connected with cough and difficulty of respiration. They are of various kind and significance, and therefore require the most careful examination and discrimination. They are commonly due to chronic rheumatisms of the thorax. Here a *vesicatorium perpetuum* on the spot, covering of flannel, and anti-rheumatic remedies are of use.

Or they are caused by hemorrhoidal congestions to the

chest, which may be recognized by the disposition, or piles previously existing. Here leeches on the chest, as well as at the anus, cooling laxatives, sulphur, in plethoric persons even venesection are requisite. In the female sex, menstrual congestion may have the same effect.

Or the evil originates in the lungs themselves. This is an important point for discrimination and diagnosis; for the two first kinds are not dangerous; but they may terminate in phthisis.

This case is double: either there are tubercles in the lungs, which inflame from time to time, and then create pain, accompanied by stronger or weaker febrile motions, dry cough, sometimes bloody expectoration, and a little dyspnoë. It lasts for several days, then abates, and after a longer or shorter time the pains return in the same spot. Such attacks deserve the greatest attention and most speedy removal, for every inflammation increases the tubercles or causes them to pass into suppuration. Therefore a small venesection, leeches on the painful part, and antiphlogistic remedies, must not be delayed, followed by a vesicatory, which must be kept open for some time (*vide phthisis tuberculosa*).

Or there are *vomicæ*, or inclosed abscesses, which become inflamed from time to time, causing pain. Also here the antiphlogistic treatment is necessary (*vide vomica*).

Belated Assistance, and Perilous State of Life.

The cases are not rare where the physician is called to the patient after the seventh day; or where, in spite of medical aid, a state endangering life has been developed within this period. Here nothing less than a proper and vigorous assistance can save the life of the already despaired-of patient; but for this purpose the various cases must be carefully discriminated.

1. The patient lies in the highest degree of oppression, with short, panting, rattling, hot breath, orthopnoë, frequent, short cough, expectorating nothing but blood; dizziness of the head, or delirium, sopor, hot, red face; quick, sometimes full, but most frequently small and weak pulse; red urine. When this is the case, venesection has been either entirely omitted, or but imperfectly resorted to. This condition is that of the highest degree of inflammation, over-filling and obstruction of the lungs. Here a venesection alone may yet save the patient, and has done

so as late as the tenth or twelfth day. But here a case may occur, which is one of the most painful and anxious in the whole course of practice. It is possible that hepatization of the lungs is already formed, and advanced to such a degree, that but little blood can penetrate through the lungs to the heart. Venesection can no further remove the inflammation, but takes away only that small quantity of blood which is left for circulation, and the patient dies during or soon after its performance. The physician cannot foresee such an emergency with certainty; however, if the inflammation be still removable, salvation is dependent on venesection. Here all must be left to a most accurate consideration of all the circumstances, and to the conscience of the physician. It is one of those cases, where he has to sacrifice his reputation to his duty and his conscience. Afterwards a large vesicatory to the chest, calomel with opium, inhalations of flor. sambuci, steeped in water and vinegar.

2. The patient labors under the same difficulties of respiration, but all the symptoms exhibit the greatest vital debility and a nervous state, as pale urine, cold extremities. The patient has undergone sufficient, perhaps too copious bleeding.—Here a quite opposite condition exists, a want of action in the lungs, incipient paralysis; now nothing short of the most active excitantia and resolventia are capable of saving life; a large vesicatory on the chest, sinapisms on the calves of the legs, continual inhalations of the vapors from flor. sambuc. or arnica, with water and vinegar; internally, musk, together with opium and calomel, kermes mineralis, ammonium in infus. arnicæ. In case of necessity, also an emetic may be given.

3. Great difficulty of breathing, the most intense anxiety, dizziness of the head, delirium, great prostration, frequently to fainting, pulse frequent but not inflammatory, urina jumentosa, and sometimes watery diarrhœa; anxiety and difficulty of respiration increase and decrease; very unclean tongue, covered with a pappy coat, yellow, brown or blackish; bad taste, nausea, inclination to vomit, eructations; and frequently the skin is yellowish about the mouth. This is a purely gastric state, and the whole oppression and anxiety arise from a consensual irritation by gastric impurities. The necessary evacuants have either been neglected in the beginning, or in the course of the disease gastric accumulations have been engendered. In short, the only remedy for saving life in this case is an emetic, best fifteen grains of ipecacuanha given at once,

and then five grains every quarter of an hour, until vomiting succeeds.

Subsequent Cure.

The after-cure of pulmonary inflammation often requires great attention, partly to remove the remains of inflammatory obstructions in the lungs, and thereby to prevent the formation of tubercles and consecutive *phthisis tuberculosa*, partly to make good the state of debility generated by the inflammation, and to guard against the transition into *phthisis pituitosa*. The case is therefore double: Either the patient continues to cough, but the cough is dry, and there is but little expectoration. Here the best remedies are the use of whey, of Selters water mixed with milk, hyoscyamus, digitalis in small doses, and a vesicatorium perpetuum on the upper arm. Or there remains copious expectoration of mucus, which in the beginning relieved, but now, instead of diminishing, gradually increases and weakens the patient. In such cases, the surest and really specific remedy is lichen islandicum, given in the form of gelatina to the extent of two or three ounces daily; if it irritates too much in the beginning, it may be mixed with dulcamara and liquiritia.

INFLAMMATION OF THE HEART.

Carditis.

Great anxiety but without that cough which is excited by inspiration, very violent fever, very quick but soft, small, unequal, remittent pulse; fits of fainting, cool extremities, and generally a painful pressure on the left of the sternum, in the cardiac region. The symptoms resemble very much those of a high degree of peripneumony, for in both cases they are due to obstruction of the circulation of the blood, here in the heart, there in the lungs. However, the absence of pulmonary cough, and short respiration; and the presence of oppression, sighing and swooning; and a horizontal position, which is insupportable in pulmonary inflammation, are discriminative of the two diseases. But high inflammation of the heart is always followed by inflammation of the lungs. This discrimination is of no importance as regards the treatment; for in carditis the same treatment is to be followed and the same principles

observed as in pneumonia. Frequent and copious venesections are especially advised, and are the more necessary the smaller and the more remittent the pulse is.

ABDOMINAL INFLAMMATIONS.

In all inflammations of the abdomen within the peritoneum, three things are noticeable:

1. The pulse is small, suppressed, often thread-like, and is then indicative of the highest inflammation.
2. The sensibility of the inflamed part is very illusory; pain is frequently entirely absent, or is discoverable only by hard pressure.
3. It is on these accounts, that *inflammationes acutæ* are so likely to occur in the abdominal region.

INFLAMMATION OF THE STOMACH.

Gastritis.

Diagnosis. A constant violent burning, stitching pain in the gastric region, increased by inspiration, by pressure, and taking any kind of ingesta, bloatedness, tension, swelling, heat, and pain of the stomachical region, frequently combined with pulsation; throwing up all that is swallowed, even pure water; sobbing, great anxiety, small, thread-like pulse, cool extremities, violent nervous fits and consensual spasms, prostration, fits of fainting; convulsions to tetanus and opisthotonus, sometimes even to hydrophobia. It is a dangerous disease, and very rapid in its course. No inflammation affects so much the nervous system (on account of the extreme sympathy of the stomach), and it may prove fatal by this relation alone. Death follows, either by gangrene, which is announced by sudden cessation of all pains, small, scarcely perceptible, remitting pulse, and coldness of the extremities (the pain abating and the pulse becoming larger, are here not to be mistaken for a sign of amelioration); or by nervous paralysis (*apoplexia nervosa*) under spasms or fits of fainting, and symptoms of the utmost debility. But often it passes into chronic inflammation, spasm, induration or suppuration of the stomach.

The signs of danger are found in the pulse, which is small, becoming smaller and smaller; and those of improvement by the pulse becoming larger and broader.

Special causes are, suddenly stopped bilious diarrhœa, the use of violent remedies, dysentery, cholera, vomiting of blood, acrid poisons, hyperemesis, arthritic metastases to the stomach, suppressed menstrua, or hemorrhoids, or external lesion.

Therapeutics. The general cure of inflammation, with only two particularities: 1. The smaller the pulse, the more urgent and the more copious venesection is required. 2. The antiphlogistic method is here confined to general and local abstraction of blood (especially by cupping); and external remedies; for all internal ones, particularly the saline, are poison, and increase the inflammation by directly irritating the inflamed surface; therefore mucilaginous remedies, oily emulsions (vide No. 47), milk with water, especially buttermilk, are best.

On account of the general nervous affection, which is apt to prove fatal, we must immediately after the necessary abstractions of blood, apply antispasmodic and narcotic remedies; such as antispasmodic and narcotic embrocations, cataplasms and fomentations along with opium over the stomach, also mercurial ointment with opium, a vesicatory, opiate injections, and most of all, lukewarm baths.

In cases of poisoning with acrid corrosive substances (arsenic, sublimate, and other metallic salts), milk drank in abundance, oil, and the salt-dissolving alkalis, kali, and soap are to be used. In gastric inflammation owing to arthritic or podagral metastasis, a large vesicatory on the stomachical region is of more use than all other remedies.

A chronic inflammatory state of the stomach is met with more frequently than acute gastritis. Recent writers erroneously call it *gastritis chronica*, for it is only a congestive state of the stomach. It is manifested by chronic pains and spasms of the stomach, and is treated on as *cardialgia sanguinea*.

INTESTINAL INFLAMMATION.

Enteritis.

Ileus Inflammatorius, Colica Inflammatoria.

Diagnosis. Violent, pungent, permanent pain on one spot of the abdomen, which is also very sensitive to touch; the abdomen is bloated, hot, painful, often so much so as not to bear the least touch; obstinate constipation, vomiting, first of slime and gall, finally of excrements (*ileus, miserere*); sobbing, anxiety, violent thirst, and the head

generally free to the last ; the pulse is small and contracted, with all the other signs of inflammatory fever.

The course is very acute. The issue is either perfect resolution or death by gangrene ; the latter being recognizable by the sudden disappearance of the pain, which shortly before was increased to its acme, the pulse sinking, becoming remittent and imperceptible ; involuntary cadaverously fetid stools ; to which applies the same remark that was made in gastritis, not to consider it as a sign of improvement ; or the malady passes into induration (*callositas, scirrhus intestinum*) ; or into suppuration ; in the first case, *obstructio alvi habitualis* ; in the latter, *phthisis intestinalis* is the consequence. But there are, even in gangrene, a few single instances in which nature has removed the gangrenous matter, effected reunion of the part, and restoration of the patient. Also here the increase of inflammation and danger is measured by the pulse becoming smaller.

Besides the general causes, taking cold in the feet and the abdomen, suppressed menstrua and hemorrhoids, parturition, drastic purgatives, worms and metastases bring on this inflammation.

The proximate cause of the constipation and vomiting of fæces is not so much a mechanical impediment afforded by the inflammatory swelling, but rather a *motus antiperistalticus* created by inflammatory irritation, which, after the inflammation has been removed, may still continue, being kept up by a remaining nervous irritation (spasm).

The treatment is the same as in gastritis ; general and local abstractions of blood ; and here also, the smaller the pulse, the more urgent is venesection, and which must be repeated until the pulse becomes fuller and broader. Internally the oily emulsion with hyoscyamus, or fresh linseed-oil, given by spoonfuls, buttermilk, emollient narcotic cataplasms, antispasmodic and mercurial ointments, cups, a vesicatory on the abdomen, and oily-mucilaginous injections every six hours. No purgatives, no salts as long as the inflammation is violent. They only increase the inflammation, and do not effect an evacuation. The removal of the inflammation opens the bowels. Preferable to all, after proper bleeding, is a lukewarm bath, which often best resolves the spasm and on that account serves to save life. Generally, in order to remove the spasm remaining from the inflammation, which keeps up the costiveness, vomiting and pain, opium, the oily emulsion with extr. opii. aquos. three grains, or opium together with calomel, and opiate

injections, are proper. This done we may resort to purgatives, of which oleum Ricini is the most proper, every two hours one table spoonful ; also in injections, or in lieu of it oleum papaveris two ounces, oleum crotonis one drop. When constipation continues, injections of vinegar or cold water, also cold fomentations on the abdomen.

Particular regard must be paid to the remote cause, especially if it is owing to a hernia incarcerata. We must, therefore, examine accurately all parts, where the like could arise ; and if there be hernia, the only cure is reduction. Likewise regard to worms.

After the disease, the abdomen must be kept warm by flannel vests ; all food which is apt to cause flatulency, or is heavy and indigestible, and ardent drinks are to be avoided.

INFLAMMATION OF THE LIVER.

Hepatitis.

Diagnosis. It is different according to the different seat of the inflammation. When it is located more in the surface and the convex side, the phenomena are pain in the right hypochondrium, sometimes stitches, sometimes burning, sometimes as violent as in pleuritis, shooting to the sternum, the right scapula, extending sometimes even to the right foot, increased by inspiration ; cough ; frequently also vomiting, and lying on the right side is impossible.

When it occupies the concave part of the liver, or the substance of that organ, then the feeling is more pressing than painful, but the biliary system is more affected ; yellowish color of the eyes, of the countenance, sometimes complete jaundice ; bitter taste, *urina crocea*, vomiting, sobbing, lying on the left side impossible, on the right side alleviating.

In either case, on examination, the right hypochondrium will appear bloated, painful to pressure, and is hot.

These local symptoms are accompanied by the general signs of an inflammatory fever.

The first species might easily be mistaken for pleuritis ; as they often offer very similar phenomena ; but this mistake is without detriment, since the treatment is the same.

As in general the liver has a chronic character, its inflammation has a tendency to pass into a chronic state. It is also apt to affect the lungs, and to combine with a pulmonary inflammation.

The issue is either perfect resolution under general and local crises, especially bleeding at the nose, hemorrhoidal fluxes, erysipelatous metastases to external parts, diarrhœa; or transition into chronic inflammation, adhesion, induration, and other disorganizations, to which the liver is particularly liable. Or it terminates in suppuration, whence *phthisis hepatica*. The matter forms either a *vomica*, which can destroy the whole substance of the liver; or penetrates to without and engenders a liver-abscess; or into the lungs, generating expectoration of matter (*phthisis hepatico-pulmonalis*); or makes its way into the intestinal canal, whence arises diarrhœa purulenta, sometimes followed by perfect recovery; finally gangrene.

Causes, besides the general, are gall-stones, violent anger, especially when accompanied with drinking ardent spirits; too strong emetics, external lesions, concussion of the brain, suddenly suppressed diarrhœa or dysentery, hemorrhoidal congestion. Summer heat and hot climate are most predisposing to this disease.

The cure is as in pleuritis: general and local abstractions of blood, in which especially the application of leeches to the rectum as a derivative through the hemorrhoidal vessels directly anastomosing with the liver, is recommendable; antiphlogistic salts, especial regard to the evacuation of bile by acid laxatives (tamarinds), whey prepared with cremor tartaris or tamarinds, injections, which will here operate simultaneously, as internal fomentations of the liver; and if these remedies do not suffice, the use of mercury internally and externally, which is particularly appropriate to inflammations of the liver, especially those of a chronic character.

Frequently chronic hepatitis is met with either as a consequence of the acute, or is generated by local organic disorders. Its signs are: a continual or periodically returning bloatedness in the hepatic region, thirst, complaints of the stomach, red urine, febrile motions from time to time, and a yellowish tint. The cure consists in the administration of calomel, unguent mercur., natr. and kali (the carbonic alkaline waters of Fachingen and the Kreuzbrunnen in Germany); whey, extract. graminis, taraxaci, chelidonii, or the fresh expressed juices of those herbs; cicuta, digitalis, lukewarm baths of soap and alkali; the constant wearing of emplastr. sapon. or galban, and in the intermediate time, as soon as the pain increases, application of leeches.

INFLAMMATION OF THE SPLEEN.

Splenitis.

Diagnosis. Pains pressing and pungent in the region of the spleen, which is bloated and painful under external pressure; in a high degree of it there are consensual symptoms of the stomach, especially apt to *vomitus cruentus*.

Causes and treatment the same as in hepatitis.

INFLAMMATION OF THE MIDRIF.

Diaphragmitis.

Diagnosis. Pain on one spot within the costal margin or the short ribs, which is increased if the finger presses below the ribs; the same takes place in inspiration or stretching of the body, hence the patient feels alleviated only with the body bent forwards. At the same time there is cough, and when the inflammation extends far, *singultus*. If it extends farther, the back is also affected with pain, which may become extremely formidable. The pulse is quick and small, may be also remittent. In general there is much resemblance to pleuritis, for which it is often mistaken. In the highest degree *risus sardonius* associates with it.

Causes, the same as in pneumonia.

The treatment is also the same; venesection and leeches are the principal remedies; frequent injections are very useful. Against sobbing (*singultus*) external embrocations, narcotic cataplasms, irritatives of the skin, *hyoscyamus aqua laurocerasi*, and musk are the best.

INFLAMMATION OF THE MESENTERY.

Mesenteritis.

Diagnosis. A deeply seated, dull, pressing pain in the lower abdomen, which is bloated and painful under any pressure; it is generally connected with constipation; and there may be also ischuria. Fever as in all inflammations. More frequently chronic than acute; is met with oftener

in children than in adults, especially in such children as labor under scrofula and indurations of the mesentery.

Treatment the same as in peritonitis.

INFLAMMATION OF THE PANCREAS.

Pancreatitis.

Diagnosis. Similar symptoms in the region between the pit of the stomach and navel, accompanied with vomiting.

Treatment the same.

INFLAMMATION OF THE PERITONEUM.

Peritonitis.

Diagnosis. Tumefaction and painful tension of the abdomen, with great sensibility to touch, so much so, that in a high degree the patient cannot suffer any thing on the belly. Constipation or ischury is frequently connected with it; being dependent on the extent of the inflammation. In a high degree all the accidents of enteritis, as vomiting, etc. often occur. When peritonitis is not cured by resolution, it runs into indurations or suppurations, and the latter may form an external abscess.

Causes, besides the general, are, external lesion, pregnancy, parturition, metastases, taking cold in the abdomen.

The treatment is the general antiphlogistic, especially leeches, mercurial embrocations, fomentations, lukewarm baths.

Peritonitis exsudatoria puerperalis (vide diseases of females).

INFLAMMATION OF THE CAUL.

Omentitis.

Diagnosis. The same symptoms as in peritonitis, only more confined to the epigastric region, and accompanied with vomiting. More frequently chronic than acute.

Treatment is also the same.

INFLAMMATION OF THE KIDNEYS.

Nephritis.

Diagnosis. Pungent, pressing pain in the renal region, shooting along the urethra to the bladder; difficulty to

urinate, strangury, or ischury (only when both kidneys are inflamed, which rarely happens); hot, red urine, the testicle drawn near to the abdomen on the affected side, painful and swollen; often numbness of the whole foot, which is spasmodically affected; vomiting, colic pains, tenesmus; lying on the affected part and the back, as well as standing and walking, increase the pains.

Issue. Resolution or induration (the kidneys are subject to the most various disorganizations of substance); or suppuration (*phthisis renalis*), in which either evacuation of urine, and thereby also a complete cure can succeed; or the matter works its way to the external surface (*abscessus renalis*), or internally and opens into the intestinal canal.

Causes. Nephritic stones, especially violent concussions of the body, or excess in wine, continual riding on horseback or in jolting carriages, falls and blows on the back; long lying on the back, great exertion to lift heavy loads, hemorrhoidal congestion, acrid diuretics, or cantharides.

Therapeutics. The cure of this inflammation is the same as in the foregoing, with this additional remark, that blister plasters and nitre are to be avoided; oily remedies and mucilaginous drinks, mild laxatives of manna and tamarinds, frequent emollient clysters, cataplasms, and, above all, after proper abstraction of blood, a lukewarm bath, are most beneficial; when the attack is obstinate, calomel and opium.

Should chronic inflammation or induration remain, the continued use of mild, dissolvent remedies, solutions of extracts with terra foliat. tart., natrum, lukewarm baths, and leeches occasionally are recommendable; in indications of suppuration, Selters or Spa water with milk.

INFLAMMATION OF THE BLADDER.

Cystitis.

Diagnosis. Burning pain in the vesical region, with external swelling, tension, heat, and pain when touched; urine red and hot, strangury, dysury and ischury; even tenesmus and constipation, a hard pulse and fever; also in a high degree consensual accidents, as vomitus, singultus.

The issue is either resolution, accompanied with thick urine, or suppuration, discharged with the urine, or abscesses, and finally urinary fistulas in the perinæum,

scrotum, or rectum; or induration, which, by repeated inflammations, may gradually increase the vesical parietes to the thickness of an inch, a state which causes continual vesical and urinal difficulties; or gangrene.

The causes, besides the general, are external lesion, hemorrhoidal congestion; rheumatic, arthritic and syphilitic metastases; urinary calculus, pregnancy, parturition, and suppressed menstruation.

The cure is like that of nephritis. Should there be ischuria, and the catheter needed, it must be cautiously introduced, and without force as long as its application is painful and difficult; but first, let the inflammation and spasm be removed by abstractions of blood, calomel, opium, lukewarm baths, emollient injections, embrocations, and cataplasms, after which, if necessary, a flexible catheter may be introduced, and left in as long as circumstances require.

INFLAMMATION OF THE WOMB.

Metritis.

Diagnosis. External tension, tumefaction and pain in the hypogastric region, the pain being increased by pressure; heat and pain in the vagina, and pain on touching the mouth of the womb; pain in urinating, and defecation, strangury, ischury, tenesmus and constipation. When in a high degree, consensual symptoms as in cystitis.

Issue. Resolution (frequently accompanied with discharge of blood), or suppuration, flowing of matter from the vagina, or induration, or gangrene.

Causes are difficult parturition, violence in confinement, suddenly suppressed menstrua or lochia, version of the womb, ill applied pessaries, retained placenta, suppression of metrorrhagias by cold fomentations or ardent irritants, ardent abortives.

The treatment is the same as in cystitis; and in addition, emollient injections into the vagina.

INFLAMMATION OF THE OVARIA.

Oophoritis.

Diagnosis. Pain in the right or left inguinal region; in a high degree of inflammation, circumscribed swelling of

that region clearly perceptible, and it is painful under pressure ; frequently also consensual affections of the neighboring parts, and a febrile state. In a lower degree of this inflammation, especially in the beginning or in the chronic state, the diagnosis is not so easy, although of great importance, since it can lay the foundation of multifarious disorganizations and degenerations of the ovary, and which can only be prevented by early discovery and treatment. The only sign we have here is pain in the inguinal region, which in a quiet position is commonly imperceptible, but sensible by a deep pressure on that region ; little perceivable in standing, without swelling ; hot feeling in the vagina, sometimes ardor of urine or pain in the thigh of the side affected.

Pathogenesis. It originates in pregnancy, especially in the beginning, but more frequently in parturition ; finally, in unmarried females, in congestions to the ovaries, which most frequently are caused by sexual desire, excited by physical or moral onania, or imperfect coitus without satisfaction.

Therapeutics. The cure of inflammations ; especially the application of leeches, also venesection if indicated ; cooling purgatives, calomel and embrocations of volat. liniment and unguent mercur.

INFLAMMATION OF THE PSOAS-MUSCLE.

Psoitis.

Diagnosis. Pain in the renal region, hip, and downwards to the leg ; the leg cannot be stretched or drawn near to the abdomen without pain ; turning when lying, and lifting, increases the pains ; walking is possible only in hobbling, and with the body bent forwards. Rarely there is external swelling along the psoas muscle, and in the inguinal region. Signs discriminative of nephritis, to which it has resemblance, are the absence of urinary difficulty and costiveness. It is more frequently chronic than acute. It is not lethal, but very important in its consequences ; for suppuration often exists, though unperceived, and the matter breaks through and empties into the abdominal cavity, bringing on a fatal issue ; or (what happens more frequently), the matter burrows downward, hence a *phthisis lumbaris*, *abscessus lumbaris*, which opens in very remote parts, as in the groins, anus, perinæum, thigh, or

above the knee. Not seldom also are the vertebral bones or the hip-joint affected by it, and rendered carious.

The causes, besides the general, are: violent exertion in lifting and carrying; blows, falls on the back or the nates; rheumatism and hemorrhoids.

The treatment is the same as in peritonitis; especially leeches, lukewarm baths, vesicatories, mercury, applied externally and internally.

INFLAMMATION OF THE EYES.

Ophthalmitis.

Diagnosis. Redness, heat and pain of the eye in variable degrees, either with dryness or increased secretion of tears and other ophthalmic humors (*ophth. sicca et humida*), in the highest degree, headache and fever.

It can be caused by all that is capable of violently irritating the eyes from without, as well as from within; of the latter kind are sanguineous congestions, catarrh, rheumatism, consensual gastric irritants and specific morbid matters.

The treatment must be adapted to the causes, and to the difference of character. In the acute and high degrees of inflammation it is most momentous to resolve it speedily, in order to prevent suppuration, obscuration and other destructions of this tender organ. The remedies most efficacious for that purpose, are: venesection, leeches, large doses of calomel (three to six grains every four hours), and cool fomentations of weak lead-water to the eye.

In chronic ophthalmitis the treatment varies according to the varieties of cause and character. The general treatment is the same in any case, and in regard to local remedies we must remark, that dry inflammation bears collyria better; the moist only salves, amongst which that of red precipitate deserves the palm of all.

For more accurate information, I recommend the study of writings on ophthalmialogia, which has been raised to a particular science.

INFLAMMATION OF THE EARS.

Otitis.

Violent, often insupportable pain in the ear, with heat, even external sensibility of the meatus auditorius, and febrile irritation.

The pain easily communicates to the whole head, and when in a high degree, brings on even delirium. Inflammation of the brain may arise in consequence. If complete resolution does not succeed, suppuration or *otorrhœa* ensues, which, however, may be critical.

The cause is most frequently rheumatic. Every *otalgia*, however, may be increased into *otitis*.

The treatment must be prompt and actively antiphlogistic; leeches on the ears, in plethoric persons even general venesection, are the principal means. At the same time, antiphlogistic remedies and regimen, cooling laxatives.

ST. ANTHONY'S FIRE.

Erysipelas.

Diagnosis. Superficial shining redness, which disappears under pressure of the finger; is of a flying character, therefore apt to wander from one place to another. Sometimes blisters shoot up on it (*erysip. bullosum*).

The inflammation has its seat in the epidermis; but in the more violent degrees it affects also the subjacent tissue (*erys. phlegmonodes*).

Generally, previous to, and at the eruption, there exists a slight fever, which is distinguished by an inclination to sleep, and disappears after the eruption has broken out. Sometimes, however, it is violent and precedes the eruption for several days, together with a soporous state which continues afterwards, and by which the higher degree of the disease is characterized. Such a degree is not decided before the seventh or ninth day. Always also gastric, especially bilious symptoms, are connected with it.

The *issue* is either resolution, or induration running into very chronic callosities; or suppuration, which may spread deeply into the cellular tissue, and be followed by chronic fistulous ulcers; or gangrene. It is generally a slight disease and without danger, but it may endanger life by its seat, as when situated on the face, tending to communicate to the brain; by its character, when it is putrid; by retrocession to noble internal organs.

We must distinguish the genuine erysipelas from the pseudo-erysipelas, associated as a symptom to wounds and other external lesions. But also here we must well remember, that a true erysipelas can throw itself on such parts by the irritation of external lesion.

The *causes* are most frequently bilious or mental affections, as anger, wrath and fright ; or taking cold, vulnerations ; also idiosyncrasies against certain dishes, e. g. crabs, shell fish, produce in some individuals erysipelas. But here the disposition is of particular importance : females of a tender, white skin, fat, choleric persons, who have an easily irritated or morbid liver are most liable to this malady, and thereby arises the habitual erysipelas, a very troublesome evil, excited by trifling causes. It appears also often at the time of menstruation, as its surrogate.

The *treatment* must be accommodated to the degree, violence and character of the fever. The principal remedies are gastric evacuations, according to the indication, either by emetics or purgatives, especially with tamarinds and cremor tartari as amelioratives of bile, and in a slight degree, the same, connected with mild diaphoretics and an antiphlogistic diet, at the same time avoiding to take cold, are sufficient for a cure. Externally, only moderate, not too hot covering ; in order to diminish the pain, farina fabae, s. semin. lin. and pulvis flor. sambuci, but without camphor or lead, may be strewed on the inflamed part. Camphor and lead, as well as cold and cold fomentations, are carefully to be avoided ; they, it is true, dispel quickly the erysipelas, but can produce dangerous metastases unto internal parts. It is only in pseudo-erysipelas, which associates as a symptom to wounds, ulcers and other external lesions, that lead-water may be applied. Warm, wet fomentations are also improper, since they likewise are apt to produce retrocession, or transition into suppuration.

In the higher degrees, marked by violence of fever and inflammation, and when the individual is young and plethoric, abstractions of blood may be necessary ; precaution, however, is to be used, since they are apt to cause a retrocession of the erysipelatous eruption ; in general, leeches only are to be applied, and venesection only in extreme necessity, and in evident plethora, or truly inflammatory complication, or the affection of noble parts (of the eyes or brain). Purgatives are more serviceable than bleeding, as antiphlogistics.

Especial attention is due to the erysipelas of the face, which is frequently connected with violent cerebral affections, sopor and delirium. Here also, relief is not procured by abstraction of blood, but by gastric evacuations, especially by emetics ; they remove promptest and most surely the delirium, and promote the crises.

Erysipelas bullosum s. pustulosum is treated according

to the same principles. The blisters are not to be cut, but only pierced, so that the water contained in them may ooze out, and they remain covered with the epidermis; otherwise very painful and malignant suppurations might ensue. When these happen, in order to assuage the burning and to heal them, it is best to cover them with cream, or in obstinate cases, with ointment of lime (fresh pressed poppy-oil or linseed-oil with equal parts of lime-water). Remedies of lead are to be carefully avoided, as they can produce most dangerous metastases.

When erysipelas exhibits a disposition to putrescence and gangrene, which is discovered by the bluish redness or the dark spots on the part, or by a nervous or putrid febrile character, the treatment of the putrid typhus must be resorted to, and vigorous roboratives and antiseptics, externally Peruvian bark with sal. ammoniac, scordium, arnica, wine and acids must be applied.

Retrocession of the erysipelas. A sudden disappearance of the erysipelas, caused by cold, lead-remedies and the like, can bring on the most violent, even fatal internal inflammatory affections. Here prompt means to make it reappear, or at least to compensate it, are wanted. In slighter cases a sinapism on the erysipelatous spot, and internally spiritus Mindereri, camphor with nitre are of use; in violent inflammations of internal parts, a venesection, vesicatories on the spot which was previously erysipelatous; likewise sinapisms over the place now affected; internally nitre with camphor.

Convalescence. Erysipelas requires most careful attention, after it is subdued; for swelling, induration, and a disposition to recidives are likely to remain. The patient, therefore, must continue a diaphoretic regimen, and keep the erysipelatous part warm, and cover it with dissolvent herbs, until every vestige of œdema is gone.

The *chronic habitual erysipelas* originates partly in a particular weakness and secretion of the skin; partly in remote causes, disorders of the liver and bilious acidity, menstrual disorders, dyscrasias of various kinds, especially arthritic, psoric and syphilitic. The cure requires partly invigoration of the skin by baths, cold washing and rubbing; partly removal of abdominal obstructions by dissolvent, purgative and roborative remedies; regulation of the catamenia; cure of the various dyscrasias, for which the drinking of Sedlitz-water, continued for several days, is particularly useful, cupping every eight weeks, also fontanels.

ZONA. ZOSTER.

Diagnosis. Red, burning and itching spots, occupied with little pustels, or stripes in the region of the girdle, frequently forming a complete belt round the body, accurately circumscribed and separated from the healthy skin.

The disease is sometimes acute, combined with fever, more frequently chronic, and then of long duration and obstinacy.

As for its nature it is between *erysipelas* and *herpes*; often arises from the same cause as *erysipelas*, but more frequently from deeper located and general dyscrasias.

The treatment is the same as in *erysipelas*; in the chronic state like that of *herpes*. Particularly recommendable in the latter case, is the internal use of *æthiops mineralis*, one half or one scruple daily, together with *res. guaiaci*, and externally sublimate-water; in obstinate cases a weak solution of *lapis infernalis*.

FOURTH CLASS.

RHEUMATOSES.

Generalities.

I UNDERSTAND by this name every affection which originates in suppressed or disturbed function of the skin and is generated and entertained by an acrid serum (*perspirabile retentum*), produced by this impeded secretion.

It appears in two principal forms, *rheumatismus* and *cattarrhus*. The former is the rheumatic affection in the muscles, ligaments, aponeuroses: the second in the mucous membranes, especially the bronchia, trachea and nose. Both are of the same nature, and one can change into the other; the difference rests only in the location.

Pathogenesis. The proximate cause of either is a local irritation, created by the antagonistic reflection of the skin and the acidity thereby generated. The rheumatic affection, therefore has, besides the dynamic, a material serous character. The proof of this is: it is always brought on by suppression of the cutaneous secretion; it is cured only by

serous secretion, either general (perspiration), or local (local sweat, or artificially excited vesication); the least taking cold increases the evil; it is generally accompanied by a serous exsudation in the cellular tissue.

Therapeutics. Every rheumatic affection has two indications of cure; in the first place, to restore the cutaneous function, the crisis by the skin generally as well as locally, and in its absence to replace it by artificial serous evacuation (vesicatories); secondly, to regard duly the various dynamic characters, which happen to accompany the rheumatic affection, which is by no means inflammatory, but sometimes of a quite opposite nature.

RHEUMATISM.

Rheumatismus, Rheumatalgia.

Diagnosis. After having previously taken cold, pain in a muscular, membranous or aponeurotic part, together with swelling of the surrounding cellular tissue, light redness and warmth.

This is the appearance of rheumatism in its original form; but there are many deviations.

1. The local affection is not always accompanied with redness and heat, hence the division into *rheumatismus frigidus* and *calidus*.

2. The affection is not always accompanied by pain, it may immediately affect the nerves paralytically, and deprive the part of sensation and motion; e. g. *surditas, amaurosis, paralysis rheumatica*.

3. It is not always located in an external part, for it can just as well attack all internal organs; this, however, generally happens in a secondary way and *per metastasin*; sometimes it can immediately from the beginning seize on an internal part.

Thus rheumatism can exhibit and generate most violent and multifarious internal diseases, of an acute as well as of a chronic nature, e. g. pleuritis, enteritis, cardialgia, nervous diseases.

A principal means for the diagnosis of rheumatism, or for recognizing the rheumatic character of a disease in concealed and metamorphosed kinds of rheumatism, is the close relation which it bears to the atmospheric, especially the barometrical condition, or so to say, a barometrical nature of the sick, in which the least change of weather immediately aggravates the evil.

Rheumatism either remains on one spot (*rheumat. fixus*), or it wanders from one part to another (*rheumat. vagus*).

It is either accompanied by fever (*rheumat. acutus*), or not (*rheumat. chronicus*). The first lasts for a definite time; the latter is of uncertain duration, and may become chronic, even last the whole period of life.

Rheumatism and arthritis very much resemble each other in their phenomena, are easily confused, but are very different in respect to their original character (vide *pathogenesis*). The principal discriminative signs are: Rheumatism attacks more the muscular and membranous parts, arthritis the joints; rheumatism is not necessarily connected with digestive difficulties, quite the contrary, with the best appetite; but arthritis always shows itself connected with or succeeding to digestive difficulties; arthritis exhibits in the urine and other secretions more the signs of a singular dyscrasia, such as the knotty calcareous concrements on the joints, and the calcareous sediment in the urine; rheumatism does not. Rheumatism sets in after taking cold, an external influence operating from without to within; arthritis after, and by disorders of digestion and chylickation, from within to without, and appears as a critical deposit of a qualified morbid matter to the surface. It is not rare for rheumatism to assume an arthritic form, and vice versa (*rheumatismus arthriticus*).

Also several other diseases can assume the form of a rheumatic affection, e. g. syphilis, scorbutic, psoric, cancerous dyscrasias. We distinguish therefore, *rheumatismus verus*, which is owing to taking cold, and *spurius*; a difference of great importance for the treatment.

The *effects* and *consequences* of rheumatism are: serous exudation in the neighboring cellular tissue, induration, ankylosis, very rarely suppuration, paralysis, exanthemata, blenorrhœas; and, *per metastasin*, almost all forms of diseases, especially nervous, hypochondria, at last in long duration a particular dyscrasia and cachexia.

The crises are by sweat and urine, exanthemata, sometimes also by salivation.

Pathogenesis. The proximate cause of rheumatism is an antagonistic irritation, produced by checked perspiration, which irritation is of a double nature,—dynamic, as far as the equilibrium of the system is disturbed,—material, in regard to the morbid serous acrid matter (*materia rheumatica*). It is well to remember, that it is owing not only to suppressed sweat, but far more to the suppression of the imperceptible gas-like perspiration, which is the most im-

portant, most general and perpetual emunctory of organic life, and by which two thirds of all corrupt matters are discharged from the system, the retention of which, must of necessity, engender a very nuisible morbid matter, that, in course of time will injure the integrity and mixture of the humors. Rheumatism, therefore, is only irritation, but by no means a genuine (phlogistic) inflammation; is an irritation approaching to inflammation, located not in the vessels, but in the serous membranes; *inflammatio serosa*, not *sanguinea*. Thereby the *rheumatismus verus* differs from the *rheumatismus spurius*, which may arise in many other ways. The notion of suppressed cutaneous action, taking cold, must here be taken in its widest sense. Not only the suddenly suppressed perspiration (taking cold properly speaking, which gives occasion to acute rheumatisms), but much more, the chronic, gradual, frequently imperceptible, diminution and suppression of cutaneous perspiration, which generates the chronic (often so obstinate) rheumatisms and rheumatic maladies, is here to be counted. The latter kind is caused by living in moist dwellings, moist and changeable climate; hence it occurs most frequently in the middle climates and middle seasons (spring, fall). It is farther caused by too light clothing, which often unknowingly brings on rheumatism in females; and by neglected cultivation of the skin, uncleanness.

The predisposing causes are: too warm regimen, by which the sensibility of the skin is morbidly increased; disuse of air, living in closed rooms, want of exercise, general and local weakness, cold, pituitous, lymphatic, phlegmatic constitution. But rheumatism can also arise without any predisposition, and there is no disease, which can be generated so certainly. A person needs only to expose himself with an overheated sweating body, to a great draught of air, and rheumatism will follow.

"Rheuma" itself may give rise to various diseases, that is, to all kinds of acute fevers and inflammations; and as regards every kind of chronic diseases, the rheumatic diathesis is one of the most prolific sources, a fact, which we cannot too strongly promulgate.

Therapeutics. In the treatment of all rheumatic diseases we must adhere to the idea, that the skin is their source, and that retained perspirable matter, a serous acrimony is their matter morbidic. The original indication is therefore double: to restore or replace the cutaneous function, and to remove the serous acrimony either by a natural crisis

(especially of the skin) or by an artificial one (drawing blisters, suppuration).

The special treatment is determined on by the two principal species, the febrile rheumatism (vide *rheumatic fever*), and the non-febrile rheumatism (*rheumatismus chronicus*).

1. Apply internal remedies, which unitedly fulfill the above-stated indications, and are termed on that account *specifica antirheumatica*. The most efficacious are: spiritus Mindereri, guaiacum (vide No. 27, 28, 29 a), aconite, camphor, dulcamara, nitre (a great remedy especially when there is a phlogistic state, but in large doses up to one half ounce within 24 hours), antimonium and all its preparations, sulphur, warm baths, especially soap and culinary salt-baths.

2. Apply external means, which fulfill locally the same indication, i. e. effect a local crisis. For we must remember that rheumatism can be treated locally in a double manner, namely, by means which support the local reaction necessary for a complete crisis (radical method), and by such means as suppress reaction, and thereby take away the pain and irritation for a moment, but which are apt to cause rheumatism to shift to another, perhaps internal noble part; or effect an incomplete crisis and its consequences, i. e. retain the rheumatic matter in the affected part, and bring on stiffness, swelling, or frequent returns of rheumatism, even paralysis.

Of the first class, the radical, the sure external means are: warmth, oiled silk, flannel, greasy wool, fur, especially of the wild cat, embrocations of liniment. ammon., but without camphor, since this is apt to operate suppressingly; in order to do away with the pains emplastr. de hyoscyamo with opium; in very violent pains narcotic cataplasms, but only for a few hours, since too long an application might produce chronic exsudation and suppuration. But vesicatories, applied until they draw blisters, on or next the affected part, are the principal means; they remove the pain promptly, and render the crisis complete by serous evacuation. If one does not suffice, another is to be applied the following day near the first.

Of the second class, the suppressive, are: cold and lead, of which especially saturnine plasters are favorites. Both, it is true, are able to dispel the pain quickly, but are very apt to generate a dangerous metastasis of the rheumatism to some internal organ, and produce chronic distempers. Also local abstractions of blood may be included in that

class, since they likewise quickly remove the active internal reaction of nature, thereby removing the pain and irritation (so that the ignorant are impressed with the belief that they really cure), but they never annihilate rheumatism itself, a disease that never calls for evacuation of blood but only of serous matter; on the contrary, they have like the above-mentioned, a tendency to produce metastases and chronic local evils, even obstinacy of rheumatism itself. An exception to this statement is found in *rheumatismus calidus*, when rheumatism is combined with true inflammation, exhibited by heat and redness of the part affected. Here leeches or cups are salutary, not to remove rheumatism, but only to do away with the inflammation connected with it.

Regard must be paid to *constitution* and *complication*. Three varieties under this head deserve particular attention: 1. The *phlogistic*, when rheumatism occurs in a plethoric youthful person, or exhibits all the symptoms of an inflammatory disposition. Here, a strict antiphlogistic diet and treatment must be employed, consisting of local and general blood-letting, nitre, and diaphoretica frigida. 2. The *nervous*, in sensitive individuals. Here antispasmodic remedies, even opium must be used along with the first. 3. Finally, the *gastric*, especially the bilious, which can render the rheumatism violent and obstinate. Here emetics and purgatives frequently effect the cure more quickly than all other antirheumatics.

Cure of Obstinate Chronic Rheumatism.

Sometimes, however, the afore-mentioned treatment is not sufficient. The case does not yield, or if it abates a little, it returns with renewed vigor. Rheumatism may become one of the most obstinate maladies, and its cure one of the most difficult tasks in the whole round of practice, requiring a deeper penetration into the organism and the multifarious sources of the complaint. I here give the following rules:

The use of the above-mentioned antirheumatic remedies may be increased and prolonged; for the want of success is often owing to the irregularity and short time of employing them, and to the impatience of the sick, who does not allow time for their operation.

A stronger preparation of the same remedies may be administered; or such other more vigorously penetrating means as experience confirms. Of that number are, ac-

According to my experience, the tinct. guaiaci volat., tincture of guaiacum, arnica, tinct. fulig., oleum jecoris aselli (one or two ounces several times a day), petroleum, tinct. antimon. acris (30 drops several times daily), ammonium sulphuret. (two or three drops daily several times), calx antimon. sulphuret., and the sulph. water prepared of it (vide No. 29 b), the mercurials, especially sublimate, which I consider one of the most efficient means of this class, either as an addition to the decoct. of guaiac. (vide No. 30), or in the form of pills (vide No. 31), or as æther mercurialis.

Finally emetics may be resorted to, repeated every second day. They are of great use. We must, however, never forget, that they attack the system violently and are apt to injure the stomach and digestive power; hence they are recommended only in cases of necessity, when other means have been tried without benefit.

Externally, embrocations of mercurial ointment, of strong etherial oils, oleum cajeput., petroleum, may be applied; for assuaging the pain, emplastr. hyoscyam. with opium; also decoction of tobacco (one ounce in sixteen ounces of water reduced to eight ounces), used as lukewarm fomentations constantly continued are most efficacious. Moreover, emplastr. de galbano one ounce, camphor, petroleum, carb. ammoniæ opium $\bar{a}\bar{a}$ $\frac{1}{2}$ drachm, malax.; scarification, electricity, and galvanism are advised.

This treatment must be connected with baths, general and local, in which are mixed seasalt, alkali, sulphur, particularly sublimate ($\frac{1}{2}$ or 1 ounce for one bath). The most efficacious are the hot thermal baths at Wiesbaden, Töplitz, Aachen, Baden (near Vienna), Warmbrunn. As local baths, the douche (shower-bath) and sprinkling are of eximious power. In a state of great debility cold baths are also serviceable.

Great is the effect of artificial ulcers, strong cutaneous irritation and suppuration entertained for a long time; yea they are often indispensable in obstinate rheumatisms. Of this description are fontanels, mezereum, antimonial ointment, moxa, actual cautery.

Finally, it is necessary to inquire accurately into the diet and mode of living of the patient, in order to discover whether the unperceived cause may not be found in the moist, draughty dwelling, too light clothing, etc.; and if so, must be remedied.

Besides this mode of directly attacking rheumatism, we must take the constitution of the patient into considera-

tion. Frequently, a constitutional disorder is the sole root of the disease ; and a cure is impossible without remedying it, which alone is often sufficient to effect the cure.

Of this description the principal one is *debility*, general as well as local, often produced solely by the malady. Here roborants are beneficial, and in the first rank stands quassia ; then strengthening baths, cold baths, sea-baths. The *nervous* constitution calls for a nervous treatment. In the succulent, lax, *phlegmatic* constitution, warming ptisanes, such as excite all the secretions and irritate the vascular system, especially the use of drastic purgatives, since the cutaneous action is here less to be relied on, are of excellent effect. This is the case, where the Zittmann's decoction (vide No. 204), even inunction and fasting are serviceable. The *plethoric* constitution, inclined to sanguineous congestion, of which character is the hemorrhoidal disposition, is often at the bottom of the most obstinate rheumatisms ; when this is the case, abstraction of blood, leeches applied to the rectum, and the cure of piles are required. In the *gastric*, especially the *atrabilious* constitution, the dissolving evacuating visceral treatment contributes most towards curing rheumatism.

Finally, in obstinate rheumatisms a complication with other diseases is to be considered and well ascertained ; and here a syphilitic or psoric dyscrasy is most suspected, for they often originate the evil and its obstinacy.

A regard to the *periodical* character of rheumatism is of great importance. When it returns typically, at certain definite periods, cinchona or quinine, also iron, especially the carbonate, are the principal remedies.

Cure of Rheumatosis.

The rheumatic constitution, the disposition to rheumatisms, returning constantly, and from the slightest cause, requires the following treatment. The chief indication is to remedy the excessive sensitiveness and debility of the skin, in which that constitution is founded. Therefore cultivation of the skin by strengthening, vivifying and hardening it, is advised. This is effected by daily washing the whole body with cold water (for which purpose also the Schneiderian apparatus may be used), combined with frictions, a lukewarm bath once or twice a week, cleanliness, frequent changes of linen, pure air, muscular exercise. In effeminate and sensitive persons, or patients highly disposed to rheumatisms, flannel clothing near the

skin, a Russian steam-bath every 14 days. In order to prevent rheumatism, and remove the accumulated rheumatic matter, it will also be very useful to take every three or four weeks for a few days resina guaiaci together with sulphur (vide No. 32), so that two or three evacuations occur every day.

Some local diseases deserve to be particularly mentioned, since they are frequently of a rheumatic nature.

HIPS.

Ischias, Coxagra.

Diagnosis. Pain in the region of the hip-joint, which often extends to the knee, even to the foot, accurately following the course of the sciatic nerve. Its severity may impede the motion of the foot, and bring on stiffness and contraction; finally, by its long continuance and violence, disturbing nightly rest, it may induce general marasmus and emaciation.

By *coxagra* an inflammatory affection of the hip-joint itself is understood, recognisable by pain in stepping and moving, but not felt during rest—a character which distinguishes it from sciatica. The pain in this case is propagated to the front of the knee (while in sciatica it is only to the external side), and the leg is protruded and lengthened.

Pathogenesis. It is most frequently a rheumatic affection of the hip-joint, sometimes only of the ischiatic nerve in its whole extent. After death exsudation is discovered in the nervous sheath. This affection, however, can increase even into inflammation and attack the joint (*coxagra*), causing an exsudation sometimes within eight days, and protruding the head of the femur. Psoric, scrofulous, and other metastases may act as remote causes, especially in children, in whom it often occurs under the name of *claudicatio spontanea*.

Therapeutics. In common cases and in the beginning it is sufficient to prescribe resina guaiaci $\frac{1}{2}$ to 1 drachm a day, together with aconite; wrap the joint in wool, make embrocations of liniment. volat., put a vesicatory on the hip-joint (by which the exsudation there is most surely prevented) and sweat for a few days. In obstinate cases, in plethoric persons, and when there is suspicion of hemorrhoidal congestions, leeches must be applied. In nervous sciatica a vesicatory is to be applied in the course of

the nerve on the external side of the hip-joint, the following day another on the external side, immediately above the knee, and on the third day one towards the external part of the leg, above the malleolus. The case proving still obstinate, it will call for antirheumatics and mercurials, especially sublimate, drastic purgatives, the use of liver-oil, and all the remedies already recommended for chronic rheumatism. A combination of tinct. antimonii acris, guaiac. volat., 30 to 40 drops three times a day, with an addition of some drops of laudanum liquidum is of great use. Externally, baths, with the addition of soap, culinary salt, sulphur, and sublimate are serviceable, also those of Wiesbaden, Teplitz, Aix la Chapelle, steam-baths; perpetual vesicatories, fontanels, moxes, cauteries.

LUMBAGO.

Diagnosis. Violent pain in the region of the loins, sometimes periodical, sometimes permanent. An important variety of lumbago is one which follows any quick motion of the back, as in rising from a stooping position. The patient is suddenly seized with a violent pain as if produced by an arrow shot into the part; it pins him, as it were, into a fixed attitude, from which he cannot stir without suffering torture, and so confines him for many days.

It is caused like sciatica frequently by rheumatism, but more frequently by a hemorrhoidal congestion of blood, which may even pass into inflammation (*myelitis*).

The cure, therefore, requires:—first, leeches, in plethoric subjects and in a feverish state even venesection, and cooling laxative remedies, lukewarm baths, especially steam-baths on the affected part; then sulphurous remedies, guaiac., vesicatories; in short, the cure of sciatica and rheumatism.

In cases of chronic pain in the sacrum, and when metastatic (scrofulous, psoric, syphilitic) causes are present, caries of the vertebral bones may imperceptibly arise, and thereby engender an *abscessus lumbaris*, which breaks at remote places, as the groin or leg.

RHEUMATIC AFFECTION OF THE MUCOUS MEMBRANE.

Catarrhus.

Diagnosis. Rheumatic affection of the mucous membrane, most commonly that of the nose (*coryza*, *gravedo*).

Its signs are : sneezing, running of acrid serum and mucus, or the contrary, dryness, stopping in the nose, with irritation and swelling of the membrane ; in a high degree also lachrymation and irritation of the eyes ; tension, pressing headache above the eyes, with or without fever (on the first, vide *febris catarrhalis*).

Or it affects the cavity of the mouth and the throat. Signs : redness of the internal parts, palate, uvula, tonsils, accompanied with pain in swallowing (vide *angina catarrhalis*).

Or it affects the windpipe and bronchia. Signs : cough, dry at first, or expectoration of acrid serum or mucus ; hoarseness, in severe cases a painful sensation in the trachea and the lungs (*catarrhus pulmonum*).

But a catarrhal affection can seize every other part of the body, and generate all kinds of blenorrhœa, which then are nothing but catarrhs, such as catarrhus intestinorum (*diarrhœa, dysenteria*), aurium (*otorrhœa*), oculorum (*ophthalmia humida*), vaginæ et uteri (*fluor albus*), vesicæ (*cystorrhœa*), and must be treated according to the principles already mentioned.

Course. Every catarrh runs through two stages ; the first, *stadium cruditatis s. irritationis*, when irritation of the mucous membrane, accompanied with secretion of a watery acrid serous matter is the prevailing character ; the second, *stadium coctionis s. secundarium*, when the irritation abates and the matter appears cocted, mild, and thick. This period is of indefinite duration, sometimes very short, sometimes very long, and not unfrequently passes into *tussis chronica*, even *phthisis*. Thus this disease, though insignificant in itself, may become fatal in a double way : either by transition into inflammation of the lungs, or into phthisis, and we may rightly presume, that it has brought on the greatest number of consumptions.

The *causes* are the same as in rheumatism ; living and sleeping in a warm atmosphere are especially noticeable.

The treatment is fundamentally the same as in rheumatism. We have chiefly to consider whether the catarrh is accompanied by fever, or not. The treatment of the febrile variety is like that of catarrhal fever.

The cure of the non-febrile is generally performed by nature herself through coction and crises, local as well as cutaneous, to support which, drinking freely of gruel, elder tea, species pectoral., and remedies promotive of expectoration, as licorice and syrup, is proper. In high degrees, and when nature's healing power is not sufficient, the best re-

medies are sulphur (vide No. 33), dulcamara, sal ammon., spirit. Mindereri, antimonials, ammonium anisat., rad. senegæ, extract. helenii; in tickling cough, tinct. pimpinellæ is of specific efficacy; also vesicatories on the chest and arm. In gastric complication emetics are advised. In every obstinate cough we must not neglect to wear flannel on the chest next to the skin, which often is sufficient of itself to cure. But good care, avoiding to take cold, and antiphlogistic diet are always necessary; for it must never be forgotten, that in every catarrh there exists a sub-inflammatory irritation of the mucous membranes, which may be increased to real inflammation by cold, overheating, wine and the like; or may pass into a chronic stage, altering the substance of the lungs itself in a morbid manner, giving rise to either tubercles, atony, or relaxation of the mucous membranes. The utmost precaution and care is to be observed by persons of a hectic disposition, or having morbid, tuberculous, or weakened lungs. As soon as fixed pains in the chest associate with the catarrh, a vesicatory must be put over the affected spot; when fever sets in and the cough becomes dry, antiphlogistics are to be administered internally, even leeches or a moderate venesection may be needed (vide *catarrhal fever*).

The treatment of a lingering protracted cough is of great moment; for this is one of the most common though imperceptible ways of transition into consumption. The patient may feel comfortable, but continues coughing, and finds himself after six or eight weeks in the first stage of phthisis. Either, by the continued catarrhal irritation of the bronchia, tubercles are formed, *phthisis sicca*, *tuberculosis*; or relaxation, atony of the lungs is the consequence, and *blenorrhæa pulmonum*, *phthisis pituitosa* succeeds. The cure resides in a proper discrimination of the case, especially as regards the cough, whether it be dry or pituitous. In the first case it is either a continuance of catarrhal irritation, or a disturbed local crisis of the catarrh, a fixed chronic cough. Here a decoction of dulcamara is the principal remedy (vide No. 34), next senega, antimonials, carduus benedictus (a remedy of prompt efficacy is the elixir cardui benedicti, as stated in No. 72, b), marrubium (vide No. 35), solution of the extract (vide No. 36), vesicatorium perpetuum on the upper arm or chest (on the spot, which the patient complains of as sore), entertained in suppuration for several weeks, flannel, best on the bare skin; Selters water, mixed with milk; I can recommend from my own experience also the Eger salt-well.

Or it is due to weakness of the lungs with copious expectoration of mucus. Here the principal remedy is lichen islandicus, in the beginning with dulcamara (vide No. 37), afterwards alone as gelatine, 2 ounces daily.

Or it is due to nervous irritability, only spasm, which is recognised by the dry spasmodic cough and the other symptoms of nervousness; here extract. hyoscyami, 2 to 4 grains daily, liquor ammonii anisat., spiritus Mindereri, liquor c. c. succin., aqua laurocerasi, and in obstinate cases opium (1 scruple of Dover's powder every evening).

Catarrhosis.

The habitual disposition to catarrhs is best overcome by daily cold washing of the chest; in spring and fall the use of lichen islandicus for 3 or 4 weeks, daily enjoyment of the free air, exercise, and wearing of flannel on the chest, where there is great sensibility of the skin, a moist climate, and suspicion of pulmonary disorders.

FIFTH CLASS.

GASTROSES.

GASTRIC DISEASE, GASTRIC IMPURITIES.

Sordes Primarum Viarum, Infarctus.

GASTROSIS exhibits a particular form of disease, since it has symptoms peculiar to itself, and indications which call for a particular mode of cure—the evacuant; hence, it is rightly denominated a malady curable by purgatives, as rheumatism is one curable by serous and cutaneous evacuations, and inflammation by bleeding. This malady deserves the best attention of the physician for three reasons:

First, on account of the great importance of the system in which it is situated; for the digestive system is the source of assimilation and growth, the representative of reproduction, as the nervous is that of nervous life, the irritable system that of sanguineous life,—therefore, it must not be considered, as frequently happens, in the light of a local, but as the third principal system of the body.

Secondly, on account of the vast pathogenetic influence

which it exercises, whether healthy or diseased, over the whole body, by arresting or alienating reproduction, or affecting the humors; as well as by its extensive connection with all parts of the body through the medium of the ganglionic nervous system, and by which it is possible that gastric disturbance can produce almost any kind of disease, and may form the object of cure in all, especially in chronic maladies. Hence we derive the gastric method of cleansing the intestinal canal and abdominal system, a fundamental practice, which has resisted the changes of theory and the course of time from the ancients until now, confirming according to my own experience the old adage: *Qui bene purgat, bene curat.*

Thirdly, because this system is a principal seat of crisis and critical secretion, especially in these climates. It performs not only the purification of the liver, so important to the whole organism, but it sometimes replaces cutaneous functions, and it secretes and is the receptacle of injurious morbid substances, wherefore we say: the intestinal canal is a scene of action, on which the most important maladies are decided.

Diagnosis. The tongue is generally unclean, want of appetite, corrupt taste; the seat of the impurities, however, makes a difference. When they are in the stomach, the tongue is unclean, white, yellow, or brown-coated, want of appetite, pressure, tension, sometimes painful sensations in the region of the stomach, eructation, nausea, or vomiting, consensual symptoms, of which headache is particularly to be mentioned. When seated in the intestines, the abdomen is tumid, tense, and rumbling, feels as if pressed and heavy; colic, pains in the back, fetid flatus, sometimes diarrhœa. At the same time more or less consensual symptoms, which have this peculiarity, that they are in causal connection with the gastric signs, augment with their increase and diminish with their decline. All gastric diseases are marked by a lassitude disproportioned to the rest of the symptoms.

The gastric signs are either combined with fever (*vide gastric fever*), or without it (*gastrosis chronica*). The special diagnosis is mentioned in the various species.

The chief kinds of gastric matter are: *saburra*, *bile*, *phlegm*, *acidity*, *infarcts*, accumulated or formed in the intestinal canal.

Pathogenesis. Accumulation of impurities in the stomach and intestinal canal may take place in a double manner: either by imperfect digestion, owing to an excess, or the

indigestible nature of food, and its imperfect evacuation; or by disordered secretion from the organs lining or connected with the stomach and intestinal canal, as regards quantity or quality, and effusion into it of noxious matters, such as chyle, phlegm and bile. From the extensive sympathetic nervous connections of the stomach and intestinal canal, it is very likely that gastric impurities are generated, either by sympathy and consensual communication with general and local irritation of remote parts, such as of mental affections, pains and even febrile irritation; or by antagonismus, as in consequence of taking cold and suppressed cutaneous function. Even a crisis may produce a metastatic secretion in the intestinal canal, and thus engender a secondary gastrosis or a gastric febrile complication in the course of a fever.

For special causes, see under the species. Disposition to gastrosis is due to weakness of the digestive organs, habitual costiveness, faulty diet, abuse of emetics and purgatives, irritability and consensual sensibility of the digestive organs and the gangliary system relating to it, hystericism of the stomach, liver, etc., whereby it happens that the least nervous irritation or morbid affection influences this system; also to atmospheric and climatic influences (thence the epidemic and endemic character), especially moist or very changeable weather.

But most important is the pathogenetic influence which crudities can exercise over the organism, and by which they can become the source of innumerable diseases. This deserves the greatest attention of the practitioner as an object of cure in many cases.

Next they affect the intestinal canal itself, creating impeded as well as morbidly increased activity of it; irritation and spasm, which frequently attain an inflammatory degree. They also operate sympathetically on the brain, the lungs, the skin, the abdominal viscera, the whole nervous system; produce delirium, pectoral and tracheal affections, cutaneous eruptions, especially erysipelas, congestions, local inflammations in remote parts, general febrile excitement—evils, which may be removed by a single emetic or purgative.

Therapeutics. The general indication is, to evacuate the offensive matter, after having previously prepared the patient; to remove their injurious effects and to prevent their regeneration.

For the precautionary measures proper to be observed in the administration of emetics and purgatives, see *gastric*

fever. I need only remark, that they are to be repeated when gastric accumulations continue; emetics in turgescence upwards, purgatives, when the *fæces* continue bad and morbid, to ascertain which due attention and examination of the stools are necessary.

1. *Saburral Accumulation, Indigestion.*

In this case an emetic or a purgative is generally needed, according to the seat of turgescence, and afterwards elixir viscerale Hofmanni. Gormandizers, who frequently overload the stomach, will do well to keep on hand what is called a digestive powder (*vide* No. 48), in order to be immediately able to give themselves relief.

2. *Accumulation of Bile,*

Occurs frequently after violent angry mental emotions, likewise in an epidemically prevailing bilious constitution after hot summers. Those whose liver is irritable and easily excitable by mental or physical causes, are subject to effusions of bile into the stomach.

The signs are: the preceding mental affection, the prevailing constitution, the temperament, the yellow or brown coated tongue, the bitter taste, generally also nausea or bilious vomiting, headache, or bilious diarrhœa, with pains in the abdomen. The bile sometimes may acquire such an acridity as to affect the throat and cause violent spasmodic reactions, which may increase to an inflammatory state, similar to the effects of poison.

Also here evacuations by emetics and purgatives, according to the respective indications, are called for. Regarding emetics, precaution is to be used, since the stomach is already much irritated; therefore the dose must be divided if there is already bilious vomiting, otherwise hyperemesis, even inflammation might be created. The purgatives, also, must be selected from the cooling and acetous class, bile-correctives, neutral salts, tamarinds and cream of tartar water. In a high degree of irritation, pain in the stomach and intestines, mucilaginous beverages in large quantity and clysters, also warm fomentations are to be used; and in plethoric persons, a moderate venesection previous to the emetic, are the proper remedies.

3. *Mucosity of the Stomach.*

Signs: No desire for food or drink, feeling of pressure and fullness in the præcordia, especially after taking food, white mucous fur on the tongue, phlegmy taste, much flatulency; in the morning nausea, even vomituration, slimy stools, constipation, deficiency of warmth, particularly a cold sensation in the stomach, pallor, lassitude, insensibility, slow pulse, emetics and purgatives have little effect; subject to worms.

The special causes of mucosity are: infant age, phlegmatic temperament, sedentary life, excesses in eating heavy, farinaceous, fatty food.

The cure always requires, previous to evacuation, the use of strongly dissolvent, stimulant and incisive remedies; the mucous coating must be dissolved, before operating on the membranes of the stomach and intestinal canal, and on account of the insensibility, all the remedies must be strongly irritative. For that purpose are serviceable: sal ammoniac, sulphate of potash, natr., soap, sulphur, sulphuret. of antimony, kermes mineralis, rad. pimpinell, ari, senegæ, squills, gummi ammoniac, asa fœtida. The disposition being duly affected, vomits (tartar emetic), and purgatives (salts combined with senna, jalap., alces) may be resorted to.

This done, in order to remove the chronic state, much exercise is to be taken, aliments which tend to create mucosity must be avoided, and strengthening remedies used (*vide weakness of the stomach*).

4. *Acidity, Acrimony of the Stomach.*

Signs: Hunger, sometimes a canine appetite, but no thirst; sour eructations, and sour breath, colic, pallor, foul teeth, symptoms increased by taking vegetables, which create acidity, especially milk, on the contrary, meat agrees well.

The special causes are the infantile age, which has always a tendency to create acrimony; weak bile; a hypochondriacal and hysterical state, also plethora, particularly of the stomach, and anomalous hemorrhoids.

The treatment is double: *palliative*, neutralizing the acids by absorbents, such as magnesia, lapis cancerorum, concha præpar., aqua calcis viv. and clay (*bolus alba*), the most efficacious of all, but not in excess or for too long a time, since

it is apt to produce obstruction of the vessels, also lac sulph. The alkalines, soap, carbonate of soda, potash, ammonia and bitters similar to bile: beef's gall, quassia, absinth., aloes. Radical cure is effected by remedying the generation of acidity, much muscular exercise, flesh meats, strengthening the digestive organs by bitters and tonics, as well as by martials (*vide weakness of the stomach*).

5. *Saburral Accumulations in the Intestines (Infarcts).*

Signs: Tumid abdomen, in which are frequently felt knots and indurations, changing from place to place, hard, knotty stools, alternating sometimes with diarrhœa, containing gelatinous matter, or pituita vitrea, or real membranous concretions, bilious and atrabilious infarcts, pressure and heaviness in the abdomen, sallow countenance, chilliness; slow, but sometimes uncommonly full pulse, hemorrhoidal complaints.

Causes are: sometimes only retention and gradual accumulation and induration of excrements in the great intestines, particularly in constipated habits, sedentary persons, and strictures of the rectum, or they are owing to deposits in the intestinal canal of atrabilious concretions from the liver, or concretions formed in the intestinal canal itself, or generated by a special secretive product, similar to the membranous formations generated in the uterus. Generally they are connected with obstructions of the abdominal viscera. They are of great moment, as frequently causing most obstinate chronic maladies, for the cure of which their removal is the only means. Their effects may be local, causing obstinate colics, cramps of the stomach, difficulties of digestion, hemorrhoids; or consensually general, giving rise to all kinds of diseases, hypochondria, hysterics, epilepsy, melancholy, paralysis, hemorrhages, blenorrhœas. Therefore the cure of these maladies requires the removal of such accumulations.

Therapeutics. The principal means are one or two injections a-day, especially the visceral clysters of rad. tarax., saponar. and similar resolvents, which have become renowned through Kœmpf. It is essential that they should be retained some time, therefore they are to be given in small quantity (six ounces), after which the patient must rest quietly on the left side for half an hour. In more obstinate infarcts or very viscous phlegmosity, stronger dissolvents are admixed with the enema, such as soap, a table-spoonful of fresh ox-gall or lime-water.

SIXTH CLASS.

NERVOUS DISEASES.

NEUROSES.

Generalities.

Diagnosis. Every morbid action of sensation or motion, or thinking, if primarily and idiopathically founded in the nervous system, and not merely a symptom of another malady, or if dependent on another disease, exhibiting itself purely as an anomaly of the nervous system, belongs to this class.

The anomaly may be : either increased action (*erethismus*) or diminished (*adynamia, paralysis*), or altered (*abnormitas, alienatio*), which is true in regard to the functions of sensation as well as of motion (muscular action) and mental action.

Their course and duration are very indefinite, sometimes transient, sometimes rapidly fatal, sometimes lingering through life, sometimes interrupted by long intervals, passing from one form into another form, frequently connected with the periods of development, appearing and disappearing with them.

They may spontaneously cease with their causes, changes in the mode of life, or the periods of growth, since old age, by a gradual decrease of sensibility often cures the most obstinate nervous diseases ; or may attack other systems by a transmutation into material diseases, crises, metastases, new formations.

In general they are not fatal, but may rapidly become so by paralyzing an organ indispensable to life, as the brain (apoplexy), the heart (asphyxia), the lungs (catarrhus suffocativus), or slowly, by affecting nutrition (tabes nervosa, or dropsy, phthisis).

Pathogenesis. The proximate cause is an abnormal condition of the internal nervous life. It is manifested partly by a disturbance in its functions, partly in an unusual consensus, partly in a morbid affection of organic life.

The *remote causes* are best divided into four principal classes.

1. *Disposition*, hereditariness, relaxed fibre, infantile age, female sex, female education, periods of development, that of the teeth and speech, of puberty; moist climate, city life and sedentary life, epidemic constitution, low state of the barometer, west wind [in Europe].

2. *Debility*. It can be brought on

Either by withholding the excitants and necessary support of life, deficiency or bad quality of food, bad air, cold, especially damps, loss of blood, *menstrua nimia* (often a hidden cause), too great loss of semen by venery or masturbation, too frequent parturition, long continued lactation, chronic, serous and mucous profluvia, diarrhœa, fluor albus, gonorrhœa, salivation, sweats.

Or by over-irritation and exhaustion of the powers, excessive mental exertion, acute and chronic diseases, excessive heat, intemperance in spirituous liquors, coffee and tea.

Or by want of exercise, of use; hence idleness is one of the richest sources of nervous diseases.

Or by influence of potences, which directly weaken the nerves, such as: sorrow, grief, sadness, longing, envy, weariness, passiveness of the mind, indulging the feelings, abuse of directly weakening narcotic substances.

3. *Disturbed equilibrium* (antagonismus), sanguineous plenitude (disproportion between power and weight), suppression of muscular action, of cutaneous secretion, the action of the abdominal system, sexual functions, menstrual and hemorrhoidal discharges.

4. *Local and specific irritations*. Of this kind the first to be mentioned are abdominal irritatives, worms, gastric matter, *saburra*, obstructions of the viscera. Secondly: sanguineous congestion, especially of the brain and the abdomen, *plethora abdominalis*; hemorrhoidal disease is one of the most frequent causes of numerous nervous disorders. Thirdly: metastases of morbid matters, as the arthritic, rheumatic, scrofulous, syphilitic, psoric. Fourthly: mechanical irritations, foreign bodies, inserted from without (splinters), as well as local disorganizations generated in the body itself, indurations, stones, ganglia (which cause frequently extremely tormenting and obstinate local neuralgias), hydropic accumulations, exostoses, caries. Finally, morbid affections of the mind, fixed ideas, exaltation of imagination.—The secondary causes, generated by the disease itself, and on which its continuance depends; fre-

quently without any other cause co-operating, are habit and weakness. The worst is habit, when it becomes typical, and the worst and most obstinate of all is, when this type is complicated with organic functions, which are indispensable to life, e. g. the catamenia, sleep; hence the menstrual spasms, mental diseases and nocturnal epilepsy are so difficult to cure.

On that is founded the practical division of nervous diseases, which points out simultaneously the object of cure and the indication: *neurosis simplex s. nervosa, neurosis adynamica, neurosis sanguinea, neurosis metastatica, neurosis abdominalis, gastrica, neurosis organica.*

Therapeutics. The treatment is double: of the disease itself (radical cure); of its phenomena, symptoms (palliative cure).

Radical cure. In treating a nervous disease our first question must be: is the cause material or not, i. e. is it purely nervous, or is it nothing but the product of other material disorders? In the first case we direct the cure to the nervous system (direct nervous cure), and thereby remove the disturbances obvious in it. In the second case, we are to take away the material disorders and maladies, on which the nervous disease depends, which done, the disease disappears by itself, and the cure is finished (indirect nervous cure). If it persists notwithstanding, it is to be regarded as purely nervous, and to be treated as such.

The fundamental indication, therefore, always remains, to regulate the anomalous action of the nervous system, be it excessively increased, or debilitated, or alienated.

For accomplishing this end, it is necessary to seek for the various causes of the disturbance, and accordingly the treatment of nervous diseases is manifold. When it proceeds from debility (after great loss of blood, of semen, extravagant corporeal or mental exertions), invigoration and restoration by roborantia and nutrientia is most called for and often sufficient for the cure. When there is plenitude or local congestion of blood, repose is necessary, for muscular action tends to augment it; also general and local derivation of blood are of greatest use. We have then to look particularly to concealed congestion, caused by hemorrhoids and menstrea. When abdominal irritatives, infarcts, worms, visceral obstructions exist, then the resolving, evacuating, anthelminthic method is often the best treatment of the nervous disease. Particular attention must be paid to dyscrasias and metastases to the nerves. Thus it often happens that a nervous disease is nothing but a rheu-

matic or chronic affection, an antagonistic reflex of the disturbed cutaneous function to the nervous system, and here merely covering the skin with flannel, likewise baths, cutaneous irritatives, internal antirheumatica are serviceable. The affection may also be arthritic ; here the cure of gout is to be pursued. Thus also psoric, especially scabious and herpetic acrimony is frequently the sole cause of chronic nervous irritation. Every lurking syphilitic dyscrasias, also an imperfect mercurial treatment may be the cause, and the cure is to be made by mercurials. Finally, the psychical influence deserves essential regard, and the discovery and removal of a secret grief, of a secret longing (particularly in females), are often the only remedies needed.

But if a remote cause cannot be discovered, or the distemper continues after its removal, then the direct nervous cure must take its place, i. e. the internal abnormality of the nervous life and its organization, which is at the bottom of the nervous disease, must be operated upon and annihilated. If the direct method is used whilst the remote cause is present, it will prove entirely inefficacious ; or if it assuage the evil for a time, it will soon reappear, and frequently with increased violence.

The direct or specific cure is effected by the following remedies : first, the application of such means as have a specific relation to the nervous system (nervina, antispasmodica). Of that number are all etheric vegetables and animal substances, the narcotica, balsamica and gummata ferulacea, the ethers and mineral acids, the acria metallica, the alkalies and earths, the imponderable natural agents, electricity, galvanism, magnetism, mineral as well as animal. In order to find out the proper nervine, it is very useful and important to look for those remedies which, in a healthy state, would specifically affect the laboring part, or are capable of producing attacks similar to the actual one.

In the administration of these remedies, especially of the stronger and narcotic kinds, the following rules are to be observed :

1. We must always begin by small and cautious doses, since we can never determine beforehand the degree of irritability present. Then gradually increase to such a dose, as would produce a slight attack of narcosis (glittering of the eyes, drowsiness, slight vertigo), by the metallic nausea, and then decrease the doses in the same manner, as they were increased. Then a small pause is to be al-

lowed, during which, if the evil does not yield, the remedy is to be repeated in the same manner, and may be continued for months, in obstinate cases. This alternating augmentation, and diminution, and entire pausing is the safest, and at the same time the most efficacious, manner of using the stronger and more offensive nervines, since it allows time to the organism to recover its irritability, thereby rendering the remedy a new one, and avoiding the risk of injuring the system by a too long continuance of large doses, a danger always to be feared, as debilitation of the mental and sensual faculties is likely to follow the use of narcotics. Moreover, it is also important in lingering nervous diseases, to change the remedies, in order to create a new impression. Finally, when single remedies are inefficacious, we must combine several together. As for the weaker nervines, which are of an animating, roborating and permanent efficacy, their use must be continued for a considerable time, sometimes for years, in order to gradually attain the intended amelioration of the morbid condition.

2. By contrastimulants and derivatives. This purpose is fulfilled by baths, cutaneous irritatives, artificial ulcers, abdominal irritatives (especially when the cerebral system is affected).

3. By restoring the organic balance in the action of the nerves, especially in the relation of the irritable to the sensitive system, the disturbance of which is frequently the sole cause of nervous disease; for which end muscular exercise and lukewarm baths are useful.

4. By strengthening. Every nervous disease, although it may not have originated in weakness, finally creates debility of the nervous system, and is entertained by this very state. Therefore the use of roborants (amara, amara adstringentia, astringentia, acida mineralia, martialia, cold, cold baths), and restaurantia (nourishing diet, living in free salubrious air, in the country, travelling, exhilaration of mind) are salutary.

5. Change of habitual mode of living, of situation, environs of the residence. Often a mere change of climate will effect a cure. Especially low, moist regions must be changed for high dry ones.

6. Sometimes, particularly in very tender, irritable subjects, who have used an abundance of irritative means, the best cure consists in withholding all heterogeneous, medicinal and dietetic irritants, especially such as strongly affect the nerves,—abstraction of irritation; at the same time, milk diet, quiet country-life, lukewarm baths, avoid-

ing tea, coffee, spices, etc. Here the homœopathic cure and the application of the remedies in homœopathic doses can also prove very useful.

Finally, in very obstinate diseases it is advised to excite artificial crises, or to shift the malady to other systems.

The greatest and most general roborative for the brain and the whole nervous system is the daily affusion of the head with cold water.

Of great moment in the treatment, is a regard to periodicity of the nervous attacks, whether they be spasms, pains or other alienations, even paralyses. When they return at definite intervals, cinchona given in the absence of the attacks, is the sole and certain remedy.

Palliative cure. It only assuages the phenomena, the symptoms of the disease; it is, however, of great importance, in the first place, as relieving the patient; secondly, since even the symptoms can bring on danger; and thirdly, because by the outbreaking (e. g. epilepsy) the morbid character is more and more impressed on the nerves, therefore a palliative treatment becomes an important part of the cure. The remedies fulfilling that end are the antispasmodica and contrastimulants.

1. MENTAL DISEASES.

INSANITY, INSANIA.

Mania, Melancholia, Amentia, Fatuitas.

Diagnosis. Disturbance of the normal action of the mind. It is called *melancholia*, when connected with timidity, unsociability, sadness, listlessness, debility; *madness* (*mania*) when accompanied with rage, vigor and pugnaciousness; *frenzy* (*moria, amentia*), with fixed ideas, partial disturbance of the imagination (conceptions), or of discrimination (conclusions); *imbecility* (*fatuitas*), when marked by weakness or total loss of the faculty of thinking; *somnambulismus*, a continuous action of the mind, fancy, or volition during sleep.

The diagnosis is often very difficult, since the alienation frequently has reference to only one object (fixed ideas), while the individual is of sound mind towards all others; diagnosis is also difficult in slight degrees, and when the disease is periodical. We must exclude those mental dis-

turbances which are symptoms of diseases, and which pass away with them, as those caused by fever, hysterics, violent passions; for every violent affection makes man temporarily insane.

Delirium must be carefully distinguished from insanity. In hysterical and hypochondriacal persons, delirium often lasts long, and may be accompanied with fixed ideas, which, however, are only symptomatical, and not a mental disease. The same is true of febrile deliria, for they are not only symptoms of acute, but also of chronic nervous fevers, and may continue for months, and wholly disappear with the febrile excitement. Therefore, we should never call a mental disturbance connected with fever, insanity. Young practitioners cannot be too cautious in the diagnostics of mental symptoms, and in pronouncing the word insanity, for to declare a person insane, is morally to kill him.

Insanity is permanent or periodical, is of long duration, the cure difficult, and amelioration uncertain, and apt to be interrupted by relapses. Sometimes it passes into other nervous maladies, as catalepsy, epilepsy, paralysis (transition from the mental to the material nervous system), or into still more material diseases (corporification of the mental disease, transition from the mental to the vegetative sphere), as gout, cutaneous eruptions, ulcers, hemorrhoids, phthisis. It may terminate fatally by apoplexy, consumption, or dropsy.

Pathogenesis. The immortal spirit, as such, cannot become sick in the common earthly sense of the word. Mind belongs to another world. There is only one disease to which it is liable—moral corruptness, sinfulness. Spirit—thought, is not matter, nor the product of matter; for that which can view and contemplate both itself and matter, must be superior to, and independent of, matter; what is free cannot be the product of necessity. This immortal spirit during its earthly existence, is inseparably interwoven and combined with the body, most intimately with the nervous system, and particularly with its most refined part, the brain. By this connection its earthly limit and manner of action is confined. Hence it becomes, like all things which enter into organization, subject to the laws of life. It is only by this means that it can manifest external phenomena and its internal actions (hence the brain is properly called the organ of the mind), and through this it may be affected and altered by the organism, as well as the organism by it; and only in this way can it be impaired, disturbed, or totally impeded in its functions. All mental

diseases, therefore, belong to the category of nervous diseases.*

The *proximate cause* of a mental disease, therefore, lies in an abnormal state of this material organ, either its activity being excessively enhanced or diminished, or altered *in modo* (in its normal laws and proportions). This is made evident by the fact, that mere corporeal causes (intoxication, fever, narcotics) can produce a mental disturbance, and that insanity may cease on transferring the affection to other organs of the body, as it were, to corporify it, as when it gives rise to phthisis, epilepsy, dropsy.

The disturbance can be created in two ways,—by spiritual as well as by corporeal influences.

The *remote causes* are :

1. Spiritual or mental : violent passions, rapidly working, as fright, joy, anger, as well as concealed and lingering, as continual grief, sorrow, chagrin, envy, jealousy, especially egotism, hatred, melancholy, unrequited love, ambition, disappointed hope, deep continuous mortification, excessive mental exertion, especially when combined with a sedentary life and solitude, reflection on subjects which surpass human capacity or that of the individual (mystic religion, transcendental philosophical meditation); exertion of the mind, particularly involuntary, enforced by stimulants, wine, coffee and the like, scruples of conscience, every kind of enthusiasm, political as well as religious, wrong cultivation of the mind, unequal exercise of the mental faculties, especially imagination excessively enhanced by the reading of novels, attending theatres and the like, persisting in a fixed idea, instinct, or passion, which must be considered a transient insanity, and if not combatted, may pass into real insanity; finally, lucubrations, sleeplessness; for daily interruption of mental activity is essential to the preservation of mind, i. e. sound reason.

2. Corporeal. Such, especially, are influences which excite and change directly the brain and its action, as excess of spirituous liquors, particularly of brandy. The excessive use of narcotic substances, as opium, belladonna, (both even given as remedies, especially in children), operates in a similar manner. Stimulants consensually or

* The most appropriate likeness is that of the relation of a musician to a stringed instrument. Without it the best player is unable to utter a tone, and only when it is well tuned (in good healthy order), a pure tone. If the instrument is not well tuned, disharmonious tones are heard, though the player be the same.

antagonistically operating on the brain, particularly such as affect the gangliary system of the abdomen, a system closely in connection, partly consensual, partly antagonistic, with the brain; abdominal irritants, accumulations, infarcts, stoppages in the portal system, obstructions, physconias of the viscera, worms. Here, particularly, the remarkable antagonism of the abdominal nervous system against the cerebral one is to be regarded; for a suppressed or debilitated action of the first is capable of producing increased and abnormal action of the latter. Sanguineous congestions of the brain, passive as well as active, an inflammatory state, especially from suppressed piles, menstruation, bleeding at the nose. Debility of the brain from general causes, exhaustion of power (here insanity is often only a symptom of general nervousness, hysterics, etc.), frequently by excesses in venery, still more in onany in both sexes, since the generative system and the brain are in particular relation, and mutually operate on each other.—Metastases to the brain, especially arthritic and psoric.—Mechanical lesion, a fall, stroke or wound. These may produce insanity by mere commotion of the brain, by bloody and serous extravasations, or by depression of the skull, thickening and exostosis of the bones of the head, or by pseudo-organization.—Organic disorders, indurations, callosities, scrofula, hydatids, excrescences, softening, suppuration, or atrophy of the brain; exostoses, ossification, hydropic accumulations.

Frequently several causes simultaneously exist, rendering the disease more difficult of cure and dangerous; thus, when mental exertions frequently recur, are combined with a sedentary life, sorrow, heavy indigestible food.

Particular regard is due to *predisposition* (predisposing cause) of mental maladies. Hereditariness is first to be mentioned, which, alas! experience too well confirms, may be handed down from parent to offspring, and become peculiar to families.

The *temperament*.—The melancholic and choleric are most liable to insanity.

Further, *irascibility*. The more passionate a man is, the more is he disposed to mental diseases. Every passion is a temporary insanity, a suppression of reason; if it becomes prevalent, it may induce permanent insanity.

Mode of living, when accompanied by the foregoing causes, that is, sedentary life, solitude, partial exertion of the mind. Therefore weavers and shoemakers are particularly disposed to it.

Finally, generally prevalent mental dispositions, excitements, mental confusions, particularly false ideas of religion, immorality, irreligiousness and mysticism.

Wherefore insanity may become endemic, epidemic, or climatic. We find it prevalent at one time, rare at another; more frequent in certain regions, nations, or classes of people than in others. Thus it rarely occurred in the nations of antiquity, and is scarce even now among uncivilized nations (in England 1 in 800, in France 1 in 1200); it is likewise more frequent in great, luxurious and immoral cities, than among country people.

The best practical division of insanity is into: *vesania nervosa, sanguinea, adynamica, metastatica, abdominalis, organica*.

Therapeutics. The object of cure is to restore the mental action to its normal state. This may be effected, partly by removing the remote cause, partly by a direct operation on the mind.

The first step is to discover the remote cause, and to act accordingly (the indirect mode of curing). If it is sanguineous, or inflammatory, or there is great determination to the brain, general and local bloodletting is called for; and in violent rage, arteriotomy, antiphlogistics, purgatives, tartar emetic, calomel, cold fomentations and affusions on the head are the remedies. If it is nervous, from weakness of the brain and nervous system, then nervines, excitantia, valerian, arnica, serpentaria, wine, ether, opium, rubefacientia, warm baths, cold fomentations on the head, are the proper remedies. This treatment applies to *delirium tremens s. potatorum* and to insanity, arising from excesses in venery and masturbation.

We are not to forget that this species often arises from over-irritation of the first, and the *insania nervosa* becomes the second stage of the *phlogistic* one, according to which the mode of treatment has to be modified; whereas on the contrary, the *nervosa* may associate with transitory congestions of blood to the brain, and render abstractions of blood, at least local, necessary. If the cause is abdominal, owing to gastric accumulations, infarcts, especially atrabillious, stoppages of the viscera, worms, the resolvent method is required, removing the abdominal irritatives. If it is metastatic, then the metastasis must be treated. If it is psychical, longing, unsatisfied passion, then the same, if possible, must be done away with.

The second indication is to operate directly on the proximate cause, that is to say, to operate immediately on

the mind and its organ, in order to restore the thinking faculty (direct cure of insanity).

There are two ways by which we may reach the mind, the corporeal and the spiritual. The corporeal is the most essential in mental diseases. Of all insanities cured, certainly two thirds have been healed by physical means. It is, however, proper and most efficacious, to unite both modes.

The *physical treatment* has two indications.

The first is to produce, by contrastimulants, a derivation from the sensorium, and thereby to restore its balance and normal action. The most important counter-point of the brain is the abdominal nervous system (whence the inactivity of the intestines and abdominal viscera in every violent insanity). To bring these viscera into greater activity must, therefore, be our first endeavor; by this proceeding the cure is most frequently successful, and the balance of the nervous action is restored. In addition to this, the continued use of cream of tartar, soluble tartar, and emetic tartar, in divided doses, with dissolvent extracts; in greater degrees of inactivity, rad. and extract of hellebor. nigr., rad. veratri albi, herba gratiolæ, tinct. colocynth., calomel. The nauseating treatment and hunger must also be mentioned here, since they operate strongly on the nerves. Next to them, the contrastimulants by cutaneous irritatives, sustains an important place; the application of vesicatories artificial ulcers (especially a seton in the neck), antimonial ointment, artificial creation of exanthematous maladies (infection of the itch has cured insanity), application of moxa, actual cautery on the neck and head (accidental burning cured insanity); generally, creation of corporeal pains and complaints.

The second is to produce an alteration of the brain by remedies acting directly and specifically on it. The most valuable and confirmed by experience are: herba digitalis, in large doses, thirty to forty grains daily in infusion, hyoscyamus, herb. and rad. belladonnæ, aqua laurocerasi, stramonium, camphor; a combination of belladonna with aq. laurocerasi (liquor. belladonnæ cyanicus, vide No. 50), I have found particularly efficacious. If the vascular system is simultaneously excited, digitalis combined with nitre (vide No. 51), cannot be sufficiently recommended; and in intervals, small doses of tartar emetic; cold water, externally in affusions, and taken internally to the amount of sixteen to twenty pounds daily. In the use of narcotics precaution is necessary, lest excess and too long continu-

ance might change insanity into imbecility. Opium is less appropriate, on account of its constipating quality, and causing congestions to the head; it is salutary only in very debilitated individuals, after sanguineous excitement has abated, or in cases which are due to nervous debility, e. g. in delirium potatorum.

The *psychical treatment* may be divided into two classes; the first embracing that which is common to all kinds of insanity, and the second relating to the special and individual particularity of the patient, which is to be sought from the first, and must be adapted to it.

The General Psychical Treatment.

Psychical treatment has for its end to make reason predominate over irrationality. This end is attained by education; for ill-bred children resemble the insane; caprice, ill-nature, irrationality prevail over reason. The psychical cure is nothing but the art of education applied to insanity, and the rules and means of every kind of education are applicable to insanity. Therefore, the first consideration is obedience. It is the foundation of education. Obedience is the habit to subordinate one's own will to that of another, and thereby learn to subject it to the supreme will of reason. The insane, like obstinate, capricious children, are first to be accustomed to discipline. In all things, even in trifles, he must learn to obey. They must frequently be commanded to do that which is contrary to their will.

The second means is work, occupation, partly mental, partly corporeal, but mostly the latter, connected with exercise and the enjoyment of free air. By this the mind is withdrawn from indulging too much in its own thoughts, attracted elsewhere, and placed again in connection with the external world. Idleness is the mother of all evil. The choice of occupation must be suited to the education of the person, and the species of insanity.

The third is exact order, strict distribution of time, and subjection to authority.

The fourth is, to exhilarate by agreeable impressions on the senses, especially by music, the power of which on the mind is far greater than is generally imagined.

The fifth is punishments and rewards, as with children. With this view, strait jackets, cold shower-bath, tread-mill,

in extreme cases, even corporeal chastisement, but only when the patient is strong and obstinate.

The sixth, belief and confidence in one person, especially in the physician. The insane must be brought to the full conviction that he is his friend, and thinks and does his best for him, therefore the physician must be without defects.

The seventh, crowning the whole mental cure, is to awaken and fortify the moral and religious principle of the patient. Religion is the best thing in man; it is that which properly constitutes him such a one; it is the essential part of his life; therefore it is religion, when all other means fail, that the patient's thoughts and actions must be referred to. On this account, going to church and conversation with a sensible clergyman are advised.

Finally, change of place, habitual attendants and objects are mighty auxiliaries.

In violently excited, raging individuals, mental irritation and exercise must be withdrawn, and compulsory measures must be taken, of which the strait jacket, convincing the patient of his impotency, and the darkness of a cushioned room are of great effect.

The Special Treatment.

Besides these general rules, the individuality of the mind affected, and the various species of insanity must be considered. The proud must be humbled, the timid and dejected raised; the monomania, illusion of the senses, or of the imagination, are to be treated according to their nature, and the patient will be best undeceived by entering into his hallucination and annihilating it by itself.

The psychical treatment can, it is true, do much, sometimes all, towards curing; but cases merely psychical are rare; for the body always partakes more or less of the disease. Therefore, it is best to unite both methods, the corporeal and the mental, as the surest means to attain the end.

The curability of insanity is in the average of one to five, at highest four.

HYPOCHONDRIA. HYSTERIA.

*Male, Female**Hypochondriasis.*

Diagnosis. Great disposition to spasms and nervous attacks of many forms, great variation and contrariety in the natural phenomena of the system, remarkable idiosyncrasies and sympathies, disorders of the digestive system, and great consequent sympathetic influence on the whole body, disposition to flatulency, constipation, inclination to solitude and sadness, mind continually occupied about imaginary diseases, which belief becomes a fixed idea and predominates over reason; singular fancies, incessant meditation. In general, there is anxiety, pusillanimity, sadness, or extravagant mirth without cause, rapidly alternating with each other; inclination to weep. Pale, watery urine and frequent urgency to pass it (a sure indication of threatening spasms), globus hystericus.

The symptoms are spasmodic sensations, and fits of all kinds, which in slight cases are of a light character; but in high degrees of hypochondria they are violent, dangerous and even fatal, e. g. catalepsy, asphyxia, hydrophobia, epilepsy, deliria, violent frenzy, somnambulism; in which cases we must carefully distinguish between delirium, true insanity and epilepsy.

Hypochondria and hysteria are but sexually, not essentially different. Hypochondria is the male, hysteria the female form of the same malady. The difference between a phlogistic and a nervous hypochondriasis is very important.

The duration is indefinite; it may last years or for life, interrupted by long intervals.

It is not a fatal disease, but is very troublesome to the sufferer as well as to others; on this account, two methods of treatment are required: to *encourage* the patient while he suffers under the apparently dangerous attacks of suffocation, epileptic fits, swoons, lasting for hours, asphyxia, (as long as they are of hysteric nature, they are not perilous); and to *inculcate patience*, and particularly to admonish against the deception of hallucinations.

Pathogenesis. The proximate cause is morbidly exalted and unnatural sensibility of the nervous system; especially of the digestive organs, which may create extraordinary reactions, novel and uncommon sympathies.

The *remote causes* may be divided into the following chief classes.

1. Debility of the nerves, especially from excesses in venery and onanism in both sexes ; immoderate exertion of the faculty of thinking, also of feeling, perpetual physical or moral sufferings, as pains, sorrow, excessive corporeal exertion, continuous debilitating evacuations, especially loss of blood by too frequent venesections, menstrua, hemorrhoids, chronic diarrhœa (also hypercatharsis), gonorrhœa, in the female sex (often as secret cause) fluor albus.

2. Irritation, especially that caused by suppressions, accumulations in the abdomen, plethora abdominalis (anomalous or suppressed piles, dysmenorrhœa), worms, gout (atonic, irregular, suppressed). Hypochondria is often nothing but a gouty affection—arthritic matter thrown on the nerves, and disappears as soon as local podagra appears, leaving the patient gay and free from spasms. In the female sex, increased and unsatisfied sexual desire is a frequent cause of hysterics, therefore it is common in such as exalt their imagination by reading novels, plays and romances ; in young widows. Also psoric or rheumatic irritation (from light dress, by antagonism) and metastases of other morbid matters, lurking syphilis. Of all this, the physician must carefully inquire. Several causes united, frequently conspire to produce the disease.

Therapeutics. The fundamental idea of treatment is to diminish the morbidly increased sensibility of the nervous system, especially of the gangliary portion of it, and to restore the balance of its action, by removing the morbid irritating and debilitating causes which affect and disturb it, or by immediately altering and invigorating the nervous system.

1. The first question is : does the disease arise from material causes or not ? Most frequently accumulations and obstructions in the abdomen, constipation and hemorrhoidal plenitude are at the bottom, as is implied in the name *morbus ex hypochondriis*, and claim the first and most momentous consideration.

The symptoms are as follows : regarding the causes—sedentary life, compression of the abdomen by lacing, long continuance of sorrow, indigestible food, sallow complexion, and conjunctiva, the same around the mouth and nose, belly tumid, and also on accurate examination an enlargement or hardness of single viscera ; appetite bad or very unequal ; tension in the stomach after eating ; stools generally tardy, hard, sometimes also constipation for several

days, then sudden diarrhœa ; piles, or at least hemorrhoidal disposition ; finally, the long duration of the disease, which always produces abdominal obstructions, so that roborantia are injurious, but solvents are beneficial.

The method of cure is the solvent, the visceral cure. *Succi recens expressi*, or *extr. taraxaci*, *gramin.*, *fumar.*, *millefol.*, *centaur. min.*, *marrub.*, *chelidon.*, *serum lactis*, *terra foliata tart.*, *tartar tartarisat*, *antimonials*, *alkalines*, especially *nitre*, *medicated soap*, *lime water*, *sulphur*, *gummi ammoniac*, *guaiac.*, *asa fœtida*. Drinking largely of water, the solvent mineral waters, *Selters*, *Fachinger*, *Sedlitz waters*. In obstinate constipations, *mercury*, internally and externally, *pulv. Plummeri*, *baryt. muriat.*, *cicuta*, *belladonna*, *aloe*, *tr. colocynth.*, *pil. balsam.*, *elixir aperit. pharm. Pruss.*, *tr. antimonii acris*, *Carlsbad*, *Marienbad*, *clysters*, *tepid baths*, especially *soap and salt baths*. This treatment is often alone sufficient for a cure, for freeing and restoring the abdominal functions and the balance of the nervous system.

It is of consequence to observe the following rules : For irritable, plethoric, phlogistic, atrabilious individuals, disposed to hemorrhoids, we are to give cooling dissolvents, juices of herbs, extracts, saline solutions (*vide No. 52*), alkaline mineral waters ; for relaxed, cold, phlegmatic, mucous subjects the stronger (*vide No. 53*), and more ardent are only to be used, as *aloetica* (*vide No. 54*) ; in sanguineous accumulations in the abdomen, *sulphurica*, and from time to time, *leeches ad anum*.

To purge is not to resolve, but on the contrary, to impede a solvent effect. Therefore we ought to prescribe the *resolventia* only in such doses as will produce one or two stools a day. This is often sufficient for the whole cure. But when signs of turgescence, loss of appetite, tumefaction of the abdomen, tension and colic set in, purgatives must be resorted to (especially *Saidschutz* or *Pillna bitter water*), or also emetics, according to indication.

In obstinate constipation and infarcts, *clysters* are the principal remedy.

In individuals very liable to spasms we must combine the *resolvents* with *antispasmodics* ; in great debility, with *roborants*, *bitters* and *saline remedies* ; and towards the end of the malady, where weakness keeps up the obstructions, *chalybeate waters*.

Corporeal exercise, especially on horseback, is indispensable to the cure. It is often alone sufficient to effectuate the solution and to free the abdomen ; likewise friction of

the abdomen, which is more efficacious if performed in the morning, when in a jejune state.

Moreover, we must not neglect to take into consideration other material causes of the disease which lie latent, as the arthritic, scrofulous, rheumatic, psoric, syphilitic dyscrasia and worms, and to remove them.

2. When debility is the only cause (merely nervous hypochondria), recognizable by the pre-existing debilitating circumstances, as fluor albus, chronic diarrhœa, loss of blood, especially menstrua nimia, frequent waste of semen, gonorrhœa chronica, even the evacuating and resolvent method carried too far, as shown by the signs of general weakness, weak pulse, being easily fatigued, deficiency of animal warmth, etc., and by the absence of other material causes: its removal is the principal object of cure, and this alone is sufficient; for no cure can be effected while these causes of debility are suffered to exist. Therefore, the diarrhœa, gonorrhœa, hæmorrhagia, fluor albus, particularly pollutions, which are frequent causes of nervous hypochondria must be remedied. The cure of the latter is not easy, since weakness of the genitals is always combined with increased irritability, and the usual strengthening and restorative remedies would simultaneously increase the irritation and afflux of humors, and thereby their discharge. On this account we give only cooling, strengthening, astringent and nutritive remedies, such as the elixir acidum Halleri (vide No. 55), alum, terra catechu (vide No. 56), kino; and the maxim, "fast and work," is to be observed; stimulant aliments avoided, and much muscular exercise performed. When the irritability has been diminished, quinine, quassia, columbo, iron, gelatin of lichen island., cold baths, general and local—douches on the genitals, the perinæum, or sacrum, strengthening embrocations on the lower part of the spine, finally sea bathing, the baths of Pyrmont and Dryburg are useful.

3. The third point of treatment consists in changing and invigorating nervous life; a treatment which, in purely nervous hypochondria, may be pursued from the beginning, and is all that is requisite. In the material hypochondria the nervous treatment must be combined with a material one. The modifying, antispasmodic method is intended to improve the internal anomalous state of nervous life, the morbidly increased sensitiveness of the whole economy, and particularly of the digestive system. It is to be observed, that the diminishing of this increased sensibility and of the constantly irritated state connected with it, amounts

to invigoration, and is even the best treatment for irritable individuals. It is effected by the use of antispasmodic nervines: rad. valeriana, fol. and cort. aurant., rad. caryophyllat., castoreum, galbanum, asa fœt., elix. acid. Halleri and Mynsicht., liquor anodyn. Hofmanni, phosphoric acid., and tepid baths, either simple or mixed with herbs, which strengthen the nerves. The use of these mild remedies continued for a long time (several months), can prove very beneficial. Even an infusion of a few green orange leaves, taken cold morning and evening, can be most serviceable. The tea No. 57 I can recommend from my own experience, as often sufficient for a cure.

A principal part of this treatment, which must never be neglected in the cure of hypochondria and hysterics, is to restore the disturbed balance of the nervous action (especially between the irritable and sensitive systems), by much muscular exercise and tepid baths; and to animate the nerves by the universal, subtile, invisible and imponderable vital substance of the atmosphere by daily exercise in the free air, living in the country, travelling. Daily airing is, in nervous weakness, the most invigorating means of all, not to be replaced by any other, more efficacious than all others, and has no contra-indication.

The properly strengthening method may sometimes be of use in unison with the modifying, but it must always be had recourse to at the end of the cure; for weakness arises in every kind of hypochondria by the disease itself, and invigoration is necessary for the confirmation of the cure, and preventing a recurrence of the disease. The degree of irritability and the state of the digestive organs must be carefully regarded, in order to succeed.

The fixed astringent roborantia, given immediately in the beginning, or while great irritability exists, do not digest, but create complaints of the stomach, anxiety, spasms, diminish the appetite and fail to strengthen. If the same are given while the digestive ways are embarrassed, they will create the same troubles. We must therefore distinguish the various degrees of irritability. The greater it is, the more caution is to be used in selecting the degree of irritative and roborative remedies, especially when there is great irritability of the vascular system and a disposition to congestions. Here the continued use of elixir acid. Halleri, and if that be too strong, of acid. phosphor. in connection with valerian, fol. aurant., herb. millef. and tepid medicated (herb) baths are often the best roboratives, and it is only by degrees that we may pass to stronger

bitters and roborantia. Likewise, when the digestive organs are not entirely free of impurities (which cannot be obtained in some hypochondriacs on account of weakness), the pure bitters, and in the first place the resolvent, infus. and extract. taraxac., millefol., centaur. minor, trifol. fibr., marrub. are to be used, after which absinth., then rad. columbo, lign. quass. (this especially as a cold infusion); in such cases, also a combination of rhubarb or tart. emet. is commendable. Gradually we may proceed, prescribing the stronger astringent roborantia, Peruvian bark, cort. aurant., cascarill., iron, chalybeate waters, Pyrmont, Dryburg, Spa, Schwalbach, Cudowa. But also here it is important to remark, that it will be well to commence with volatile forms of these remedies, e. g. with the tincture cinchonæ Whytii, tinctura ferri ætherea (vide No. 58), or flor. sal. ammon. martial, or mineral water, and to pass but gradually to the fixed forms. Baths, first strengthening herb-baths, then chalybeate baths (green vitriol, three drachms for one bath), cold bathing in the river, still better in the sea, are here indispensable, even frequently more strengthening than internal remedies.

There are cases, where the nervous irritability and irritation are so great, that every thing, even the mildest medicament creates excitement. In these cases the best roborative treatment will be negative invigoration by rest of the body and mind, by withdrawing irritations, especially all substances which have a tendency to the nerves, tranquil life in the country, milk diet (vide *general cure of nervous disease*).

In the general treatment, but especially in the strengthening, a strict diet is essential. It consists in avoiding warm beverages, coffee, tea, all flatulent indigestive vegetables, especially onions, pulse, cabbage, and all excess in food. For the hypochondriacal are very liable to indigestion, which requires gastric evacuants, and these always lessen the roborative treatment.

The palliative treatment is of great moment to hypochondriacs and hysterical persons, since it is not only indispensable for alleviating life, but also composes a part of the general treatment, inasmuch as to appease the nerves is essentially to cure. Such patients must have always a palliative on hand. Their principal complaints are spasms, constipation of the bowels, acidity in the primæ viæ and flatulency, for these are the principal causes and complaints. Thence antispasmodica, antacida, carminativa, and open bowels are the best palliative remedies. On this

principle rests the *solamen hypochondriacorum* (a compound powder of magnesia carb., tartar. vitriol., rhubarb, rad. valerianæ together with semen fœniculi), which every hypochondriac ought to have by him. Besides, injections (of asa fœtida 1 to 2 drachms triturated with gummi arabic, for hysterical persons) and footbaths are of great relief; for frequently the whole attack passes away, when the patient gets rid of flatus. Farther, all kinds of antispasmodics especially liquor anodyn. Hofmanni, tinct. valerianæ, castorei, liq. c. c. succin., asa fœtida, embrocations of antispasmodic ointment on the pit of the stomach and spine; in swoonings the forehead and temples are to be washed with aromatic water, burning feathers, cut onion to be held to the nose. It may be well to remark that, in order to meet the various sensibilities that exist in a case of hypochondria, it will be proper to combine several antispasmodics together; that the odoriferous, as musk, are to be avoided, also opium, because this last constipates, and easily becomes a habit difficult to be dispensed with, for which reason it ought to be seldom prescribed. The most general and the safest antispasmodic for such patients is hyoscyamus, in preference to opium. It does not constipate, nor heat as opium does, but operates assuagingly on the mental disposition of the patient, which is very important in this malady.

In all nervous attacks it is important to distinguish the *constitutio calida phlogistica* from the *constitutio frigida nervosa*, i. e. the combination of nervous weakness with plethora and irritability of the vascular system, or its absence. In the first case all ardent antispasmodics and irritatives are to be avoided, and cooling ones, as flor. zinci, hyoscyamus, aqua laurocerasi, spirit. nitric. æth., antistimuli, derivations by foot-baths, sinapisms, injections are to be used in preference.

Generally, abstraction of blood, especially by venesection, is injurious in all purely nervous, particularly hysterical cases; it can even make them extremely violent and dangerous.

The hypochondriacal and hysterical attacks, it is true, may attain a degree of violence, which is apt to create anxiety, especially in inexperienced young practitioners, and to misguide them. Of that number are the swoonings, increased to asphyxia, which may last for hours, even days; the *strangulatio* and *suffocatio hysterica*, in which the patients lie for hours in constant danger of suffocation, without breathing, exhibiting convulsions apparently epileptical and violent fixed pains in the chest and the abdomen, might

easily be taken for local inflammations. Here a right diagnosis is most important to distinguish those fits from the hypochondriacal and hysterical, that is, the merely spasmodic, and to discern them from inflammatory ones. The signs are, pale, limpid urine, with frequent urgency to pass it; globus hystericus, inclination to weep, previous knowledge of the hysterical character, the trifling occasion of those attacks, and the absence of fever.

As soon as their nature is recognised as such, the danger of the attack ceases, and the remedies above-mentioned suffice to remove it. We except the only case, when the patient is young and plethoric, or suppression of a preceding hemorrhage has preceded. Here, a long duration and violence may of course cause a dangerous accumulation of blood in noble parts, as apoplexy and the like; in such a case abstraction of blood, which elsewhere would be injurious and even dangerous, is necessary as a symptomatic means.

2. SPASMODIC DISEASES.

Anomalies of Motion and Sensation.

We comprise under the word spasm in its most extended sense, all anomalies of nervous action, not only of motion (*spasmi tonici et clonici, convulsiones*), but also of sensation (*pseudæsthesiæ*), in its increased as well as in its alienated form. They are variously modified, according to the diversity of the organ, in which they are located, but are all one and the same in character. The same is true in regard to their fundamental indication, which is variously modified by variety of locality.

FALLING SICKNESS.

Epilepsia.

Diagnosis. Convulsive motions with loss of consciousness. Falling down with cries, foam at the mouth, the thumbs flexed into the palms (the only muscles which, while all others are convulsively moved, remain tetanically stiff). The consciousness is the most essential pathognomic symptom, and not the violency of convulsions. The weakest convulsion with unconsciousness is epilepsy; the most violent, consciousness existing, are not epileptic.

The attacks occur by paroxysms. Every paroxysm has

two stages, the convulsive, lasting for some minutes up to two or three hours, and the soporous apoplectic. Presages are sometimes entirely wanting, and the patient uttering a cry, falls suddenly, as thunderstruck, to the floor. Sometimes signs precede, anxiety, headache, nausea; the most remarkable is the *aura epileptica*, the feeling of a cool breath or wind, which commences at the point of a finger or a toe, raises upwards, and then, as soon as it reaches the brain, produces the fit. Sometimes the aura proceeds from an organ of the senses, and exhibits itself as a foreign smell, taste, color, double sight, and the like.

The attacks occur sometimes typically, at certain periods and days, sometimes every night (*epilepsia nocturna*); but more frequently at indefinite times, weekly, monthly, even yearly once or twice.

Duration most indefinite, often through life. The prognosis is unfavorable, the disease is difficult to cure, not fatal, but dangerous on account of falling and accidental lesions, troublesome and horrible to behold, perilous even by possibly communicating itself by infection; ending in weakness of the mental faculties, even in stupidity.

Curability in proportion of 1 to 20; a fatal issue rare. Transition into imbecility, fatuitas, also into insanity (sometimes alternating), hydrops, tabes.

Pathogenesis. The *proximate cause* is a great anomaly of nervous action, always seated in the brain, probably in the cerebral organ of motion, medulla oblongata. This forms the most essential difference between *epilepsia* and chorea and other convulsions. There are no organic faults; for many epileptical individuals have been dissected, without discovering them. They can operate only as remote causes.

The *remote causes*, besides the general, are: hereditary disposition, debilitation of the nervous system, especially by onanism and excessive venery, violent fright, infection by the sight of it, worms, particularly tape-worms, gastric accumulations, infarcts, obstructions of the viscera, metastases to the nerves, especially scabious and herpetic, lesions of the head, local and mechanical irritations, splinters of bone, caries occulta, suppressed hemorrhages, especially epistaxis.

To this must be added, when epilepsy has lasted for a considerable time, habitus, the disposition of the nervous system to this anomalous action having become a habit.

Therapeutics. The radical cure has the following indications:

1. Look for the remote cause and remove it. This is often alone sufficient to perform a cure, and such a causal cure is always more permanent than the specific. The most frequent causes are *three*, to which I would lead attention; the *abdominal irritants*, such as worms, infarcts, obstruction of the viscera. Here resolventia must be used and continued for a long time; at the same time emetics every eight days, in obstinate cases drastics in small doses (scammonium, aloë, calomel, tinct. colocynth.), clysters (I saw a case, in which a cure was effected by persisting in them for a year). Debility from onanism. Here the treatment of *tabes nervosa* and *dorsalis*, especially cinchona in substance and chalybeates. *Psoric acrimony* shifted to the nerves. Here sulphur, antimonium, guaiac, sarsaparilla, dulcamara, mercury, sulphur-baths, artificial ulcers entertained for a long time in suppuration.

2. Examine whether a constitutional fault originated and keeps up the disease. Here must be considered especially the disproportion between the vascular and nervous system, youthful plethoric individuality, suppressed hemorrhoids, and menstrua. In such cases food and sleep are to be diminished, watery vegetable diet, much corporeal labor, venesection every six or eight weeks, a purgative or a bottle of bitter water every fortnight, fontanels, are advised, the hemorrhoids and menstruation must be restored or compensated. I have succeeded to perform some cures by this treatment.—On the contrary, when there is exhaustion of the humors and vital powers, the restaurant and roborant method is necessary.

3. If the disease, in spite of this indirect treatment, does not cease, or if none of the above-stated indications is present, then the direct or specific treatment of epilepsy takes place, which consists in operating immediately on the nervous system, to change and annihilate its anomalous action.

Specifica anti-epileptica. Of the great number only six have proved to me most serviceable: zinc, cuprum, valerian, folia aurantiorum, cinchona, cold affusions of the head, sea-bath. The most valuable of all, most frequently confirmed in my experience, is zinc, in large doses and continued for a good while. The patient may commence with taking 1 grain morning and evening, best in the form of pills (vide No. 59), and increase the dose every other day one half grain, until nausea succeeds; when the dose is not to be augmented, but diminished. Thus, gradually rising up to 10, even 20 grains may be given without detriment,

and must be continued in a high degree of the disease for months, yea for years; in a lower degree at least 14 days in every month. Very efficacious is a combination of several of the above-named remedies (vide No. 60). I have found the use of valerian to be made more efficacious, by adding to it oleum valerianæ (vide No. 61). The folia aurantiorum (1 dram of the powder taken three times a-day, and a tea of orange-leaves after every dose), have proved in my experience alone sufficient to cure epilepsy arising from onanism. I can also confirm the rad. artemis. vulgar., 1 drachm taken every evening in warm beer and waiting for a sweat, as useful. The same may be said of Ragolo's powder.* In the most obstinate cases argentum nitric. used with great precaution (vide No. 62) is of service, but it has a bad consequence,—the patients turn black after its use.

Besides these, the narcotics (with the exception of opium, which is not proper on account of its power of creating congestions to the head, even is dangerous, since it is apt to change epilepsy into apoplexy), stramonium, belladonna, hyoscyamus, aconite, digitalis; but I must not forbear to caution against strong doses, and for too long a time; for, though they may cure epilepsy, they may cause a transition into fatuitas; likewise oleum animale Dippelii, cajeputi, mercury, vomits, phosphorus, sedum acre, galeum luteum, cardamine pratensis, electricity, setaceum nuchæ, moxa, or the actual cautery to the cranium.

The principal rule, to the neglect of which it is certainly owing, that the cure of epilepsy has been so rarely lasting, consists in continuing the remedies for a time sufficient, not only to prevent the actual paroxysms, but also to annihilate the habit, the peculiar disposition to it residing in the nerves. It will therefore be proper to continue the remedies for several months; and, the fits having ceased, to persist in the same means with cinchona added, which have proved serviceable a fortnight in each month for several years.

4. Should this method of cure be ineffective, try to create an artificial crisis, especially cutaneous diseases (inoculation of the itch), flowing hemorrhoids.

The *palliative* treatment consists in preventing the fit. It is only possible, when the attack is foreboded. The most efficient remedies are: a vomit, liquor c. c. succin. 60

* According to Gmelin and Feuërlein this remedy may be composed as follows: rad. valerian. half a drachm, magnes. alb. and sal ammoniac of each 3 grains, oleum cajeput. 2 drops.

drops, oleum animale, particularly pulv. rad. artemis. vulgar., 1 drachm in warm beer, and to retire immediately after taking it. In the *epilepsia manu-symptomatica* and *pedi-symptomatica*, the joint of the hand or foot may be tied up, by which the nerves are, so to say, tied up, and the aura is prevented from propagating to the brain. Such men do best to wear a leathern band with a tourniquet on the part, and lighten it as soon as the aura is felt. During the fit itself, the patient being unable to swallow, and injection inapplicable, since the anus is closed, or it is immediately evacuated, nothing can be done but to put him on a soft bed, and let his spasms work off, taking care only that he may not injure himself; for any force or fastening increases the spasms.

ST. VITUS' DANCE.

Chorea.

Diagnosis. Involuntary motions of single members or the whole body, which have this peculiarity, that they represent the kinds of motions most common to the patient, and wander from one part to another, consciousness remaining, which is a distinctive feature of the latter from epilepsy.

It varies very much both in degree and form. Sometimes the involuntary motions seize only single parts, as the arm, the facial muscles, the tongue (even periodical stammering comes under this head), sometimes only one half of the body (*chorea dimidiata*), sometimes it is periodical, sometimes permanent; sleep alone procures rest. Sometimes it produces the most violent muscular exertions: contortions, such as dancing for hours until falling down from fatigue, turning on one leg, the most singular leaps and violent jerks of the body upwards and to a distance. Also the running spasm, when the feet run away with the patient, and he is obliged to run for hours irresistibly, until he falls down, is here to be counted.

The disease occurs most frequently at the time of the development of puberty, from the seventh to the sixteenth year of age, more among the female than among the male, oftener in moist coastward regions, than in places situated higher. It may occur also epidemical, even communicatively, especially in great assemblages.

It is not accompanied with any danger to life, and is generally curable, but partial contortions, e. g. of the facial

muscles, may remain a grievous inheritance through life.

Pathogenesis. The proximate cause is anormality of nervous life and its action, excepting the brain, hence it is probably an affection of the spinal marrow.

Remote causes are, besides the general : all nervous diseases, the developing process of puberty, irritation from worms, moist climate.

Therapeutics. The treatment is the same as in epilepsy. The most efficacious remedy, by which the end is almost ever obtained, is zinc ; then valerian, copper, asa fœtida, baths, first tepid, then cold river baths. Worms and other remote causes must be removed.

CATALEPSY.

Catalepsis.

Diagnosis. Mutual influence of soul and body annihilated, insensibility to external impressions, immovability, but at the same time no spasmodic stiffness of the muscles, but flexibility, so that the limbs assume and retain any position which is given to them ; body and soul continue in the very situation in which the attack has befallen them ; the body persisting in the same position, the soul in the same series of thoughts, even words. The internal sense is retired and sunk into itself, without clear consciousness, often accompanied with dreams and visions ; organic life is undisturbed. The fit lasts for minutes, hours, even days ; after it the patient awakes as from a deep sleep. Sometimes during the fit novel and singular consensus and senses are formed, as hearing and perceiving by the pit of the stomach or sole of the foot.

This accident has been the foundation of many religious reveries and superstition, e. g. Mahomet's inspirations, which he pretended to receive in that way ; the belief of bewitching, demoniac possessions, a fate which it has shared with epilepsy, chorea, vesania. Medicine has benefited and may still benefit mankind in explaining these phenomena as natural effects of a nervous disease, not owing to spiritual influences, and teaching how to heal them by natural means. Thus it has done away with witch-suits and funeral piles.

Pathogenesis. The proximate cause, a most singular mental and nervous state, similar to sleep, when also the mutual influence of the soul on the body is annihilated,

therefore greatly approximating to somnambulism. The gangliary system seems here to take the principal part.

The remote causes are the same as those of epilepsy and chorea. Most frequently it is owing to hysterics, exaggerated fancy, and sensibility in the female sex, masturbation, over-excited and unsatisfied sexual desire, worms, metastases.

Therapeutics. The treatment of nervous diseases in general; searching after and doing away with the remote cause. The direct cure is effected by zinc, valerian, cinchona, orange leaves in powder and infusion, besides cold baths, enjoyment of free air, strong corporeal exercise and activity are, according to my experience the best; also magnetism has proved beneficial.

SOMNAMBULISM.

Somnambulismus.

Diagnosis. To hear, speak, walk, or perform other actions while asleep, as if awake, but without being conscious of them, and without remembering them when awoke.

A lower degree is dreaming; the higher speaking during sleep; still higher to hear and answer; higher yet, to rise, walk about, and do business; the highest is clairvoyance, external and internal sensibility increased above the common limits (as in catalepsy).

Both states, somnambulism and catalepsy, resemble and pass into each other.

This distemper happens most frequently during childhood and youth, and wears away with advancing age; to some individuals, however, it is attached for life. The full-moon often exercises an influence on the patients, thence they are also called lunatics.

It is without danger, but is troublesome, and is dangerous on account of the accidents to which such persons may be exposed in walking about during the night.

Pathogenesis. The cause of it is too lively an imagination and senses during sleep.

The gangliary system, it cannot be denied, plays a principal part, and this state seems to reside in a preponderance of the action of this system over the cerebral; the perception and representation of that system (the animal soul) predominating over the intellectual faculties of the mind, the latter entirely retiring. The sexual system is of

great influence on this malady, and this state is met with more frequently among females than males.

The remote causes are the same as in chorea, especially the development of puberty, sanguineous congestion to the head, and worms.

Recently it has been discovered that this state may be excited by the manipulations of magnetizing, and we now-a-days distinguish *somnambulismus naturalis* and *artificialis*.

Therapeutics. The causes are similar to those of nervous diseases in general, especially of chorea and catalepsis. In order to prevent walking while asleep during night, besides tying the individual, a tub may be placed before the bed of the patient, containing cold water, into which he is obliged to step, when rising, and which awakens him.

NIGHTMARE.

Ephialtes, Incubus.

Diagnosis. During sleep the feeling of a heavy pressure on the præcordial region, which impedes breathing; great anxiety, and many images of fancy (phantasmas, visions), created by the causes of the pressure, e. g. flying men, dogs, bears, monsters, also robbers, murderers; in which the sufferer strives often for a long time in vain to raise and move himself, or to cry for assistance, until he finally succeeds to utter a cry of anguish, by which he generally awakes, and the painful state terminates. This commonly happens in the first hours of sleep, with some rarely, with others almost every night, disturbing the sleep and injuring the general state of health.

The accident depends on a particular cramp-like affection of the præcordial nerves, and their consensual operation on the brain. The causes may be triple: either mechanical pressure of an overloaded distended stomach (too rich supper of indigestible meals, accumulation of winds), or plethora of the abdomen, general or local; or lying on the back, by which likewise accumulation of blood or winds to the præcordial region is favored.

The treatment consists in removing the occasional causes, remedying the general or local plenitude of blood, accumulation of winds, constipation, avoiding supper and lying on the back.

SLEEPLESSNESS.

Agrypnia.

Diagnosis. Impossibility to get asleep, without any other disease, or any external or internal cause which might disturb rest. It may become a very tormenting evil lasting for months, even years, finally causing great weakness, emaciation, and disturbance of all the functions. It may also be periodical, that is, return every other night.

The causes are either morbidly increased excitability and mobility of the nerves; hence agrypnia is often a consequence of nervous fever and other nervous diseases; or a deeply seated nervous irritation, either mental (secret grief, sorrow, suppressed passion), or corporeal, located most frequently in the abdomen, in the gangliary system.

The cure must relate to the various causes, especially the abdominal irritations; therefore removal of the staginations of the abdominal plethora and infarcts gives the best relief. Besides the means which directly soporify the nervous system, tepid foot-baths before retiring, general lukewarm baths, the use of herb. or extr. hyoscyami, which is a surer and safer remedy than opium, 1 to 2 grains before retiring, are recommendable; also emplastr. or extract hyoscyami applied to both temples are advised. In non-plethoric, especially in debilitated old persons, a small glass of old Malaga wine is the best means to promote sleep.

RAPHANIA.

Diagnosis. Violent convulsions and spasms with rigidity of the limbs, accompanied by a feeling of crawling, or a violent pain.

The disease is rarely fatal, but it may pass into a chronic nervous one, in insanity and emaciation.

Pathogenesis. It is always caused by living on bread mixed with spurred rye (*secale cornutum*); hence this disease occurs in moist years, when this degeneration of corn is prevalent, and becomes endemical and epidemical.

Therapeutics. The cure is easy, and surely effected by the following remedies; first a vomit, then a purgative, after this opium $\frac{1}{2}$ grain, along with sulphate of potash every three hours.

The spasms, and often very painful contractions of the limbs are best relieved by contre-pressure and tying.

TREMBLING.

Tremor.

Diagnosis. May be local and general, of various degrees, from the lowest to the most violent, passing into real convulsions and forcible involuntary motions of single limbs, as a forcible continued striking with one arm or foot, so that the patients hit themselves involuntarily; in some, continual shocks and shakings of all limbs, even of the head; a state which appears similar to chorea, but is distinguished from it by the convulsiveness of the shocks and the absence of gesticulations.

It is very difficult of cure, when it is idiopathic and arises from nervous weakness.

Pathogenesis. The most common causes are: weakness or plethora, excessive use of ardent drinks, especially of brandy and coffee, metastasis, particularly arthritic. Most frequently a symptom or consequence of other diseases, especially after apoplectic fits, nervous fevers, and poisoning with mercury, arsenic, and lead (particularly mercurial vapors and fumigations), but can finally become idiopathic and continue so.

Therapeutics as in all spasms; particular regard must be paid to the causes, such as metallic poisoning, metastases. In the idiopathic and purely nervous species, attention is due to the spinal marrow as being the original seat of the evil; therefore recourse must be had to remedies which have a specific tendency to this organ, as nux vomica, zinc, stramonium, chalybeate-baths (Pyrmont), cold baths, electricity with strong shocks, moxa to the spine, and leeches on the same part, when there is suspicion of sanguineous congestion.

TETANUS. TRISMUS.

Diagnosis. Constant spasmodic contraction of one muscle (*tetanus localis*), or of all the muscles (*tetanus universalis*). Of the first kind is *tetanus linguæ*, *penis* (*priapismus*). The universal has received different names, according to the form which it gives to the body, which may be straight, rigid, and immovable; or bent forwards (*emprosthotonus*), or bent backwards (*opisthotonus*).

The malady may be continuous, or periodical; acute, or chronic.

The duration is variable. The acute is generally very

short, lasting 3 to 7 days. The spasm finally seizes the chest, lungs, and heart, and kills in this manner by suffocation or apoplexy. The brain remains often free from disturbance to the end of the malady. The chronic form lasts much longer, especially if it be periodical. I have seen it continue for years, and in one case it would always return at the same period, and last eight hours each time. Constant trismus also may last for months, especially when it is of rheumatic or organic origin.

The *prognosis* depends on the cause and the character. The disease is very dangerous, almost always fatal, in the idiopathic (*tetanus neonatorum*, and *traumaticus*); less so, when symptomatic of other maladies; least so, when it is a symptom of chronic nervous weakness and hysteria.

Pathogenesis. The proximate cause is a particular affection of the spinal marrow (not of the brain, as in epilepsy, for consciousness is not disturbed), and of the intercostal nerves. Remote causes are bilious and other gastric irritants (especially in *trismus*), rheumatisms, typhous, putrid, and miasmatic fevers, small pox, scarlatina, metastases, suppressed exanthemata; even suppressed gonorrhœa has created it; local irritation of external parts, wounds, especially of tendinous and aponeurotic structures, punctured wounds, foreign bodies, as splinters, especially when thrust into the feet and hands, hysteria.

Therapeutics. We must carefully discriminate whether tetanus or trismus is symptomatical or idiopathic. In the first case, the disease of which it is a symptom is to be treated. In the gastric vomits and purgatives (even trismus yields promptly to emetics). In the inflammatory fevers, abstractions of blood and antiphlogistics; in the adynamic the most vigorous excitantia, antispasmodica, opium and warm baths; in the putrid, musk, camphor, but no opium, for fear of increasing putrescency and colliquation; in the rheumatic, camphor, liquor c. c. succin., warm baths, tartar. emetic., opium; in hypochondriacal and hysterical persons, these diseases are to be cured and the nerves strengthened; in the metastatic, derivation and antistimulants; in that which is due to suppressed gonorrhœa, the flux must be regenerated.

Among the idiopathic are numbered those species, the cause of which is a primary irritation, idiopathically operating on the nerves, especially foreign bodies. Their prompt removal, and then opium and warm baths perform the cure. Of special importance are two kinds, the *tetanus neonatorum* (vide *diseases of children*), and

Tetanus Traumaticus, Trismus.

It arises either immediately after a wound, in consequence of the violent pain or affection, nervous irritation, and kills instantaneously (as soldiers are found with spasmodically rigid limbs on the field of battle), or in the first few days after the wound, during its inflammatory stage, or 8 to 14 days afterwards, whilst the wound is in the best process of healing and suppuration, without any inflammation and pain. Here the wound is apparently a predisposing cause, imparting increased sensibility to the nervous system. The exciting causes are mental affections, taking cold, corrupt air, or foreign bodies, also tension and distraction of single fibres in the wound, which are due to suppuration. The most perilous are punctured wounds in tendinous and aponeurotic parts, as in the sole of the foot and the palm of the hand. Also glass and other splinters, sticking in for weeks, and leaving no visible wound, can cause this evil; the presence of which must be ascertained by a close examination.—The pulse frequently remains normal, and the head is also free, but there is great anxiety and oppressed respiration.

Duration is two, three, four days; death by suffocation or apoplexy.

The *prognosis* is most unfavorable; mortality 20 to 1.

Therapeutics. The foreign bodies must be removed, the wound enlarged, opiate ointment and cataplasms of hyoscyamus and opium applied. The principal remedy is opium, internally administered by clysters, and rubbed on the spine and pit of the stomach. Internally half a grain every half hour is to be taken; if that does not relieve after six hours, the dose is to be increased to one grain; and then to one and a half grains, if it produce no effect; and so on gradually increasing; between these doses give carbonate of potass half a scruple, warm baths, mixed with hyoscyamus and soda. In plethora and inflammatory diathesis, first venesection, and leeches on the spine; calomel, mercurial embrocations, so as to create salivation; cold affusions. As soon as the spasm abates, the doses of opium must be decreased. Should these remedies prove unavailing, belladonna may be given and a moxa applied on the spine. Finally, amputation of the wounded limb; which, although it might not immediately remove the spasm, will be preparatory to rendering the opium efficacious.

Diagnosis. Dyspnoea without fever; when the disease is slight, the difficulty of breathing is perceptible only on motion; in the higher degrees it is constant and accompanied with gasping. By the absence of fever we distinguish it from the short breathing which is a symptom of nearly all acute fevers, especially the inflammatory, and from phthisis pulmonalis, which in some respects this malady resembles. There are kinds of asthma in which the patient labors under the same short breath, cough, and expectoration, as in phthisis, but the absence of chronic fever and emaciation are discriminative.

Asthma is nearly always accompanied by cough, either dry (*asthma siccum*), or with expectoration (*asthma humidum, mucosum*). It is either constant (*continuum*), or only attacks by paroxysms (*periodicum*).

The consequences are partly local, partly general. The local ones are: impeded circulation of the blood through the lungs, hence congestion, accumulation of mucus, stag-nations, thickening, tubercles, bloody cough, inflammation of the lungs, suffocation. The general are: imperfect sanguification, cachexia, cyanotic as well as serous, diminished resorption, watery extravasation, first in the extremities, then in the internal cavities, especially of the chest.

Pathogenesis. Proximate cause: disturbance and difficulty of the respirative action. The causes may be idiopathic (seated in the lungs and organs of respiration themselves), or consensual (*asthma idiopathicum* and *consensuale*). They may, however, vary greatly; and for practical purposes may be comprised under the principal classes of all nervous diseases, the divisions of which will point out the treatment of different asthmas. They are the following:

1. *Asthma nervosum s. spasticum.* Mere spasm of the respiratory organs. It is generally periodical. Frequently a product and symptom of hypochondria and hysteria (*suffocatio s. strangulatio, a. hystericum*), affecting the patient with apparent suffocation, for several minutes, even for hours; but this state of horror is without danger; for, as soon as it is over, the patient can breathe as freely as before. The *asthma acutum infantile*; the *asthma spasticum et convulsivum* belong to the same class.

2. *Asthma sanguineum*, is a consequence either of general plethora or of local congestion in the lungs, especially of suppressed hemorrhoids, menstrua, epistaxis.

3. *Asthma metastaticum*, owing to a morbid matter shifted

to the lungs and respiratory organs; most frequently from gout (*a. arthriticum*), or syphilis (*a. venereum*), or scrofula (*a. scrophulosum*), under which head also *a. strumosum*, arising from swelling of the cervical glands, must be classed, or to a metastasis of cutaneous diseases and inveterate ulcers (*a. psoricum*); or it is caused by suppression of serous secretions (*a. serosum*). This species is double: either *rheumaticum*, due to suppressed action of the skin, especially to chronic influence of moist air, or dwelling; and *urinosum*, owing to diminished secretion of urine; which often occurs in aged persons.

4. *Asthma abdominale*, arising from some cause which impedes the free motion of the diaphragm, as flatus (*a. flatulentum*), from acidity in the stomach (*a. saburrale*), from obstruction, enlargement of the liver and other abdominal viscera.

5. *Asthma atonicum s. adynamicum*, owing to weakness of the respiratory organs, either a product of general debility (as after great loss of blood, in scurvy and chlorosis), or of local weakness of the lungs (*a. humidum*).

6. *Asthma idiopathicum et organicum*, due to a local mechanical, chemical or organic cause, which disturbs the free action of the respiratory organs. Of that kind are *a. metallicum* caused by depositions of poisonous metallic matters (as *a. saturninum*, *arsenicale*, *mercuriale*), *a. pulverulentum*, *calculosum*, *pannificum*, brought on by dust, stony concretions, as in the cases of millers and wool-manufacturers; *a. aëreum*, when air penetrates into the parenchyma (*emphysema pulmonale*), or into the pectoral cavity externally closed (*tympanitis thoracis*); *a. hydropicum*, owing to an accumulation of water either in the parenchyma of the lungs (*œdema pulmonum*), or in the pectoral cavity; *a. mechanicum*, such as when caused by ossification of the costal cartilage, (*a. senile*), curvations of the spine (*a. gibbosum*); *a. syncopiticum s. cardiacum s. stenocardia*; also *angina pectoris*, due to enlargement, aneurisms, or other organic diseases of the heart; *a. humidum*, owing to atony and blennorrhœa of the lungs.

Therapeutics. The treatment is divided into the general and special.

The general treatment looks upon the asthma, without regard to a remote cause. It is often the only one which may be applicable, and therefore of great value in those cases in which the remote cause is not discoverable, and in those where, though known, it is not removable, which happens, alas! but too often in this malady.

It has the following indications :

Free expectoration and solution of the obstruction in the chest as well as in the abdominal viscera, which very frequently accompanies it ; for this purpose, extr. gramin., tarax., gummi ammoniac., tartras potassae, acetas potassae, tartar emetic in small doses, sulphur aurat. antimonii, are particularly recommendable.

Promotion of all secretions, especially that of the kidneys, partly in order to derivate the irritation, partly to prevent dropsy of the chest, which is to be suspected in every chronic asthma, either as already existing or at least as threatening ; flannel is to be worn on the chest, next to the skin ; antimonials, sulphur, particularly diuretics, squills and digitalis are recommendable. Finally, continued antistimuli by issues on the upper arm, foot-baths of mustard, wearing of oil-cloth socks.

The *special treatment* must be appropriated to the causes and character of the disease.

1. *Asthma nervosum s. spasticum* is recognized by the general signs of a nervous state. The cure requires the application of antispasmodic, derivative and antistimulant remedies ; of the first, particularly recommendable are zinc, copper, hyoscyamus and smoking of the leaves of stramonium ; attention must be also paid to material and metastatic causes, which may possibly lie concealed.

Asthma periodicum, nocturnum is most promptly removed by a cup of one ounce of fresh roasted coffee, which may be repeated in obstinate cases. If a material cause does not exist, cinchona may be given in the intervals.

Asthma hystericum (suffocatio, strangulatio hystERICA) is best met by asa fœtida, taken as a medicine, or by injections.

2. *Asthma sanguineum* is recognized by the general symptoms of plethora, or by a suppressed habitual hemorrhage. The plethora must be remedied by venesection, frugal diet, exercise ; or by restoration and compensation of local sanguineous evacuations.

3. *Asthma metastaticum* requires for its cure, that of the disease, of which it is a symptom or metastasis, and to create and entertain artificial ulcers on the upper arms and feet.

4. *Asthma adynamicum* calls for active roborant and restorant remedies ; in *asth. scorbuticum* scorbutis is to be cured.

5. *Asthma abdominale*, if there exists indigestion, wants emetics and purgatives ; if flatulency, recognizable by the

distention of the præcordia, frequent eructations, and feeling easy after every eructation, carminativa, cumin, peppermint (vide No. 63); injections (vide *flatulency*). In constipation of the abdominal viscera the resolving method must be used; also Carlsbad, Ems, Geilnau, Fachingen, Selters waters.

6. *Asthma idiopathicum, mechanicum.*

Asthma saturninum, mercuriale, arsenicale. Treatment of these cases of poisoning, especially by sulphur (aqua calcis, antimon. sulphur, sulphur baths), opium.

Asthma pulverulentum, pannificum, calculosum. The treatment requires dissolvent remedies, moist, warm vapors, oxymel scilliticum, between them emetics, but especially in the *calculosum*; respect must also be had to local inflammation, which may possibly be present; therefore as soon as pain and anxiety in the chest is manifest, venesection or leeches are to be used.

Asthma strumosum, tuberculosum. The treatment of struma; by acetate of soda, half a drachm dissolved in water taken daily, I effected a perfect cure. In tubercles of the lungs, riding on horseback and milk diet are advised (vide *phthisis tuberc.*).

Asthma gibbosum. Nearly all hump-backed, ill-grown persons labor more or less under oppression of the chest. The cure of the hump-back, the proper cause, is not possible; nothing therefore remains but relief and prevention of the bad consequences, such as hemoptysis, phthisis. Regard must chiefly be had to the disturbed circulation of blood, *plethora ad spatium*, and the impeded growth; therefore abstractions of blood repeated from time to time are indispensable, and afford the best relief; likewise issues and other derivatives.

Asthma syncopiticum (a. cardiacum, angina pectoris, s'eno-cardia); that species which is due to an organic disease of the heart or of the great vessels (enlargement, aneurismatic ampliation, ossification of the valves, polypus and the like). It is marked by the following symptoms: The patient in motions of the body is suddenly seized with violent oppression at the chest, sometimes with, sometimes without pain; palpitation of the heart, anxiety; and cloudiness of the head, which passes into vertigo, and, when in a high degree, into a fit of fainting; irregularity of the pulse, a feeling of painful drawing, even numbness in one arm. Horizontal position relieves and appeases the attack; which is peculiar to the *asthma cardiacum*, whereas, in the *asthma pulmonale* the upright, forwards bent position re-

lieves. In the higher degree of the disease, the cardiac region is also found tumid. The diagnosis is, however, often very difficult, and a consideration of the preceding cause is important, learning that the evil has set in after violent exertion or exercise of the body, accompanied by anxiety, or after an inflammation of the heart, or by a mechanical lesion. Also the stethoscope may be used for making out the diagnosis. It is noticeable, that frequently arthritic metastases to the heart can give occasion to the malady. The treatment, which however rarely procures a radical cure, consists in diminishing the action of the heart and preventing too strong congestion of blood to it, which may cause an increasing extension, and finally bursting, in consequence of which the disease proves fatal. The principal remedies are small venesections frequently repeated, leeches on the cardiac region, the use of nitre, digitalis and aqua laurocerasi; the application of cold to the region of the heart, and cold bathings, repeated several times a day; avoiding all strong exercise; antiphlogistic vegetable diet; also artificial ulcers on the arm or in the cardiac region. I can assure that I have seen gradual decrease, even cures of that evil effected by these means applied for months, continued even for half a year. It would seem, that even hypertropic and aneurismatic dilatation of the heart can be confined and reformed (absorbed). The recognition of the single faults of the heart is scarcely possible, and does not contribute any thing towards curing.

Asthma mucosum (humidum), distinguished by constant accumulation of mucus and mucous cough, is a blennorrhœa pulmonum, and must be treated according to the principles laid down for blennorrhœa and phthisis pituitosa. Very frequently arthritic metastases and obstructions of the abdominal viscera are the causes, and determine the treatment. The continued use of mild, solvent remedies is exceedingly serviceable, especially mellago and extract. graminis. In the first place expectoration and freeing the lungs of mucus, must be attended to. If the mucus is very tenacious and the expectoration thrown up with difficulty, gummi ammoniac (No 64), sulph. antimon. aur., kermes, oxymel scilliticum, liquor ammon. anisat., sulphur are very valuable. Commonly, in order to moderately strengthen the lungs in too great a secretion of mucus, herba marrubii, rad. helenii, arnicæ, senegæ (vide No. 65, 66, 67, 68), the elixir pectoral. (No. 69), are of use. Precaution, however, is to be used in the application of strong roborant and astringent remedies, as cinchona, lichen

islandicum; for they are apt to suddenly stop expectoration and to bring on attacks of suffocation. The only advisable means are pure amara, quassia, cort. or extract. cascarillæ, but always mixed with expectorants.

Asthma senile is generally a consequence of weakness created by old age, often also of ossification of the costal cartilage. The first case is to be treated as *asthma adynamicum* and *mucosum*; the latter is incurable, but relief may be expected from palliatives.

Asthma emphysematicum (*pneumaticum*, *aëreum*) arises either from an aerial cellula of the lungs bursting by excessive distention and exertions of the lungs in lifting a load, blowing an instrument, after violent external commotions, as falls and the like, by which the air is forced into the cellular tissue of the lungs (*emphysema pulmon.*) at each inspiration; or from the external surface of the lungs being torn through by fractured ribs, corrosion of matter, which affords issue of the air into the pectoral cavity.

The diagnosis of either case is difficult, and rests only on one sign, the appearance of an emphysematic swelling above the clavicle. The first case calls for venesection, and rest of the whole body and the lungs, in order that the lungs may be distended as little as possible, permitting the little wound to heal by itself, and the issued air to be absorbed; at the same time, the inspiration of cold air may do good. In the second case, the *emphysema* must be operated on.

Asthma acutum infantile (*Millari*) and *asthma thymicum*, vide *diseases of children*.

PALPITATION OF THE HEART.

Palpitatio.

Diagnosis. Irregular, forced motion of the heart, or of single vessels. The palpitation increases frequently to such a degree of violence as to become visible and audible (the sounding heart); in the more violent degrees by impeded circulation, it becomes dyspnoea, fainting (vide *asthma syncorticum*).

Also single vessels can undergo such an abnormal pulsation, especially in the abdomen (*pulsatio abdominalis*), sometimes by aneurismatic extension, often also merely by local spasm, as it happens in hypochondriac and hysterical persons.

Pathogenesis. In most cases it is symptomatic, consensual, the effect of another disease, most frequently of hypochondria and hysterics, or it is caused by abdominal irritation, flatulency, obstructions, distentions of abdominal viscera, worms, hemorrhoidal congestions; or it is also due to general plethora or metastasis of arthritic, psoric, morbidic matters. Sometimes, but much more rarely (about one in six cases), it is an idiopathic disease of the heart. Even then it is not always organic; but we must well distinguish the idiopathic dynamic from the organic. Also the idiopathic disease of the heart may be purely dynamic, a spasmodic state of this muscle, as of any other muscle; but by long continuance and violence, the dynamic disorder may change into an organic derangement of the heart, distention and the like. The organic disease of the heart consists either in an aneurismatic distention of single parts of the heart and large vessels, or in a general enlargement of it, or in ossification, failure of the valves, induration, ulcers, etc. The stethoscope may serve the purpose of diagnosis.

Therapeutics. The chief rule is to consider every irregular action of the heart first as symptomatic, and to search for the disease of which it is a symptom or consequence. By doing so, we shall often effect a cure, in which we would fail, were we to look upon it as a disorganization of the heart. Consequently the remote cause, hypochondria, hysteria, flatulency, plethora, hemorrhoidal congestion, the metastases must be treated. If it originates in hemorrhoidal congestion, the application of leeches to the rectum, and sulphur powder will bring relief.

If it be idiopathic, a method of cure, directed to the dynamic affection of the heart may be serviceable; and I can recommend by my own experience, digitalis (No. 70), the external application of cold (cold bathings four times a day, or applying ice for a quarter or half an hour); riding on horseback.

If the evil is an organic disease of the heart, then this is to be ascertained; which, however, as well as the cure, is very difficult (*vide asthma syncopicum*).

COUGH.

Tussis.

Diagnosis. Forced, audible respiration without fever, which is discriminative of cough, as a symptom of acute

fevers and pulmonary inflammation and phthisis pulmonalis. It may be dry or accompanied by expectoration.

Duration is indefinite; it can last for days, weeks, months, years, even through life.

It is not dangerous in itself, but may become so by its consequences. For it is apt to create inflammation of the lungs, hemoptysis, and finally phthisis; and by the latter it becomes one of the most perilous maladies. For it is proved, that two thirds of all pulmonary consumptions have arisen from neglected cough. Every cough, if it lasts long, may terminate in that destructive malady, and is more likely to do so if the patient is of a phthisical constitution.

Pathogenesis. The proximate cause of every act of coughing is a convulsive contraction of the lungs and respiratory organs. It may originate from increased irritability of the lungs, or from a morbid irritant matter. The first may be a consequence of sanguineous congestion, of inflammability (*tussis sanguinea, plethorica, phlogistica*), or of increased nervous sensibility (*tussis nervosa, spastica, erethica*). The morbid irritation may be seated within the lungs and respiratory organs themselves (idiopathic cough), or without them (sympathetic cough), and may vary in its nature. Catarrhal irritation, rheumatic, gastric, abdominal irritants; morbid matters, as arthritic, psoric, scrofulous metastases to the lungs; organic disorders of the lungs, tubercles, blennorrhœa, ulcers. Hence result the following varieties of cough, the knowledge of which is important in practice, since they call for as many different methods of treatment: *tussis catarrhalis, abdominalis, nervosa, sanguinea, metastatica, pulmonalis, phthisica*.

Therapeutics. Above all, examine the species, the respective character, and determine accordingly on the treatment.

1. The *catarrhal* or *rheumatic cough*, acute or chronic, is a consequence of taking cold. This suppresses the action of the skin, and alters the pulmonary secretion; consequently the distemper is antagonistic, a reflex, a translation of the cutaneous function to the lungs. The treatment must conform with the indications of the ætiology, that is: to increase the cutaneous action, to alter that of the lungs, and to restore the equilibrium and their normal action (*vide catarrh*). If the malady is recent, antimonials, sulphur, glycyrrhiza, extract helenii, elixir pectorale, extr. cardamom. benedict., sal. ammoniac, supertart. potassae (*vide No. 21, 33, 34, 71 72 a*), constant respect, however,

being paid to the gastric complication, which is apt to be connected with it. The mixture No. 72 b I can particularly recommend as one of the most prompt curatives. Does the cough become obstinate, or is it already inveterate, the principal remedies are stipites dulcamaræ, flannel vest next to the skin, and a vesicatorium perpetuum on the upper arm. If this should not suffice, I have seen mezereum on one arm, or in a more difficult case, on both upper arms, entertained for weeks, even months, prove efficacious. When dulcamara alone is not sufficient, it may be combined with lichen Islandicum (vide 73) and Selters water. If all this is unavailing, it is because the catarrhal irritation has passed to a tuberculous state, or a blennorrhœa pulmonum has succeeded, and the treatment of phthisis, tuberculosa or pituitosa, is to be pursued (vide *phthisis*).

The chronic catarrhal state is to be treated and carried through with the utmost care, and in this way it may be prevented from passing into pulmonary consumption.

2. The *gastric and abdominal cough* (stomach, liver, worm cough). It is very important to distinguish this from the pulmonary cough, since its treatment is entirely different. The discriminative signs are: the respiration is free, the patient can walk, run, speak, take a deep breath without coughing or panting. In general, affections of the stomach but not of the lungs produce cough, which therefore is greater after meals. At the same time there is imperfect digestion. If the case is recent, it requires nothing but sal ammoniac, or tart. potassæ for some days, and then, according to circumstances, emetics or purgatives (especially manna and folia sennæ are recommendable). When the case is older, and there are indications of infarcts or visceral obstructions, associated very frequently with incipient cachexy, then active resolventia are to be used for a considerable time (vide treatment of *abdominal obstructions in hypochondriasis*), intermixed with emetics and purgatives. I have seen such coughs, apparently phthisical, which had continued for months, disappear by a single emetic. Millefoil-tea is also useful, taken morning and evening for some time; not less so is marrub. alb., quassia lign. In irritation from worms, these must be removed.

3. *Nervous, spasmodic cough*. It is recognized by the absence of other causes, by the nervous habit and concomitant symptoms; that it is not increased but rather diminished by running, speaking, motion, even over-heating; on the contrary, it is excited by all things that operate on the

nerves, especially mental emotion. The treatment is that for nervous weakness, varying, however, according to its different forms. In great irritability, asses' milk, free air, exercise on horseback, viscum quernum, hyoscyamus, opium, valeriana, tepid baths, Ems baths; in the atonic state, cinchona, liquor c. c. succin., quassia (vide *phthisis nervosa*) are advised.

A particular kind of spasmodic cough is the *tussis matutina vomitoria*, a disease which attacks hard drinkers, especially brandy drinkers. They are tormented every morning by violent throwing up. The cure is performed by moderating the excess in spirituous liquors, by the use of quassia and other remedies which tend to strengthen the stomach, as well as of belladonna and aqua laurocerasi.

4. The *sanguineous* and *phlogistic cough* is often a consequence and effect of general plethora, frequently occurring in young persons. The distinctive signs are: the general symptoms of plethora, the full, strong pulse, cough is excited and increased by exercise; there are other congestions of blood; generally also, dyspnoea or pains in the chest. It may run into hemoptysis and pulmonary inflammation. The treatment must tend to diminish and derivate the plenitude of blood, which may be attained by venesection, antiphlogistics, low vegetable diet, corporeal exercise. Or it is owing to a local congestion of blood, hemorrhoidal, menstrual, either by suppression of previously existing evacuations of blood or first wrongly directed impulse (*hemorrhoides anomalæ, incongruæ, menstrua anomala*). The latter is of particular importance in practice, and more difficult of recognition when no hemorrhoidal or menstrual flux has preceded. I have seen persons laboring for years under cough, accompanied with pains in the chest, so that their state was considered incipient phthisis, which, however, was nothing but *molimina hemorrhoidalia*, taking a direction towards the lungs. The diagnosis rests on the symptoms of the hemorrhoidal disposition, of the plethora abdominalis (vide *hemorrhoidal disease*), or the signs of female puberty and *molimina menstrua*. This cough also occurs at the cessation of the menses. The cure consists in derivating the blood from the lungs; in the hemorrhoidal cough, to cure the abdominal plethora by dissolvent extracts, neutral salts and sulphur (vide *hemorrhoids*), and when these do not suffice, leeches must be applied to the rectum; in the menstrual cough the catamenia must be brought on; in cessation of the catamenia the flux must be compensated by other abstractions and evacuations of

blood. Or finally, the cause is a chronic inflammatory state of the lungs. The signs of this are frequent febrile motions, always irritable pulse, frequently stitches in the chest, dyspnoea. The cough is dry. This is already the commencement of phthisis florida or tuberculosa (vide those diseases). In every sanguineous cough whey, either serum lactis simplex, or prepared with cremor tartari, Selters water mixed with a little milk, Egers salt spring, the Kesselbrunnen in Ems are of great value.

5. The *metastatic cough*, caused by deposits of arthritic, rheumatic, psoric, scrofulous, syphilitic or other morbid matters, on the lungs and respiratory organs. The treatment consists in a proper treatment of the original disease (gout, scabies, scrofula), and derivation by cutaneous irritants, flannel dress and artificial ulcers; respect must also be paid to the dynamic character, whether it be phlogistic, or nervous, or atonic.

Cough by poisoni g (vide *asthma*).

6. The *idiopathic or pulmonary cough*, which originates in a disorder that has become peculiar to the lungs. It is a phthisical cough; for it is either a consequence of blennorrhœa of the lungs, which is classed under phthisis pituitosa; or of a tuberculous state of the lungs, a symptom of phthisis tuberculosa; or of a chronic inflammation of the lungs, which belongs to phthisis florida, or of a suppuration of the lungs, which is placed under phthisis purulenta (vide *phthisis pulmonalis*).

One more organic local disorder must be mentioned, which is often an unknown cause of obstinate cough, that might lead even to phthisis. It is a prolongation or swelling of the uvula, which irritates the glottis and produces coughing. In this case the easy and harmless operation of cutting off the elongated uvula is a sure and prompt remedy.

HOOPING COUGH.

Tussis Convulsiva.

Diagnosis. Paroxysms of incessant expirations, occasionally interrupted by a long drawn whistling inspiration, similar to the cry of a hen. It lasts from a few minutes to a quarter of an hour, and generally terminates in vomiting. If the case is violent, the patient's face turns dark and blue, blood escapes from the nose and mouth; the spasmodic motions of the lungs sometimes pass from a pulmo-

nary tetanus into complete cessation of respiration and apparent suffocation, a state that may last for several minutes. Such attacks may return every three or four hours, in severe cases more frequently; and in all cases the attacks are more frequent and violent in the night; the least mental affection, weeping or laughing can bring them on. They are commonly more violent every other day (*typus tertianus*). In the intervals the chest and respiration are entirely free, and the patient, except being weak, is healthy in other respects.

It attacks children in preference, and only once during life (like small pox and measles).

Course, duration. We distinguish three stadia.

1st Stage (*stadium febrile, irritationis*). The commencement is generally similar to a catarrhal cough with febrile motions. It is apt to be associated with an inflammatory state of the lungs. Gradually the cough assumes more and more the character of hooping cough.

2d Stage (*stadium nervosum, spasticum*). The cough is merely a spasmodic affection, without fever, and lasts for several weeks.

3d Stage (*stadium adynamicum*). The paroxysms of cough continue for three or four weeks, with prominent intermissions and increasing weakness.

The duration is five, eight, or twelve weeks, even longer. Sometimes it ends in a natural crisis, by cutaneous eruptions, or aphthae. The consequences when it has continued violent and for a long time, are: tabes and atrophia, due to great exhaustion and deficient nutrition, since the cough causes the food to be ejected from the stomach, and on account of debilitation of the lungs, phthisis pituitosa. Also pneumony may join it and prove fatal.

Pathogenesis. The proximate cause is a nervous irritation, especially of the nervus phrenicus and vagus, produced by a particular contagion originating in the atmosphere, but propagated from individual to individual; this is made evident by the circumstance that even old nurses may be infected by the children on whom they attend. The nervous irritation produces simultaneously the convulsive, as it were, epileptic motions, and also increased mucous secretion in the stomach and lungs, even increased secretion of bile; and, when the disease is very violent, and there exists the disposition, an inflammatory state of the lungs. The disease, therefore, is nervous in its nature, but may assume an inflammatory character. The morbid process

generated by the contagion has, like small pox and measles, its definite duration.

Therapeutics. It calls for cleansing of the stomach and the primæ viæ, assuaging of the spasm by specific remedies and antistimuli; and a regard to complication. The different stages constitute an essential difference in respect to treatment.

The first stage is of a gastro-catarrhal character, often inflammatory; the treatment therefore must be resolving, cooling, purging; in addition to this, emetics and the linctus No. 74. As soon as the fever increases, and the difficulty of breathing becomes greater, with irritative cough and pains in the chest, leeches are to be applied on the chest, and small doses of calomel given.

In the second stage the spasm must be soothed partly by antispasmodic and narcotic remedies, especially by hyoscyamus; asa fœtida in linctus and clysters, belladonna (vide No. 75); in extreme degrees of cough, opium, but not long continued on account of its constipative and congestive power (vide No. 76); extract. lactucæ virosæ, dulcamara, cicuta, musk, ledum palustre,—the relieving effect, however, varies according to the epidemic; partly by antistimuli, cutaneous irritation, embrocation of the ointment or tincture of cantharides, ointment of tartar emetic (vide No. 77), on the pit of the stomach and sides; irritating the kidneys (scilla, digitalis, tr. of cantharid.), injections. These remedies are often sufficient to effect a cure.

In the third stage, when the remedies mentioned do not suffice to remove the cough, which has already lasted for several weeks, and the fever is gone, it is probable that the spasm is entertained by weakness, and then cinchona in connection with antispasmodics, is the principal remedy for finishing the cure (sulphas quinini one half or one grain twice a day). It is particularly appropriate, when the case manifests a periodical character, as an increase of the violence of the paroxysm on every second day.

If the cough continue, accompanied with frequent expectoration of mucus, gelatina lichen. Islandici is the best remedy, and by which it may be prevented from changing into phthisis pituitosa (vide No. 78).

The subsequent treatment in a very debilitated state requires tepid strengthening baths (malt baths), cinchona, acorn-coffee, gelatina lichen. Island.

CHRONIC VOMITING.

Vomitus.

Diagnosis. Vomiting, which, without being a symptom of an acute febrile state, appears as a chronic distemper. It is either permanent or periodical, either before or after taking food.

Every violent and permanent vomition is to be considered as an important and a perilous attack; it may prove fatal by inanition, or create inflammation of the stomach. Every chronic vomiting claims our greatest attention, since it may be a sign of other important, even organic disorders. I shall here give only a few hints.

When it always follows a meal, throwing up the food, an organic disorder of the stomach may be suspected.

When it is accompanied with violent pains and spasms in the ventricular region and in the abdomen, and the patient turns yellow, gall-stones; when in the renal region, gravel are supposed to exist.

When it seizes children, the head being affected, and drowsiness, squinting, costiveness accompanying it, it is a sign of incipient hydrops cerebri.

When it attacks children in the morning, in a jejune state, and is followed by bulimy, it points to worms.

When it is chronic, obstinate in children, accompanied with constant thirst, diarrhœa, distended precordia, disfiguration of countenance, coldness of hands and feet, drawing the legs towards the belly, and emaciation, gastromalakia is threatened.

Pathogenesis. The proximate cause is a convulsive contraction of the stomach and the neighboring muscles,—entirely analogous to cough. It may originate in too great an irritability of the stomach itself, so that even the most common and innoxious stimuli, as aliments, even water, can excite these convulsive contractions; or be due to sanguineous congestion and inflammability, or increased nervous sensibility (sanguine or nervous character), or to an unusual morbid irritant matter. This can be located either in the stomach itself (idiopathic vomition) either within it (*contentum ventriculi*), as indigestives, bile, mucus, acid, worms; or in the substance of the stomach, such as organic disorders, callosities, scirrhusities, ulcers, polypus, carcinomata, metastases, of which the most frequent are the arthritic, psoric, rheumatic; or without the stomach (sym-

pathetic irritation), swelling and indurations of the liver, spleen, pancreas, kidneys, nephritic stones, gall-stones, the gravid uterus, cerebral affections, violent headache, concussion of the brain by falls or blows, even psychical irritation, squeamishness.

Therapeutics. Investigate the different remote causes, and remove them (the indirect treatment), and if it persist, operate directly on the proximate cause, the convulsive state of the stomach, and calm this by remedies which have a direct or a derivative tendency (direct treatment).

Consequently,

1. When gastric impurities are the cause (*vomitus gastricus, saburralis*), which is recognized by the known signa sordium, and by the quality of the matter thrown up, bilious or saburral, then emetics and purgatives are the only true means of cure: *vomitus vomitu curatur*. There is, however, a difference, when the evil is not a consequence of a transient indigestion, but of a chronic mucosity and acidity of the stomach. Such cases require a long course of treatment, intermixed with repeated emetics and purgatives, and finally roborants (*vide indigestion, anorexia, aepsia*).

2. When rheumatic, arthritic, psoric or any other metastasis is the cause (*vomitus chronicus, rheumaticus, arthriticus, etc. metastaticus*). Particularly frequent is the rheumatic. It is recognized by a preceding chronic cold (especially moist, draughty dwelling); by the rheumatisms and catarrhs previously existing, which now have disappeared; by the generally concomitant pains in the stomach (*vide cardialgia*); the arthritic by the gout, especially podagra, previously existing, and the urina rubra; the psoric by the cutaneous diseases or chronic ulcers, which existed previously and have been suddenly suppressed. In the treatment of all these species, we must consider above all, whether an inflammatory state of the stomach has been generated by the metastasis (*vide No. 3*), and commence with remedying that. Then a vesicatory to the epigastric region, in retroceded (re-entered) podagra, sinapisms on the feet, in exsiccated ulcers, exutories on the previously affected spots, embrocation with antimonial ointment, mezereum. Besides the remedies and method of treatment which the various species of disease calls for, in gout, guaiac., aconite, in scabious metastasis, sulphur.

4. When mere nervousness of the stomach is the cause (*vomitus nervosus, spasticus, hystericus*). The signs are the absence of other causes and the symptoms of a spasmodic hysteric state. Vomiting takes place generally in the

morning, in a jejune condition, or after mental emotions, or as a symptom of *hemicrania hysterica*. The treatment must be that of hysteria and nervous weakness; in the paroxysm direct treatment of vomiting (vide *cardialgia nervosa*).

In the troublesome and frequently returning *cephalæa vomitoria hysterica* the recipe No. 79, used in the intervals free of paroxysms, is an excellent remedy.

5. When organic disorders, either in the stomach, as: callosities, scirrhusities, carcinoma, softening; or in the neighboring parts, as physconias, obstruction, induration of the liver, pancreas or spleen are the cause: the stagnations are to be resolved and the spasm is to be soothed by direct treatment.

The Direct Treatment of Vomiting, Anti-emetic Method,

Is called for, when no material or remote cause can be discovered (*v. nervosus*), or when it continues after their removal. It is momentous as *indicatio vitalis*, since every constant vomiting can endanger life, and requires stopping. The remedies are: potio Riveri, the surest and safest anti-emetic (vide No. 1), invigorated in obstinate cases by anti-spasmodics (vide No. 80), external means, which here prove often of more service than the internal ones, fomentation of the epigastric region by spirit. matricar. and tinct. opii (No. 81), little bags with *mentha crispa*, steeped in wine, sinapisms, finally, dry cups, one of the most efficient means, by which I often succeeded to stop the most obstinate vomiting; injections; at last opium, musk. Small pieces of ice and ice cream have often proved most useful. In children chronic vomiting requires our whole attention. We must carefully examine whether it is caused by worms, or is symptomatic of hydrocephalus; or of softening of the stomach; vide *diseases of children*.

Special Treatment of Particular Species of Vomiting.

Vomitus chronicus Ingestorum. The patient throws up the aliments two or three hours, even as soon as one hour after taking them; there is constant hunger, costiveness; in some patients pain is felt in the epigastrium, especially when pressed; and in some cases a hardness may be discovered on examination. As the case advances, it goes through the degrees of emaciation, tabes, vomiting of dark green, blackish matter, death.

The cause of this afflicting disease is scirrhus, or carcinoma of the stomach. The cure is rare, although sometimes possible, when the evil has not advanced too far, callosity only and not true scirrhus existing. A principal sign is pain. As long as this is wanting, there is hope. But if pain is present, then scirrhus or even carcinoma exists and medication is useless. The following remedies, according to my experience, have sometimes succeeded in conquering it: liquor belladonnæ cyanicus (No. 50), mercurial embrocations, extract. cicutæ and calendulae, the Carlsbad water, bi-carbonate of soda, perpetual cataplasms of cicuta over the stomach, the application of moxa on the epigastrium (by which I once succeeded in immediately curing, and for ever, a kind of vomiting, accompanied by abdominal pains which had lasted for several months, and had resisted all other means), clysters; leeches on the scorbiculus cordis from time to time, especially when pains set in. Milk as exclusive food, is salutary. By this diet and milk injections, some patients have had their life prolonged, have even been cured.

Akin to the preceding is that chronic vomiting which is owing to induration, enlargement or other disorganization of the pancreas. It is distinguished from the former by not always taking place after eating, and that it is not food but acid and salivary matters that are thrown up, and the patient has often a sensation of violent, deep seated pains in the umbilical region, sometimes extending to the back, and frequently an induration or swelling deeply seated can be discovered by pressure. In this case the cure is difficult, but possible, particularly at the commencement. The treatment is the same as in the previously mentioned disease; more active resolventia, especially the Carlsbad water, however, may be used, since the stomach bears more. The application of leeches is not to be omitted in a painful state.

Different from either of the preceding is *ruminatio humana*. The ingesta are likewise thrown up, but with ease, and without any emetic exertion, and they are not altered by incipient digestion. The cause of it is an enlargement of the œsophagus and saccus cæcus, in which the aliment is collected and retained for a while.

Vomitus matutinus, vomiting every morning under torturing cough and choking, a quantity of viscous slime. It is the lot of old drinkers. The means for remedying it are: abstinence from drinking, regular and digestive meals, magnesia and rhubarb (vide No. 83), in the morning a

glass of cold water, pills of *asa fœtida*, *fel tauri*, cushions of *mentha crispa* on the abdominal region, *columbo*, *quassia*.

Vomitus marinus (sea-sickness). The most tormenting nausea with vomiting, also purging and general indisposition, even to fainting, and a feeling of universal destruction. It can last for two, three, or four days, and longer, caused only by a sea-voyage in high wind, which gives great motion to the vessel; it does not happen on lakes and rivers, and ceases as soon as we land. It occurs, as a rule, only once, and disappears by habit and repeated voyages. Every one is seized by it, but not in an equal degree. It resembles most the state of nausea and fainting to which some persons are liable when riding in a wagon and swinging. The only cause is the rocking motion of the ship.

The means which, though they do not entirely prevent, at least alleviate, even sometimes prevent it, are horizontal position, staying on the deck near the mast, light digestible food, and the plaster No. 84 spread on leather, of the size of the hand, applied to the epigastric region.

Vomitus calculosus. Vomiting may be a symptom of gall-stone as well as of gravel, and is either acute or chronic. In the first case it is a symptom of stone colic (*vide colica calculosa*). The diagnosis depends on the other signs of stone (*vide calculus*), and the treatment is the cure of *calculus*, which see; therefore, in chronic cases, Carlsbad spring and similar alkaline remedies.

Vomitus gravidarum, *vide diseases of females*.

In all chronic vomiting, milk, taken one cup every two hours, has been observed to be the best and only remedy; even when it is owing to internal indurations and straitenings, it is conservative, even curative. In general, however, the malady must be considered as arising from an organic disorder, and consequently incurable. Frequently, indurated excrements in the colon are its cause, which may be removed by injections and drastic purgatives.

HICCOUGH, HICKUP.

Singultus.

A short, convulsive contraction of the stomach and diaphragm, generally periodical, arising from insignificant causes, overloading of the stomach, acidity, taking cold (especially in little children), and then insignificant and wearing away of itself; but sometimes a true permanent

spasm in these organs, which may continue for hours, days, and become offensive and dangerous; in fever it is sometimes a fatal symptom; concomitant with internal inflammations.

The cure of ordinary hickup is very easy; slow drinking, or still better, a piece of sugar slowly melted in the mouth, removes it quickly. When it is nervous, a symptom of spasm, as well as present in nervous fever, hyoscyamus, musk, opiate embrocations over the stomach; an antispasmodic cataplasm, dry cups on the same, especially a warm bath are serviceable. When it is inflammatory, the inflammation is to be treated.

NEURALGIA.

Diagnosis. Chronic, permanent, or periodical pain of a single nerve, or of a plexus of nerves, especially in membranous or aponeurotic parts. It may affect any part of the body, and receives different names according to its location. When it arises in the head, it is termed *cephalæa*, *hemicrania*, *clavus*; when it seizes the face, *prosopalgia*; when the ischiatic nerves, *ischias*; when the back, *notalgia*; when the lumbal region, *lumbago*; when the hip, *coxalgia*, *coxagra*; when the stomach, *gastrodynia*; when the intestines, *colica*.

The origin and treatment is the same as in all nervous diseases, varying only as regards location, whence are derived specific names. I will only remark in general, that narcotics, especially liquor belladonnae cyanicus, aqua laurocerasi and stramonium (one eighth to one half of a grain of the extract, and of the tinctura seminum up to ten drops), douches, cold baths and moxa are of particular efficacy; in periodical attacks, Peruvian bark and iron, especially ferrum carbonic., half a scruple twice a day. In neuralgias of external parts we are carefully to examine whether a mechanical irritation, as induration, a ganglion, a splinter of a bone, an excrescence and the like are not the original cause.

PRURITUS.

Itching is a particular sensation of the skin, which generally exists only as a symptom of cutaneous eruptions, and is to be treated as such; it may, however, appear also independently as an isolated nervous affection, and even assume such a degree of violence and obstinacy as to allow

no rest day and night, to become a real disease, and if it be general, even to endanger life. I have seen an old man, who had been a hussar, labor more than a year under such a dreadful general itching, without exanthema, that it deprived him of rest day and night. In this desperate state he had to use the hardest scraping instruments, as curry-combs and the like, until blood would come, in order to get relief; finally he died of emaciation.

The causes may be the same as are common to nervous diseases, but are particularly chronic suppressed perspiration, atrabilious and psoric acrimony.

The treatment must be adapted to these causes. As local means, baths, especially Russian steam-baths, frequent cupping and artificial ulcers are most serviceable. Also a solution of two drachms of borax in six ounces of rosewater is often of excellent service.

A very troublesome and frequent evil is the itching of the genitals, especially in the female sex (*pruritus vulvæ*). It is more common to old maids and widows, owing to disturbances of menstruation and hemorrhoidal congestions, is very tormenting and difficult of cure.

The treatment must first tend to the removal of hemorrhoidal and menstrual congestions or other dyscrasias, also ascarides, which sometimes creep into the vulva; repeated application of leeches is recommended. As a local means, I can advise from experience as most efficacious to wash the genital organs with soap water, composed of genuine cocoa-oil soap and a weak solution of sublimate in rosewater.

HEADACHE.

Cephalæa, Cephalalgia.

Diagnosis. A very common complaint, frequently a symptom of other diseases, especially of fevers; but is here considered only as an isolated affection. It is either permanent (*cephalæa*), or periodical (*cephalalgia*), either general, or occupying only single parts of the head, as one side (*hemicrania*), or a small circumscribed spot like a nail driven in there (*clavus*). Also the degree and species varies very much, as burning, tearing, pungent, boring. In the highest degree consensual symptoms associate with it, especially of the stomach, as nausea, vomiting (*cephalæa vomitoria*). It may become an extremely obstinate and tormenting complaint.

The origin and treatment coincides with that of general nervous diseases. We must carefully distinguish *ceph. nervosa, sanguinea, gastrica, metastatica, organica*.

Of the specialities, the most frequent is the *hysterical* and *hypochondriacal headache*, for which, as a palliative, hyoscyamus, aqua laurocerasi, liquor anodyn. Hofman. are useful; in *headache accompanied by vomiting*, pulvis aerophorus or potio Riveri together with hyoscyamus, sinapisms, mustard foot baths; to eradicate it, a cold infusion of quassia, cinchona, particularly iron (vide No. 85, 79), ferrum carbonicum, sea baths, chalybeate baths, Pyrmont spring are very salutary. It is very important, however, to have regard to local sanguineous congestions; these call for the application of leeches. Of the *metastatic*, the most frequent and obstinate is the arthritic (gout in the head) and rheumatic; when perpetual derivatives (fontanel, cort. mezerei, repeated cupping in the neck), and arthritic remedies (guaiac, aconite); in the rheumatic, calomel, drastic purgatives, bitter water, foot baths of mustard, mustard-meal in the stockings, oil-cloth soles, smoking of tobacco are most serviceable. After fruitless use of the most active remedies, even of the Russian baths, I have seen perfect cures effected by No. 86, continued for a fortnight (vide *arthritis, rheumatismus*). In very obstinate headache in the forehead, we must never omit to inquire whether foreign bodies, as worms, insects, larvæ, have not entered the frontal sinuses. In such cases, warm vapors drawn into the nose, smoke of tobacco, and between them sternutatories (vide No. 87), have remedied the evil by sneezing and throwing it off.

PROSOPALGIA.

Tic Douloureux.

Diagnosis. Very tormenting pains in the face, especially in the region of the processus zygomaticus, in the nervous plexus, termed pes anserinus, from whence the pain spreads to all parts of the face. In the highest degree they resemble violent electric shocks, and create spasmodic distortions of the face. They appear periodically, sooner or later, sometimes typical. The complaint is one of the most obstinate.

Causes and treatment are the same as in cephalæa. In the first place, therefore, the remote causes, congestions, abdominal stoppages and the like are to be remedied. Most

frequently there is a rheumatic, arthritic cause, combined with a very tender sensitive nervous system; hence it is met with most frequently in the female sex, and aconite and guaiac are very useful, especially in the mixture mentioned under cephalæa, likewise sublimate, together with decoction of guaiac, sarsaparilla, and extract. hyoscyami, also oleum jecoris aselli.

Finally, the disorder is to be looked upon as idiopathic, and must be treated accordingly. Lotions and fomentations of aqua laurocerasi, of liquor antierethicus (vide No. 176), opiate and saturnine plasters, frequently repeated cupping on the neck, a seton and moxa are very useful; lastly, more than all, douches of cold water, continued and repeated in every attack up to the ceasing of pain, by means of a small clyster pipe. Electricity and magnetism have sometimes proved beneficial. The proposal to divide the nerve is an unsafe remedy.

TOOTHACHE.

Odontalgia.

One of the most frequent and painful neuralgias is *odontalgia*, toothache. It can attain a degree bordering on *tic douloureux*, even surpassing it.

The *cause* is either a carious tooth, or rheumatic irritation, which is more frequent, and, associated with carious teeth, produces the periodical pains. Besides, there are two causes, sanguineous congestion (especially in young plethoric persons and in pregnant women), and nervousness. In obstinate, ever and anon returning toothache, deeper seated dyscrasias, such as arthritic, psoric, syphilitic, may be the remote cause.

The *treatment* must correspond to the causes; removal of the carious tooth, rheumatism, plethora, nervousness. For a palliative cure, the removal of sanguineous congestion, which commonly exists here, by applying some leeches on the gum, derivation by sinapisms or horse-radish on the arm or neck, and local antispasmodic remedies, embrocation of ol. cajeputi or spirit. camph. with opium on the cheek where the pain is, a pill of hyoscyamus or opium laid into the aching tooth, a mouth bath of decoct. flor. sambuci and herb. hyoscyami, a small piece of rad. pyrethrii or armorac., or a few drops of tinct. cantharidis on the gum, will be found serviceable; but the most efficient is to wet the tooth with tincture of Para-cresses.

EARACHE.

Otalgia.

Otalgia occurs also as a pure neuralgia, and is treated like odontalgia; the most beneficial remedies are: cataplasmata emollientia, narcotica of flor. sambuci, herb. hyoscyami steeped in milk, applied to the ears. But it is most frequently of a rheumatic character, and when violent and constant, an inflammatory state is to be feared, which is to be treated antiphlogistically by local abstractions of blood (vide *otitis*).

COXALGIA.

Vide *coxagra*, *ischias* (hips).

SPASM OF THE STOMACH, STOMACHACHE.

Cardialgia, *Gastrodynia*.

Diagnosis. Spasmodic pains and contractions in the epigastrium, sometimes periodical (*cardialgia* in a limited sense), sometimes constant (*gastrodynia*). They vary in intensity, being sometimes slight, sometimes of insupportable violence, spreading by consensus to the chest and back; exciting nausea and vomiting, anguish, coldness of the extremities, and even syncope. It may become chronic and very obstinate. It is more common to females than to men. When it occurs in women after the cessation of the menses, and is associated with fits of fainting, it is apt to pass into vomiting of blood.

Besides the general causes of nervous diseases, hysteria is one of the most common; also acute and still more so chronic colds (owing to light clothing, moist dwelling, business of washing), wherefore the disease is often nothing but rheumatism of the stomach; and disturbance of menstruation, wherefore it appears frequently at the times of puberty, still more after its cessation.

The treatment, aside of that for nervous diseases in general, requires particular consideration, whether there is sanguineous congestion and chronic inflammation, in which case abstractions of blood, general as well as local, are not to be neglected; gastric impurities must be removed by

evacuants, even emetics, which give immediate relief; in rheumatic, arthritic, and other metastases, mustard plasters, vesicatories over the stomach. In purely nervous spasms of the stomach, the principal and specific remedy is subnitrate of bismuth, two grains daily three times, triturated with sugar; magnes. carbon. with extract hyoscyami, and cortex Winter., pulvis aërophorus, ol. cajeputi. In obstinate cases the mixture No. 88 has not forsaken me.

Of particular efficacy are external remedies, embrocation of antispasmodic liniment (No. 89), warm cataplasms of hyoscyamus and chamomile; the mere application of a warm body, dry aromatic herbs, mustard plasters, and dry cups to the epigastrium. In chronic spasms of the stomach, I can recommend douches of cold water (or still better, mineral water) by my own experience.

If the disease resists all these means, and the food is rejected, there is reason to suspect an organic disorder.

PYROSIS.

A very distressing sensation of burning, rising from the stomach, especially after taking fatty food. The complaint is more frequent in youth than in advanced age.

The cause of it is a generation of acidity in the stomach, and a disposition of the stomach liable to it. Especially the acrimony of grease seems to have a tendency to produce this disorder; hence fat aliments are injurious.

The treatment is that of acrimony of the stomach (vide *gastrosis*), and avoiding grease. For temporary relief, one teaspoonful of carbonas magnesiæ or lapis cancrorum is serviceable; still more efficient is ammonium carbon., three grains, dissolved in one ounce of melissa; likewise charcoal powder.

COLIC.

Colica.

Diagnosis. More or less violent pains in the intestines, of a contracting, pinching, tearing, or burning nature; which, when severe, are accompanied by anxiety and cold sweat; bowels open or costive. The pain may be spread over the abdomen, or confined to one place. The complaint may be periodical or permanent; when the latter, it may last through life. In every violent colic there is dan-

ger of inflammation, especially if the pain is seated in one place and becomes burning, or when costiveness and vomiting accompany it.

Pathogenesis. The causes are innumerable; however, they can all be reduced either to injurious matters in the intestines, to cramps, sanguineous congestions, or to metastases and antagonisms or organic disorders.

Therapeutics.

General Rules of Treatment for any Colic.

In every colic the first thing to be done is to cleanse the intestinal canal by a mild laxative; for impurities are ever present, partly as cause, partly as effect, and their removal always produces great relief, even often complete cure. Further, in every colic, mucilaginous and oily remedies, such as water-gruel, linseed tea, a spoonful of almond, poppy or linseed oil, spermaceti, half an ounce dissolved in a cup of warm water, promptly mitigate the pains; the best form of administering these remedies is the combination No. 90; opium must be avoided, because it constipates the bowels. Externally, antispasmodic ointments, cataplasms, and oily injections. Further, in every violent colic there is danger of inflammation; therefore, as soon as the pain becomes fixed, violent, and burning, when the abdomen is distended and painful to the touch, and there is fever, a venesection must immediately be made; and in young, plethoric persons, when the pain is violent and permanent, it is advised even as a prophylactic.—Finally, we must examine in every colic, whether there be hernia.

In every chronic colic it is an indispensable condition, indeed often the only means of cure, to wear flannel round the abdomen and back.

The *special treatment* depends on the causes, which are numerous. All kinds of colic, however, may be reduced to the following principal classes:

Colica sanguinea (blood colic). Signs of general or local (abdominal) plethora or inflammability. Of that character is also the menstrual and hemorrhoidal colic (vide *menstrua* and *hemorrhoides*). It is either *molimina menstruorum* and *hemorrhoidum*, or a consequence of their suppression. The treatment consists in general and local abstractions of blood, cooling purgatives. In the hemorrhoidal colic, sulphur.

Colica nervosa. Of this class are the spasmodic and hysterical colic. The signs of which, see under the res-

pective heads. It calls for oily emulsions with hyoscyamus, antispasmodics, inunctions and cataplasms. In stubborn cases, laudanum may be added to the emulsion; warm baths and injections of *asa fœtida* one drachm, resorted to. See cure of *hysteria* and *hypochondria*.

Colica gastrica. Under this head falls the *colica biliosa*, which is often epidemic, especially in the heat of summer. It has for signs gastric impurities, bitter taste, foul, yellow-coated tongue, etc. For the cure, give emulsions first, also *potio Riveri*, a spoonful of orange juice and injections; then mild laxatives, as tamarinds, manna, soluble tartar are required.

Colica saburralis calls for purgatives, or an emetic, according to the indication of its locality. Sometimes chronic colic is owing to very hard and ancient sordes, especially of a tenacious mucous character, *atrabilis*, true infarcts, (*colica stercoracea*). Here a continued use of resolvents, and particularly of injections, also purgatives, are necessary.

Colica verminosa. The symptoms are those of worms (*vide worms*). The disease is remedied by oily emulsions, calomel, *flores zinci*, afterwards *santonium*; the cure of worms.

Colica flatulenta, owing to accumulation of winds (*vide flatulency*).

Colica metastatica, is known by the disappearance or suppression of a preceding disease, on which the colic has followed. The treatment must be that of the metastases, and of the malady which originated it; as such, particularly frequent are chronic, rheumatic, and arthritic colic. The disease is nothing but a *rheumatismus* or *arthritidis intestinum*, and must be treated as such, by sulphur, guaiac, aconite, antimonials, mercury (*vide No. 91*). In the arthritic species, soda with bitters, warm baths, vesicatories on the abdomen, fontanels, woollen clothing, are chiefly to be relied upon.

The *syphilitic colic*, a consequence of an imperfect cure of the venereal virus, which has thrown itself on the intestinal canal, is not a rare occurrence. In this case mercury must be given, the same by inunction when it cannot be borne internally.

The *psoric colic*, a consequence of receded cutaneous eruption, scabies or herpes, calls for sulphur, antimonials, vesicatoria perpetua, warm baths, especially sulphur baths; the most efficacious are the natural, such as those of Aix-la-Chapelle, Nenndorf, Warmbrunn.

Colica adynamica has for signs the symptoms of weakness and its antecedents, particularly excesses in wine and women. Frequently it is a remnant of other species of colic, especially when strong evacuants have been used for a long time. The only curative means are internal and external roborantia, amara, cinchona, especially iron, Pyrmont spring and bath, cold washing, and steaming of the abdomen.

Colica calculosa s. consensualis, in consequence of gall or nephritic stones. The signs are: sudden and very violent pain, with forced vomiting. In the gall-stone colic, the pains are situated in the region of the liver and epigastrium, and are followed by a yellow color of the skin; in the gravel colic (*colica nephritica*), the pains occupy the whole abdomen, especially the course of the urethra; cramp in the loins and calf of the leg, also retraction of the testicle on the side affected (*vide lithiasis*).

The treatment consists in an abundant use of fat oils and emulsions, hyoscyamus, antispasmodic embrocations, cataplasms, oily injections, but chiefly of warm baths, which alone often promptly relieve. In nephritic colic, opium also is to be used; but must be avoided in gall-stone colic, because it stops the intestinal discharge, which is here so necessary. In every stone colic, the possible occurrence of inflammation is to be regarded, which in strong, plethoric persons, or in a febrile state, requires venesection.

Colica visceralis et organica arises from obstructions, physconias, indurations, and other organic disorders of the liver, pancreas, spleen, and other abdominal viscera, or from newly generated pseudo-organizations. The signs are those of the existence of visceral obstructions (*vide obstructio*). The cure requires strong resolvent remedies (*methodus resolvens, hypochondria*), especially gummi ammoniac, soda, soap, taraxacum, mercury, pillulæ resolventes (*vide No. 92*). The most efficacious of all is the Carlsbad spring.

Colica metallica (arsenicalis, saturnina, mercurialis), owing to metallic poisoning, not acute but chronic. It is recognized by the preceding internal or external communication of the poison; and the treatment is that which is usual for metallic poisoning, in which sulphur, taken as a medicine internally and in baths, is the principal remedy. Particularly remarkable and frequent is the *colica saturnina (colica pictonum)*. It is distinguished by obstinate constipation of the bowels, paralysis of the extremities, emaciation, and exsiccation of the body.

The treatment must commence with opening the bowels, especially by castor-oil, rhubarb, aloes, sulphur, sulphur baths; then opium and alum must be given. *Colica arthritica* often creates very similar paroxysms.

HYDROPHOBIA.

Diagnosis. Aversion to and impossibility of swallowing any thing fluid, whilst solid food may possibly be taken.

It is a mere spasmodic nervous affection of a particular character, even the highest degree of idiosyncrasy.

It arises either by being poisoned with the hydrophobic virus (*hydrophobia miasmatica s. contagiosa*), and is a symptom of rabies (vide *rabies*), and is dangerous to life. Or it is a symptom of nervous diseases (*hydrophobia spontanea s. symptomatica*) in hysteria, by excited imagination (fancying to have been bitten by a mad dog—*hydrophobia imaginaria*), also in and after inflammatory affections of the throat, angina, gastritis. Here it is a pure symptom of spasm, without any danger, and is to be treated as such. A mustard plaster or vesicatory around the neck, narcotic cataplasms, injections of *asa fœtida* and opium; *aqua laurocerasi*, *liquor belladonnæ cyanicus* are generally sufficient to remove it.

POLYDIPSIA.

Diagnosis. Insatiable thirst. Thirst, like hunger, is relative and varies according to individuality; strong in some, weak in other men; also depends very much on habit.

Morbid thirst arises either from internal heat (thence a symptom of every fever, especially the inflammatory), or from increase of watery evacuations (thence present in diarrhœa, sweat, diabetes), or from spasmodic suppression of the internal exhalation of the mouth and throat (as in hysteria, hypochondria, and other nervous diseases); it can also be produced by obstructions of the liver.

The *treatment* must comply with the various causes. Particular attention is due to it as a symptom of obscure diabetes mellitus, of which it is often the only sign; it deserves particular attention, and therefore the urine must be tested. The same applies to diseases of the liver. I have cured a case, the patient of which was obliged to drink 30 and more pounds of water a day, by the Carlsbad

spring, also by the use of the pills No. 93.—Nervous polydipsia I have seen perfectly cured by sea-bathing.

The thirst for spirituous liquors, especially brandy, is important and destructive. It is always the consequence of a bad habit, leads to dropsy, delirium tremens, induration of the stomach, emaciation, and admits of cure with great difficulty.

The remedies are: gradual weaning off, substitution of another less injurious, even salutary stimulus, tinct. absinthii, rendering brandy disgusting by admixture of nauseating substances, as tartar. emetic, mineral acid (elix. Halleri, 10, 20 drops three times a day), and quassia (pills of extract. quassiae, absinth., cascarilla aa) have been of use.

POLYPHAGIA, PICA, vide *Apepsia*.

PSEUDACUSIS, PARACUSIS.

Diagnosis. To hear something where there is no sound, or to perceive wrong what is audible. Of this kind is the tinkling and humming of the ears (*susurrus aurium*), the hearing of unusual foreign sounds and voices.

The most troublesome, and distressing of these evils is buzzing in the ears. By its violence and uninterrupted continuance, it may attain a degree which deprives the sufferer of all mental tranquillity, and brings him to desperation. Besides the general treatment, I have found most efficacious a daily embrocation with unguentum epipasticum behind the ear, repeated cupping on the neck, foot-baths of mustard, and laxatives.

PSEUDOPIA.

To see something where there is no object, or to perceive wrong what is visible. Here must be ranged the seeing of flocks and sparks before the eyes (*scotomia*), seeing colors and various apparitions, seeing half (*visus duplex*), seeing double (*diplopia*).

This illusion of the senses may increase unto an exhibition of real images and aparitions (as when the sense of hearing is struck with sounds, voices, words); which the patient does not believe to be sensations originated within himself, but thinks them phenomena communicated from without. This accounts for people becoming visionary.

All these delusions of the senses, as well as those of smell, taste, and feeling, originate in an altered tone of the nerves, either of the external or the internal sense; for every sense has a double organ, an external and an internal one; and this alteration has been brought on by local or by sympathetic irritation, and is to be treated accordingly.

The sympathetic is most frequently abdominal, especially in disorders of the sight, and therefore occurs often to hypochondriacal persons. I knew a man who, when suffering under an accumulation of wind would suddenly become affected with half-sight. He saw all objects only half; as soon as he discharged flatus, he could see them whole again. Besides local plethora, congestions, metastases or pure nervousness, are the most common causes, to which the treatment must be adapted.

DISORDERS OF THE SEXUAL INSTINCT.

Nymphomania, Satyriasis, Onanismus.

Diagnosis. Excessively increased, insatiable sexual instinct. It is called *satyriasis* in men, when it is accompanied with continual erections, *priapismus*; in women, *nymphomania*, *furor uterinus*; with unnatural gratification, self-pollution, *onanismus*; in the highest degree, when instinct or passion overpowers reason, especially in females, degenerating into true rage and insanity, *erotomania*.

The *causes* can be corporeal as well as mental. Overheated imagination directed to voluptuousness, too frequent habit of gratifying the sexual desire, and irritation of the genitals in the absence of true satisfaction, passionate love for a person, occurring more frequently in the female sex, in unmarried women, widows. Deficiency of coition rarely produces such a state, if no excitement and corruption of imagination, or habit of immoderate gratification, or irritations of the sexual organs have preceded, therefore gratification does not always remove the evil. An idle, luxurious mode of living, and absence of care and trouble, are most apt to predispose to this state, whereas it is rarely found in the country among laborious people. However, there may exist mere corporeal irritatives, especially worms (*ascarides*), plethora abdominalis and indurations in the abdomen, which irritate the sexual nerves by their location. Thus I have seen a very respectable old woman, in her 70th year of age labor under this disease, the cause

of which, on dissection, proved to be a scirrhus induration near to the ovarium.

The principal signs of *nymphomania* are: violent, burning, piercing, itching pain on the clitoris and bladder, vesical spasms, strangury, ischury, discharge of mucus, frequent fits of fainting, hysterical spasms. They serve to discover the often concealed evil.

It is not out of place, but is worthy of remark, to mention how frequent premature development of the sexual instinct has become. It is the consequence of too rich food, especially too stimulant aliments and beverages (meat, wine, coffee, spices), of too much rest and sitting, and too premature excitement of the imagination.

The *principal means* to banish this demon are fasting and labor. As it is chiefly owing to idleness, too rich food, luxury, and indulgence in imagination; therefore, lowering the diet to a few vegetable aliments, much corporeal labor, and exertion, until fatigue be produced, which will consume and translate the power; occupation of the mind with serious abstract topics, cold regimen, cold lotions, and baths, cooling laxatives, and the use of camphor are the best preventive and curative means. The latter is really a specific antiphrodisiac; I have seen its long continued external and internal use produce atrophy of the testicles. It must be applied internally and externally in little bags, and lotions to the genitals. The same is true of the external use of lead remedies. Galen says: *Plumbum est domitor veneris*.

In the highest degree of nymphomania, and when it is incurable by the usual means, cauterizing the clitoris and nymphæ by lapis infernalis, or extirpation of the clitoris are most serviceable.

Priapism may appear also purely symptomatical, as a mere local spasm (*tetanus penis*) in hypochondriacal individuals. Immersing the yard in cold water, or narcotic-oily, warm fomentations applied to the same, remove it promptly.

3. PARALYTIC DISEASES.

Annihilation or diminution of the two fundamental functions of the nervous system, sensation and motion, or of one of them.

Proximate cause is impeded action of the nerves, which may be produced by real deficiency of power (true debility), or by an external cause suppressing its energy, as

plethora of the vessels, extravasation, foreign bodies, tumors, sprains, ligatures; or by spasmodic affections, metastases, specific stimuli, consensual, especially gastric irritatives, worms; hence paralysis may alternate with spasms, even be combined with spasms and pain.

The paralysis may proceed from the peripheral as well as from the central termination of the nerves.

PARALYSIS OF THE BRAIN.

Apoplexia.

Diagnosis. Sudden annihilation of consciousness, of the sensitive and motive power, while the vital functions, as pulse and respiration, continue undebilitated, even are increased.

This state is to be distinguished from other states very similar as to their phenomena; from epilepsy, by spasmodic motions; from syncope, by the absence or great weakness of the pulse and respiration; from the highest degree of drunkenness, by the cause preceding, the smell of spirituous liquors, and motion not being entirely suspended.

The case may be different. Sometimes an apoplectic fit strikes as if lightning, and like it kills in a moment. Sometimes it does not kill instantaneously; in this case the patient lies as if in a deep sleep, with snoring respiration, slow, frequently full, strong pulse, without consciousness, without perceptibility, without any power of motion (sometimes with intermixed spasmodic motions), foam at the mouth, dilated pupil, eyelids and jaw hang down, impossibility of swallowing, involuntary stools, and emission of urine. This is termed *apoplexia completa*.—But sometimes apoplexy is incomplete, the patient retains consciousness, and only single parts are seized by paralysis. Here again the following cases must be discriminated. The patient is paralyzed on all parts below the head (*paraplegia*), or only one half of the body is paralyzed (*hemiplegia*). Sometimes only sensation or motion is paralyzed. The slightest attacks of apoplexy, which therefore are not at all noticed, are those, when only single muscles are paralyzed, as in the face, one eye is smaller than the other, the mouth awry.

Complete apoplexy takes the following course. Either the patient does not recover consciousness, but dies in the fit, or he recovers consciousness, which is followed by fever, generally remittent with daily exacerbations, which either saves the patient by coction and crisis (on the 7th

or 14th day), or in an exacerbation, generally on 3d or 7th day, brings on a new fit and kills him. The fever is sometimes an intermittent, the apoplectic fit is nothing but the first paroxysm of the fever and ague, and the patient feels perfectly well after the paroxysm is over; but the following day the apoplectic paroxysm returns and then proves fatal; if this do not happen, the third attack certainly will terminate that way (*vide febris intermittens perniciosa*). Generally, after the attack, local paralyses remain either in external parts, or in internal organs, as loss of memory, speech. The worst of all is the paralysis of the gullet, swallowing being thereby impeded; in such a case the patient lies often 5 or 6 weeks, before he dies.

Apoplexy is one of the most dangerous diseases; the complete is in most cases fatal, rarely perfectly curable, subject to relapses within longer or shorter intervals. Incomplete apoplexy is frequently succeeded by a more violent attack.

The forerunners of apoplexy are: uncommon sleepiness, nauseating vertigo, humming in the head, partial loss of memory, hanging down of the eyelids, lower lip or jaw; thence frequent chewing with nothing in the mouth to chew on, involuntary flux of saliva during sleep, easy distortion of the countenance, especially of the angle of the mouth, old age.

Pathogenesis. The proximate cause of apoplexy is a sudden stoppage of the cerebral action. This can be created by active as well as passive, and in general by various causes. They may be divided for practical purposes into the following classes.

1. *Sanguineous congestion to the brain*, the most common. It is created by plethora, stoppage of the reflux (by pressure on the cervical vessels from tight cravats, clothing, swelling on the throat, disorders of the heart, also the pressure of an overloaded stomach—thence apoplexy frequently occurs after a hearty meal—hanging position of the head, angina, pneumonia); by too great an afflux (by violent motions, passions, keeping the head too warm, insolation, and equally violent degrees of cold forcing the blood into the vessels, spirituous, drunkenness, metastases, morbid irritations, idiopathic as well as consensual, lesions of the head, inflammation of the brain).

2. *Erethismus*, nervous affections, spasm of the brain in nervous not plethoric individuals, by all violent irritations of the brain, passions, violent convulsions and spasms, as tetanus, metastases, consensual irritations.

3. *Adynamia*, real exhaustion of the vital power of the brain, as in old age, after great loss of blood, excesses in venery, nervous fevers.

Of the pathological cerebral irritations, which are able to produce apoplexy, two are of particular importance to the practitioner, the *metastatic*, and most frequently shifting of arthritic matter to the brain, as the shifting of the scarlatine matter to the brain; thence the sudden fatal apoplexy of this disease; and *consensual gastric*, where the irritant matter is located in the præcordia; thence *apoplexia biliosa*, which may become even epidemic.—The discrimination of the ancients between *apoplexia sanguinea* and *serosa* is perfectly correct, save that there were no accumulation of serum, but as apoplexy without sanguineous congestion, which is not found in the brain during life nor after death, it is the same which we now term *apoplexia spastica, nervosa, adynamica*.

Predisposition deserves great consideration. The same occasional causes which operate on some persons with impunity, will induce apoplexy in others, merely because they are predisposed to it. The predisposition consists chiefly in the corporeal structure, short thick neck, head sunk between the shoulders, short stout frame (*architectura apoplectica*); old age, the seasons, as the equinox, transit from winter into spring, or from autumn into winter, is favorable to apoplexy, especially the month of December; finally, rapid change in the barometric state of the atmosphere.

Every fit of apoplexy leaves a predisposition to another.

Therapeutics. The fundamental indication is to restore the action of the brain. I must, however, remark that the disease does not always depend on a passive state, a weakness of the brain, for the cause of cerebral inactivity can often be of a very active character, and the brain may be unimpaired in its power, but only oppressed by pressure; and secondly, that the cause of every apoplexy is not to be sought for in a congestion of blood, which likewise is not always the case.

The treatment of apoplexy, therefore, consists merely in taking away the cause, which disturbs the action of the brain, and, if this do not suffice, to restore its action by endeavoring to arouse it directly. It is best to look upon the internal state as a suspension of the cerebral activity, not as a loss of it.

The *first* and most important investigation in every apoplexy must be, whether there is a *sanguineous accumula-*

tion in the brain. As in hanging, the first thing to be done is removal of the rope, so the removal of the sanguineous pressure is the first condition of cure, often sufficient in itself to effect it. This accumulation is recognised by a full hard pulse, red bloated face, reddened (often protruded) eyes, increased warmth, besides the causal circumstances, as suppressed hemorrhage, and drinking of spirituous liquors, etc. In such a case a venesection in the arm, in suppressed hemorrhages on the foot, must immediately be instituted. The opening must be made large; for it is essential that the evacuation of blood be quick and copious. Let the blood flow, until the stertor abates, or consciousness and speech return, and the pulse loses its fulness and hardness. If the blood cease to flow and the symptoms persist, a second vein is instantly to be opened. If the pulse becomes small, without alleviating the symptoms, the vein is to be closed, and local abstractions of blood substituted. Twelve cups on the throat and neck, twenty leeches on the head, in urgent cases; if all this is unavailing, and the sanguineous congestion continues, the jugular vein or the temporal artery must be opened. In suppressed hemorrhoids or menses, leeches are to be applied ad anum or labia vulvæ. When no amelioration succeeds, and the pulse grows again fuller, the venesection may be repeated after six or eight hours. In hemiplegia it must be made on the sound side. Simultaneously we must employ every thing that can by derivation or contrastimulation draw the blood away from the head. This may be accomplished particularly by clysters (of 3 or 4 ounces of vinegar, salt, mustard, tartar emetic 4 grains), sinapisms on the calves of the legs, foot and arm, mustard-baths, cold fomentations on the head. When the patient is able to swallow, cooling purgatives, as sulphate of soda and senna, tartar emetic (vide No. 94). The head must be elevated, tight clothing removed, and the room be warm. If the patient is unable to swallow, the remedies must be conveyed into the stomach by means of a flexible tube. As long as signs of congestion are present, all irritatives must be abstained from, even emetics so much cherished, since they are apt to increase the congestion to the brain; also the aromatic lotions and olfactory remedies are to be avoided. If after this treatment no improvement appears, there is little hope. Generally on the third day a relapse takes place and kills the patient. If by this treatment amelioration succeeds, no alteration is to be made, but the use of cooling purgatives and clysters is to be continued. It is

only after a proper application of these means have failed that an emetic is admissible, and then it is a most excellent remedy, especially when the stomach has been overloaded. A large vesicatory on the neck is also proper. And now appropriate nervines and stimulants may be resorted to, but always with precaution to avoid all such as create strong sanguineous excitement, and therefore cooling and purgative remedies may be admixed. The best are valerian, arnica (vide No. 95), pyrethrum, tinctura ambræ, liquor c. c. succin. At the same time regard must be had to the possibility of effusion, for which calomel and digitalis may be given intermediately. If, after the removal of the sanguineous congestion, the symptoms do not abate, the treatment for apoplexia nervosa is to be entered upon.

The *second* case is a purely *nervous*, spasmodic and adynamic apoplexy. It is recognised by the absence of the above-mentioned signs of sanguineous congestion and excitement. The patient looks pale, is rather cool than warm, his pulse small, easily compressible; debilitating causes, exhausting evacuations or exertions, or a chronic, weakly, nervous state, or old age have preceded. Here, of course, a stimulant nervous treatment must be prosecuted; valeriana, arnica, liquor c. c. succin., castoreum, ambra, oleum cajeputi, and similar ætherea, but particularly stimulant clysters (of vinegar, mustard, and pyrethrum), and cutaneous irritatives, vesicatories on the neck, sinapisms renewed every 12 hours on the extremities, aromatic lotions and embrocations are to be used. Should the above-named remedies prove inefficacious, an addition of opium to the other nervines may be of great service. If this treatment is fruitless, a moxa is to be applied to the head; of the successful application of which I know one instance. We are, however, not to forget, that sometimes latent congestions of blood, at least local ones, hemorrhoidal, do co-exist, and require the application of leeches.

The *third* case is the *gastric* and bilious apoplexy. It is recognised by an overloaded stomach or anger having preceded, by the prevailing bilious epidemy, and by the following signs: the patient has eructations, disposition to vomit, coated tongue, a wry face, the white of the eyes is yellowish, he carries his hand frequently to the epigastric region, which is distended. Here an emetic is the only salvative; but previous to its administration examine well whether congestions and a plethoric state do not coexist, which is frequently the case. As a vomit tartar emetic is the best; after vomiting irritative injections and purgatives

must be administered. This is often sufficient to accomplish a cure. If amelioration does not succeed, or it stops, we are to ascertain whether there is still an indication for an emetic, and repeat it. If this is not the case, and gastric accumulation is no longer present, the treatment must be to operate on the dynamic state, and when signs of sanguineous congestions continue, the treatment of the apoplexia sanguinea, or where the nervous state predominates, that of the apoplexia nervosa is to be pursued.

The *fourth* case, which is of frequent occurrence, is *metastatic* apoplexy, especially that which arises from gout. It is discovered by knowing that this morbid state pre-existed. We must first inquire into the dynamic relation of the malady and remove it. Most frequently, especially in gout, it is sanguino-inflammatory. Consequently, we begin by abstraction of blood, as in apoplexia sanguinea, but afterwards the morbid matter must be translated by antistimuli (in retroceded podagra, sinapisms on the feet, foot-baths of mustard, dry bran-baths mixed with salt), and specifics corresponding to the morbid matter, such as guaiac and aconite, given. But if the vital condition is adynamico-nervous, the treatment of apoplexia nervosa is to be combined with the specific and derivative.

When apoplexy is a symptom of intermittent fever, the patient will be free from apoplectic symptoms as soon as the paroxysm is over; and the treatment will consist in merely preventing another attack by the most active febrifuges, among which cinchona and opium rank first (*vide febris intermittens perniciosa*).

If apoplexy is a consequence of mechanical pressure on the brain, produced from without by lesions of the head, or from within by organic formations in the cranial cavity, or on the neck, when the cause of the pressure cannot be removed, the effect, the sanguineous congestion, may be diminished by abstractions of blood and derivatives, but never entirely removed.

Paralysis remaining after apoplexy is treated as such.

Every one, who has sustained an apoplectic fit, must carefully try to prevent its recurrence. The preventive rules are: to lie with a high pillow, to keep the feet warm, to avoid overloading the stomach and spirituous liquors, violent passions, suppers, and costiveness; and to take mild laxatives from time to time, especially Sâidschütz bitterwater; also a moderate abstraction of blood in spring and previous to the winter setting in is proper.

SUFFOCATIVE CATARRH, PARALYSIS OF THE LUNGS.

Catarrhus Suffocativus, Apoplexia Pulmonum.

Diagnosis. Sudden attack of suffocation, orthopnoe, rattling in the throat, cold sweat, agony, sometimes loss of consciousness, sometimes it is retained.

Pathogenesis, is the same as in apoplexy, with this difference, that there is here a paralysis of the pectoral nerves, while in apoplexy it is a paralysis of the cerebral nerves. The occasional causes may be the same as those of apoplexy; but a material local accumulation and extravasation in the bronchia, as excessive accumulation of mucus in asthma mucosum, sanguineous extravasation, effusion of matter in suddenly burst vomica, may give rise to it.

Therapeutics. The principal indication is promptly to free the lungs from their accumulation, and to rouse their action. The chief remedies are: immediately a venesection in the arm, and directly after it an emetic, sinapisms to the chest and upper arms, arm-baths; then decoction of senega, or arnica root, and tart. emetic, liquor anodyn. Hofmanni, liquor c. c. succin., musk, vesicatories, regard being paid to remote causes, as in apoplexy.

FAINTING.

Lypothymia, Syncope.

ASPHYXIA.

Suspensio Vitæ.

Diagnosis. Loss of consciousness, sensation, and motion; pulse and respiration diminished or entirely annihilated.

There are different degrees of it: the lesser, *lypothymia*, when the pulse and respiration are but moderately weakened; *syncope*, when those functions are scarcely perceptible; *asphyxia*, when they are entirely abolished.

The forebodings of fainting are: buzzing in the ears, sparkling before the eyes, and dimness of sight.

The duration varies very much, from a few minutes up to several hours, even days. Recovery is generally accompanied with a deep sigh.

The prognosis differs according to the causes. Hyste-

rical fainting is without danger, however long it may last. It is more dangerous when due to plethora, or stoppages of the circulation in the heart and to high degrees of exhaustion. Syncope at the commencement of or during fever augurs bad. There is reason for fear in every fainting fit of long duration, on account of the stoppage of the circulation, stagnations and coagulations of blood, especially when an inflammatory state of the blood exists.

Pathogenesis. The proximate cause of syncope is debility, or a complete cessation of the action of the central organs, the heart and lungs, and consequent cessation of nervous action; this forms an essential difference between *syncope* and *apoplexia*. In the first there is impeded sanguine life, in the latter impeded nervous life. Fainting proceeds from the heart, apoplexy from the brain; therefore, in the first the pulse is weakened and annihilated, in the latter unaltered, even increased. There is then, no paralysis after syncope; but paralysis is usual after apoplexy.

The remote causes are: *nervous affections* (great mental emotion, as fright, joy), nervous fevers, but especially hysteria, and is therefore of frequent occurrence in this state, corrupt air, strong odors, especially the fragrance of flowers on hysterical persons, narcotic poisons, consensual irritations, irritation by worms; *plethora* of the heart, by which its contraction is impeded, and the motory power suppressed for some time (sanguineous plenitude, youth, violent motions, suppressed or imminent hemorrhages, tight lacing, diseases of the heart); *weakness*, after violent corporeal exertions, loss of blood, exhausting evacuations, as violent diarrhœa, cholera, or artificial, as in paracentesis abdominis for ascites.

Therapeutics. The action of the heart is to be roused, and for this purpose there is a great variety of resuscitative means, corresponding with the variety of causes. The only general and innocuous resuscitative is a sprinkling of cold water; in hysterical persons the fumes of burning feathers, cut onion, vinegar, acidum aceticum aromaticum to the nose, washing with aromatic spirit, rubbing the extremities, injections, fresh air. In the *adynamic* form, a horizontal position, to promote the reflux of blood to the heart, is one of the best restoratives; volatile odors, as ammonium, rubbing the face, the scrobiculus, the spine with aromatic spirit, strong wine given as soon as it can be swallowed. In the *sanguineous* syncope place the feet pendent, and raise the head and chest; foot and arm-baths, removing every pressure and tight clothing, cold water

dashed into the face (avoid aromatic or volatile odoratives and lotions), in obstinate duration venesection.

If all these means are unavailing, the treatment of asphyxia must be resorted to.

ASPHYXIA.

Diagnosis. Suspension of pulse and respiration, of sensation and the power of motion, consequently it is a perfect image of death, for which it may be mistaken, as all the ordinary signs of death are here fallacious, and none to be relied upon excepting incipient putrescency, and its adjunct the soft doughy cornea, which retains any impression that is made upon it. Internal consciousness is possible, so that it sometimes happens that a person apparently dead, hears what passes around him, without being able to utter a single sign of life.

Pathogenesis. The causes are : either a sudden mechanical stoppage of the action of the heart and lungs, (suffocation by hanging, being drowned, stopping the mouth, vapors and mephitic air), or the abstraction of elements indispensable to life, as warmth, oxygen, or influences which directly exhaust vitality, as lightning, intense emotions of the mind, paralyzing poisons, malignant nervous fever, plague). Every fit of fainting may pass into asphyxia. In lying-in and hysterical women it may occur as a symptom, and in the latter case be only a spasmodic attack, which will last a certain time and cease of itself.

Therapeutics. The fundamental indication is to rouse the latent vital power, especially that of the heart and lungs; and next to remove the impediments to their action. Therefore, we must first awaken the vital power which is the source of excitability; for, unless there is excitability, stimulants will be unavailing; but excitability requires for its support pure air and warmth. Therefore, the apparently dead body must be placed in pure air, and furnished with warmth, by means of hot sand or ashes, or what is still better by the contact of a living person, and this caloric retained by proper bed clothing; also, hot applications must be made, and frequently renewed, to the scrobiculus cordis, behind the shoulders and to the soles of the feet. A warm bath, strengthened with salt, ashes or spirits, is not to be neglected. By this process alone, persons apparently dead have been restored. It is more important of itself than all other means besides; is the principal thing

to be done, and not to be interrupted to give place for other remedies. Insufflation into the lungs through the mouth, the nose being closed, is requisite. This will be more efficacious if immediately performed by an assistant, for warmth and vital breath are great vivifiers of the lungs and heart. Pure, or oxygenated air, may also be employed by means of Gorcy's bellows; but, in using this instrument much care is required, lest it over-distend the lungs. It will be proper to inclose the chest with a towel, and by alternately drawing and relaxing it imitate respiration.

The second indication is to apply active stimulants, which excite directly through the medium of the nerves, or indirectly through sympathy the action of the heart and lungs. The direct stimulants are insufflation and distention of the lungs, artificial respiration, an electric or galvanic shock passed through the heart (by the application of one conductor to the pit of the stomach, and the other to the spine); also, transfusion of living blood. The indirect are: frictions to the soles of the feet and palms of the hands; dropping cold water and wine on the scrobiculus; spirit of ammonia approached to the nose and dropped on the tongue, tickling the fauces with a feather, irritative injections, cups on the pit of the stomach, and excitement of the nerves of hearing by loud sounds.

As regards obstructions, besides removing that of the rope from the neck of persons hung, mephitic air from the suffocated, the water from the lungs by an inclined position in the case of drowned persons, venesection must be mentioned, as proper to relieve the surcharged lungs and heart, and is never to be omitted in cases of suffocation.

Time deserves great consideration, because a certain lapse is necessary before life can return, as is shown by some cases of asphyxia, which required an interval of several days. Therefore, after having employed every resuscitative means, we must leave the individual in repose, but keep him warm, and repeat the stimulants every few hours for a space of twenty-four, waiting the signs of putrefaction.

There remain to be mentioned a few particular rules regarding some species of asphyxia.

In frozen persons, while warmth is necessary for resuscitation, it must be of a low degree, approaching to the freezing point; for a higher one would instantaneously annihilate the remaining vital power, and produce a transition into putrid dissolution. The body or the part affected is to be placed in snow or ice-water, which will suffice for

recovery if there is a sufficiency of life remaining. Every warm application is injurious, even warm injections.

Those struck by lightning, are to be affused with cold water, buried up to the neck in fresh dug earth, bled, and have opium administered.

In suffocation by carbonic vapors or other mephitics, the body must be exposed to a current of fresh air, and be aspersed with cold water; venesection must be practised, and injections of vinegar administered.

VERTIGO.

Diagnosis. All objects, even the patient's own body, appear to him as turning round; when the case is severe, he staggers and wavers; when the case is still more severe, his sight is obscured (*vertigo tenebricosa*) and consciousness suspended (*vertigo caduca*).

In youth it signifies little; but in advanced age it is the forerunner of apoplexy.

Pathogenesis. Its causes are the same as those of all other nervous diseases; but the most frequent are gastric sympathies, from overloaded stomach, worms and infarcts. Besides these it may be produced by a sanguineous cerebral congestion, organic disorders in it, plethora, or debility.

Therapeutics, consist of gastric evacuants, abstractions of blood, and nervines, according to particular indications. Direct cure: cold bathing of the head, cold affusions, mustard foot-baths, cupping in the neck frequently repeated, washing the temples, forehead, behind the ears, and the neck with spirits and balsamics. Internally, bitterwater continued for some days, valerian, mustard, elixir acid. Halleri, issues on the neck and on the arm, worsted stockings and socks of oilcloth. I have found guaiacum with cream of tartar (No. 96) a true specific.

LETHARGY.

Lethargus.

Diagnosis. A sleep continued beyond the natural time, it may extend to weeks, months, even years.* The fundamental functions of organic life, as pulsation, circulation

* An instance of 4 years' duration is stated in Hufeland's "Journal der praktischen Heilkunde," vol. 59, piece 3, page 127.

of the blood and respiration, remain undisturbed. Nutrition is possible only by the injection of fluid aliments; secretions and excretions are trifling. In some cases short intervals of awaking intervene, to pass again soon into sleep.

This complaint is rarely fatal, unless it is a symptom of some dangerous affections of the brain; it may even be critical in chronic, nervous, and mental diseases, and lead to a restoration of health.

In a lesser degree it is drowsiness, a perpetual inclination to sleep.

Chronic lethargy most frequently occurs in the female sex. The causes are: disturbances of menstruation, especially at the development of puberty, general nervous diseases, intense mental affections, mental diseases, and metastases to the brain (it has been observed after measles), exsudation into the cranial cavity, and organic disorders. Temporary lethargy and drowsiness in children generally forebode hydrophus cerebri, and in aged persons, apoplexy.

Therapeutics. The treatment must be accommodated to the causes, and nutrition must at the same time be attended to; external irritative and excitative means, baths, cutaneous stimuli, irritant clysters, the endermatic method, and moxa are to be used. I once applied galvanism (one pole to the pit of the stomach, the other to the ear) with perfect success. In metastatic lethargy the internal and external use of mercury has proved most serviceable.

LOCAL PARALYSIS.

Paralysis Localis.

Diagnosis. Impaired or totally annihilated sensation or motion, or both. In a higher degree, the nervous influence of organic life and reproduction is annihilated.

There are consequently different degrees: 1, diminished sensation, or motory power; 2, entire annihilation of one or the other; 3, of both; 4, weak pulse and diminished warmth in the paralyzed part; 5, emaciation; 6, disorganization, withering, complete drying up, gangrene or dry mortification, necrosis, mummification.

It can attack any part of the body, external as well as internal, and according to the part or the organ it affects, the number of which is great, it has received different names; as in the organs of senses *amaurosis*, *cophosis*; of

the intestinal canal, *dysphagia*, *apepsia*, of the pectoral organs, *asthma*.

It frequently follows apoplexy; but often it has only a local origin, and may be quickly or gradually formed. It is sometimes connected with spasmodic affections, or alternates with them.

The cure is always difficult. Its curability depends on

1. Duration: the older the complaint, the more difficult the cure;

2. Seat: cure is most difficult, when the disease is located in the organs of the senses;

3. Cause: when it is owing to metastases, the cure is easier; more difficult when owing to real debility; incurable when caused by a mechanical pressure which cannot be removed, as that of exostoses;

4. Degree: easier to be remedied, when only sensation or motion is lost, but spasms and pains continue in the part; more difficult, when either are wanting; still more so, when the organic life of the part is impaired.

Pathogenesis. The proximate cause is an affection of the nerve itself, annihilating its action entirely or partially. Here is the place to make a remark of practical importance, which is, that the impeded action may be seated in the place of paralysis itself, as well as in the origin and course of the nerve relating to this part, as in the brain, spinal marrow, or ganglia. Some kinds of paralysis evidently proceed from the centre; as those which accompany apoplexy and diseases of the spinal cord; some from the peripheral terminations of the nerves and are propagated to the centre.

A deficiency of action must not be ascribed to deficiency of power, as is too often done; for power may remain unimpaired, being only obstructed in its transmission. We therefore distinguish *paralysis a defectu virium* and *paralysis ab oppressione virium*. The latter is more frequent than the former.

1. *Paralysis by oppression.*

Sanguineous congestions produce pressure on the nerves, by general as well as by local plethora (*paralysis sanguinea*).

Metastases—by a morbid matter transmitted to the nerves, which, by a peculiar operation on the internal nervous life, obstructs or confines its activity.

Consensual abdominal irritatives—abdominal stimuli may, by consensuality through the sympathetic nerve, produce a spasmodic obstruction in remote parts.

Mechanical pressure—caused by a ligature, the compression of tumors and indurations, extravasations in the brain or on the nerves themselves, luxations and fractures.

To this head also belongs *spasmodic* paralysis, which is an active and not a passive condition of the nerve, and is often mistaken for spasms in the part affected.

2. *Paralysis from weakness.*

Is due to any cause which can rapidly or slowly annihilate or impair the nervous power of a part. Apoplexy, lightning, violent passion, especially fright may produce it suddenly; and it may be brought on slowly by abstraction of power, over-irritation, exhaustion, immoderate exertion, particularly excess in venery; as a consequence of fevers, especially nervous ones and other debilitating diseases, also by want of use and deficient exercise of a part.

Therapeutics. The first thing we have to investigate into is, whether it is *vis oppressa* or *deficiens*, since the treatment will not only differ but be opposite, according as one or the other of these causes prevail; in the first it will be to impart, in the latter to abstract power; and a confusion of either of these modes may lead to great injury. A great prejudice, which has caused unutterable mischief, is the idea that every paralysis is a weakness, and ought to be combatted by stimulants and roborants.

When paralysis is owing to oppression of nervous power, the treatment must commence by removing the cause, which oppresses and binds up the power, liberating which will often perform a cure.

When there is sanguineous congestion or inflammation, bloodletting and antiphlogistics are of service. When there is metastasis, vesicatories, artificial ulcers, and remedies opposite to the respective morbid matter are to be used; when it depends upon a consensual abdominal irritation, the gastric solvent method, even drastic remedies, often the most successful, are to be resorted to. When there is mechanical pressure, the same must be removed by mechanical or surgical means.

It is only when the paralysis continues after the use of all these remedies, that the nerve-animating method is to be adopted.

When, on the contrary, the cause is real debility, exhaustion of power, vigorous roborative and restaurative remedies must be prescribed, from the beginning, in combination with the nerve-animating method.

The *general rules* recommended for the treatment of paralysis are:

1. The alternating increase and diminution of doses; even pausing once and a while intermediately, in order to allow nature time to collect excitability, is of great importance; likewise an alteration of remedies.

2. Patience is here a virtue indispensable to the physician. Nature wants time for a process like the gradual re-animation of a part; a physician who cannot wait, will have no success in paralysis. Not weeks, but months and years may be needed for such a cure; favorable changes external as well as internal may happen, and what is not possible in this, will be practicable in a future year.

Nerve-animative Method.

We are always to look upon the nerves as enlivened by a peculiar matter; or contemplate life as something similar to galvanism, as is apparent in the electrical eel, whose shocks on being touched are not the result of a physical necessity, but voluntary functions of its nervous system, a spiritual matter, which can be transferred, attracted, accumulated, impeded, interrupted.

Vivification, resuscitation of a debilitated, half dead nervous life can therefore be effected:

1. By *local irritation*, which creates an excitement, and, in consequence of this an increased vital process and afflux of blood, producing an increased development of the nervous power. The irritation may be excited idiopathically as well as consensually. The latter is often more efficacious than the first, especially when proceeding from the stomach and intestinal canal, on account of the large consensus nervorum of these parts.

2. By an *internal animating influence*, particularly the mental one proceeding from the brain, and the increased sanguineous influence from the heart.

The remedies to attain these ends are:

1. Pharmaceutical: emetics, Schmucker's pills (vide No. 97), a nauseating treatment, drastics, in small doses (as tinct. colocynthidis 10 to 15 drops three times a day); all the ethers, nervines, balsams, particularly ammonium, liquor c. c. succin., arnica, valerian, cantharides, and several other insects, such as millepedes, ants, vespa aurata; oleum æther. cajeputi, valerianæ (vide No. 98, 99), roris marini, animale Dippelii, camphor, æther, æther mercurialis (vide No. 104, especially in *paralysis syphilitica* and in general *metastatica*), phosphorus, some narcotics, as belladonna, digitalis, where there is suspicion of effusion; rhus tox-

icodendron, capsicum, opium; the most valuable is nux vomica (vide No. 100).

All these means may be simultaneously applied externally for bathing, anointing, or fomenting (vide 101, 102, 103).

Cutaneous irritations of all kinds, as frictions, sinapisms, mustard-cataplasms, and mustard-baths, vesicatories, scarification, urtication, moxa.

Mechanical shocks, by friction, riding in a carriage, shaking-machine.

Specific irritatives, peculiar to every organ, as light to the eye, sound to the ear, hot spices to the tongue.

Baths, above all the hot thermal, as those of Teplitz, Gastein, Wiesbaden, Aix la Chapelle, Baden, Warmbrunn: the chalybeate, such as Pyrmont and Driburg; the natural and artificial saline, sulphurous, and chalybeate; also baths of fermenting matters, as of malt, wort, brandy-lees, and shower baths.

2. *General powers of nature*. The ordinary vivifying natural agents, warmth and electricity, are of great value, in order to revive a half or apparently dead part.

Warmth, woollen clothing, lambskin, or wild cat fur, warm baths; in severe cases steam and sweating baths, general as well as local; and in worse ones, cauterization. Vital warmth is particularly efficacious, therefore the application of a living creature, or placing the paralyzed part in a fresh killed animal, also terrestrial warmth, as the volcanic heat in thermal springs.

Cold, used only momentarily as a sensitive irritant, dropping, sprinkling, or immersion baths.

Electricity, which is important on account of its affinity to the nervous system, may be used in variable degrees of tension from the lowest to the highest, in insulation, by streams of aura, or sparks and shocks, the latter with caution. Galvanism is less safe, and apt to disorganize the tender organs of sense. *Magnetism*, animal as well as mineral, in all cases where known remedies fail.

The *endermic method* also deserves attention. For this purpose a small portion of skin is to be denuded by means of an epispastic, and extract of nux vomica, morphine, belladonna, or the like, applied on the raw surface; but great caution is to be observed in regard to quantity, since remedies frequently operate more violently in this way than when given internally. The best place for this operation is near the origin of the nerves affected.

Psychical stimuli are of great importance, as mental in-

fluence, fixed volition, exertion to move, exercise, raising the imagination, firm confidence in one's own or a superior power, faith, which can here perform wonders.

In my experience I have found the following remedies most efficacious: emetics, nauseating pills, æther mercurialis, arnica, nux vomica, tincture of colocynth (particularly in *paralysis atrabilaria*), electricity, thermal baths of Teplitz, Aix la Chapelle, Wiesbaden, Gastein, ant-baths, malt-baths, (6 to 12 pounds of malt, 2 pounds of hops, 6 to 12 pound of distiller's grains), baths of wort, of brandy-dregs, Russian baths, mire-baths.

Particular notice is due to *paralysis dorsalis s. medullaris*, or as it is generally termed, paralysis of the lower extremities, although it may sometimes seize the upper extremities. It generally commences with lameness of one or both the lower extremities, sometimes with lameness of a hand and foot, and continues to extend. It is characterized in the beginning by a kind of staggering or wavering of the feet; or sensations of pressure, pain, and crawling in the back. In order to ascertain, whether it originates in the back and in what part it is located, pass a hot sponge along the spine, which will increase the sensibility of the affected spot, and thus point it out. This affection may continue so for years, even remain fixed in an external part through life, without extending further. But sometimes it is increased unto perfect immobility, spreading to vital organs, giving rise to inactivity of the rectum and the urinary bladder, and terminating in incontinence of their functions; finally difficulty of breathing, weakness of sight and of the lungs, of the intellectual faculties and the brain, apoplexia nervosa.

The cause is always to be sought for in the spinal marrow. Sometimes it is purely mechanical, owing to incipient curvation of the column; but more frequently it is a consequence of debilitation of the spinal marrow brought on by venereal and onanitic excesses, or by rheumatic, arthritic, scrofulous, or other morbid metastases, sanguineous congestion, and chronic inflammation.

The treatment must be directed particularly to the spinal marrow; and, besides the remedies already recommended against paralysis from congestion, the application of leeches to the suspected part of the back; and cold fomentations; a moxa, frequently repeated on the spine and long-continued suppuration of it the chief means. Among the excitants oleum terebinthinæ, 30 drops four times a day, has proved particularly efficacious.

When venereal debility is the cause, the treatment must be the same as for tabes dorsalis, to which the disease is a kindred.

DYSPHAGIA.

Diagnosis. Difficulty of swallowing, without pain and without signs of inflammation. Swallowing becomes impossible, and the patient dies from starvation.

The causes discriminative of the various species are the following:

Spasm. It is a symptom of hysteria, globus hystericus, and commonly met with periodically, but may become permanent.

Atony and paralysis. Whence met with after apoplexia and hemiplegia.

Metastasis. Most frequently venerea, arthritica, and scrophulosa.

Finally, mechanical impediments, as swellings and indurations of the glands in the œsophagus or fauces, dilations, by which a second bag is formed in the gullet, where the aliments accumulate. Thence *ruminatio humana*.

A moist climate and abuse of tea, too hot or too cold beverage, and that of ardent spirits seem most to predispose to it, hence it frequently occurs in Holland.

Therapeutics. The treatment must conform to the causes.

Spasmodic dysphagia. The cause of spasm, most frequently obstructions in the abdominal viscera, must be removed; the treatment of hypochondria and hysteria is therefore requisite. External fomentations of theriac, hyoscyamus, cicuta, emplastrum de Galbano crocat. c. sal. vol. c. c. and opium.—Internally extract. hyoscyami, opium, aqua laurocerasi, belladonna may be given; and sinapisms and vesicatories applied to the throat. Also ol. cajeputi on sugar is particularly recommendable in spasms of the gullet and stomach.

The atonic and paralytic. Rough and solid things are often more easily swallowed than fluids. Here the best excitantia are vesicatories, ol. cajeputi, mentha piperita on sugar, ground mustard, tinct. cantharidum are recommended; externally spirituous fomentations, electricity.

The metastatic. Here two things are to be effected, derivation of the matter and assuaging of the cramp, which is due to irritation; which may be accomplished by the afore-mentioned antispasmodics, especially vesicatoria nuchæ, and at the same time vesicatories and issues on re-

mote parts, particularly where the matter has been previously seated. Also foot-baths of mustard, socks of oil-cloth, sulphur-baths are advised. Simultaneously we must use the remedies, which are appropriate to the dyscrasia in question. In such cases salivation may prove beneficial, especially when a suppressed salivation, as sometimes happens, gave rise to the disease.

The *mechanical*. Most frequently depends upon swelling of the glands; therefore met with particularly in scrofulous individuals. The best remedies are cicuta, antiscrophulosa: as spongia tosta, iodine, internally and externally, barytes (vide No. 105), mercury; at the same time mercurial ointment externally, and a continued use of emplastrum de cicuta; also mezereum on the arms; trochisci e pulvere spongiæ ustæ, extract. cicutæ et arnicæ, placed beneath the tongue, and allowed to dissolve slowly.

In incurable dysphagia life may be prolonged by milk, which even in injections and clysters does a great deal of good.

APHONIA. DYSPHONIA. DYSLOGIA.

Diagnosis. We must distinguish faults of speech and faults of voice.

1. Speech is either entirely wanting (*aphonia completa*, dumbness), or is only imperfect (*dysphonia*, *dyslogia*).

Perfect dumbness is either permanent or periodical. In the first case it is congenital, or is a consequence of a paralysis, commonly of apoplexy. In the latter case it is the effect of a spasm.

Congenital dumbness is always combined with deficiency of hearing and is owing to that; generally it is the effect of an internal disorganization, and is therefore remediable only by the substitution of the visible and tangible means of language for that of the absent audition; by these means it is possible, not only to acquire the faculty of recognizing linguistical impressions, but also that of pronouncing letters and words;—such is the recent art of instructing the deaf and dumb, an admirable discovery of modern times and now brought to great perfection. Sometimes it is possible by the use of antiparalytic remedies to procure to some children at least a certain degree of hearing. I once saw good effect from belladonna. I have met with a case of congenital dumbness, while the faculty of hearing ex-

isted, dumbness was congenite, consequently it was due merely to a disorder of the cerebral organ of language.

Paralytic aphony is treated like paralysis; chewing of mustard or cubebs; oleum cajeputi applied to the tongue, electricity and galvanism are here of use.

Periodical dumbness is always a spasmodic affection, and appears in children, sometimes typically; it is frequently caused by verminous irritation; in grown persons it is a symptom of hysteria, catalepsy, or insanity, and is to be treated according to the causes.

An *imperfection of speech*, a difficulty of utterance can be of various character: it is either an incapacity to find a word, or making use of a wrong one (*amnesia* of language). Here, the disorder is mental, and is a deficiency of memory. Or it is an incapacity to pronounce clearly (stammering, stuttering, *balbuties*), the indistinct pronunciation of single letters, stuttering. Here also the defect lies in the mind, in its linguistical operation: the ideas anticipate the words; hence there is no stuttering in singing, where the mind is obliged to go by measure. It may, however, originate also in an organic disorder of the tongue (as from the frenum not being cut), or in a bad habit. Besides the removal of the organic disorder, the treatment consists in accustoming the tongue, to pronounce slowly and distinctly by frequent exercises in reading loud, or when it is inveterate and very bad, by the method lately invented by Lee, which is founded on a particular upright position of the tongue.

2. The voice may be entirely lost, or is rough, hoarse (*raucitas*, *hoarseness*). The cause of this resides either in the mucous membrane lining the organ of voice, a common case; or in a morbid affection of the nerves pertaining to that organ. In the first case it is a common symptom of catarrh, and is to be treated as such (especially by sulphur and antimony); or it arises from a scrofulous affection of the tracheal glands, or from a metastasis (most frequently syphilitic), to which the treatment must be adapted by specific derivative remedies. Not unfrequently it is the commencement and first symptom of phthisis trachealis, which see. In the second case it is often only a symptom of general debility; it may, however, be also a periodical spasmodic disorder; sometimes owing to deeper seated affections of the cardial and pulmonary nerves. Here, general tonics and antispasmodics are the best remedies.

APEPSIA. DYSPEPSIA.

Diagnosis. Absence of appetite, or one which is weak and irregular; pressure, tension in the epigastrium after eating; eructations which taste of the aliments, flatulency, morosity, drowsiness; aptness to indigestion, acidity, mucosity.

Pathogenesis. Weakness of the stomach is caused by: irregular or bad diet, gluttony, warm beverages, especially tea, drink in excess, a sedentary life, great mental exertion, sorrow, immoderate venery.

Therapeutics. Before commencing the treatment, we must first ascertain whether the debility is real or only apparent, as when produced by substances which fret the nerves of the stomach. If tonics be used in the latter case, they will not only fail to strengthen, but will make the disease worse, and localize the morbid cause. The material causes of weakness of the stomach and indigestion, to which the physician must particularly direct his attention, are: gastric impurities, saburra, bile, or morbid metastases, as the rheumatic, arthritic, psoric, or local plethora. The treatment must be adapted to the respective causes; and consists of cleansing the stomach (*vide gastrosis*), or translating the metastases and local plethora. Many cases of weakness of the stomach will require nothing else. Therefore, the application of leeches, or the hemorrhoidal treatment will often be the best means for strengthening the stomach and restoring the digestive powers. But when the disease originates in mere weakness, or debility remains after the material causes have been removed, stomachics may be used. The best are bitters, especially columbo, gentian, absinth., quassia, hops, beer, and aloes in proper doses; also aromatics, or six to nine corns of white pepper, swallowed every morning, fasting, are, according to my experience, very efficacious, when continued for a long time; orange-peel, ginger, nutmeg, caraway, and, above all, generous old wine, as Madeira, Xeres, Malaga. In great atony: mineral acids and aromatics combined, as elix. acid. Halleri cum tinct. c. aurant, tr. cinchonæ Whytii, elixir vitriolatum Mynsichtii, chalybeates, combined with aromatic bitters, chalybeate wine (*vide* No. 106), Pyrmont or similar chalybeate waters, one glassful every morning fasting; also a complete course of the Pyrmont spring. Externally, frictions of balsamic remedies on the epigastric region are exceedingly beneficial, often more so than the

internal remedies; tonic ointments and stomach-plasters, bathing with spirit of matricar., thyme, balsamum vitæ, wearing a little bag filled with spices, repeatedly moistened with French brandy, on the epigastric region; strengthening baths; finally cold, used in two ways, as cold food, ice-cream internally, and externally bathing the epigastric region, and cold douches on the same, have often removed the most obstinate complaints of the stomach.

In all this treatment, the following rules are to be observed: weakness from irritability or from torpidity must be attended to. The first case calls only for the volatile, easily digestible remedies, for the tonic are too heavy. If it is only a nervous disease, a nervous weakness of the stomach, a disharmony of the gastric nerves, whence it derives periodicity; nervines, antispasmodics, as valerian, orange-peel, elixir acid. aromat., and ethers are the best stomachics.

Further, without a proper regimen, no roborant treatment will be availing. All warm beverages, especially tea, much milk, flatulent vegetables, grease, cheese, cakes, spirits, and, above all, overloading of the stomach must be avoided; the best nutriment is roast meats.

Finally, exercise is indispensable, and frequently is the best of all tonics.

PICA, MALACIA.

Appetite for unusual food. Sometimes it is a salutary instinct in diseases; as the desire for acids in putrid maladies, for earthy substances in acidity of the stomach; sometimes it is merely a morbid symptom, especially that for lime in chlorosis, and is present in hysteria, melancholy, worms.

It is to be treated as a symptom of the respective diseases.

IMPOTENCY.

Impotentia.

Diagnosis. Inability of the male to fecundate.

Its character varies, and has different degrees. Impotency may be absolute or relative, existing at all times and under all circumstances; or only at certain times, under certain conditions, and in relation to particular persons.

It may be perfect and imperfect, in which latter case, if there exists great susceptibility in the other sex, fructification is practicable.

Impotency consists either in an entire want of erection, or in a too quick, or total want of emission of semen in coition.

Pathogenesis. That coition may be fecund, three things are necessary : the semen must reach the place of its destination, it must be possessed of an enlivening power, it must be communicated and received by both parties with that degree of stimulation and excitement which is requisite for engendering a new living being.

The obstacles, therefore, are various : 1. Phymosis, excrescences and tumors, urinary fistulae, lateral openings of the urethra (hypospadias). 2. Dynamic : a deficiency or a too watery and inactive quality of the sperma, deficient or bad food, over-feeding, atrophy or diseases of the testicles, deficient nervous and muscular power, such as old age, severe maladies, excessive corporeal fatigues, excessive mental exertions, sorrow, grief, but particularly over-irritation and exhaustion by excesses in venery, still more in onanism ; which is now-a-days the most frequent cause of impotence. Another remarkable but rare cause is dys-spermatism, due to excess of irritation, a continual *tetanus penis* in coition, which shuts up spasmodically the emunctories of semen, and renders ejaculation impossible.

The cause, however, may only be relative and temporary, as a physical or moral dislike, antipathy to an individual, unequal temper and irritability. Thus a man may be impotent with one person, and not so with another ; thus he may be so during the influence of debilitating physical or moral causes, afterwards not.

Therapeutics. The cure consists in general and local invigoration and vivification ; roborants, cinchona, especially quassia, columbo, chalybeates, æther sulphuric, martial (vide No. 110, 111, 112), and generous old wine, spices, especially vanilla, chalybeate baths (particularly Pyrmont and Driburg), sea bath, cold water, and steam baths, especially on the lower part of the spine and the perinæum, washing the genitals with decoction of mustard, liquor anodyn. Hofmanni, spirit of ants (vide No. 113), electricity ; in very atonic subjects a cautious use of the tincture of cantharides (three or four drops), also phosphorus, dissolved in sulphuric æther in doses of a quarter of a grain. At the same time a nutritious regimen, gelatinous substances, eggs, strong broths, animal food, oysters, snails,

chocolate, salep, hartshorn jelly. The most difficult impotence to cure, is that which is caused by onanism and continuing pollutions. But it is not hopeless. I have seen such individuals cured by abstaining from all unnatural stimulants, including that of mind, by early rising, airing, and corporeal exercise, and the internal and external use of Pyrmont water, taken at the well, and become fathers of healthy children.

Finally, in judging and treating impotency, the influence and disposition of the mind is to be considered. Want of self-confidence, as well as too ardent desire, may hinder the accomplishment of the act. Hunter relates the case of a man who, after a long expectation, and in spite of all his exertions in the marital bed, was unable to accomplish his desires, until, by the advice of his physician, he resolved to abstain from coition for several nights; after that he succeeded.

Nor is it to be forgotten, that even in considerable weakness of the man, a youthful, very sensitive, susceptible and vigorous female may make up the deficiency, and render conception possible.

BARRENNESS OF FEMALES.

Sterilitas.

(Vide *Diseases of Women.*)

AMAUROSIS.

Nervous Blindness.

Diagnosis. Abolition of sight, without obscuration of the humors or membranes of the eye; contractility of the iris in obedience to light, being diminished or entirely annihilated.

Weakness of sight (*amblyopia*), is its lowest degree. It has for concomitant symptoms and forebodings generally, sparks and luminous phenomena in the eye. In rare cases the iris may be contracted.

The causes are the same as in all paralyses, particularly over-irritation and excessive exertion of the eyes now so prevalent, and metastasis. It is difficult to cure, and rarely perfect. It is undertaken according to the same indica-

tions as the treatment of paralysis in general ; particular regard being paid to the delicacy of the organ. Therefore we are to consider whether there exists a congestive state which must be translated, the metastasis removed, the abdomen stirred up and freed (for which purpose tart. emet., the nauseating treatment and Schmucker's pills often answer well) ; and nervines, internally as well as externally, which latter application, on account of great delicacy and sensibility of the organ, must be very cautiously used, since the stronger applications are apt to injure more than to do good. Valerian, pulsatilla, arnica, belladonna, electricity, and mineral magnetism have proved the most useful remedies.

DEAFNESS.

Cophosis.

The causes are : most frequently metastases, of which the most common are catarrhal-rheumatism, sanguineous congestion, abdominal obstructions, nervous debilitation, local over-irritation by too strong a sound, organic disorders.

The treatment must always begin with cleansing and rinsing the external ear, since the cause of deafness is often merely an accumulation and thickening of ear-wax, a common occurrence, by the removal of which I have cured the evil. But derivation, in sanguineous congestions, local and general abstractions of blood, especially cupping on the neck, in catarrho-rheumatic metastasis, exutories behind the ears (most efficacious is cantharid-ointment behind the flap of the ear, on the mastoid process), and strong mercurial purgatives. In general, the consensus of the abdomen with the organ of hearing is very noticeable and important ; commonly the patients hear better a few days after having taken a purgative. In cases of catarrho-rheumatic deafness, I cannot sufficiently recommend guaiac, combined with calomel, and sulphuret of antimony (vide No. 114). At the same time we must not neglect to stimulate the mucous membrane of the nose, by which, not only its derivative secretion, here so important, is increased, but also the auditory nerves and the Eustachian tube become excited, possibly resulting in great benefit. For that end, the errhine (No. 87) is of service. In specific metastases, as the syphilitic, the proper specifics are to be used. As local means, ethereal oils, injections, vapors into the

external ear are recommended ; but here I advise the greatest caution, since inflammation of the external and even of the internal organ of hearing, is likely to follow strong stimulants. It will be well to distinguish those cases, in which hearing is better in moist or dry weather. In the latter case, a relaxation of the internal membrane is presumed, and stimuli are proper. In the first case, more dryness and tension exists, and relaxants are of use. In such cases I have seen the best effects from a little almond oil on cotton put into the ear ; the oil may be mixed with ox-gall. Combined with this, small doses of oleum cajeputi, camphor and petroleum may be applied, or the mixture No. 115, which I can recommend from my own experience.

Injections into the Eustachian tube may become very useful, especially when there is reason to suspect obstruction in it. This may be presumed when the patient cannot hear better with his open mouth, and through the medium of the teeth. Electricity is of particular efficacy, and ought never to be neglected. In order to cure those cases of cophosis which resist all other modes, two operations have been resorted to : the perforation of the mastoid process, or of the tympanum. The first is always accompanied with peril, even danger to life, on account of the inflammation propagating to the brain, and ought never to be undertaken. The latter may be serviceable, but generally so only for a time ; it is, however, without danger. As a means of relief, the use of acoustic tubes is advised.

ANOSMIA, AGUSTIA.

The senses of smell and taste may be lost, generally both, but not always ; this happens most frequently from catarrh, and is a common symptom of coryza, and disappears with that indisposition. It may, however, also be a symptom of spasm and paralysis. As such, I have observed anosmia of periodical character.

ANÆSTHESIA.

Loss of the feeling of the skin, either in single parts or of the whole. It is generally the consequence of an internal paralysis of the part, in which the sensitive and not the motory portion of the nerve is affected. Sometimes, however, it is only a spasmodic affection of the cutaneous

nerves; often it is purely local, and confined to a small spot, which is numb. Then it is often a sign of latent arthritis. I have seen in paralysis dorsalis, the whole skin of the patient become numb and without feeling.

ANOREXIA.

We are to discriminate between hunger and appetite. One may have hunger, that is, the feeling of emptiness and a want of nourishment, and may lack appetite, which is a particular sensation.

Want of appetite (*anorexia*) is owing most frequently to the presence of gastric impurities, and is cured by evacuants. It is farther an essential symptom of fever, and deserves, as such, particular attention. Sometimes, however, it is a peculiar affection of the nerves of the stomach, a disharmony, or anæsthesia of them (as well as is deficiency of sexual desire), and may continue for months, even years, in hypochondria, hysteria, melancholy, and sometimes as a consequence of nervous exhaustion by continuous exertion of the mind. It is also frequently due to great torpidity, or weakness of the stomach, by habitual excess in eating, but never in drinking.

The treatment is either that of the diseases from which it arises, or the administration of stimulants which directly operate on the stomach and increase its sensibility, among which, bitters, aromatics, salts (particularly culinary salt), and corporeal exercise and exhilaration are to be classed.

ANAPHRODISIA.

Loss of sexual desire is analogous to the loss of the nutritive instinct. It may originate in the same way as anorexia, either by a deficiency of the necessary organic and material conditions, deficient or inactive quality of the sperma, disorders of the requisite organs in either sex; or by a disharmony in the nerves which belong to them, and here the cause can be purely psychical: as a sad disposition of the mind, occupation with serious abstract subjects. It can be the consequence of impotency, but exists also without it, and may on the other hand, become a cause of impotence, but not always, and here the remarkable instance especially in the female sex, takes place, that with-

out any sexual instinct or desire, even without sensation, even in spite of it, conception is possible.

The cure consists in that of impotency, or, if this is not the cause, in exciting a specific sensuality by internal and external stimulants, of which cantharides are the best, and in directing the imagination to sensual pursuits.

SEVENTH CLASS.

EMACIATIONES.

Generalities.

WE class under this head all diseases in which deficient nutrition of the body forms the principle of the disease, and is the object of cure; and which is not, as in many other maladies, a mere accessory symptom.

The *proximate cause* of every emaciation is a condition of the system, in which consumption exceeds restoration.

Emaciation may happen in four different ways:

1. By impeded admission of the nutritive matter, or obstruction and disorganization of viscera essential to life, *atrophia*;
2. By excessive loss, or consumption of humors and powers (without suppuration), *tabes*;
3. By chronic irritation, *hectica*;
4. By suppuration, *phthisis*.

Its importance, duration, and danger vary very much, and depend on the cause, the nature of the individual, and external relations. The most dangerous kind of emaciation is that which arises from suppuration, most so when this is seated in an organ indispensable to life. That which originates in weakness, and continues for years, as atrophy and hectic, is less dangerous. The principal sign of danger is the lingering fever with which it is associated, early in some, later in others, and which greatly contributes to self-consumption and emaciation. In emaciation owing to suppuration, fever is associated from the beginning, and is the principal symptom for detecting its existence. Emaciation, like dropsy, is frequently no more than the last

stage of another disease, leading unto death, *atrium mortis*. Death ensues, either from a complete consumption of all humors and powers, and is immediately preceded by colliquation; or from the destruction of some noble organ indispensable to life.

The *treatment*, in general, has to answer three ends:

1. Removal of the causes, general as well as local, as dyscrasias, which keep up the disease.

2. Diminution of self-consumption (the fever).

3. Promotion of restauration, of the humors as well as of the powers, by vigorous restoratives, aliments and air, also roborants, commensurate with the state of irritability, lest, by too strong excitement, they might consume more than restore.

PULMONARY CONSUMPTION.

Phthisis Pulmonalis.

Diagnosis. Cough, oppression of the chest, lingering fever, emaciation. These are the essential symptoms, and are sufficient for diagnosis. The consumptive fever, which accompanies this disease, distinguishes it from asthma, which, as regards cough, oppression and expectoration, may agree with phthisis. Besides fever, we must notice as a sign characteristic of consumptive persons: the great carelessness they show in regard to health, the little attention they pay to attacks of sickness (in this respect contrasting with the hypochondriac), and their inclination to seek for the seat of the disease not in the chest, but in the abdomen, also their cheerful hope, which increases as danger approaches. The signs which auscultation, percussion and the stethoscope afford, may serve as auxiliaries, especially to ascertain the location of a vomica, but never to give the general diagnosis; since by hearing alone we cannot even distinguish the difference between the rattle of mucus and that of pus.

Cough can exist with and without expectoration. In the first case the disease is *phthisis sicca s. tuberculosa*, and expectoration may be absent from the beginning until death. The expectoration may be pituitous (*phthisis pituitosa*), or purulent (*phthisis purulenta*).

Generally, pains in the chest are combined with the oppression, but not always; and they are not essential to diagnosis.

This disease occurs more frequently, and is more dangerous than all others. The sixth part of mankind (at least in large cities), die of it.

It varies very much in duration; lasting only a few months, sometimes years, sometimes through life.

The curability is difficult, and is dependent on the constitution. Constitutional, hereditary consumption is never perfectly curable. The germ of this disease lies in the organization itself, and the whole life is a continual endeavor to develop it; all other, even the slightest diseases tend towards it. In the female it may last for a long time without danger to life, as long as menstruation endures; as soon as this ceases, the patient is lost.

Course.

Phthisis Incipiens, Fiens. Incipient Consumption.

This is the most important period of the disease, and is the stage most necessary to be discovered; since redress can be had only by preventing its complete development. The modes of transition into pulmonary consumption are different, and they exhibit as many signs of this stage.

1. *Atony of the lungs.* Weakness, relaxation of the lungs creates a morbidly increased secretion of mucus, a blennorrhœa, which gradually passes into a purulent corruption, and seizes upon the lungs. The signs are: frequent recurrence of catarrhs, which are always accompanied with copious and protracted expectoration of mucus.

2. *Phlogosis of the lungs.* Chronic, sanguineous congestions and inflammability of the lungs (*phthisis florida*). This is either a general chronic congestive state of the lungs, or is confined to the mucous membrane of the bronchia (*bronchitis chronica*). It gradually engenders tubercles or suppuration of the lungs, ending in pulmonary consumption.

The signs are: a frequent, dry cough, and recurrence of flying stitches and pungent pains in the chest, oppressed respiration, pulse always irritated, and exceedingly accelerated by the least motion. Cough, stitches, and oppression increase by every strong over-heating, and violent exercise of the body, or by exertion of the lungs in speaking, laughing, etc.; also after passion and spirituous beverages. It is apt to hemoptysis.

3. *Pulmonary tubercles.* They gradually pass into in-

flammation and suppuration, and thus produce pulmonary consumption. The signs of this stage are similar to those of the former, only the complaints of the chest are augmented in certain situations and positions, and a peculiar expectoration sets in from time to time (vide *phthisis tuberculosa*).

4. *Nervosity of the lungs, and of the whole system.* The nervous character and nervous disturbance predominate over the general and pulmonary reproduction to such a degree as to prevent nutrition, and cause disorganizations of the lungs. Its signs are: the nervous symptoms, phthisical disposition, uncommon emaciation without a definite cause, frequent, dry cough, which often assumes a spasmodic, even convulsive character, flying pains in the chest, not unfrequently a sanguinolent cough of a spasmodic character; all without signs of inflammation and fever. Sometimes it is preceded by a real *tabes nervosa*, later it seizes the lungs, and ends in pulmonary consumption.

5. *Abdominal consensus (phthisis abdominalis ex hypochondriis.* Chronic abdominal complaints, especially disorders of digestion, a glairy state of the stomach, obstructions of the liver and bilious accumulations, infarcts, glandular obstructions and hemorrhoidal accumulations may keep up a continual sympathetic irritation and congestion in pre-disposed lungs—disorders which at last affect the organ itself, and create, first apparent, finally, a real pulmonary consumption. The signs are: faulty digestion, mucosity, hepatic diseases, and other abdominal disorders, combined with chronic cough, which may be dry or moist, with dyspnœa, even with emaciation and febrile motions and nightly sweats. The principal sign is: the pectoral difficulties are increased or diminished in proportion as the abdominal disorders increase or decrease, but are not influenced by potences which operate directly on the lungs; such as strong exercise, over-heating, speaking, laughing, etc.

6. *Pulmonary metastasis.* Suppressed piles, menstruation, gout, scurvy, herpes, syphilis, scrofula, old ulcers, fontanels, fluor albus and other secretions, which have become habitual; the imperfect crisis of acute, especially exanthematic fevers, may mutate to the lungs; by which their functions are disturbed, their irritability is increased, the organ impaired, reproduction itself rendered abnormal, and reproductive disorders generated; thus a disposition to all kinds of pulmonary consumption is laid. The signs are: after suppression of another malady, cough and dyspnœa, perhaps also pains in the chest.

*Second Period.**Phthisis Manifesta.*

The principal sign is: a lingering fever associated with the difficulties in the chest. The febris lenta is characterized by its type, which is that of a continued remittent (sometimes, especially in the beginning, an intermittent), wherefore, the pulse remains accelerated after the remission in the morning; in the evening there is chilliness, towards morning, sweat; as the disease increases, there is also an exacerbation at noon, hot hands, cheeks circumscribed with red, particularly after eating; emaciation, muscular weakness, appetite good, even increased as emaciation augments, good digestion, cheerfulness, levity in all that concerns health, underrating the danger, and disbelief of a pulmonary disease. The expectoration becomes purulent; but, when the ulcer is closed, the cough is dry.

*Third Period.**Phthisis Consumata.*

The principal signs are: the accidents of colliquation: dripping and exceedingly debilitating morning sweats, diarrhœa, turbid urine, which is greasy on the surface; duplication of the fever, that is, two exacerbations appear, one in the morning, the other in the evening; extreme prostration and emaciation rapidly running into exhaustion, tenacious expectoration, increasing dyspnœa, appetite remains, even increases, hope likewise. In the female menstruation ceases.

At last, as forerunners of death appear: swelling of the feet, hoarseness, anginous attacks, aphthæ, colliquative diarrhœa increasing, extreme dyspnœa, rattling in the throat, stoppage of expectoration; finally death ensues by quick or slow suffocation, sometimes by hemorrhage.

Pathogenesis. The proximate cause of consumption is a dynamic or organic disordered state of the lungs, which disables them from performing their function of preparing and animating the blood. The fundamental cause of it, and particularly of its frequent occurrence and danger, is the nature, situation and function of these organs themselves. They are the most sanguineous of all organs; they receive all the blood of the body, and therefore are the most disposed to sanguineous congestions and inflammations. Moreover, the lungs are of an extremely delicate, relaxed,

vascular, secerning and absorbing structure, never resting, incessantly collapsing and expanding themselves, and therefore are liable to stagnations, effusions, vitiation of secretion and reproduction; and wounds and ulcers, etc. do not readily heal. Finally, their position is superficial, and exposes them to lesions, to all the injurious influences of the atmosphere and the substances contained in it.

The pulmonary disease, which originates phthisis, may be either a chronic inflammation or an adynamy, or a tuberculous, or a suppurative state of the organ.

The *remote causes* are partly predisposing, partly exciting.

The *predisposing* are the following:

1. *Disposition.* There is a consumptive disposition, which renders an individual liable to contract phthisis from slight causes, as a catarrh, which, in a person free from the disposition, is innocuous, and who can even recover from wounds in the lungs; a disposition that may be so strong that the very life of the individual is a continual tendency to create phthisis—all tends to it, and he cannot escape it. This disposition constitutes what is termed a phthisical constitution and structure. It is marked by a flat thorax, narrow towards the side and back, shoulderblades protruding wing-like, long neck, slender body, and very white teeth; but above all, by a peculiar irritability of the vascular system and lungs; thence circumscribed red cheeks (called phthisical roses), appearing especially after eating; easily excited, over-heating and redness of the face on rising, hot hands after meals, cough easily excited, irritable, sanguine temper, but particularly by an indifference and a carelessness of their own health, especially concerning that of the lungs, so that they entirely overlook, in reporting their case, the difficulties in the lungs, or pass over them intentionally, and attribute their disease generally to some other part, especially to the abdomen. The phthisical disposition in this respect forms a striking contrast to the hypochondriacal.

2. *Hereditariness.* In no malady is the transmission of disposition so great as in this. But the parents must necessarily have already had the disease before procreating the offspring. There are whole families, in which this disease is inbred.

3. *Age.* The period of youth, from puberty up to the age of twenty-five or thirty years. It is most prevalent at this time, when sanguine life predominates, and passion urges the blood to the heart and lungs; hence the fre-

quency of phthisis in youth ; later in life these causes much more rarely create phthisis, in advanced age, asthma.

4. Quick growth. It is incredible how much quick growth renders a person liable to consumption ; this is due to the disproportionate growth of the thorax to the rest of the body. It is, therefore, particularly necessary at this period, to avoid all the occasional causes. All tall and slender bodies are much more liable to consumption than short, stout ones.

5. The atmospherical condition, of residence, climate. In a disease of the respiratory organs, these are certainly of the greatest importance. Living in corrupt, moist, confined, particularly animalized air, predisposes to phthisis. This is made evident by its frequent occurrence in populous cities, by the different influence of salubrious animal air in the country, the influence of pure, vegetable air. The proportion is that of one to ten. Also a moist, northern climate predisposes more to consumption than the southern. It is a decided fact, that the northern regions favor more the pulmonary, the southern, the hepatic and abdominal maladies.

6. Mode of living, occupation. All occupations in confined rooms predispose to it more than those in open air ; likewise the luxurious, gluttonous, dissipated life in large cities.

7. Habitual over-heating of the lungs, exertion of the lungs. Immoderate dancing, running, singing (especially when combined with exertion in females at the period of development, during menstruation), and ardent spirits.

8. Premature and immoderate coition, frequent pregnancies, too long lactation.

9. Catarrhal disposition of the lungs, which is manifested by frequent and long continued catarrhs.

10. Local weakness of the lungs, which is indicated partly by what is already mentioned, partly by this, that the person cannot retain breath for a long time, and is apt, in running and ascending stairs or mountains, to stop short from impeded respiration.

11. Scrofulous disposition, which is very apt to produce tubercles in the lungs.

12. Malformations, curvatures of the spine, rachitic deformities of the thorax, by which the lungs are prevented from expanding and acting freely.

These causes will of themselves, by merely increasing in force, produce consumption. The following *occasional causes* will frequently make it break out when already

lurking in the system, and are even capable of themselves to generate it, though not so easily in persons who are free from a phthisical disposition.

1. The most frequent of all is a neglected catarrh. Innumerable instances of consumption originate in a common catarrhal cough, or rather from one which is unceasingly renewed by slight causes, which in this way leads imperceptibly into this destructive malady. Tissot was right in maintaining that more individuals die in this way by catarrh, than by the plague. According to my experience, one third of all consumptions result from catarrh.

2. Hæmoptysis. A person laboring under a phthisical disposition, becoming affected with bloody cough, is on the road to consumption ; it being the signal of transition.

3. Pneumonia. It can give rise to chronic inflammation of the lungs, pulmonic blennorrhœa, or tubercles, or supuration, also to every kind of phthisis.

4. Violent sanguineous congestions to the lungs by great over-heating of the body, by violent exertions of the lungs in singing, crying, playing on wind instruments, ardent beverages, excess in smoking tobacco.

5. Inspiration of irritant or acrid substances, as dust and metallic vapors.

6. Wounds and contusions of the chest.

7. Metastases to the lungs. All morbid humors, as those of gout, rheumatism, scrofula, syphilis, and psora, when shifted to the lungs, may produce consumption. Suppressed habitual evacuations of blood, hemorrhoids, menstrua, and obstruction to the development of the first catamenia. Also too rapidly suppressed habitual discharge of mucus, fluor albus, dysentery, diarrhœa ; even intermittent fever. A remarkable metaschematismus is that of chronic insanity, which terminates very frequently in consumption.

8. Measles, which, next to catarrh, is a most frequent cause of pulmonary consumption. It is very apt to engender tubercles.

9. Finally, contagium phthisicum must be mentioned. It cannot be denied, that a high degree of *phthisis ulcerosa* generates an infective matter which may communicate the disease, but only to persons predisposed to it ; it may infect even beds and clothing, which phthisical persons have used for a long time ; this, however, happens more in southern than in northern climates.

On the pathogeny of consumption a difference is founded,

which is of the greatest importance in prognosis and therapeutics: the division into *phthisis constitutionalis* and *phthisis accidentalis*. The constitutional consumption, innate in the organism by structure, hereditariness, and the corporeal disposition, endeavors through the whole period of life to develop itself; it can be delayed, but never entirely annihilated, and once developed, is incurable. Accidental consumption, on the contrary, in an otherwise healthy disposition, may be cured; such an individual may be shot through the lungs, and no consumption follow.

For practical purposes, the most important division is that into: *phthisis florida*, *phthisis purulenta*, *phthisis tuberculosa*, and *phthisis pituitosa*.

Therapeutics. A distinction must be made in the treatment, between incipient and confirmed consumption.

As certain as it is, that confirmed consumption can seldom be cured, it is equally certain that it may be prevented.

DISPOSITION TO, AND INCIPIENT CONSUMPTION.

Phthisiosis.

The general signs of this period are: short breath on the least exercise; want of breath in ascending stairs or mountains, inability to hold breath for a long time, or to draw a deep inspiration without exciting cough; this happens on every exertion of the lungs, as in running, speaking for a long time, affections of the mind; after a meal, hot hands and face, circumscribed redness on the cheeks; rapid, easily excitable pulse, uncommonly red tongue; indifference to diseases, especially pulmonary complaints, phthisical formation, hereditary disposition.

The treatment of this period is prophylactic, the principal treatment for consumption. Here art is yet of some avail, and may prevent the disease from passing into confirmed phthisis. A number of instances have satisfied me in this respect. The whole period of life, of a constant phthisical disposition, may thus be steered clear of destruction, the more so, as the phthisical disposition decreases as age advances. The main object of cure is to make it pass the thirtieth year of age without accident, which requires great attention on the part of the physician, and strict resignation on the part of the patient.

General Rules of the Prophylaxis Phthisica.

The fundamental principle of treatment is to avoid all that can tend to an increase of sanguineous congestion in the lungs, to strengthen them by appropriate means, and to protect them against, as well as to deviate from them all injurious influences. This end is attained by avoiding all violent, over-heating exercise, especially dancing, running, great exertion of the arms (fighting), great efforts in singing and speaking, all ardent and spirituous beverages, enjoyment of pure air, taking precaution against sharp cold (northeast) wind, living in the country on milk, in general, more a vegetable than animal diet, wearing woollen flannel next to the skin, and worsted stockings. Sexual cohabitation ought to be abstained from, or enjoyed only moderately; all violent mental affections avoided; moderate exercise on horseback; in the least indication of inflammation of the chest, a small venesection, and a fontanel on the upper arm continued for years.

In regard to the special treatment, the following cases must be carefully distinguished:

1. The patient is seized with flying stitches through the chest, a burning feeling in one spot, dry, irritable cough, pulse always excited, red cheeks, and sometimes bloody expectoration. Such symptoms are evidence of a disposition to phthisis florida or tuberculosa. There is always a disposition to little pulmonary inflammations, which ought to be arrested as soon as formed, in order to prevent the increase of tubercles, and their transition into suppuration. Therefore, on the slightest attack of pain in the chest or increase of dyspnœa, a small venesection of four to six ounces is to be made in the arm, order the patient to keep very quiet for several days, observe a cooling diet and take antiphlogistic remedies (nitre, tartar. potassæ, aqua lauro-cerasi and digitalis (vide No. 116). At the same time, whey and milk diet, particularly asses' milk, juice of cucumbers; in the spring, the fresh expressed juice of herba tussilago, cerfoil, borragé, Selters waters mixed with milk, Egers salt spring; but in a very phlogistic constitution, mineral waters containing iron are dangerous. Following this course, and making a small venesection every four or six weeks (from the sixteenth to the twentieth year of age, thirty bleedings in a case), I have succeeded in saving persons, and preventing consumption. In a tuberculous disposition, the use of Ems springs (the Kesselbrunnen), combined with whey, is recommended at this period.

2. The patient has a disposition to atonic pituitous phthisis (vide the symptoms above). Here the long continued use of gelatina lichenis Island., made in water or in milk, is the principal remedy. At the same time, warm air, confinement, warm drinks, and sleeping in warm rooms is to be shunned. It is in this case that riding on horseback is of a wonderful effect, likewise daily exercise of the lungs by reading aloud. In a high degree, even cold drinks and washing the chest with water is salutary.

3. The metastatic. The most frequent is the catarrhal and rheumatic; and here dulcamara alone is a true specific (No. 34) in a phlogistic disposition; in one that is atonic, it may be combined with lichen Island. (No. 37), and a vesicatory entertained for a long time on the chest; and in an inflammatory disposition, leeches and venesection. If this is unavailing, cortex mezerei on both arms, entertained in drawing for several months, is the best derivative. In the same manner, other metastases, as the arthritic, psoric, scrofulous, etc., ought to be treated, but paying due regard to their specific character (in the psoric, a combination with sulphur, in the scrofulous, with baryta muriatica), and to the respective dynamic character, whether it be more phlogistic or atonic. Suppressed menstrua and piles are to be regenerated or compensated.

4. Nervous phthisis (see the signs). Milk diet, country life, tepid baths, riding on horseback, asses' milk; in very debilitated nervous persons, cold infusion of cinchona, in great emaciation, gelatinosa, restaurantia, hordeum præparatum, salep, arrow-root, broth of shell-snails, oysters; in very great irritability and frequent irritative cough, hyoscyamus, aqua laurocesasi (which is here particularly suitable), even small doses of opium, given for a short time in order to assuage the cough.

5. Abdominal phthisis (see the signs). Injections, mild resolvents, extractum taraxaci, marrubii, gramin., tartras potassæ, the fresh expressed juice of these plants, Marienbad Kreuzbrunnen, Egers, Selters and Ems springs (vide abdominal treatment in hypochondria) are of service.

Phthisis Formata s. Manifesta.

The symptoms of confirmed pulmonary consumption may be seen above. Its principal signs are the setting in of a lingering fever and morning sweats.

The fundamental indications in any kind of phthisis are:

1, amelioration and cure of the local disorder in the lungs, be it induration, suppuration or blennorrhœa; 2, diminution and proper treatment of the fever; 3, reparation of the loss of humors by suitable restoration and nutrition.

In undertaking the treatment of phthisis, we must not, as is usually done, doubt the possibility of a cure; for this deprives us of courage, circumspection, and an enterprising spirit, but act as if diseases of the lungs, even purulent ones were curable; for this is proved by numerous facts. On dissection, considerable portions of a lung, previously consumed by suppuration, and healed up, have been discovered in persons who had recovered and afterwards enjoyed the free use of this organ, as I have myself seen an instance of in a public teacher. Never give up courage or hope, but call to your assistance all that can tend to attain
end.

In the first place, therefore, we have to investigate the character and condition of the lungs; that is, under what species of phthisis the case in question is to be classed.

PHTHISIS PULMONALIS PURULENTA.

The only distinctive sign is the expectoration of purulent matter. But this diagnosis is very difficult, especially in the first stage, and when the pus comes from a superficial surface. A chemical examination of the sputa by alkalies and acids has been recommended as proper to point out the difference between pus and mucus, but it is fallacious: 1, since the former is never obtained pure, but mixed with mucus; and 2, because the secretion of all inflamed linings yields this mixture. The most sure are those discriminative marks which strike the senses, as the sweet and saltish taste of the sputa, its bad smell, and its sinking in water, especially salt water, if purulent; whilst mucus will swim, and is stringy between the fingers.

The principal remedies called for are gelatinous restaurants, but not those obtained from warm-blooded animals, for these heat the blood too much, and increase the fever; but obtained from vegetables and cold-blooded; above all, milk and whey diet, particularly new milk, better if it is that of asses or women; a teaspoonful of prepared barley boiled in a few cups of milk, gelatin of Island. moss, two or three ounces daily, boiled in milk and sweetened;

salep and oat-water* and the lately recommended jelly of Carrageen moss ; broth of snails, oysters. These remedies will not only make up the loss of power and humors, especially that of the nutritive lymph which is consumed by suppuration, but also serve to heal the ulcer, since they act in this way on external ulcers.

The second indication, healing of the pulmonary ulcer, is accomplished partly by the means just stated, partly by remedies which have a direct influence on the lungs, the *antiphthisica*, properly so called. But the greatest precaution is needed in carefully discriminating the different characters of the disease, whether it is phlogistic or atonic, so that suitable antiphthisics may be selected, according to its nature. In phlogistic consumption, which is the most frequent form of the disease, only antiphlogistic antiphthisics are to be used, that is to say, remedies which do not excite inflammation either in the lungs or in the vascular system in general. It is only in the atonic form that irritant, ardent ones may be prescribed.

Of the first class, the most valuable, and confirmed by experience in single cases, are the following : semen phellandrii aquatici, one scruple up to two drachms of the powder, or half an ounce in decoction, a day, herba digitalis purpureæ, Selters water, mixed with milk or whey, Ems, Kesselbrunnen, Egers salt spring, Obersaltsbrunnen in Silesia with whey, lime-water with milk, chlorate of lime (vide No. 117), one half up to one drachm daily, dissolved in water, aqua laurocerasi, juice of cucumbers, two or three ounces four times a day (a great remedy!) ; likewise the fresh expressed juice of herb. chervil, and tussilage, stipites dulcamaræ, mineral acids, plumbum acetatum (vide No. 118).

Of the second or heating class, the most confirmed are the following : myrrh (undoubtedly the best and most approved, Hofmann's myrrh-sugar ; vide No. 119), balsam de Mecca, copaiva, balsam. Peruvian., asphaltum (ol. asphalti, one or three drops, triturated with sugar, daily), kreosote similar to the foregoing (two or three grains), arnica, ferum (Griffith's mixture).

But, in the use of all these remedies, we ought to be cautious in observing, whether they create stitches, pains,

* One handful of oats, boiled three times in a quart of water, and poured off, then again boiled until the grains burst, then percolate it and mix it with two teaspoonfuls of milk and a teaspoonful of honey.

and oppression in the chest, or increase the fever; if so, they must be abandoned, lest they augment the inflammation of the lungs, and accelerate death.

Besides these medicines, the following means are advised to promote the healing of the pulmonary ulceration:

Local applications to the internal surface of the lungs and the ulcer. These are inhalations of vapors, balsamic fumigations, gasses, those of hyoscyamus, majorum, fennel seed, myrrh steeped in water, living constantly in a room where tar is boiled from time to time, the usefulness of which I am convinced of by my own experience), inhalation of carbonic acid and chlorine gas, the atmosphere of cow-stables, sea air (especially a sea voyage), and residence in warm, uniform climates, as Nizza, Hières, Pisa, Madeira; but care is required in the selection. Purulent consumption calls more for low regions, as Pisa and Rome; tuberculous consumption, bronchitis chronica, blennorrhœa pulmonum, for a dry air, as Nice.

That *position of the body*, in which the pus can most easily escape. It is found out by observing which side the lying on gives most cough and expectoration. On this side, which is generally avoided, the patient ought to lie several times a day for as long a time as it can be borne.

Passive exercise, as riding on horseback, swinging, motion of a vessel, sea voyage.

Promotion of free expectoration. This, for two reasons, is an essential condition for effecting a cure. 1. Because it favors the cleansing and healing of the ulcer. 2. Because the fever is thereby diminished and colliquation prevented. When expectoration is easy, nothing is more needed than to order much diluting, mildly dissolving beverages, as barley-water, gruel, decoction of dog's-grass root, Selters water with milk, and to avoid colds and heats. But when it stops, the cause must be inquired into and acted on accordingly. The obstruction may be owing either to a great tenacity in the mucus, which is recognized by the nature of the sputa. Here inhalation of warm emollient vapors, kermes mineralis, oxymel scillitic. cum syrupo altheæ and liquor ammonii anisat., emulsio gummi ammoniaci, drinking largely. Or it may be suppressed by an accidental irritation, most frequently a gastric one; here mild laxatives, such as manna, soluble tartar, also emetics, if indicated, are advised. If the irritation is of a catarrho-rheumatic character, which may be recognized by the presence of catarrhal or rheumatic symptoms and frequent cough, with expectoration of an acrid, watery serum, in

which case it must be treated like catarrh, by water gruel with liquorice, dulcamara, and vesicatories on the chest. If it is due to spasm and nervosity, which is discoverable by the frequent, violent and spasmodic cough, without signs of inflammation, hyoscyamus, aqua laurocerasi, and opium are of use. When it is caused by inflammation, recognizable by increased fever, anxiety, dyspnœa and pungent pain in the chest, antiphlogistics, leeches, even small venesections are indicated. When due to weakness, the signs of which are the absence of other causes, weakness of the pulse and the other functions, gummi ammoniac, arnica, ammonium anisat., flores benzoës are the remedies.

Further, issues are often of wonderful benefit, especially in the beginning and in the metastatic forms of consumption, rheumatic, psoric, and are capable of translating the internal disease to the surface. There are instances of consumptive persons accidentally injured by fire, who, by the long continued suppuration of the burns, have recovered from consumption. The best imitation of this accident is the establishment of a large issue or seton on that part of the chest where pain is most felt; but if, however, the patient is already debilitated, or it is observed that artificial suppuration weakens him, the substitute must be avoided.

Finally, if the ulcer draws to the surface, and a distention or fluctuation between the ribs is apparent (*vide vomica*), it must be opened.

The third indication is to diminish the fever, and the local as well as general inflammatory state of the lungs connected with it. The fundamental causes of consumptive fever are loss of humors, the irritation produced by absorbed pus, and the inflammatory irritation of the pulmonary ulcer. These, however, cannot be removed but by annihilation, cure of the disease, and with it the fever. But the fever may be prevented from increasing, and thereby debility and emaciation may be avoided. This depends on finding out the causes. The most common is the augmentation of a phlogistic state of the blood. Therefore, generally cooling, but not weakening remedies are most beneficial, such as tartar. potassæ, saturations of carbonate of potass, or still better, of lapis cancrorum, with lemon juice (*vide No. 120*). Sometimes an increase of the local inflammation in the sphere of the ulcer is the cause, which is recognized by pains, stitches in the part, and oppressed respiration. In such a case, leeches on that spot, or a small venesection in the arm give most relief; indeed, a

teacupful of blood, taken away every four weeks, is recommendable to diminish the hectic fever, to preserve life, even to sometimes cure the disease. In order to remove the general phlogosis, mineral acids, especially elixir acid. Halleri, largely diluted with water and mixed with gruel, may be used; we must, however, be careful, that the acid does not increase the cough or create diarrhœa. Or a gastric complication has taken place, which is a common occurrence in consumption. The signs of this are common, and the proper remedies are mild laxatives; or, if there is any indication for them, also slight emetics, which give great relief in such states. Finally, increase of fever may be owing to an increase of weakness and colliquation. Here elixir acidum and gelatins are proper (*vide last stage*).

Besides the general treatment, we must not neglect and disregard the specific character of the disease. Thus, in a psoric diathesis, sulphur and artificial ulcers; in a syphilitic one, mercury; in a scrofulous one, cicuta, barytæ murias may be administered at once.

Of great importance in phthisis is a palliative treatment; calming of the most tedious and dangerous symptoms, especially as this is often the only method which is left to us.

1. The most troublesome symptom is cough. It is inseparable from the disease, but deserves particular regard, since its violence can give rise to additional inflammation of the pulmonary ulcer, and to hemorrhage, besides torturing the patient. The mode of assuaging it depends on the various causes which increase it (*vide expectoration*).

2. The morning sweats. They too are inseparable from the disease; but their immoderate augmentation calls for relief, which may be obtained by light covering, frequent airing, and keeping out of bed. Besides laxatives and mineral acids (*elix. acid*), sage tea, alum, boletus laricis, four to thirty grains a day, are of use.

3. Diarrhœa is a principal sign of incipient colliquation, weakens very much, and therefore must be stopped. For this purpose, all fermentable and acid food must be avoided, and cortex simarubæ, rad. arnicæ, ratanhia, lime-water may be administered; but opium is more sure, and best given in clysters with milk, since, by the mouth it may operate disadvantageously. Diarrhœa may, however, also be due to taking cold and to indigestion, and is to be treated accordingly.

Hæmoptysis, is to be treated according to its causes; as inflammation, gastric stimuli, purulent corrosion of the vessels, colliquation (*vide hæmoptysis*).

5. Finally, aphthæ, a very tedious symptom, appears in the last stage. The principal remedy for this is borax with syrup. mororum ; if this does no good, we may try sulphate of zinc, combined with catechu and syrup. althææ (vide No. 121), as a gargle.

The Last Stage.

Signs, see above.

The treatment of the last stage is, properly speaking, nothing more than smoothing the road to the tomb ; for cure is impossible ; but alleviation is wanted, especially of the aphthæ and of the want of breath.

Besides assuaging the symptoms just mentioned, the only means which can take away from the patient the feeling of his physical sufferings, and raise his spirit to a higher and to a more agreeable world, to one free from pains, is opium. Who would be the physician of such a patient, without this remedy ! It is necessary to both physician and patient. It is inestimable—nothing else can replace it—it is a gift from heaven to a miserable sufferer to entrance him before death.

VOMICA.

Pulmonary ulceration does not always present an open surface, but is often a collection of pus enclosed in more or less firm membranes. It is either the consequence of pneumonia, or of a tubercle which has suffered gradual transmutations ; in the latter case, several exist at the same time. These may be borne through life, with no other knowledge of their existence than is given by a little irritative cough and trifling difficulties of respiration. They, however, most frequently break, and a person who did not suspect their presence, expectorates pus. This may happen in a double way.

1. Either a great quantity of pus escapes into the bronchia, almost suffocating the patient ; suddenly giving the symptoms of suffocative catarrh. The treatment consists in ridding the bronchia as quickly as possible from pus and preventing suffocation by venesection, emetics, warm vapors, and a suitable position.

2. Or the expectoration of pus gradually follows. The result of this is quadruple : Either the vomica is perfectly evacuated, contracts gradually, and cicatrizes, followed by

perfect recovery. Or matter continues to be expectorated, and the vomica, surrounded by a firm membrane, ceases to affect the substance of the lungs, farther, does not trouble the system, and remains as an isolated imposthumous cavity like a fontanel, in which a quantity of matter is daily separated. Or the patient daily throws up a certain quantity of matter, often very fetid, and may live in other respects in a perfect state of health from ten to twenty years.

3. Or an open, corrosive ulcer is formed. In this case the patient expectorates pus continually, and all the symptoms of *phthisis purulenta manifesta* set in.

4. Or the vomica at first forms between the pleura and the lungs; or the matter has gradually worked its way to the surface, and by inflammation has formed adhesions of the pleura. The diagnosis of such a case is difficult at first; for the patient often feels but very little pain or oppression of the chest, and has little or no cough. But a lurking fever, emaciation, red urine, and difficulty of lying on the opposite side lead to a suspicion, and an examination by the stethoscope may here procure some light. But if the gathering increases, this side of the thorax enlarges, grows hot, points somewhere between the ribs, the part fluctuates and finally bursts of itself, or is opened by art (operation of empyema); when the discharge is perfect, healing may ensue.

Or finally, he throws up a vomica, and a short stoppage of expectoration succeeds; but soon a second one opens, and so on until the lungs are entirely destroyed. This is the case in tuberculous consumption, in which new ones continue to pass into suppuration. In these cases, absorption of matter and wonderful metastases and evacuations of pus by urine or by stool may take place, and thus a perfect cure be effected.

A similar process takes place in all suppurations of (internal) viscera. There also a closed vomica may form, which the person may bear for life, without becoming phthisical. But it may burst and kill by a sudden internal effusion of matter one who previously seemed healthy, e. g. vomicae of the liver, kidneys, by effusion of matter into the abdominal cavity; cerebral abscesses, by effusion into the cavum cranii.

PHTHISIS FLORIDA.

Diagnosis. The signs of the disposition to florid consumption (which see above), but in a more intense degree, particularly the circumscribed redness of the cheeks (which gave occasion to the term), the heat of them, and of the hands after a meal, associated with a lingering fever; the cough is commonly dry, or accompanied only with little expectoration, frequently more or less hæmoptysis (bloody cough).

Pathogenesis. This disease is essentially a chronic inflammatory state, generally connected with tubercles or passing into them, finally leading to suppuration, when associated with hæmoptysis.

Therapeutics. The treatment is the same that has been recommended in the florid disposition. Frequently repeated small venesections, leeches on the chest, milk and whey diet, digitalis, aqua laurocerasi, country air and fontanels are the principal means. Connected with this course of treatment, are mild, cooling jellies, prepared barley, salep, arrow-root, Carrageen moss and the oat-water described above. Respect must at the same time be paid to phthisis tuberculosa, which generally is coexistent.

PHTHISIS TRACHEALIS ET LARYNGEA.

Diagnosis. Hoarseness and cough; at the commencement of the disease the cough is only irritative, subsequently purulent expectoration comes on, and a feeling of soreness, or heat and pricking in the trachea; sometimes there is no pain at all, but merely a sensation of external pressure on the wind-pipe; speaking, laughing, every exertion of the throat creates cough; swallowing, at least in the beginning, is free and without pain. No pain is felt in the lungs, nor any difficulties of respiration. Lingering fever is long absent, and generally sets in about the time of suppuration.

The course of this disease is very chronic, often lasting for years before it proves fatal. Death is due to the total destruction of the larynx by suppuration, and the communication of the former to the lungs.

Pathogenesis. The proximate cause is chronic inflammation, and finally ulceration of the mucous membrane of the larynx. The most frequent occasional cause is a neg-

lected catarrh; scrofulous and syphilitic metastases, and immoderate efforts in singing, speaking, and crying also produce it. The bronchial glands are frequently the seat of this disease, thence the gray, dark colored, cloddy sputa.

Therapeutics. The treatment must be adapted to the various causes, and to the general principles of the anti-phthisic method, respect being paid to the location of the disease; but it must be persevered in for a long time. A long continued exutory on the neck, cortex mezer. on the upper arms, strict antiphlogistic diet, avoiding all kinds of exertion of the throat, leeches on the neck whenever pains come on; when the origin is catarrhal, hepar sulphuris, calc. two grains three times a day, formed into pills with liquorice; Plummer's powder with digitalis; dulcamara in decoction and extract, serum lactis, the fresh expressed juice of chervil, tussilage, hoarhound, and chloride of lime, dissolved in aqua laurocerasi (vide No. 125), Egers salt spring, which is here really specific, Ems, Kesselbrunnen and bath; in great atony these means must be combined with roborants, and particularly myrrh (vide No. 126) have proved to me most efficacious. In scrofula or a suspicion of a syphilitic diathesis, calomel unto incipient salivation. In the commencement of the disease, the sperm of herrings, taken fasting, has been of use. Inhalations of mitigating, moist vapors (of decoct. malv., sambucus, cicuta, hyoscyamus), also dry balsams (as decoct. of myrrh, boiled tar) are very beneficial; they must, however, be adapted to the degree of irritability, and ought never to increase cough. I have also seen good effect from emplastr. cicutæ cum hyosciamo, cicuta et hyoscyamus, worn around the neck.

PHTHISIS HEPATICA, RENALIS, VESICALIS, MESENTERICA, ETC.

Diagnosis. Existence and course of a lingering fever (vide *phth. pur. pulm.*), combined with the symptoms of the various local suppuration peculiar to every species.

In *phthisis hepatica*, pain and pressure in the hepatic region, spreading to the right arm or leg, inability to lie on the left side, yellowish colored countenance and sputa, vomiting and other disorders of the stomach, constipation of the bowels alternating with diarrhœa, and turbid red urine.

In *phthisis renalis*, pain and pressure in the renal region, increased by lying on the back, drawings in the leg and lower foot of the side affected, purulent discharge in the urine.

In *phthisis intestinalis*, pain and tension in the abdomen, discharge of pus and blood by stool.

In *phthisis vesicalis*, discharge of matter from the bladder; in *phthisis uterina*, from the uterus.

The diagnosis of internal suppurations which are not connected with the external surface is more difficult, because they are not manifested by purulent discharges, as in *phthisis mesenterica*, *abdominalis*, *vomica clausa*. Here, a lingering fever is often the only sign, accompanied by pain, pressure, swelling of the suppurating part.

On the other hand, all external chronic suppuration of wounds, ulcers, caries, accompanied with great discharges, may produce phthisis. I will mention here only *abscessus lumbalis*.

Pathogenesis. The existence of suppuration in these organs, which is either the consequence of inflammation, or of a metastasis of morbid matters, or a shifting of pus from other parts, which is not a rare occurrence, particularly in *phthisis renalis*.

Therapeutics. The loss of humors and power must be made good, and the lingering fever be properly treated, as in *phthisis purulenta pulmonalis*. Besides local treatment of the ulcer; in *phthisis vesicalis* and *uterina*, injections must be used. At the same time, attention is to be paid to the tendency, which the matter has to the surface, a common occurrence in hepatic and renal suppurations, which is manifested by an external swelling and fluctuation, and may be cured by opening the abscess.

TABES.

Besides the natural wear and consumption of the body by the continual operation of life itself (*marasmus senilis*); the following causes also produce tabes, as is seen in the emaciation which follows severe acute or chronic diseases, or exhausting methods of cure; as by mercury, salivation, and abstinence; or strong corporeal fatigues, likewise continued excessive mental exertions, especially when combined with lucubrations, lingering sadness and grief, melancholies; but particularly in continual loss of humors, as chronic hemorrhages, blennorrhœas, diarrhœas, loss of semen, saliva, sweat, and too long continued lactation; most so when to the loss of these is added that of power, as excesses in venery and masturbation, in both sexes, too frequent parturitions, the abuse of spirituous liquors, opium, and purgatives.

In all these cases the treatment must tend :

1. To remove the debilitating cause. The hemorrhages, and blennorrhœas, and other chronic evacuations are therefore to be restrained, and the weakening exertions both of body and mind must be abstained from.

2. To restore to the system its lost powers and humors. This is effected by easily digestible and concentrated aliments, tonics and nervines ; free salubrious air, rest of body and mind, moderate exercise commensurate to the circumstances. In the selection of food and medicines we ought to be careful, that their stimulant power correspond to the patient's irritability, because a too energetic action might exhaust the vital powers, and thereby annihilate the material effect of the restaurant.

I take this opportunity to admonish the practitioner that chronic debilitating evacuations often exist unknown to physician and patient until the hour of death, and not to neglect their investigation. Of this class are too frequent or too copious menstruation, hemorrhoids, fluor albus, pollutions, and masturbation, but above all diabetes mellitus, from which many a person has died without the physician or patient being aware of its existence. For this species of diabetes is not so remarkable for the quantity of urine discharged, as for its peculiar quality, abstracting from the blood its most nutritive substance. Therefore it is advisable when we cannot discover the cause of emaciation, to make a chemical examination of the urine.

PITUITOUS CONSUMPTION.

Tabes Pulmonalis.

Phthisis Pituitosa, Blennorrhœa Pulmonum.

Diagnosis. Cough with copious expectoration of mucus of different colors and quality, but commonly white and insipid, sometimes milkwhite and sweetish, similar to chyle ; sometimes yellowish and greenish, acrid, salty, puslike, sometimes mixed with blood ; simultaneously there is emaciation and lingering fever.

The expectoration may continue for years, before fever sets in, or becomes phthisis. Generally suppuration of the lungs at length takes place, and leads to death. The disease, however, may prove fatal without suppuration and destruction of the lungs by a mere loss of humors, as dissections have proved.

Pathogenesis. It is often a mere atony of the lungs; an inherited pulmonary weakness; or owing to excesses in venery and masturbation, living in confined air charged with animal exhalations, neglected catarrh, hemoptysis, a former pneumonia, particularly one which has been treated too long a time by relaxing expectorants, warm vapors, and the like; immoderate smoking of tobacco, asthma pituitosum, old age; but also irritation of the lungs, and thereby increased secretion of mucus; above all a chronic suppression of perspiration; psoric, arthritic, scrofulous metastases, suppression of other blennorrhœas, suppressed fluor albus, gonorrhœa, diarrhœa, gastric accumulations, obstructions of the abdominal viscera. Tubercles are not unfrequently connected with it, partly as cause, partly as consequence.

Therapeutics. The first thing to be done is to invigorate the lungs; at the same time regard must be paid to the possibility of metastasis, and morbid irritations to the lungs. Tonics may be used, but with precaution, lest strong astringents might too rapidly suppress the expectoration. Therefore Island. moss, mixed with dulcamara (vide No. 122) is best given in the beginning; and if this do not help, myrrh may be added (vide No. 123); besides cortex cascariellæ, cinchona, quassia. At the same time a flannel vest and a fontanel on the arm; after these, if the violent expectoration do not abate, and respiration become free, make use of the strongest astringents, as terra catechu, alum, ratanhia (vide No. 124), cort. quercus, vitriol. martial., inhalations of balsamic vapors, oxygen gas, strengthening baths, particularly sea-baths, exercise, and riding on horseback. There are also cases, when strong exercise carried to sweating and fatigue, combined with living in the open air, have cured pulmonary consumption. I have seen it cured by military service in the field.

But when metastases lie at the bottom of the disease, recognisable by former diseases; and when the expectoration is of bad color and acrid, the treatment of these various acrimonies, the arthritic and syphilitic, must be combined with the tonic course.

NERVOUS CONSUMPTION.

Tabes Nervosa. Febris Nervosa Lenta.

Diagnosis. Emaciation without any apparent local affection or visceral disorganization; but a nervous weakness

prevails, with perverted or increased sensibility and spasmodic affections. A lingering fever gradually sets in, and the disease passes into nervous phthisis, or terminates in general debility and total abolition of nutrition.

The disease has two degrees. The first is without fever, but it is recognised by the following symptoms: In the morning the patient is weak and listless, the pulse small; in the evening he is brisk, even vivacious, with a full pulse; he has a constant desire for restoratives, and to enjoy fresh air; but eating causes pressure in the stomach and sleepiness; giddiness, megrim, weak sight, vertigo; chilliness and sudden alternations of heat and cold, redness and pallor; hypochondriacal and hysterical complaints.

This malady may last for a long while, before it becomes fatal. It kills either by a total cessation of nutrition, a true exsiccation of the body, or by a transition into phthisis pulmonalis (*vide phthisis*).

Pathogenesis. The proximate cause is: a nervous weakness, carried to a degree which is insufficient for the purposes of nutrition, and which finally fails altogether.

Remote causes are: all protracted febrile diseases, especially nervous fevers; all nervous diseases that last long and are intense; excesses in venery and masturbation, long continued violent corporeal exertions, waking during the night, mental exertions carried too far, sorrow, premature and too frequent parturitions, too long continued lactation, chronic diarrhœas, salivation, particularly leucorrhœa, etc.

Among the psychical causes, despair, longing for a cherished object, also for one's native country (nostalgia) are particularly noticeable. They may bring on a fatal nervous consumption. I have seen even children die by longing for the departed mother.

Therapeutics. The principal thing to be attended to is invigoration, especially of the nervous system and restoration. To attain this end, great caution in the choice of means is to be observed for two reasons: 1, on account of the weak digestion, incapable of bearing the fixed roborants which might produce impurities in the first ways; 2, on account of the morbid irritability, which will not bear exciting roborants, the use of which is liable to create spasms. We must, therefore, comply with three rules: 1, to begin with mild tonics easy of digestion, and gradually increase to stronger ones; 2, to keep the bowels open, and to cleanse the digestive organs; 3, apply the roborants endermically. For the first purpose I particularly

recommend radix caryophyllatæ with valerian, in decoction or infusion; next quassia, or still better columbo, gradually up to Peruvian bark, at first in cold, then in warm infusion, tinct. Whyttii, and lastly in decoction; finally, the easily digestible volatile ferruginous remedies, as the æther martialis, and chalybeate waters. In a febrile state and a hectic disposition elixir acidum Halleri will be serviceable. Intermediately bitter dissolvent extracts, rhubarb and aloes may be given to open and cleanse the intestinal canal; saline purgatives ought to be avoided, on account of their debilitating properties. Baths are highly serviceable; by them alone I have frequently succeeded to make a whole cure; even the lingering fever is readily removed by them. Simple baths of tepid water are excellent; but malt-baths are more efficacious; to which, in cases of great debility, aromatic herbs may be added, and embrocations of aromatic water applied to the skin, spirit. serpyll., roris marini, etc.

The diet and mode of living of the patient also deserves especial regard. The food must be easy of digestion, concentrated into a small volume, and proportioned to the digestive powers of the patient; as milk, especially asses' milk, salep, arrow-root, Island. moss, animal jelly, snail-broth, nutritious beer; in great debility, generous old wine; particularly the daily enjoyment of fresh air, that of the country and mountains, daily moderate exercise in the open air; but when there is great debility, rest and a horizontal position.

Finally, the greatest attention must be paid towards avoiding all things of a debilitating tendency, mentally as well as corporeally; particularly to abstain from sexual intercourse, and to guard against pollutions, and the remote debilitating causes, as fluor albus, too profuse menstruation and diarrhœa.

DORSAL CONSUMPTION.

Tabes Dorsalis s. Medullaris.

Diagnosis. Emaciation, weakness, and finally paralysis of the lower, and sometimes of the upper extremities; a feeling of heat or cold, crawling, and sometimes violent pains in the lower part of the spine. The first appearance of the disease is commonly announced by an unsure, tottering, wavering gait. The disease sometimes stops at this

stage, without penetrating deeper into the system, leaving the individual in this state for 10, 20, and more years. Generally, however, the paralysis continues to spread, seizes upon the bladder (creating difficulties to make water); upon the great gut, causing costiveness or involuntary stools alternately; upon the organs of the senses, particularly the eyes; the organs of the mind, producing deficiency of memory and judgment, fatuity; finally upon the vital organs, disturbing respiration and the functions of the heart, causing death either by paralysis of the lungs, heart, or brain; or by a total emaciation and exhaustion of power.

Pathogenesis. The proximate cause is paralysis, finally exsiccation, atrophy, and a disorganization of the lower part of the spinal marrow. The most frequent remote cause is debility brought on by excesses in venery and masturbation, a too profuse loss of semen; it may also be caused by sanguineous congestions to the spinal marrow, myelitis chronica; metastases, particularly the arthritic and rheumatic, but only when combined with seminal losses. It therefore happens that this disease almost always attacks males, rarely females.

Therapeutics. The treatment consists in removing the enumerated causes. Congestions require leeches and mercurial embrocations on the suspected part of the spine (vide *myelitis*); metastases and debilitations must be attacked in their source, e. g. the loss of semen (vide *pollutio*). The nervous system, but particularly the spinal portion must be invigorated and animated. But alas! experience teaches that this is almost always impossible, or if ever practicable is only rarely and imperfectly so. Besides the general dietetic and pharmaceutical restauratives and roborants, the use of Teplitz and Pyrmont baths; the application of moxa to the lumbal region, continued a long time in suppuration, and repeated from time to time, have proved to some extent efficacious.

Marasmus Senilis.

Life itself, by its continuance, finally produces a morbid state, which we call old age, and in which are combined all the peculiarities of tabes and atrophy. A gradual exhaustion of the vital power, imperfect digestion and nutrition, deficient secretion and excretion, weakness of all the voluntary as well as involuntary corporeal and mental functions, exsiccation of the body, and decrease of vital warmth are its effects and characteristics—it is this that

we term *marasmus senilis*. This marasmus is a gradual mortification, a natural transition into death, in which it terminates. No mortal who lives long can escape it, and to pretend to cure it would be ridiculous. All that we can do is to retard its progress, and render its effects tolerable.

But this state of body, this *marasmus senilis*, may be brought on prematurely, by what is termed living quickly; that is to say, by those excesses which concentrate and hasten self-consumption, as excessive exertions of all the powers, and the waste of noble humors, especially excesses in venery, so that the vital capital is used up within half the time, that it was destined for by nature. Now-a-days it is not rare to meet with cases of premature old age (*marasmus senilis factitius*). We see men only 30 years old, bearing all the characteristics of age: as gray hair, bald head, shrivelled, stiff and useless limbs, enfeebled senses, and defects in all the functions.

For such a state of things the treatment of *tabes nervosa* and *dorsalis* is to be pursued; but we rarely, perhaps never attain the end wished for. Lost life can not be revived, and all that can be done is to preserve and prolong the semi-life which remains.

ATROPHIA.

Emaciation by deficient absorption or animalization of nutriment.

The causes may vary. It is owing

To exclusion of aliments: as long fasting (in melancholic, superstitious persons), a starving treatment, worms which share the nutriment (*atrophia verminosa*); diseases which prevent swallowing, as dysphagia, cancer of the tongue; maladies of the throat and stomach, in which the food is returned, by rumination (as in sacculated œsophagus); or vomiting (as in induration and cancer of the stomach), or its too quick discharge by stool (as in lientery);

Or to defective admission of nutriment into the organism by disturbed assimilation, animalization, sanguification, obstruction in the mesenteric glands (*atrophia mesenterica*), obstruction, induration, and other disorganizations of important viscera, which are necessary to animalization and sanguification, as the liver, spleen, lungs (*atrophia hepatica, lienalis, abdominalis, pulmonalis, phthisis tuberculosa*).

Its signs are: disorders in the functions of the respec-

tive organs, without symptoms of suppuration; in abdominal disorders there is tension and perceptible hardness in that region. Hectic fever shows itself very late, generally, not till the induration passes into chronic inflammation or suppuration, indicated by increased pains, heat in the region and fever, to which particular attention must be paid.

Death is caused by total exhaustion, or the entire destruction of some indispensable organ.

Atrophy may also occur in some external part (*atrophia localis externa*), tabes of a single part, as of the arm, hand, and foot; and which in children opposes their growth; it may even pass into a total mummification.

Causes, vide disorganizations.

The cure consists in the removal of the obstructions, and that of the accidental formations, without neglecting inflammation, which is apt to set in, and for which repeated applications of leeches are highly recommendable; and in promoting restauration by nutritives and roborants. Particular care must be taken to prevent the local disorder from passing into suppuration, or in scirrhusities into carcinoma, accidents which are always produced by inflammation, and are therefore prevented by proper antiphlogistics. The same is true of dropsy, which is common in abdominal diseases. When suppuration sets in, the treatment of phthisis is to be followed.

For the treatment of single species, see the respective articles *atrophia stomachica et pancreatica* in *vomitus chronicus*, *atrophia mesenterica* and *verminosa* under the diseases of children.

The local atrophy of single parts requires frequent embrocations of spirits and balsams, also frequent frictions and manipulations, which have often effected cures, as I have witnessed in children.

TUBERCULOUS CONSUMPTION.

Atrophia Pulmonalis.

Phthisis Tuberculosa s. Sicca s. Scrophulosa.

Diagnosis. Short dry cough, especially on taking a long breath, speaking loud, laughing, and exercise of the body, occasionally mucous expectoration, particularly in the morning, which is often mixed with little cheesy lumps that smell bad. Respiration is slightly embarrassed in

some, in others it is perfectly free (according to the size and number of the tubercles), but exercise, certain positions of the body make it difficult; frequently there are flying stitches through the chest, a burning sensation which always returns in the same spot; hoarseness and catarrhs frequently occur, emaciation without evident cause; frequent slight accessions of fever that finally become constant, and pass into hectic.

Diagnosis is difficult in the beginning, and until the tubercles increase in size and number. If they are small and few, the patient may live long, even without knowing that they exist. But, by repeated little inflammations they may insensibly increase in size and number, and thus pass into phthisis. Such a case may continue without expectoration from the commencement to the end (*phthisis sicca*), and the patient dies of exsiccation, induration, vital and functional disability of the lungs. Or the tubercles may pass more or less quickly into suppuration, converting the dry consumption into the purulent. This may happen gradually, or suddenly by the bursting of a vomica. Sometimes, however, the emptied tubercle may cicatrize, and the patient remains free from purulent expectoration, until a new vomica breaks, and in this way years may pass on with interruptions and pauses of purulent expectoration.

Pathogenesis. Scrofula, measles, pneumonia, hemorrhages, weakness, and blennorrhœa of the lungs and metastasis.

Therapeutics. For the treatment of the predisposition and incipient tuberculous phthisis, I refer to the respective heads already described.

The treatment which is most essential, consists in dissolving the tubercles, and preventing their increase and transition into suppuration. The two last are the effect of inflammation, for which a most strict antiphlogistic diet is necessary, and on the least accession of inflammation in a tubercle, which is made manifest by a fixed local pain in the chest, a small venesection is immediately to be made, leeches applied, cooling laxatives, and nitre administered; should these fail, we must resort to vesicatories, and maintain a continued artificial ulcer over the part affected.

The radical cure requires dissolution of the tubercles. In attempting this, great caution is requisite, lest the dissolving remedies create a new inflammation. For this reason all resolvents which have a tendency to irritate, are to be avoided, and only cooling ones administered, and in using them we must carefully watch their effect; and if

they excite pain in the chest, they must be discontinued. Even calomel, which is apt to cause pain and irritation, is dangerous. The only safe, and the most efficacious remedies, according to my experience, are the following, persevered in for a long time: the fresh expressed juices of tussilage, chervil, rad. graminis, juice of cucumbers, serum lactis, acetate of potash, mellago graminis et taraxaci, barytæ murias, murias calcis, aqua laurocerasi, Selters water, Eggers salt-spring, digitalis, cicuta, dulcamara, hyoscyamus, small doses of tartar emetic dissolved in a decoction of rad. althææ, fresh honey. At the same time moderate passive exercise, especially on horseback; woollen clothing on the chest, and fontanels on the arm.

Long and patient continuance of these remedies is essential.

CONSUMPTION FROM CHRONIC IRRITATION.

Hectica.

A considerable and constant irritation of the principal systems of the economy necessarily produces—by disturbing that rest, which is requisite to organic crystallization—a diminution of nutrition and loss of substance. This is produced particularly by the material irritations of morbid matters, generally spread through the humors; such as the psoric, syphilitic (in inveterate ill-treated syphilis), arthritic, scrofolous dyscrasias, chronic mercurial, arsenical, saturnine poisonings; also acute fevers which have not terminated by a crisis; too speedily suppressed intermittent fevers, which we must suppose to have left a febrile matter lurking in the system. In all these cases a hectic state, a lingering fever, an emaciation is frequently developed, the sole cause of which is the presence of a heterogeneous, continually irritating matter. In this way chronic inflammations, chronic cutaneous diseases, scabies, herpes, lepra, even constant pains and mental affections may, by their continual irritation, produce hectic fever and emaciation.

The cure depends on the removal of the causes, of the injurious or specific morbid irritants, and in a proper restoration and invigoration.

In all cases, where a material dyscrasia is the cause, as in the syphilitic, mercurial, arsenical, psoric, and arthritic hectic, milk diet is the principal remedy. It fulfils both indications; mitigates the irritation produced by the acrid

mony, neutralizes and destroys it, gives a new and milder blood, and thereby destroys the fever, restores the humors and strength of the system. Tepid baths, and in great weakness, cinchona and similar tonics may be simultaneously employed. Even in cases where specifics are still necessary to combat a specific poison (as in syphilitic hectic, mercury; in psoric, sulphur), persisting at the same time in milk diet, will best assist the treatment, and render it efficacious and the specific remedy less injurious.

EIGHTH CLASS.

ACCUMULATIONS OF WATER AND AIR.

HYDROPE, PNEUMATOSES.

I. Hydrops.

Generalities.

Diagnosis. Distention and swelling of a part, with fluctuations when it is soft; when the part is hard and surrounded by bones, there is a sensation of pressure on the organ, and its functions are disturbed. At the same time, the serous secretions (especially that of urine), appear diminished.

Pathogenesis. The proximate cause of dropsy is always a disturbance between the balance of exhalation and absorption; therefore, this disease may be caused as well by an increased secretion of serous fluid, as by deficient imbibition.

The *remote causes* may be classed as follows:

1. Debility, by which the activity of the absorbent system is weakened. All chronic diseases which exhaust the powers of the system, end in hydrops or consumption; dropsy is only their last stage, the commencement of death. It is also produced by acute diseases; especially by profuse waste of semen, or of blood, provoked by disease or by art. It may also follow a local weakness, caused by concussion or commotion.

2. Irritation, which augments the serous secretion of cavities, or converts the internal gaseous perspiration into fluid. Thus inflammation, by its accompanying exsudation, may produce consecutive dropsy; as hydrops cerebri acutus. Under this head must be placed such specific morbid irritations as the syphilitic, scarlatinous, psoric, but chiefly the irritation produced by spirituous liquors. Those who indulge greatly in wine and brandy, end always by dying of dropsy.

3. Antagonism, metastasis. The suppression of a natural as well as of a pathological secretion and excretion; likewise that of an external morbidic deposition may create a morbid internal accumulation of water. The most frequent is the suppression of cutaneous perspiration. Every rheumatism is accompanied by a local serous exsudation, a rheumatic dropsy, which may invade the whole cellular system (*anasarca*), or fill the internal cavities; hence, dropsy is endemic in moist regions, as in Holland. The same thing is observed after suppression of urine, which frequently occurs in aged persons and children; after suppressed hemorrhages, particularly that of menstruation; also, after suppressed morbidic depositions, as gout, cutaneous diseases, diarrhœa, fluor albus, and suddenly arrested intermittent fevers.

4. Mechanical pressure. Every pressure impedes the circulation of the venous and lymphatic vessels, and thereby creates accumulation, serous effusion and swelling. This is made apparent by tying a ligature round any part of the body. External tumors and indurations operate in this way; thus indurated axillary glands cause swelling of the arm, and the gravid uterus an œdema pedum. This is true also of internal ones, as indurated pancreas, tubercles of the lungs; but especially enlargement and obstruction of the liver, because it is the central organ of the abdominal circulation and absorption.

5. Rupture of lymphatic vessels. This, however, creates only a local dropsy.

6. Thin, watery blood predisposes to dropsy; particularly blood which is deficient of cruor, as after bleeding, in chlorosis, and the abuse of spirituous liquors.

Therapeutics. Removal of the remote cause is the first thing to be done. To accomplish this object, we must first inquire into the dynamic character of the disease, whether it be inflammatory or adynamic (the latter is the most common). The next thing is to remove the material cause, which may be an obstruction, a mechanic pressure, or the

like. After this, we must pay due regard to the cause of the specific dyscrasia and its treatment.

The second indication is to effect the absorption of the effused water; for it cannot be evacuated by the natural ways. With this object in view, we must prescribe such remedies as have a specific influence over the lymphatic system and augment its action; as mercury, digitalis, and all the evacuants, particularly emetics, purgatives, and diuretics.

The first indication is often sufficient by itself to accomplish the cure; but it is better to unite both.

The third indication is to evacuate the water in the natural way if it be possible, by promoting the watery secretions and excretions, particularly that of urine, and if this cannot be done, recourse must be had to the artificial way; that is, an operation.

ABDOMINAL DROPSY.

Hydrops Ascites.

Diagnosis. Tumefaction and tension of the abdomen, following the position of the sick; fluctuation, the wave of which is felt against the palm of the hand placed on one side of the belly, while the opposite side is percussed with the fingers of the other hand. In the beginning of the disease, the fluctuation is best felt in the lower part of the abdomen, and while the patient stands up. The urine is scanty and of a dark brown color like beer (peculiar to ascites). The stools also are scanty and dry; and there is dryness of the skin, tongue and mouth, therefore thirst. Respiration is rendered difficult by the ascent of the diaphragm, sometimes also by dropsy in the chest coexisting. The greater the tumefaction of the abdomen, the more are the limbs emaciated. In *hydrops saccatus* the tumefaction is unequal in the beginning, is, however, more equally distributed as the disease advances. Also the urine is of a less dark color, and less scanty.

Subsequently, as the disease increases, the feet, scrotum, or labia vulvæ swell; a dry cough, and towards the end there is lingering or acute fever, which is a sign of approaching death.

Death ensues either by suffocation, or by the fever assuming a putrid character, or by local inflammation and gangrene supervening in some abdominal viscus.

The diagnosis may be rendered difficult by coexisting pregnancy.

Hydrops abdominalis saccatus is distinguished by the swelling commencing in a particular part, and even when far advanced, the distention of the abdomen is not uniform; and in general the urine is less dark.

The duration of the malady varies very much, lasting sometimes for many years, according to the cause, and constitution of the patient; hydrops saccatus lasts longest. Next to phthisis, this is one of the most common diseases.

Pathogenesis. The most frequent causes are obstructions and other diseases of the abdominal viscera, especially of the liver, badly treated or too long standing intermittent fevers, atonic gout, and other dyscrasias, abuse of wine and spirituous liquors, previous acute fevers, particularly scarlet fever, mechanical lesions, by blows on the abdomen, falls, etc.

Therapeutics. The disease belongs to that class, which, properly speaking, scarcely admits of a cure. The curability depends on the cause, being incurable in indurations or other disorganizations of the abdomen, which are themselves incurable; or on the more or less vigorous constitution of the patient.

In the treatment, then, we must first take the various cause and character of the disease into consideration. A dropsy, which comes on quickly, with febrile symptoms, a full pulse, suppressed hemorrhages or signs of a local inflammation, calls for a treatment differing from that of one which is the consequence of great and chronic loss of blood or other great debilitating causes. In the first case, moderate abstractions of blood, nitre, calomel, in short, the antiphlogistic method; in the latter case, cinchona, quassia, even chalybeates, the strengthening method, form the fundamental character of treatment. Specific dyscrasias require specific remedies, as mercury in the syphilitic, sulphur in the psoric (suppressed itch). In obstructions of the abdominal viscera, taraxacum is to be given with diuretics; in suppressed perspiration of the feet, old ulcers and hemorrhages, the original complaint must be reproduced.

Besides this remote treatment, we must also, and at the same time have recourse to the direct treatment, which is the evacuation of the water. The principal thing to be done for this purpose, is to excite the action of the lymphatic system, which may be best attained by emetics, mercurials, barytes, digitalis, guaiac. Then diuresis is to be promoted, as most serviceable and least debilitating.

Here radix scillæ ranks first in all its forms, but as it is apt to create nausea and vomiting, it is best administered in pills (vide No. 152), or combined with aromatics, or given in vinous and spirituous tincture, tinct. scill. kalin (Pharmac. Pauper.). Squill is also of great value, applied endermically. A small spot on the abdomen about the size of a sixpence is to be denuded of the epidermis by a vesicatory, and three grains of rad. or extract. scillæ is to be applied on it three times a day. Besides the foregoing, digitalis, nitre, cream of tartar, soda, juniper (No. 153, 154), bryony, tobacco, cantharides, drinking largely of the diuretic tea (vide No. 151), as well as of cold water mixed with a little Rhenish wine, are the remedies most confirmed by experience. At the same time, diuretics (No. 155) may be applied externally, likewise mercurial inunctions on the abdomen. The evacuation of water by acting on the intestinal canal is rarely practicable, and must never be resorted to in great weakness; but in the commencement, and when strength remains, and that there is a natural tendency towards the bowels, purging is of excellent service. For this purpose, gamboge, bryony, colocynth, pilul. hydragogæ Janini, elaterium (with great precaution!), rad. gratiolæ, jalap., aloes are most recommended. Of great effect and confirmed in my experience, is a combination of diuretics with purgatives (vide No. 156, 157, 158, 159, 160, 161). An addition of a mercurial, particularly mercurius nitrosus (No. 162, 163) is of great practical use, since it increases the efficacy of all the medicines before mentioned.

We must always attend to the secretion which nature is most disposed to, and promote it. I have seen, in great tendencies to intestinal secretion, dropsy cured solely by the continued use of Glauber's salt. Nature has sometimes evacuated the water even by vomiting. If all kinds of diuretics are unavailing, discontinue them for a few days, replacing them by resolvents, extract. tarax., chelidon., soluble tartar; after this, return again to diuretics, and they will not fail. If this also fail, a high degree of torpor or a spasmodic state of the minute vessels must be the cause of the want of action; and in such a case, an emetic, after which, roborants, excitants, and antispasmodics used, may likely prove efficacious. I can recommend, from my own experience, quassia, wine (especially Champagne), rad. belladonnæ and opium. If this also should fail, bandages applied moderately tight to the extremities, and even to the abdomen, have promoted absorption and diuresis. Acu-puncture of the abdomen, especially in connection with

galvanism, is also a good auxiliary. If no success should be obtained by any of these means, paracentesis abdominis (tapping) may be resorted to. For it has been often observed that, as soon as the pressure of the water had been removed, the absorbing vessels and the kidneys commenced to operate and to accomplish the cure. In the second place, a momentary and very great alleviation is thereby procured to the sufferer, and it is the best palliative. Finally, there have been cases (especially of hydrops sacculus) in which the life of the patient has been preserved for many years, by this operation repeated from time to time. I have seen instances where the patient had his life prolonged from twenty to thirty years by forty or fifty tapplings, repeated every two or three months. But that tapping may be useful, we must be careful not to perform that operation too late, when the water has become putrid, or local inflammation or fever has set in. After the paracentesis, roborants, especially quassia, combined with diuretics, are to be used.

DROPSY OF THE CHEST.

Hydrothorax.

Diagnosis. The recognition of this disease is very difficult, and in most cases not with perfect certainty until it has reached the last stages. The symptoms are: great oppression of breath, particularly on motion, and when lying on the back, great anxiety, short cough, commonly dry, very often spasmodic, spasmodic pains between the shoulders, which are frequently very tormenting, swelling of the hands, sometimes of the face and around the eyes. When the patient turns quickly round, the fluctuation of the water may sometimes be felt or heard if the quantity be great. Percussion, and auscultation by means of the stethoscope will throw some light on the case. Principal signs: sudden awaking in the night, with a feeling of great anxiety and suffocation, and an irresistible impulse to rise and rush to the window for fresh air. Impossibility to lie down towards the end of the disease, none but a sitting posture is practicable, and finally a standing position is the only one which affords some alleviation to respiration. The urine is diminished, but is not as dark as in ascites, and sometimes it is natural (as in hydrops saccatus).

The patient dies by suffocation, or in a soporose state by apoplexy. Cure is rarely possible.

Pathogenesis. All causes of dropsy in general can produce this disease, particularly pneumonia, tubercles of the lungs, arthritic metastases, obstruction of the liver, chronic asthma, ascites.

Therapeutics. The treatment must conform with the general principles laid down for dropsical maladies, in the same manner and by the same remedies as in ascites. Diuretics, digitalis, squills, and bryony are particularly efficacious. Nitre one scruple, along with sulph. aurat. antimonii, one grain, three times a day; also tinct. nicot., cantharid., belladonnæ, likewise artificial ulcers on the arms and on the chest, also foot-baths of mustard, sinapisms on the calves of the legs, in order to shift the œdem to the feet, have proved serviceable. Towards the end, and when fluctuation between the ribs is clearly discriminated, paracentesis thoracis may be resorted to. It is always a great palliative, sometimes leads even to a radical cure. To assuage the anxiety, aqua laurocerasi, with extract. hyoscyami and opium may be given.

As the rarity of cure is principally owing to the tardy discovery of the disease, we will do well to suppose the existence of incipient hydrothorax in every chronic and considerable asthmatic difficulty; and to endeavor to excite diuresis, by which the further progress of the disease may best be prevented.

DROPSY OF THE PERICARDIUM.

Hydrops Pericardii.

Diagnosis. Presents much similarity with the signs of hydrothorax, with which it is frequently associated. Its principal characteristics are: palpitation of the heart, extending through the whole extent of the chest, intermitting pulse, fainting fits, extreme anxiety. Examination by the stethoscope may assist in distinguishing it from organic disorders of the heart.

Causes are: besides the general ones, inflammation of the heart, organic diseases in this organ, and metastases.

The treatment is the same as advised in hydrothorax.

DROPSY OF THE HEAD.

Hydrocephalus.

DROPSY OF THE BRAIN.

Hydrencephalon.

We distinguish *hydrocephalus externus* and *internus*. The first is an accumulation of water without the cranium (properly *œdema capitis*); the latter is either accumulation of water between the brain and its membranes or in the cavities of the cranium themselves (*hydrencephalon*).

Hydrocephalus internus occurs only in children, and as a primary and independent disease (either congenital or acquired), (vide *diseases of children, hydrops cerebri*); but, by becoming chronic, it may last from infancy to a more advanced age. I have seen individuals live in this state to the age of sixteen years. In such cases the head acquires an enormous size, and the individual is imbecile. In grown persons it is always a secondary or symptomatic disease, succeeding to inflammation of the brain, or violent commotions; it is a consequence of chronic insanity, and of organic disorders within the cavity of the cranium.

The treatment is the same as for dropsy in general. It is, however, worthy of remark, that the affusion of cold water on the head, repeated several times a day, and continued for some time, may sometimes effect a cure of congenital as well as of chronically forming *hydrocephalus*. Water is here of more use than any other means.

DROPSY IN THE SKIN.

Anasarca, Œdema.

Accumulation of water in the cellular tissue, generally in that which lines the skin, but also in the internal viscera, as the lungs. The most common is cutaneous dropsy, either general (*anasarca*), or in single parts, as in the hands and feet (*œdema*). The signs are: a swelling which yields to the pressure of the finger, and retains the impression.

Predisposition to it is owing to a lax constitution of the fibre. All individuals possessed of such a constitution are more liable to it than others; therefore it is common in

females, a sex in which laxe fibre predominates. In such persons œdema pedum often occurs after great exertions in walking or long standing, and during the summer season is very common and unimportant.

Œdema. It is either symptomatic, a consequence of an internal accumulation of water (as œdema of the feet, of the scrotum in ascites, and of the hands in hydrothorax); or it is idiopathic, contracted by colds, inflammations, especially by rheumatism or psora, also by local debility. The first kind is remedied by removing the internal dropsy; the latter by cushions of dry, aromatic herbs, especially of hops and absinth; by balsamic fumigations, local vapor baths, finally by the application of rollers. We must distinguish between *hot* and *cold* œdema. When the skin is painfully distended, and has an inflammatory character, leeches and cups are of use. Scarifications, cautiously made, are likewise serviceable in cold œdema, when there is great tension.

Anasarca. General dropsy of the skin may be of an *acute* character, caused by violent colds, suppressed perspiration or cutaneous eruptions, especially after scarlatina, and calls for an antiphlogistic treatment, combined with diuretics and diaphoretics; particularly nitre with digitalis, squilla, and calomel. The *chronic* is owing to obstructions of the circulation of blood in the heart and the larger vessels, or is a concomitant of a general hydropic disposition and accumulations of water.

The treatment is the same as is usual for dropsy in general; at the same time, frictions, flannel clothing, aromatic fumigations, sweating baths, especially by spirit of wine, are proper.

III. Accumulations of Air.

Generalities.

They may arise by the entry of atmospheric air into the tissues from without.

Or by an internal formation of gas. This species may originate in chemical dissolution, as by putrefaction, fermentation of aliments; or by a conversion of the secretion of the internal surfaces into a gaseous form, owing to an abnormal influence of the nerves.

The cure is effected either by the artificial evacuation of the air; by its absorption; or by dissolution, and reversion into liquid.

FLATULENCY.

Flatulentia.

Diagnosis. Excessive and incessant generation of air in the stomach and intestinal canal, manifested by tension and swelling of the epigastrium, the whole abdomen, and by frequent discharge of flatus per os et anum, which gives relief. This accumulation of air creates great and manifold complaints, partly local by distention and pressure, partly consensual by nervous irritation. These are: most intense anxiety, difficult respiration (*asthma flatulentum*), even mental anguish and phantasies (*incubus*), hypochondriacal indisposition, violent pain in the abdomen and præcordia, particularly on the left side, which might be mistaken for pleuritis (*colica flatulenta*), palpitation of the heart, even spasmodic affections of remote parts, pains, illusions of the senses (*susurrus aurium, visus duplex, diplopia*). When it attains great height, it may excite two diseases: *ructositas*, when the patient is troubled incessantly with loud irretainable, often crying ructus, and the *murmuratio, intonatio intestinalis*, when the air is agitated in the intestines with loud and often most singular sounds, frequently resembling the quacking and crying of animals, which, in former times, was considered as a kind of bewitchment or demoniacal possession; and now the effects of a living animal. Sometimes the air is agitated by spasms (a wandering globus hystericus).

Pathogenesis. The primary cause is atonic weakness; that is, debility combined with deficient elasticity of the stomach and intestinal canal; with hypochondriacal and hysterical nervous disposition of these organs, in which case a mere nervous or mental affection may produce a violent generation of gas. The occasional transitory causes are: flatulent food, cabbage, turnips, fermenting beverages (in a very high state of this disease, the least piece of vegetable creates flatulency); nervous or mental affections, taking cold, when the usual cutaneous exhalation seems suddenly to be transmitted antagonistically to the internal surface of the intestines.

The generation of flatus originates always in atony of

the stomach, slow, weak digestion, and particularly in difficult assimilation. The more promptly and vigorously the food experiences the influence of vitality, and performs its metamorphoses into the vital substance (assimilation), the more will all purely chemical dissolution, and consequently also development of gas be prevented. There are individuals who do not labor under flatulency, even after taking the most flatulent kind of food; and, on the other hand, persons of this disposition are plagued with it by the most innocuous aliments.

Therapeutics. The treatment is double, palliative and radical. The palliative treatment has for its end the prompt removal of the present flatus. This is to be effected by carminatives and antispasmodics; as semen fœniculi, anisi, carvi., herb. menth. piperit., olea ætherea and etherized acids, liquor anodyn. Hofmanni, liquor ammon. anisati, with valerian (vide 164), castoreum, with opium (No. 165); frictions of the epigastric and abdominal regions, the application of warm cloths or stones, inunction of volatile antispasmodic ointment, ol. destil. chamomille, four drops, dissolved in half a drachm of æther sulphuricum; injections of peppermint, caraway, and chamomile flowers. Very efficacious for such patients, is to take every morning fasting, a cup of cumin-tea (one drachm of cumin, steeped in a cup of water) in the bed, and sixty drops of elixir aurant. composit. (Pharmacop. Boruss.) in the forenoon and afternoon. It is better than the use of cumin liquor, which is likely to lead to habits of intoxication. Vegetables, drinking during meals, and warm beverages and soups are to be avoided.

The radical treatment required is that of strengthening the stomach and intestinal canal, and restoring their tone (vide *weakness of the stomach*). Cold dry regimen, cold roast meat, ice-cream, ice pills, a generous wine, like old Madeira or Malaga, cold lotions and douches to the epigastrium and abdomen, also injections of cold water, much and strong exercise, and internally No. 166, 167. Hypochondriasis and hysteria must be cured. In a hysterical person, who had suffered a long time from ructations, which were accompanied with loud screaming sounds, the treatment of stomachical spasm by magisterium bismuthi finally proved efficient.

TYMPANITES.

Diagnosis. A great and frequently an enormous elastic swelling of the abdomen, sometimes so large as to excite a fear that the parietes may burst. On percussion this tumor sounds hollow, like a drum, and does not vary in different positions of the body; these symptoms and the absence of fluctuation distinguish it from dropsy. The distention is generally unequal; some parts being more, and some less elastic to the touch (*tympanites intestinalis*, when the air is accumulated within the intestines). Sometimes, however, the abdomen is equally elastic and distended (*tympanites abdominalis*, when the air is accumulated in the abdominal cavity). The patient has borborygmi and rolling in the intestines, but has no discharges of ructus or flatus; respiration is difficult, the abdomen is painful, and at last great anxiety, cold extremities, costiveness, and sometimes diarrhœa supervene.

Tympanites intestinalis is always liable to inflammation; therefore, when fever associates with it, the case becomes more important. Finally, a rupture may take place.

Pathogenesis. The causes of *tympanites intestinalis* are: overloading of the stomach with flatulent, heavy, and constipative food; such as peas, lentils, beans, or with very fermentable substances, as cabbage and milk, mixed with new beer; also an accumulation of gastric, glairy, and bilious matters, and such as are apt to pass into putrid fermentation; taking cold, especially after eating the above-mentioned food; obstinate costiveness, spasm; extreme atony, a kind of paralysis of the intestinal canal; inflammation and gangrene, wounds in the abdomen, typhus, particularly organic, gastric, and intestinal disorders, such as indurations and ulcers.

This disease may, therefore, break out suddenly and idiopathically, but, in general it is only a symptom of other disorders.

A predisposition to it is owing to habitual flatulency.

The causes of *tympanites abdominalis* are: escape of air from the intestines into the abdominal cavity (which may happen in great tympanitic distention of the intestines, and when they are pierced by ulcers and wounds); putrid dissolution (it may be a symptom of putrid fever), taking cold after great overheating (which may bring on also emphysema).

Therapeutics. In the first place we have to search for the cause, and to consider whether a spasmodic or an in-

flammatory state exists. When the latter is the case, we must commence by the abstraction of blood. When this is absent, carminatives and antispasmodics are most called for: pills of *asa fœtida* and *rhubarb*, *columbo* and *oleum cajeputi*, and oily emulsions, embrocations of oil of mint, of *cajeput.*, and camphor oil with *laudanum*, dry cups, injections of *chamomile*, or *cumin* with *asa fœtida*. The chemical fermentation must likewise be corrected: when the patient has eaten of fermentable vegetables, we may suppose the presence of acids, for which *magnesia pura*, *lapides cancrorum*, and *aqua calcis* with *rhubarb* are to be administered; in putrid fermentation, acids, as *elixir acidum Halleri*, cold (which is known to prevent all kinds of fermentation and the development of gases), ice, internally and externally, dropping of *naphtha* on the abdomen; and when the stomach is overloaded, emetics.

If all these remedies fail, there still remain three means of relief, and by which life may be saved in extreme cases. The first is *clyisma inversum*, that is, drawing the air off by means of a syringe. A flexible tube from 12 to 18 inches long, attached to a syringe, must be introduced into the rectum, and by drawing the piston up, the air may be pumped out. Should the tube become obstructed, it may be cleared by forcing a little warm water through it. The second is *compression*. A girdle is to be applied around the abdomen, as tight as the patient can bear it, and gradually tightened as the swelling diminishes. The third is *puncture*. A needle or a trocar is to be thrust into the part which is most distended, and the tube left in until all the air is expelled.

Subsequently, roborants are always to be used.

Infants are subject to a distention of the *præcordium*, which may be readily removed by merely rubbing the part, and still more effectually by unguent. *althææ*, with *chamomile* and *peppermint oil*; also by the use of *pulvis puero-rum* and injections.

EMPHYSEMA.

Diagnosis. Air in the cellular tissue. A tense, elastic swelling, which yields a crepitous sound under pressure.

It may arise from lesions, which permit the external air to enter the cellular tissue; or from an internal decomposition and a development of gas, which is particularly the case in the general emphysema that accompanies nervous

and putrid fevers; even from taking cold after violent overheating, as sometimes suddenly occurs, even in one night.

The cure is effected by absorption and reception of the air into the humors of the body, whence it is discharged in the form of perspiration (gas developed by the skin). This end is attained by frictions, and the application of dry aromatic herbs; in general emphysema, by the use of internal diaphoretic remedies, and bathing with aromatic spirits repeated every two or three hours.

Emphysema pulmonum (vide *asthma aëreum*) deserves particular attention.

TYMPANITES OF THE UTERUS.

Physometra.

It is known by distention of the uterus, and an occasional expulsion of air from the vagina (*vagina crepitans*).

The causes are hysteria or infarctus uteri; to which the treatment must conform.

NINTH CLASS.

PROFLUVIA.

Generalities.

Diagnosis. Increased evacuations of the serous, mucous, and other fluids, and which are altered in quality.

Pathogenesis. The general causes are: an increased determination (congestion) of the humors to a secretive organ; or an increased action and irritability of the organ, or a local irritation excited by organic stimuli (as tubercles in the lungs), by chemical and mechanical stimuli (as stones and gravel in the kidneys), by metastases, which likewise act as stimuli, by sympathetic influences, as the gastric; or a local weakness and laxity of the part, which, by reason of diminished resistance permits of an accumulation of humors, or by reason of the relaxation of the lining membranes of the vessels affords a ready passage of the fluids.

Therapeutics. The cure requires first the removal of the causes: to diminish congestion, subdue increased action if it be the cause, discriminating, however, phlogistic from erethic irritability; to remove idiopathic as well as consensual stimuli (which frequently requires great variation in the treatment); to strengthen where weakness is the cause; finally, and in imminent danger, to directly and locally impede and ameliorate the evacuation (styptic, suppressing remedies).

I. Hemorrhages.

HÆMORRHAGIÆ.

Generalities.

Diagnosis. Escape of blood from its channels outwardly, or inwardly into cavities, or into the cellular tissue (*extravasata, sugillationes*). This happens from distentions or ruptures of the vessels.

The immediate effect of hæmorrhage is debility, since a portion of the vital humor, even of life itself is lost; therefore the significance and danger is measured by the quantity of blood lost. If the loss has been great and rapid (hemorrhage), it may prove instantly fatal. If it is less abundant, but continues to escape, it produces chronic debility, and may thus become the cause of all the asthenic diseases. But on the other hand it may serve as a natural venesection, prove salutary, and act as a wholesome crisis in plethoric and inflammatory diseases. Besides these general effects it may also produce an important local one, especially when it affects noble organs, as the lungs, stomach, and is the result of rupture. In such cases it must always be considered in the light of a wound, and may produce all the like consequences; as those of inflammation, extravasation, induration, suppuration.

Pathogenesis. Proximate cause: disturbed balance of the impulse of the blood and the resistance of the vessels: sometimes the impulse overpowers the resistance of the vessels, even their cohesion; or the latter is so impaired, as not to be able to resist the usual afflux of blood, and confine it in its channels. Therefore, two principal classes of hemorrhages, the *active* and the *passive*, are to be distinguished.

The remote causes of the first class are:

1. The *general*, and this again has a double character. It is either a *general increased action of the vascular system* (phlogistic sanguineous excitement), a plethora, particularly when there is excitement produced by external and internal over-heating, by spirituous liquors, corporeal exercise, mental affections, suppression of habitual hemorrhages, fevers, an inflammatory state; or is an *irritation of the nervous system* (nervous, erethic, spasmodic excitement).

2. Or *local*: local inflammation and a disposition to inflammation, local increased sensibility (spasm), local irritation by metastasis or organic disorders (tubercles, polypus, etc.), consensual and antagonistic irritation (gastric acrimony, worms, dentition).

The remote causes of *passive* hemorrhage are:

General: general weakness, asthenic fevers, putrid fevers, scorbutis, hectic colliquation.

Or *local*: local weakness and relaxation caused by disease, over-irritation, pressure, moist warmth.

In hemorrhages owing to local weakness, it is not uncommon to meet with the curious case of a mixed state, that is, a general increased activity of the whole system, combined with local weakness of a single organ, as in hemorrhage of the lungs and uterus.

Finally, the too limpid, dissolved, uncoagulable quality of the blood* itself may give rise to hemorrhages, as in scurvy, in morbus hemorrhagicus; and the congenital disposition to bleeding (bleeding families).

Therapeutics. The principal general indications of every hemorrhage are:

First, to examine to what species it belongs; whether to the active or to the passive, and here again whether to the phlogistic, which calls for purely antiphlogistic treatment; or to the nervous, spasmodic (erethic) species, which requires antispasmodic assuaging remedies.

Secondly, to remove the occasional cause, as a gastric matter, or a local irritation.

Finally, if all this do not suffice, or real danger of life sets in from the beginning, we must endeavor to suppress the hemorrhage by styptics, astringents, applied internally and externally, also by mechanical pressure, where this is practicable. The signs of inanition and danger of life,

* Modern anatomy will not admit *vasa exhalantia* in the internal surfaces; but it must allow the existence of *pores* and the possibility of fluids perspiring through them; which comes to the same thing in the pathogeny of hemorrhages and other profluvia.

which immediately require the use of active suppressive means, are: small, filiform or unequal and remittent pulse, cold extremities, buzzing at the ears, sparkling before the eyes, fits of fainting.

A combination of a generally increased action with local weakness of the bleeding organ claims our greatest attention, since such a case requires at the same time general debilitating means, and the local application of roborants. Such a mixed state occurs in all hemorrhages due to a violent mechanical concussion, which impairs the local structure, and at the same time produces a general revolt of the vascular system, and from the union of both these causes an increased local plenitude (overfilling of blood). In such a case a venesection must be made, and immediately afterwards cold, arnica and other strengthening remedies resorted to.

EPISTAXIS.

Hæmorrhagia Narium.

Bleeding at the nose is one of the most common hemorrhages. It occurs during good health as well as in bad, and is most generally salutary and critical, acting as a derivative of plethora and congestion in the head; but if the loss be very great, it may become dangerous, even fatal.

In most cases it is owing to a plenitude of blood; therefore, it is most frequently met with in youth; it may, however, arise also from a sanguineous dissolution (scorbutis, morbus hæmorrhagicus maculosus), hæmorrhoidal and menstrual anomalies, even from abdominal irritations (worms).

As a rule, we ought never to suppress bleeding at the nose by local means, until its injurious effects become evident. There are not wanting instances of the bad consequences of a sudden suppression of epistaxis, as blindness, deafness, and cerebral inflammation. Suppression, then, is to be resorted to only when the loss of blood has become enormous; when there is palor of the face, vertigo, small intermittent pulse, and fits of fainting set in; or when the bleeding is evidently a consequence of weakness, and of a putrid dissolution of the blood. The remedies are: cold water applied to the forehead, drawn into the nose, vinegar, solution of alum, injections of sulphate of iron, foot and hand-baths, pledgets of lint moistened with alum, plugging the nose. Chewing of a piece of blotting paper

sometimes affords the promptest relief; also cold lotions on the genitals. Cooling purgatives, especially cream of tartar dissolved in a large quantity of cold water, elixir acid. Halleri; in a spasmodic state, ipecacuanha in small doses, even opium with acids, are the internal remedies to be used.

The radical cure of the ever-and-anon returning epistaxis requires a due consideration and treatment of the causes, especially of plethora, of abdominal stimuli, of scorbutis, weakness, and of a putrid diathesis in the vascular system. In the last case, cinchona and acidum sulphuricum are most serviceable.

HÆMOPTYSIS.

Sputum Cruentum, Hæmorrhagia Pulmonum.

Diagnosis. Expectoration of blood which is brought up by coughing or hawking, the only sign by which we can know whether the blood comes from the lungs and the upper part of the trachea. A mere spitting of blood (*sputum cruentum*), which exsudes into the mouth, or only comes from the nose, is to be discriminated, and we must be careful not to be deluded in this respect. Hæmoptysis varies very much in intensity and importance.

The mildest kind is that which has not been preceded or accompanied by difficulties in the chest (dyspnœa or pains), does not return, and leaves no cough or other pectoral complaints behind.

A severer kind is: that one which is preceded by the patient's previous difficulties in the chest, dry cough, and shortly before its occurrence, shivering and excited pulse; and which is accompanied by anxiety and irritative cough, very excited pulse, palor and altered countenance; and which returns after a few hours cessation, followed by dyspnœa and dry cough.

The highest degree occurs in patients who previously had suspected lungs, are of a phthisical disposition; and who, during the attack, suffer great anxiety and oppression, are in a febrile state, expectorate pure blood, which repeatedly returns, and is followed by considerable pectoral complaints.

The quantity of blood expectorated is of no importance; all depends upon its causes and the constitution of the patient. It may be thrown up by cupfuls without detriment,

if it is owing to a hæmorrhoidal flux through the lungs, and the patient enjoys a sound chest, and does not labor under a phthisical disposition ; whereas in the latter case, even a small expectoration of blood is very dangerous, and may be the transition into phthisis.

We must not suffer a continuance of the bleeding to alarm us ; but look to the color of the blood, which, if dark, does not indicate a continual bleeding, but that the blood now expectorated has been already some time effused.

The danger is not at the moment of bleeding, but in the consequences, pneumonia and phthisis. We rarely meet with hæmoptysis which is a real hemorrhage, and capable of causing death by suffocation.

Pathogenesis. A knowledge of the predisposing cause is here of the greatest moment ; for it is by this knowledge that danger is known. It is the *dispositio phthisica* (vide *pulmonary consumption*) ; or a real phthisis does already exist, with which hæmoptysis associates as a symptom.

The exciting causes are : violent over-heating of the body by dancing or running, ardent drinks, violent mental affections, great external heat, immoderate exertion of the lungs by screaming, blowing musical instruments, strong concussions affecting the chest, as blows to the back, falls, wounds of the lungs, inhalation of corrupt air, acrid vapors, suppressed piles, menstrua, and other habitual discharges of blood ; suppressed cutaneous eruptions ; pneumonia, catarrh, tubercles of the lungs, scorbutic dissolution of the blood.

Therapeutics. Absolute rest of mind and body, lying still, abstaining from speaking (the least motion and irritation of the lungs is injurious), removal of the pressure of dress, sitting upright, cool air and cool beverage, a clyster when there is constipation of the bowels, and a venesection in the arm, scanty or copious, according to circumstances (if extreme weakness or putrid diathesis do not forbid it). These are the first and general remedies. The promptest styptic in hæmoptysis, is a teaspoonful of pulverized culinary salt, taken dry into the mouth, and swallowing it gradually by drinking a little water over it, repeated every quarter of an hour, as circumstances may require.

The different characters of hæmoptysis are to be investigated.

1. The inflammatory, plethoric, sanguineous. Signs : constitution, youth, fulness of the pulse, warmth, thirst,

suppressed hemorrhages, vascular exciting causes, mechanical lesions. Here a copious venesection is to be made, and repeated according to circumstances, as when bleeding returns; the most strict antiphlogistic diet is to be observed, and nitre, with cream of tartar, hyoscyamus, and digitalis (vide No. 145) to be given as internal medicine. Nitre with cream of tartar in powder, mixed in a mucilaginous vehicle, is most efficacious. Foot-baths, hanging the feet down, cool lotions to the chest, injections, and in suppressed hemorrhages, leeches to the spot of suppression may all be applied.

2. The spasmodic. Signs: absence of the signs mentioned in the preceding section, a perceptibly weak constitution, cold extremities, small pulse. In such a case, ipecacuanha in small doses (vide No. 146), and tartaric acid with hyoscyamus (No. 147), must be given. If this is of no use, and the state of the patient is purely nervous, acids with opium (No. 148) are advised. Sometimes, however, a sanguineous congestion is combined with the spasmodic state; then give nitre with hyoscyamus, and intermediately elix. acid. Halleri, with mucilaginous emulsions, also digitalis with acid. muriaticum oxygenatum (No. 149). In a spasmodic state of the chest, spasmodic cough, pains and the like, oily and mucilaginous remedies (No. 150), are of excellent service, combined with narcotic fomentations on the chest, and sinapisms on the arms.

3. The gastric. Gastric, and particularly bilious turgescences are evidently associated with hæmoptysis. Here cooling purgatives, Glauber's salt with tamarinds, and injections must be prescribed; even small doses of ipecacuanha, and when the patient already throws up bile, its discharge is to be promoted by small doses of ipecacuanha.

But if hæmoptysis in these three stated cases does not abate, but persists in spite of a treatment directed against the causes, or is excessively copious, it must then be immediately stopped by styptic remedies, such as have been mentioned under No. 148.

4. The passive, occurs in great laxity of the lungs (phthisis pituitosa), scorbutic dissolution of the blood, erosion of the vessels by matter, commotion. None of the signs of vascular excitement, and of a spasmodic state are seen here. It therefore requires only immediate stoppage by styptics. However, if the pulse admits of it, it will be well to commence by a moderate venesection in the arm. The remedies are: cold above all others, cold air, cold water, cold applications, ice on the chest, alum, particu-

larly alum-whey (No. 135), which, according to my experience, is the most effectual of all; cinchona, ferrum sulphuricum, terra catechu, also culinary salt, one teaspoonful at a time.

Subsequent treatment. After every hæmoptysis, besides the possibility of a recurrence of hemorrhage, we have two things to dread: inflammation of the injured spot, and extravasation into the substance of the lungs; the consequence of either may be suppuration or a formation of tubercles; therefore it ends either in phthisis purulenta or tuberculosa. The most strict antiphlogistic diet is to be the mode of living, the lungs must be left in repose, and if oppression or pain remains in the chest, a moderate venesection on the arm, or leeches are to be applied; after this, a vesicatory on the spot, kept open for some time; nitre and cooling purgatives. The best means for cleansing the lungs is sweet whey, or whey acidulated with tartaric acid, solutions of mellago graminis, with tartras potassæ, afterwards Selters water. If, after a lapse of three weeks, the patient has ceased to cough, and feels nothing more in the chest, he is surely safe from phthisis. We must also attend to the remote causes and their cure; as hemorrhoids, abdominal diseases, dyscrasias. Be particularly careful to prevent relapses. For that purpose the patient must avoid all corporeal exercise, spirits, singing, and any exertion of the lungs; constipation of the bowels guarded against, and a venesection applied, if the slightest difficulty is felt in the chest.

The spitting of blood, *sputum cruentum*, *hæmorrhagia oris et faucium*, when the blood is evacuated without hawking or coughing, and is also generally mixed with saliva or mucus, is a very common occurrence and free from danger. In this case, the blood comes either from the mouth, the teeth, the gums, or the nose. Its causes are sometimes local; but it may also have remote and general ones; two of which deserve particular attention: anomalous piles (for the two terminations of the intestinal canal are in antagonistic relation, hæmorrhoides faucium may stand in lieu of hæmorrhoides ani), and scorbutic dyscrasia.

The spitting of blood generally takes place only early in the morning. The treatment consists in local application of astringent collutories, of sage, vinegar, mineral acids, alum; and in the treatment of piles or scurvy.

VOMITING OF BLOOD.

Hæmatemesis. Vomitus Cruentus.

Diagnosis. Evacuation of blood by vomiting, which comes up pure, or is mixed with food, bile, etc. Its color may be light red, but is most frequently dark, blackish, and of a venous nature. The quantity is sometimes small; at others it is great, several pounds at a time. The vomiting may be repeated twice or three times a day, and continue so for several days; sometimes it is repeated only after the lapse of several days, sometimes it happens periodically. It is followed by discharges of black, coagulated blood by stool. The diagnosis is sometimes doubtful.

Concomitant symptoms are: violent anxiety, nausea, tumefaction of the precordia, sometimes, but not always pains in that region; sometimes fever, great prostration, chilly sweats, fits of fainting, pale collapsed face, head generally free until the weakness seizes the sensorium. Then appear deliria blanda, spasms; the pulse becomes smaller and smaller, and intermittent, frequent fits of fainting, death.

It is always a dangerous accident; when it sets in with violent fever, it is most frequently fatal; likewise when the vomiting of blood returns every three or four hours. The same is true when it is owing to incurable causes, scirrhus, etc. It is less dangerous when it appears periodically, least so when it is the consequence of hæmorrhoidal or menstrual anomalies. I have seen a man advanced in years, who threw up blood from that cause, by cupfuls, and was so little affected by it, that he was able to take food immediately after its discharge.

The danger to be apprehended is subsequent inflammation of the stomach or inanition.

Pathogenesis. The proximate cause, as in all hemorrhages, is a dilatation or a bursting of the vessels of the stomach. The blood may come from the stomach or from the spleen by the vasa brevia. The remote causes: the most frequent is an anomalous hæmorrhoidal or menstrual congestion to the stomach; hence it often occurs in females after the cessation of the menses; after this comes obstructions of the abdominal viscera, effusions of acrid bile, swallowed glass, insects, worms, particularly leeches, contusions, and other lesions of the stomach, acrid poisons, among which are violent emetics and purgatives, putrid dissolution of the blood.

Therapeutics. The principal rule is not to suppress the bleeding suddenly by strong astringents, since to do so may produce inflammation of the stomach, subsequent induration of it, or, by the accumulated blood, a gastric putrid fever. Therefore the first and general means to be tried are mucilaginous beverages of gummi Arabic., acidulated with tartaric acid, or tamarinds, the Riverian saturation and oily emulsions; intermediately fomentations of vinegar on the epigastric region, emollient clysters, foot baths, mustard plasters on the calves of the legs, warm, emollient narcotic cataplasms on the abdomen. When plethora, or fever, or signs of an inflammatory state exist, a venesection in the foot; leeches to the anus or vagina in suppressed hæmorrhoidal or menstrual flux. In the absence of these signs, or in a spasmodic state, extract of hyoscyamus, ipecacuanha, one eighth of a grain every quarter of an hour; in violent spasms, opium and musk must be administered.

If the vomiting of blood does not abate after these means, or if it set in with violence from the beginning, and signs of inanition (small, intermittent pulse, fits of fainting, etc.), alum whey is the best remedy; intermediately, River's potion with laudanum and ice-cold water may be taken, and cold fomentations of vinegar applied to the stomach.

After every fit of vomiting of blood, two indispensable rules must be complied with. The first is to continue for several days the use of mild acid laxatives; the best tamarind whey, or a decoction of tamarinds, made with cream of tartar; also injections, in order to evacuate the blood which may have passed into the intestines; the second is, to avoid taking solid food for several days, since even a crumb of bread may irritate and renew the lesion of the stomach.

PILES.

Hæmorrhoides.

We are to discriminate between hæmorrhoidal disease and piles, as between arthritic disease and local external gout, or scrofula and scrofulosis: they relate to each other as cause and effect. The hæmorrhoidal disease is the internal morbid state, which lies at the bottom of the piles; the piles are only its local external phenomena.

The hemorrhoidal disease exhibits four principal forms:

1, predisposition (*molimina hæmorrhoidalia*); 2, formed hæmorrhoids, a disease of the rectum (*hæmorrhoides anicæcæ et fluentes*); 3, retrocession of the hæmorrhoids (*hæmorrhoides retrogressæ*); 4, their degeneration (*hæmorrhoides anomalæ*), which may again vary in reference to the location (*hæmorrhoides incongruæ*), or the quality (*hæmorrhoides mucosæ*).

It is rarely a merely local disease, but in most cases is an internal morbid state, of which the piles are the crisis. This ensues either at regular periods (similar to the menstrual flux), or at indefinite times. It is, however, always an imperfect crisis, which does not entirely remove the original disease, but may give great relief as an effect. This is one of the most chronic maladies, and often accompanies man through all his life. It is curable only when it is not congenital, when it is recent, and when the remote causes, embracing generally the whole mode of living, may be corrected. It is not fatal in itself, but may turn so by retrocession of the congestion to noble organs, and by hemorrhage. Frequently, as a sanguineous evacuation, it is most beneficial and critical, in acute as well as in chronic diseases.

This malady is very common, and is of great importance, not on its own account, but because the hæmorrhoidal disposition originates many diseases, and must be understood before they can be cured.

Hæmorrhoidal Disposition.

Molimina Hæmorrhoidalia, Dispositio Hæmorrhoidalis.

Diagnosis. Frequent pains in the back and the sacrum, sometimes flying stitches through the abdomen, feeling of fulness there and at the end of the rectum, costiveness, hard, knotty stools, sensation of pressing or burning and boring in the rectum, tickling in the rectum, perinæum and genitals, local sweats in these parts, urgency to urinate, strangury, dysury, ischury, occasional swelling, varices on the end of the rectum. These signs are frequently connected with congestions of blood to other parts, as to the head, lungs, stomach, and flushes of heat. Hereditary predisposition, a sedentary life, immoderate enjoyment of heating food and drinks, may lead to a suspicion of hæmorrhoidal disposition.

The recognizance of this period is important, since this

is the stage in which a radical cure of the disease can be effected, and its consequences prevented.

Pathogenesis. The proximate cause is plethora abdominalis, plenitude of blood in the portal system, venous congestion.

The remote causes are the same as in every congestion.

1. Local debilitation of the abdominal viscera, especially of the hæmorrhoidal vessels, caused by frequent purging, abuse of warm drinks, especially of tea and coffee; immoderate venery; the cause may even be local, as the too frequent use of injections, too much warmth locally applied on these parts.

2. Local irritation of the hæmorrhoidal vessels: caused by the too frequent enjoyment of heating meals and beverages, of spices, wine, particularly Burgundy and Champagne; by aloetic and other drastic purgatives, but also by morbid irritations, as metastases of arthritic, syphilitic and other morbid matters to these organs, hence it is that attacks of gout and piles frequently alternate.

3. Mechanical pressure, by which the free circulation of blood in the abdomen is impeded, such as tight lacing of the abdomen, a continued sitting posture, which compresses the abdomen (hence hæmorrhoids are a disease of the studious, of sedentary workmen, especially shoemakers), constipation of the bowels and accumulation of fæces and infarcts, physconias and obstructions of the abdominal viscera, especially of the liver, which is the centre of the portal circulation, the gravid uterus; hence piles are common in the last months of pregnancy.

Finally, a hereditary predisposition may be the cause, and congenital local weakness of the hæmorrhoidal system.

The most healthy can contract hæmorrhoids, when they lead a sedentary life for a year, take much coffee or high seasoned food, and stimulant beverages.

The effects of this abdominal plethora (by which all hæmorrhoidal complaints, and the importance of its pathogenetic influence may be explained) are the following:

1. Local: swellings, various tumefactions of the hæmorrhoidal vessels, inflammation, and hemorrhage from them; costiveness, disturbed digestion, anorexia, apepsia, acidity of the stomach, spasms of the stomach, colic, diarrhœa, blennorrhœa of the rectum, vesical diseases of all kinds, disordered secretion of bile.

2. General: partly by nervous consensus, partly by transmission of the congestion to other parts, hypochondriasis, spasms, fits of fainting, vertigo, paralysis, apoplexy,

diseases of the heart, asthma, hæmoptysis, phthisis, particularly laryngea, hæmorrhagia uteri, narium, fluor albus, vomitus cruentus, mictus cruentus, cutaneous diseases of different forms, particularly herpes, first on the genital organs and the small of the back, and also on remote parts; sometimes transitory, but also sometimes permanent, even chronic ulcers. A peculiar acrimony (*acrimonia hæmorrhoidalis*) seems sometimes to be developed from the stagnant hæmorrhoidal blood.

In all these chronic disorders the physician must carefully regard a hæmorrhoidal state as the source of the disease; for their radical cure often depends altogether on freeing the abdominal circulation.

Therapeutics. The cure of this disease can be attempted in a double manner.

1. By radical treatment (*curatio causalis*, treatment of the predisposition), when the cause of the hæmorrhoidal disease is operated upon, and the hæmorrhoidal symptoms and the necessity of flowing piles are dispensed with by its removal.

2. By producing the hæmorrhoidal flux, which removes local plethora and also its effects for some time, but this is only a palliative cure; for it places the patient under the necessity of the hæmorrhoidal flux, which at the best is troublesome and tedious, and may be followed by bad, even by dangerous consequences.

It must therefore be adhered to as a rule, to use the first mode of treatment, and to reserve the second for such cases only as do not admit of a radical cure (in insurmountable obstructions of the circulation of blood in the abdomen, or other irremovable causes, also in hereditary disposition), or for those in which hæmorrhoidal fluxes have become a habit, or finally, when sudden and dangerous accidents arise by hæmorrhoidal accumulation, which call for speedy relief. It is only in these cases that the palliative treatment is admissible.

Cure of the Hæmorrhoidal Disposition.

Radical Cure.

Continued corporeal exercise, avoiding to remain sitting, abstaining from heating food and beverages, and keeping the bowels free, are in general the most sure means to remove the hæmorrhoidal predisposition. As certainly as it

can be produced by a course opposite to the one just recommended, so certainly will this mode of treatment overcome it. I have often had occasion to observe that traveling, or an active country life continued for six months, combined with the diet enjoined above, has perfectly attained the end.

The principal indication is to remove the abdominal plethora, which is the proximate and original cause of the hæmorrhoidal disease. This is done, 1. By the removal of all the circumstances which can favor it, namely: heating meals and beverages, sedentary life, compression of the abdomen, excesses in venery; and by taking daily a great deal of exercise, frictions on the abdomen. No hæmorrhoidal patient ought to work in a sitting position, but on the contrary, only in a standing one, or resting on a high chair. 2. By promoting the abdominal circulation, and removing the obstructions and accumulations that have formed in the intestines. 3. By keeping the bowels moderately open. The two last indications are best complied with by mild resolvents, extract. graminis, taraxaci, tartras potassæ (vide No. 168), and sulphur. The latter is the true specificum antihæmorrhoidale. It is undoubtedly possessed of a particular power over the hæmorrhoidal vessels, to increase their action and to dissolve the stagnations in them; therefore it is also the most efficacious remedy against all the complaints which arise from that source, as phthisis, hydrops hæmorrhoidalis. It is best administered in powder along with cremor tart. (vide No. 169), or in nervous individuals with pulv. aërophorus (vide No. 170). The solution of the above-mentioned extracts, continued for several weeks, is often sufficient; or sulphur, continued for some days and repeated as occasion may require. The use of aloëtic remedies, so much recommended by some practitioners, is to be avoided in such cases, because they increase the abdominal plethora, the original evil, and are apt to cause inflammatory affections in the abdomen, or local hæmorrhoids, which are the very thing to be prevented. Castor oil is an excellent laxative in this disease. 4. Finally, when the remote causes are deeper seated, as in great and fixed visceral obstructions, vigorous resolvents are to be used; above all the natural Carlsbad spring, and when this cannot be had, the artificial one, which is likewise an antihæmorrhoidal specific confirmed by experience. Against the metastatic causes of this disease we must have recourse to their respective remedies; as mercurials for the syphilitic. 5. In merely local hæmorrhoids

due to local debility of the rectum and the hæmorrhoidal vessels, injections of cold water, which may be combined with sulphur, are the principal remedy when the accumulations are considerable.

I must not omit to strongly recommend the use of a tea, made with the *summitates millefolii*, one cup morning and evening continued for years, in hæmorrhoidal disposition and chronic hæmorrhoidal complaints.

Merely local treatment consists in the application of cold water to the hæmorrhoidal knots and disorders of the rectum, even in cutting them off. It is not to be denied, that this local treatment will promptly remove the affection, but this method is at once irrational and dangerous. It is irrational, because it is only a symptomatic mode of curing, a removal of symptoms without vanquishing the cause; and is about the same thing as attempting to cure scrofula by cutting and suppressing the scrofulous tumors. But it is also extremely dangerous; for nothing is more certain than that, should the abdominal plethora continue, the suppressed sanguineous congestion, being deprived of an excretory organ, will take other directions, retroceding to the bladder, the stomach, or other noble viscera, and will produce dangerous diseases of them. This mode of treatment is admissible only when it is evident that the disease is purely local (owing to local weakness of the rectum), and when no *molimina hæmorrhoidalia*, no indications of visceral obstructions, no hereditary predisposition are present. Farther, it is dangerous, and must be avoided, where flowing piles or retrocession of hæmorrhoids to noble viscera has previously existed.

Promotion of the Hæmorrhoidal Flux.

This is not a radical but only a palliative method of cure, and ought not to be resorted to except in the above-described cases.

Its promotion is effected in a double manner; either by attracting the sanguineous congestion to the rectum by external means (*attrahentia*), or by exciting such a congestion from within, by means which have a specific tendency to the rectum (*pellentia*).

Attrahentia are: footbaths, steambaths, warm fomentations ad anum, emollient mildly stimulant injections, leeches ad anum, cups in the region.

Pellentia are of a double kind: the mild, as *pulvis aërophorus*, borax; the ardent, as aloes, myrrh, crocus, hellebore,

iron, the balsamic pills (vide No. 171), Burgundy and Champagne wine. (For the use of these remedies look under *menstruation*.)

In all plethoric individuals predisposed to sanguineous congestion, we must employ the drawing and the milder exciting remedies; and when the warm excitants are admissible, they must be assisted by the external ones, that they may not excite sanguineous congestions in remote noble viscera instead of in the rectum.

Blind Piles.

Hæmorrhoides Cæcæ.

Tumefactions of the vessels or effusions of blood into the cellular tissue of the rectum, sometimes without, sometimes within the orifice of the anus (*hæmorrhoides externæ et internæ*), sometimes small, sometimes large, sometimes prominent, sack-like (*h. saccatæ*), sometimes without pain, sometimes painful (*h. dolentes*), even insupportably painful (*h. furentes*); finally they may also become indurated (*h. scirrhosæ*).

The treatment of the blind hæmorrhoids is in general that of the hæmorrhoidal disease (which see): cooling diet, exercise, cooling purgatives, especially the sulphur powder. External cold must only be applied when local debility is the cause, without any signs of visceral obstructions or abdominal plethora.

The painful piles call for the same treatment; but at the same time rest, horizontal position, especially on a bolster, by which the pressure of the sanguineous accumulation is redressed. In very violent pain, when an inflammatory state is present, venesection, leeches on the varices, antiphlogistics, externally fomentations of cold water; in great sensibility the unguentum de Linaria, so well renowned from ancient times, and the same combined with oleum hyoscyami; a methodic pressure by a compress continued for half an hour; in an extreme case fomentations with saturnine water, or unguentum de Linaria, oleum hyosc. of each $\frac{1}{2}$ ounce, sugar of lead $\frac{1}{2}$ dram, but not long continued, are the remedies. Some individuals derive great benefit from apple pulp steeped in red wine. The knots, particularly if they were internal and have been protruded, are sometimes really incarcerated by the sphincter; in such a case replacement is necessary. We must, however,

attend, and act according to the accessory causes which excite the painful state. They are hard fæces, gastric impurities, taking cold, moist air, even sometimes they are specific, as syphilitis. Finally, the whole attack is sometimes of a spasmodic nature.

Hæmorrhoides Saccatæ.

Here, besides the general treatment, the local application of cold water is required.

The sacks grow often to a considerable size, and thus become very troublesome, may produce even chronic bleeding (daily emptying a little from the relaxed vessels), which weakens extremely and may cause cachexy. In such a case the only and sure remedy is cutting them off. The scirrhus hæmorrhoids are often nothing but sacks, containing coagulated blood; also here a surgical operation (opening or excision) must be resorted to. They may, however, pass into real indurations or suppurations, and originate fistulæ of the rectum. Here surgical treatment is needed.

Sudor, Serpigo, Rhagades Ani, Perinæi, Genitalium.

In these troublesome symptoms, besides the general treatment, sulphur with cream of tartar, external cleanliness and frequent washing with tepid (not with cold) water are serviceable. External astringents, saturnine and such remedies are carefully to be avoided.

Hæmorrhoides Fluentes.

The hæmorrhoidal flux is always to be considered as a crisis, which must not be disturbed. All that will be said of the menstrual flux, applies also to this. It is only when the discharge becomes profuse and injurious, that it is to be regarded as a hæmorrhage, and requires to be stopped. It may burst out all at once in so great a quantity, as to prostrate the patient and endanger life; or (what is more common), it may put on a chronic character, discharging a small quantity daily, imperceptibly leading to chronic diseases, to nervous affections, cachexy, dropsy. In either case astringent suppressing remedies, applied internally and externally, are requisite (*vide menstrua nimia, hæmorrhagia uteri*).

Suppression of Piles.

The hæmorrhoids may suddenly stop flowing, and give rise to violent inflammatory attacks, colica inflammatoria, etc., which require a prompt antiphlogistic treatment, leeches ad anum, venesection, etc.; or they may gradually cease to discharge. In either of these cases the treatment is the same as in *suppressio menstruorum*.

*Vesical Hæmorrhoids, Mucous Hæmorrhoids.**Hæmorrhoides Anomalæ.*

There are anomalous hæmorrhoids of two kinds; first, as regards location; second, as regards quality.

1. Location. Hæmorrhoidal congestion may tend to every part of the organism, and produce in it the same effects as in the intestinum rectum, tumefactions of the vessels, disturbed function, pains, inflammations, extravasations, hemorrhages. Thus arise *hæmorrhoides ventriculi* (*vomitus cruentus*), *hæmorrhoides pulmonum* (*hæmoptysis*) etc. These anomalies are the effects of a hæmorrhoidal disposition, which has not yet settled upon the rectum; or are the effects of a suppression of piles. The diagnosis is easy in the latter, difficult in the first case. The cure consists in a derivation of the piles to their legitimate place, the rectum, which is effected by repeated application of leeches and other attrahents.

The most troublesome and painful anomalous piles are *hæmorrhoides vesicæ*. They can be also either *cæcæ* or *fluentes*. In the first case they create great difficulty to make water, strangury, ischury, even most violent pains, vesical spasms, inflammations and their consequences, blennorrhœa, induration, suppuration of the bladder. In the latter case *hæmaturia* occurs; the blood coagulates in the bladder, obstructs the meatus, and prevents the discharge of the urine, and finally may lead to the generation of stone. The bladder is here in the same state as the rectum is in piles. The treatment consists in drawing the congestion towards the rectum, by the application of leeches to the anus and other attrahentia; and in repelling the congestion from the bladder by cold lotions to these parts, in combination with the general hæmorrhoidal treatment. Four leeches are applied to the rectum every 4 weeks, or as often as local molimina (burning, swellings) appear at the rectum. The use of Selters, still better Wil-

dunger waters, and the spring of Carlsbad are very recommendable.—In blind vesical hæmorrhoids the diagnosis is often very difficult, they are apt to be mistaken for stone, vesical gout, syphilitic affections (especially when vesical catarrh is present). The chief signs are the previous or coexisting hæmorrhoidal complaints and their periodical return.

The most dangerous symptom that can set in here is ischury, owing to occult varicose swellings in the bladder; or, in fluent vesical piles, to coagula which remain in the bladder. In either case the catheter must be resorted to, but only after the inflammation has subsided. If the introduction of the catheter is difficult, bougies must be previously passed, in order to compress the swollen vessels, or to force through the coagulum.

In all cases of retroceded and anomalous hæmorrhoids the application of leeches to the rectum has been observed to be more useful than general venesection. Nature requires the evacuation to take place on the critical part, and the loss of a few ounces of blood from the rectum procures more relief, than pounds of blood discharged from the large vessels, because the former discharge acts directly on the portal system, the latter does not.

2. Anomaly of quality. *Hæmorrhoides mucosæ*. The hæmorrhoidal flux may be mucous as well as sanguineous, and this anomaly can happen by the rectum as well as by the bladder and vagina. Tenesmus and other hæmorrhoidal difficulties coexist, follow, or have preceded the piles. It is a *fluor albus intestini recti*, and like this produces cachexy. The cause may be hæmorrhoids, which are prevented from flowing, or a local weakness, or metastasis, or general cachexy. The cure consists either in restoring the hæmorrhoidal flux, or in the general hæmorrhoidal treatment, or in the use of bitter resolvents and roborants, especially an infusion of millefoil, and Pyrmont and other chalybeate waters. At the same time regard must be had to such specific causes, as may perhaps exist, especially syphilis (vide *blennorrhæa*).

MELÆNA.

Morbus Niger.

Diagnosis. Evacuation of a black tarlike, sometimes of a brown or grayish colored matter, by vomiting and by

stool; accompanied with fits of fainting, trembling, great prostration, and spasms.

It is generally preceded by diverse complaints of the stomach and of digestion; as want of appetite, pressure in the scrobiculus, sometimes violent pains in the pit of the stomach, the abdomen, and back, increasing so as to cause syncope. Hypochondriacal and melancholic disorders, cachectic complexion, particularly pale yellow (*habitus luridus*). Præcordia tense, distended. Most frequently the pulse is unequal, intermittent, very variable; an important symptom, since it justifies a suspicion of considerable disorders in the abdomen and of imminent danger. Great trouble from flatulency.—Unquiet sleep, constipation of the bowels.

Suddenly, either without cause, or by a commotion, physical as well as moral, as a fall, fright, and disease, a violent vomiting of black tarlike matter sets in, and the same kind is evacuated from the intestinal canal by stool. The pulse is soft, small, unequal, scarcely perceptible; there are painful sensations in the abdomen, often with the most violent spasms, anxiety, meteorisms, trembling, a constant urgency to stool, cold extremities, cold sweats, fits of fainting. This state may continue in some persons for a number of days with frequent relapses; in others for weeks, discontinuing a few days and returning. I have met with patients, where it lasted for a long time, (3 or 4 weeks,) ceased, then returned again, and continued so for more than six months. The weakness is extreme. The quantity of the evacuated black masses is often incredible; in some cases several pounds are evacuated daily.

It is distinguished from vomitus cruentus, by the blood being old, corrupt, tarlike, while in the latter it is fresh; by cachexy having preceded and increased to a high degree, and generally by being accompanied from the beginning by discharges of the same kind from the anus.

It is always a dangerous tedious disease; death may happen by exhaustion in the paroxysm itself, or by putrefaction and putrid fever or cachexy, hence tabes or hydrops is a most common sequel.

Signs pointing to a fatal issue are: weakness always increasing, fits of fainting becoming more frequent, cold extremities and cold sweats setting in, repeated and larger quantities of the matter being discharged, and the pulse becoming so small as scarcely to be felt.

Pathogenesis. This disease originates in an exceedingly engorged state of all the vessels of the stomach, intestinal

canal, and mesentery; chronic overfilling of all these vessels with old stagnant blood, which by length of time becomes excessively tenacious, tarlike, and finally putrid, corrupt, and acrid. The veins, indeed, seem to be in a very varicose condition, for the quantity of corrupt blood evacuated is often so large, that great sacks and dilatations must be supposed to exist, in which it had stagnated. The vessels have been found on dissection, sometimes enormously dilated, resembling thick cords.

This stagnant blood renders the vessels more and more fragile, so that they burst from a slight cause, and effuse their contents into the intestinal canal.

The remote causes are: particularly a sedentary life, which compresses the abdomen (hence it is most frequent in sedentary workmen, as shoemakers, etc.), continuous sorrow, heavy, constipative, or too rich, nutritive, heating food, ardent beverages, suppression of piles or menses.

Therapeutics. The indications are: to assuage the irritation, and correct the corruption; then to administer mild roborants, paying continual regard to stagnations in the abdominal viscera. But a sudden suppression is to be avoided here as well as in vomiting of blood. The best remedies are: tamarind-whey, tartaric acid, *potio Riveri*, with frequent mucilaginous drinks, emollient injections; aromatic, narcotic fomentations with vinegar, and plasters on the epigastric region; but above all tepid aromatic baths, from which I have seen material relief in several cases, when vomiting refused all internal medicine. In a long duration of the malady and great prostration, malt-baths, and nutritive injections of broth and the yolk of eggs. As roborants, an infusion of millefoil, *centaur. minor*, finally *columbo* and *cinchona* are to be given.

Millefolium and visceral injections are particularly commendable for subsequent treatment and for preventing relapses.

MICTURATION OF BLOOD.

Hæmaturia, Mictus Cruentus.

Diagnosis. Discharge of blood with the urine, either mixed with it like dark beer (from the kidneys, *hæmaturia renalis*), or separated from the urine, coagulated, lying on the bottom of the glass (from the bladder, *hæmaturia vesicalis*). In renal hæmaturia difficulties and pains are felt in

the region of the kidneys; in vesical hæmaturia the same are felt in the region of the bladder. The discharge of blood from the urethra (*stymatosis*) is recognised by the blood issuing independently of making water.

Vesical hæmaturia is most frequently hæmorrhoidal (anomaly of piles, hæmorrhoidal flux through the bladder; see *hæmorrhoidal disease*). Besides, it may be produced by the irritation of a stone in the bladder (*vide lithiasis*), or by ulcers and other organic diseases situated there.

Renal hæmaturia is owing to gravel or to debility and atony of the renal vessels (principally by excessive drinking, particularly diuretic beverages, as beer, tea, or diuretic medicines; strong commotion from continued riding in a carriage or on horseback, blows, also excess in coition); likewise to suppression of habitual evacuations of blood, as piles; to spasm and consensual irritation, especially of gastric accumulations, worms, violent exertions in lifting a heavy load, by which the blood is forcibly pressed into the kidneys; to inflammation of the kidneys, and finally to a dissolution of the blood, as in scurvy, morbus hæmorrhagicus, putrid fever; and to old age.

Stymatosis is merely hæmorrhoidal, a consequence of hæmorrhoides urethræ, varicose vessels in the urethra.

Therapeutics. The treatment must conform to the general principles, especially to the various causes and characters (*vide hæmoptysis*). Adynamic hæmaturia is the most common. It is recognised by the debilitating causes, absence of pain, signs of congestion, old age, and frequent relapses. The best remedies are: cold washing and fomentations on the lumbar region, spirituous embrocations, infusions of agrimony, millefolium, salvia; in worse cases alum-whey, also chalybeates, cinchona, ratanhia, sulphate of iron, avoiding all fermenting drinks, mineral waters, and concussive motions. When there is sanguineous congestion, suppressed hemorrhages, and an inflammatory state, blood is to be abstracted; the suppressed hemorrhages are to be restored or compensated, cooling remedies (*vide hæmorrhoides vesicæ*) are wanted. In a spasmodic state ipecacuanha in small doses, oily emulsions, opium; in commotion cold fomentations, venesection, then arnica; after abuse of cantharides, oily emulsions and camphor are advised. If it is owing to calculus, bleeding, antiphlogosis, and the treatment of stone (*vide lithiasis*) must be resorted to. When it is consensual, arising from bilious and gastric accumulations, purgatives, and, if indicated, an emetic, are best.

In all kinds of hæmaturia a tablespoonful of poppy or almond-oil, taken morning and evening, has proved very beneficial. If stoppages of the urinary discharge are caused by coagula of blood in the urethra, injections, bougies and catheterism are required.

Afterwards, a cleansing of the kidneys and bladder from coagulated blood must be effected, which may be done by Selters water with milk, or still better by Wildunger water.

METRORRHAGIA.

Vide Diseases of Women, Menstruation.

HÆMATOSIS, PETECHIANOSIS.

Morbus Hæmorrhagicus Maculosus Werlhofii.

Diagnosis. Small and large dark blue, petechia-like spots on different, sometimes on all parts of the body, sometimes also vibices, frequent epistaxis, bleeding gums and palate, also other hemorrhages, great prostration; no fever.

The disease is very similar to pectoral fever and scurvy. It differs from the first by the absence of fever, from the latter by the absence of the bad smell from the mouth, and is a more infantile malady. It is, however, to be classed among scorbutic diseases.

The disease may last very long, and finally terminate fatally by entire debilitation, or by violent, ever-and-anon returning unsuppressible hemorrhages.

It is always owing to a decomposition of the blood and weakness of the vascular system.

The treatment requires vigorous administration of roborant and astringent remedies. Cinchona, mineral acids, combined with baths of oak bark are here most serviceable, and I have always conquered the disease by them.

The *hæmotosis hereditaria*, the innate disposition to all kinds of hemorrhages, which is peculiar to some families, which are called on that account *bleeders*, can be only palliatively assuaged, but not radically cured. It commonly leads to death by hemorrhages.

II. *Blennorrhææ.*

Generalities.

Diagnosis. Unusual or excessive evacuations of mucous or serous humors.

They can take place in all secretory organs, and constitute one of the most common and numerous classes of diseases.

The effects are multifarious, partly local, partly general, and then often very important to the well-being of the whole system. The local ones are: local debilitation, increased irritability, constant disposition to inflammatory affections, various degenerations of reproduction and disorganizations; the general ones are: general debilitation of the whole organism, increased sensibility (especially in fluor albus), nervous diseases, emaciations, finally, when the loss of humors becomes considerable or concerns a noble organ (as the lungs), lingering fever and fatal tabes.

Pathogenesis. Their cause is, as in all profluvia, either increased action (irritation) or debilitation.

1. The first is of an inflammatory or of a nervous nature, and the exciting causes may operate either idiopathically or sympathetically. Of the first (idiopathic) class are: sanguineous congestions, metastases, specific, miasmatic morbid matters, foreign bodies (to which also pseudo-organizations belong), often also increased irritability of a single part, by which it happens, that even common irritants create too strong a reaction. The sympathetic are either consensual or antagonistic. The consensual irritation originates most frequently in the intestinal canal and the abdominal viscera; the antagonistic in the skin. Suppression of the cutaneous action, and transmission of the function of the skin to another muco-secreting organ is frequently the sole cause of obstinate blennorrhæas (as phthisis pituitosa, fluor albus).

2. The second fundamental cause, debility, is either the product of general debility or only a local debility of the affected organ, sometimes primitive, but more frequently only consecutive of a former irritation, sometimes also both united; weakness combined with increased irritability or stimulation.

Therapeutics. The general treatment consists partly in doing away with the remote causes, which alone often suffices for a cure (indirect cure); as removal of the inflammation, sanguineous congestion, general debility, the idio-

pathic (often specific), or consensual, or antagonistic morbid stimuli, etc.; thus, the restoration of the cutaneous function is in itself sufficient for curing fluor albus and phthisis pituitosa. The treatment may be partly direct, operating immediately on the morbid state of the affected organ; or local weakness, morbid irritability, perverse secretion, disorganizations; for which purpose general as well as local means are applicable.

The blennorrhœa of single organs, see under their respective names, as *blennorrhœa vaginæ et uteri. s. fluor albus*, *blennorrhœa pulmonum s. phthisis pituitosa*.

SALIVATION.

Ptyalismus.

Immoderate secretion or discharge of saliva. When of a long duration, it is also injurious to health, even to life; as it not only is a waste of the elements of the body, but especially of a juice which is indispensable to digestion and nutrition. The consequence is emaciation, tabes.

It is most frequently owing to an abuse of mercury, taken for too long a time or in too large a quantity. Besides, it may be generated by scurvy or obstruction in the abdominal viscera, especially in the pancreas, and even by the habit of constant spitting, particularly by immoderate smoking or chewing tobacco.

The cure of mercurial salivation is effected by repeated purging, sulphur, tepid baths, opium (treatment of mercurial disease); in extreme cases by iodine. If it be the effect of scurvy or of abdominal obstructions, it calls in the first case for the antiscorbutic, in the second for the resolvent method of treatment.

SWEAT.

Epidrosis.

Diagnosis. Immoderate and constant sweating.

This is very rare as an independent disease; when it occurs, it is generally a symptom of other diseases, especially of the colliquative stage of consumptive maladies, of scurvy, of several kinds of nervous debility, cessation of the menses (in this case may last for years), and of the mi-

liary fever, in which it exists as a pathognomic symptom from the onset, and is particularly abundant. In extremely rare cases, it may appear without the miliary eruption as a febrile disease (the sweating fever), even epidemically and contagious, which is proved by the *sudor Anglicus* of the seventeenth century, when men wasted away by sweating within a few days (an external cholera).

This profluvium prostrates the vital power exceedingly, and may rapidly exhaust it.

The cause is weakness, a paralysis of the skin, too strong congestion of the humors towards the surface, and decomposition of them.

Accordingly, the cure requires invigoration of the skin and arrestation of the internal dissolution and decomposition of the humors. The principal remedy, complying with both indications, is mineral acid; the most vigorous is acid. muriat. oxygenat. (of which I have seen excellent effect, when taken in the quantity of one half up to two ounces a day), acid. sulphur. and alum. Next to these, a tea or a vinous infusion of sage, has proved specific in such cases, and *boletus laricis*, five to thirty grains daily. The conditional cause of the disorder, such as a scorbutic diathesis, phthisis or hectica, must be attended to at the same time. Bathing with vinegar, cold water, diluted mineral acids, ice, are advised as local applications.

Epidrosis localis (sweating of the feet, the genitals, hands and axillæ), occurs more frequently, and is generally connected with a qualitative corruption of the secretion by which a bad smell is emitted, thereby rendering the complaint very disagreeable. It can be easily suppressed by alum and saturnine ablutions; but he who ventures to do so is threatened with blindness, deafness, asthma, phthisis, indeed, all kinds of metastatic disorders. The only safe proceeding is gradually to wean and invigorate these parts of the skin, by washing and bathing them with a decoction of chamomile and sage; in order to smother the bad odor, the parts may be washed with chlorine water.

INCONTINENCE OF URINE.

Enuresis, Incontinentia Urinæ.

Diagnosis. The patient has a constant involuntary dribbling of urine (*enuresis completa*), or the urgency to pass it is so sudden and great, that he is immediately forced to

yield (*enuresis incompleta, spastica*); or it escapes from him only during sleep (*enuresis nocturna*).

Pathogenesis. The causes of *enuresis spastica* may be: a continual irritation in the bladder or in some contiguous part; calculus, acrid, sabulous urine (as in old persons), worms, particularly ascarides, menstrual or hæmorrhoidal congestion of blood to the bladder, gastric accumulations, scirrhusities in the bladder, rectum, or prostate gland, or ulcers, fistulas. Or mechanical pressure, as that of the gravid uterus in the last months, or of other tumors in the abdomen. Finally, the bad habit of too frequently urinating, by which the size of the bladder is diminished.

The causes of the *enuresis completa paralytica* are: atony and paralysis of the bladder, difficult parturition, apoplexy, strong commotion of the spine (after a fall on the back or nates), tabes and paralysis dorsalis, too great distention of the bladder by long retention of urine, operation of lithotomy, old age.

Therapeutics. The *enuresis spastica* is cured by removing the respective irritation. I cannot sufficiently direct the attention to worms and their removal, also to gastric accumulations; the continued use of dissolvents and purgatives give most relief. In sabulous accumulations in the bladder, pulvis aërophorus natronatus (No. 172) is advised. The remedies may be combined with hyoscyamus and spasmodic embrocations.

The *enuresis atonica* admits with difficulty of a cure. The remedies are: roborants, excitants, astringents, applied internally and externally; cold douches, electricity, cantharides (*vide ischuria, paralysis*). When the case is incurable, there is no expedient left, but that of wearing a urinal or a compressor.

The nightly *enuresis* of children is most frequently only a bad habit, and is corrected by care, by diminishing the quantity of the evening potation, lying on the side, awakening them several times during the night in order to make water, also by chastisement in the morning, the effects of which will be remembered, even in sleep. If all this do not avail, we must examine whether or not an irritation, as worms, be the cause of it, or a local weakness, especially in adults; if so, roborants are to be given. In extreme cases, a flexible bottle properly secured, may be used.

DIABETES.

Diagnosis. Excessively increased secretion of urine, which may or may not be qualitatively altered, accompanied by a morbid influence on the whole system. It is merely an increase of urine, which generally becomes more and more watery (*diabetes insipidus spurius*), the quantity of which reaches to fifty or one hundred pounds a day; or is alteration of it, milky or vinous, partaking of the properties of the beverages drunk (*diabetes verus*). The most frequent and remarkable species is that in which the urine is inodorous, of a sweetish taste, and contains saccharine matter, up to an ounce in a pound, (*diabetes mellitus*), while the urine itself decreases.

The concomitant accidents of diabetes are: dry skin, thirst, drawing pains in the back and loins, disagreeable sensations often increasing to a violent burning in the præcordia. At last, a lingering fever, emaciation, paralysis, accumulations of water, finally death, under symptoms of colliquation or apoplexy.

An important practical rule is, never to omit examining the urine of all patients who emaciate independently of pectoral complaints or other considerable local disorders, for many a person has died of this disease without its being suspected by the physicians, since it often happens that the quantity of urine is not much increased in this species (the diab. mellitus).

Pathogenesis. The proximate cause is a faulty condition of the secretive function of the kidneys, either in quantity or in quality, or in both.

The most important of the remote causes is: chronic suppression of the cutaneous secretion transmitted to the kidneys. I know an instance of a woman, who, having gone in a state of perspiration into a cold cellar where she remained long, contracted so violent a diabetes that it lasted for years, and could be remedied only with great difficulty. Another cause is debilitation of the kidneys and of the spinal marrow by excesses in venery and in drinking; also sanguineous congestions to this organ, suppression of piles and catamenia; hysteria, hypochondria, gastric stimulants and worms; metastases and local irritants of the kidneys, as stone and gravel.

In diabetes mellitus a singular derangement of the animal-chemical process of the kidneys takes place, by which sugar is prepared from the humors carried thither, in a

manner analogous to that by which stone and gravel is created in lithiasis, and by which starch and linen may be transmuted into sugar by (sulphuric) acid. This is formed chiefly from the chyle in the blood, which, when first admitted, may be easily separated by that peculiar chemical affinity and attraction, which seems to exist for it in the kidneys. This loss of chyle accounts for the emaciation and debility met with in this disorder.

Therapeutics. The cure is very difficult. It is most essential to inquire into the various remote causes and to act accordingly. This will lead to very different modes of treatment. If it be owing to long checked perspiration, this function of the skin must be restored by diaphoretics, especially by camphor and ammon. sulphurat. (two grains daily Beguin's sulphur balsam), from both of which I have seen excellent effects in diabetes mellitus; hot baths, Russian baths, frictions;—a treatment which, on account of its vigorous derivation from the kidneys, is also beneficial in all other kinds of diabetes. If atony or preceding debilitating causes have given rise to it, roborant remedies will be needed; suppressed hemorrhages, or a plethoric inflammatory constitution require abstractions of blood; I have seen diabetes mellitus arise from amenorrhœa, and disappear on a return of menstruation. If the disease is due to gastric accumulations and worms, emetics and helminthics are to be administered; if owing to visceral obstructions, resolvents. I have seen it happen as a consequence of obstruction in the liver, and cured by Carlsbad spring and the use of soda and bitter extract. If nervous debility, increased sensibility, hysteria and hypochondria are constitutional causes of diabetes, nervines, antispasmodics (asa fœtida, belladonna, cuprum ammoniacum) are advised; if nephritic calculus, gravel, lime-water, magnesia, and alkalines must be prescribed.

Should these means not suffice, it is best to operate directly on the renal complaint and the lumbal nervous system by active nervines and narcotics, by roborants (cinchona, iron, particularly Spa water), by derivation to the skin, and artificial ulcers. Opium in increasing doses, along with lime-water and warm baths, have also, according to my experience, performed the cure of diabetes mellitus; likewise kreosote in large doses, from ten to twenty drops a day. A consideration of the chemismus is very important in this species. It is certain that, as long as the patient does not take vegetable food, and lives solely upon eggs and meat, he does not produce saccharine matter in the

urine, and though no radical cure is effected, animal diet is promotory and essential to cure it. The use of fresh ox-gall has also proved efficacious.

LEUCORRHŒA.

(Vide *Diseases of Women.*)

CATARRHUS VESICÆ.

Cystorrhœa.

Diagnosis. Discharge of mucus with the urine, accompanied sometimes with little, sometimes with great difficulties in making water.

This disease in itself is generally without danger, except such as may attach to the cause, of which it is a sign.

However, besides the difficulties of making water, it may itself become injurious to health and to life, even produce tabes, when the discharge of gelatinous matter useful to the economy becomes very copious. We must be careful to discriminate between the discharge of mucus and that of pus. The corrupt secretion of mucus may (as in *phthisis pituitosa*), gradually degenerate into *phthisis vesicalis*.

Pathogenesis. The causes are most frequently local; as a local irritation of the bladder by gravel, stone, chronic inflammation, induration (also of the prostate gland), the immoderate use of diuretic drinks, also diuretic medicines, wearing a catheter or bougies for a long time, metastases, especially psoric, arthritic, rheumatic, syphilitic, most frequently hæmorrhoidal congestion (*hæmorrhoides mucosæ vesicæ*); or local debilitation, in consequence of a preceding irritation, inflammation (subsequent malady of the diseases before mentioned), or venereal excesses, or as a consequence of too great a distention of the bladder after long continence of urine. Also sympathetic irritations of the abdomen, worms, and infarcts may contribute towards engendering the disorder.

Therapeutics. For the treatment we have to carefully examine whether stone or gravel is not the cause; in which case the correspondent course is to be taken. The various remote causes are also to be considered. In hæmorrhoidal congestion, sulphur, a solution of extractum tarax-

aci with soluble tartar, the occasional application of leeches ad anum (vide *hæmorrhoidal disease, vesical hæmorrhoids*); in catarrhal, rheumatic, arthritic, psoric metastases, the cure of chronic rheumatism, of gout, of psora must be pursued; for which woollen clothing, warm baths, and exutories are recommendable. Roborants, cinchona, and iron may be prescribed to remedy atony. In all kinds of cystorrhœa, Wildunger water is an excellent remedy. Besides uva ursi, lime-water, also phosphoric acid have proved very salutary; likewise all remedies recommended in fluor albus.

Particular attention is due to the discharge, whether it be pus or mucus; if the latter, the treatment of phthisis vesicalis is to be adopted.

CLAP.

Gonorrhœa.

Diagnosis. Constant or periodical flux of mucus from the urethra, with or without pain.

The most frequent cause is coition with a person already affected with a syphilitic or other kind of fluor albus, or a local disease of the uterus and vagina. But a gonorrhœa may arise also without improper connection, by metastases (especially the rheumatic, arthritic, psoric), to the mucous membrane of the urethra; or by hæmorrhoidal congestion, and by anomaly.

The discriminative signs can be derived only from the origin. Gonorrhœa which follows coition must always be regarded as a specific syphilis; the non-specific species is recognized by not having been preceded by sexual connection, but by rheumatic, arthritic or hæmorrhoidal affection having previously existed or alternated with them. It also sometimes happens that a gonorrhœa primarily specific, is subsequently entertained by some external or internal cause, and passes into a non-specific (*gonorrhœa secundaria*).

Therapeutics. For the treatment of the specific, look under *syphilis, gonorrhœa syphilitica*. The treatment of the non-specific is adapted to the respective causes. The arthritic and rheumatic is treated as gout and rheumatism; the hæmorrhoidal as hæmorrhoidal disease. Use the remedies appropriate to the various morbid states, and if this do not suffice, combine with them such medicines as have a specific tendency to the mucous membrane of the ure-

thra ; of which balsamum Capaivae, twenty to thirty drops on a piece of sugar, taken several times a day, is the principal remedy. Avoid in such cases astringent injections, by which very bad metastases may be engendered.

SEMINAL WEAKNESS.

Pollutio. Onania.

Diagnosis. Involuntary and too frequent emission of semen ; *nocturna*, when it occurs only in the night in voluptuous dreams ; *diurna*, when it happens in day time by the least mechanical or physical irritation, as by riding on horseback, by defecation, especially when costive ; by every amorous thought, sight, touch.

Pollutio nocturna is a natural excretion, if it occurs but seldom, as in young, plethoric, abstinent persons, and is not injurious except when it is too frequent, every two or three days ; then it produces all the consequences of onanism (by which it is also generally caused), as : debilitation of the nerves, hypochondriacal and hysterical complaints, spasms, weakness of sight, of memory, of all the mental faculties, especially that of manliness of character and of love of life. The abundant loss of semen, of that substance which imparts life, has this peculiarity, it destroys the love, courage of life, and brings on a disgust of life (*tædium vitæ*), becoming one of the most frequent causes of suicide.

The *pollutio diurna* is the most debilitating and destructive of all the profluvia, and causes, besides what has already been mentioned, falling out of the hair, local lameness, imbecility, tabes nervosa, particularly dorsalis, and finally terminates in death.

Masturbation (*onania*), although, properly speaking, this is a vice, is also to be mentioned here, since through habit, it at last becomes a disease, an irresistible instinct for seminal discharge.

Pathogenesis. The proximate cause is weakness, with increased sensibility and irritability (irritable debility) of the genital organs, especially of those which procreate, preserve, and discharge the sperm. In the highest degree, that of *pollutio diurna*, there is extreme atony of the seminal vesicles and excretory canals, so that mere pressure suffices to empty them.

The occasional causes of too frequent pollutions may be all kinds of abdominal irritants, as worms, gastric

accumulations, habitual obstructions, plethora of the abdomen, constant sitting, but most frequently they are owing to masturbation, which in children and young people often proceeds from the same causes, the physical as well as the moral, that is, a corrupt imagination, constant indulgence in voluptuous images and thoughts.

Pollutio diurna is the final product of long continued and immoderate onanism.

Therapeutics. The cure of too frequent pollutions is simultaneously the cure of self-pollution; and is impossible without conquering the last. The first thing to be done is to annihilate the remote causes, abdominal irritations, as worms, gastric accumulations, costiveness, plethora abdominalis; to alienate the imagination from voluptuous ideas, and to occupy it with serious abstract topics; to use and fatigue the physical powers by strong exercise and exertion of the body, so that the patient shall be fatigued at the time of going to bed; to avoid a too nutritive and stimulant diet, as meat, eggs, spices, wine and spirits, and to live more on vegetables and fruit; to eat little or nothing in the evening, not to lie on the back, and to rise early in the morning. Masturbation, if already practised, must be abandoned.

To this must be joined the cure of the proximate cause. The genitals must be invigorated, and their morbid irritability diminished. Here, however, great caution is necessary. For if the roborative treatment is carried on too violently, too rashly, or by too stimulative means, the local irritation will be increased, and thereby will the pollutions and debility be augmented; effecting just the contrary to what was intended. Therefore, we are to begin with such roborants as cool and diminish the irritability; as mineral acids, especially acid. sulphuricum. The best method, according to my experience, is the elix. acid. Halleri, ten to twenty drops three times a day, combined with Island. moss, in jelly or decoction, mixed with tinct. cinchonæ Whytii (vide No. 173), then pass to columbo (vide No. 174), which is here the most proper of all tonic roborants, and will often cure by itself. The pills No. 175, are also of excellent service. At the same time, local means of a similar tendency to diminish the irritability and to invigorate, may be used; as, frequently washing the genitals, perinæum, and sacrum with cold water; afterwards with the liquor anterethicus (No. 176), mixed with one sixth part of spirit of camphor; immersion of the genitals, perinæum, and sacral regions in a tub of cold water, repeated several

times a day ; likewise river and sea baths are necessary. The undeniable power of camphor to diminish the sexual desire and pollutions, may also be profited of with benefit : it may be given internally, one or two grains along with nitre, morning and evening ; externally, combined with liquor antereithicus, or in little bags worn next the scrotum (vide No. 177). See *satyriasis*, *nymphomania*. If this is not sufficient, or the evil has attained the highest stage, that is *pollutio diurna*, then strengthening and astringent remedies, as cinchona, quassia, ratanhia, terra catechu, gummi kino, iron, especially sulphate of iron, and the chalybeate wine (No. 106), the Pyrmont spring, internally and by baths, by which I have seen perfect cures performed, may be resorted to ; when the latter cannot be had, the artificial chalybeate baths (half an ounce of sulphate of iron for each bath) may be substituted.

OTORRHŒA.

Diagnosis. Discharge of a serous, mucous, sometimes purulent matter, which is either inodorous, or of an offensive, putrid odor, from one or both ears.

It is usually met with in children, and is almost always the effect of a scrofulous metastasis to the mucous membrane of the meatus auditorius, being analogous to scrofulous blennorrhœa of the eyes, with which it very often alternates. It is often owing to a rheumatic or catarrhal metastasis, a catarrh of the ears. It may, however, be concomitant or consecutive of otitis, which is recognized by the presence of pain. A psoric or syphilitic metastasis may also be the cause. Finally, an internal suppuration, even caries may produce it ; a cause that is recognized by the fetid and purulent quality of the matter. It is, however, well to remark, that not every putrid smell of the discharge does indicate suppuration or caries ; for this may also exist in a purely catarrhal otorrhœa, as is likewise observed in a violent coryza. This complaint is insignificant in itself, especially in children. If of long duration, it may be followed by weakness of hearing and organic disorders.

The cure must be effected by general means, and such remedies as have a particular tendency to the respective dyscrasia ; or by derivatives. Thus, the use of pulvis antidyserasicus, intermediately purgatives, and vesicatories behind the ears are generally sufficient to cure the scrofu-

lous and rheumatic otorrhœa. Lukewarm milk or weak soap water may at the same time be used for cleansing the ears. Be careful not to use strong, locally suppressing remedies, as zinc, vitriol, mercury, lead, and other metallic salts. They are apt, by sudden suppression of the discharge, to cause the most serious consequences, deafness, and even metastasis to the brain. It is only when the discharge is obstinate and continues after the use of the general means, or becomes malignant and purulent, that they may be resorted to.

LIENTERY.

Lienteria.

Diagnosis. Evacuation of the aliments (solids as well as liquids), in an indigested state. (We must not mistake for it the discharge of such substances as the best stomachs do not digest; the hulls of peas, lentils, berries, the fibres of some vegetables, the green color of spinage). It is sometimes combined with vomiting, generally with insatiable hunger. Pale countenance, prostration, emaciation, finally lingering fever, associate with it.

Pathogenesis. The proximate cause is a too quick passage of the nutriments through the stomach, and without being digested. It can originate in a total loss of assimilative power, faulty condition of the chyle, a morbid irritability of the stomach, or in a morbid stimulus, particularly gastric impurities, acrimonies thrown there per metastasin, worms, also in organic disorders of the stomach. Gluttony, especially of raw, fermentive vegetable substances, sour wines, too rapid swallowing of the aliments, also abuse of purgatives, frequently give occasion to it.

Therapeutics. When indications of impurities exist, cleansing the stomach by emetics and purgatives, and strengthening it, simultaneously diminishing its increased irritability. This purpose is attained by the following remedies: bitter roborants with aromatics and small doses of opium, particularly radix columbo, quassia, extract. cort. aurantiorum, myrrh. aquosa; also aloetics, the balsamic pills of Hofmann, extract of hops, tinct. cinchonæ Whytii, rad. calam., zingiber, chalybeate milk, with the yolks of eggs (prepared by quenching a hot iron in it); salep, rice-pap, substantial broth, strong, sweet, or astringent wines without acidity (Madeira, old Malaga, Burgundy, Pontiac,

wine with nutmeg), ferruginous mineral waters in small doses, with milk, lime-water, acorn coffee, quinces, bitter beer. Externally balsamic spirits, herb cushions moistened with rum applied to the epigastric region, in extreme cases a moxa (vide *weakness of the stomach, diarrhœa chronica*). We must at the same time attend to the removal of worms, metastases, and other morbid causes, especially those of a rheumatic and arthritic character, also lurking syphilis, when they exist.

FLUXUS COELIACUS.

Diagnosis. Evacuations from the intestinal canal of a white color, resembling milk or chyle, sometimes mixed with excrements, also with blood; sometimes suddenly followed with tenesmus. Bad digestion, pale countenance, finally emaciation, lingering fever, death.

Pathogenesis. The cause is a blennorrhœa intestini recti (similar to the blennorrhœa uteri), a fluor albus intestini recti. The remote cause may be the same as in fluor albus, especially a hæmorrhoidal congestion (hæmorrhoides mucosæ), metastases, atony of the intestinal canal.

Therapeutics. The cure of the hæmorrhoidal disease, of the specific morbid matters accidentally existing, of the metastases, obstructions of the liver, and other abdominal viscera; the use of bitter tonics, as columbo, millefol., quassia, lignum campechiense, martials, Pyrmont water, visceral and roborant injections are particularly advised.

FLUXUS HEPATICUS.

Diagnosis. Watery and mucous stools, resembling in color the lymph of blood, with and without excrements, without tenesmus and colicky pains, in greater or less quantity, up to ten or twelve times a day; it is also sometimes intermittent; very chronic, lasting for years; finally prostration, emaciation, lingering fever. (It is a rare disease.)

Pathogenesis. The cause is an exhalation of serum into the small intestines. Most frequently it is caused by hæmorrhoidal disease, by obstructions of the abdominal viscera, especially of the liver, also by great atony of the intestines and colliquation. Nor can it be denied, that the discharge is sometimes really hepatic; that is, the product of soften-

ing and dissolution, perhaps also of suppuration of the substance of the liver; in which cases it is associated with chronic liver complaints, and ends in death.

Therapeutics. The treatment must conform to the causes. Mild resolventia subamara, millefolium, centaur. minor., with soluble tartar, roborants, cinchona, Campeachy wood, diluted mineral acids, tonic injections, Eger, Spa, Pyrmont water in small doses, are the most beneficial remedies.

DIARRHŒA.

Diagnosis. Increased fluid discharge from the intestines. It may be free from, or accompanied with pains (*diarrhœa torminosa*); continue for a few days, or by becoming chronic, last for months and even years. The matter evacuated varies very much; may be excrements, watery fluid, mucus, bile, pus, blood. It differs in regard to danger; sometimes it is insignificant, without danger, curing by itself, in many cases it is even a salutary crisis; at other times it is very important, running into danger or indicative of already existing vital danger.

A principal rule is, to consider every diarrhœa as salutary, and therefore not to stop it, as long as clear proofs of the contrary do not appear. These are: quite watery evacuations (though these also may sometimes be critical and wholesome; as the rheumatic), great prostration after each stool, increasing sometimes to fainting.

Protracted diarrhœa is exceedingly debilitating, and may finally produce all the consequences of weakness, as nervous diseases, hysteria, cachexy, tabes, hydrops, and lien-teria.

Pathogenesis. The proximate cause is always an increased activity of the intestinal canal, of the peristaltic motion as well as of that of the secretory vessels. But the causes may be various, even opposite, either an augmentation of the irritability or an unusual stimulus. The irritability may be increased in a double manner, either by increase of power (sanguine, phlogistic, inflammatory diarrhœa); or by weakness, namely, irritable debility (to which belong adynamic, nervous, hysterical, finally colliquative diarrhœa); for the torpid weakness of the intestinal canal brings on costiveness. The exciting stimulus may likewise vary; be *local*, *idiopathic*, in the intestinal canal itself: indigestion, sordes, worms, metastases, organic diseases of the intestinal canal (saburral, bilious, mucous,

verminous, metastatic, organic diarrhœa); or *sympathetic*, consensual, as dental irritation, mental irritation, anguish, pain; or antagonistic, as suppressed action of the skin (the rheumatic and catarrhal diarrhœa). It is worse when both irritations unite, increased irritability and increased stimulus; as sordes in an erethic state of the intestinal canal. Even a fluid stool several times a day may continue through life, as I have observed in a man who labored under it up to his eightieth year without any prejudice.

There exists also a predisposition to diarrhœa, which is of a double description. 1. That which is *individual*: there are men whose intestinal canal constantly inclines that way, so that they are affected with diarrhœa on the slightest occasion; becoming the common way by which nature excretes diseases and morbid dispositions and restores the normal state. 2. *General*: there are universal constitutions of the atmosphere which render all men liable to diarrhœa. Of that character is especially that one which returns annually in the summer time, and is due to an increased secretion of acrid bile. Similar to this is the *climatic*, in tropical regions, where bile again is the cause.

Therapeutics. The principal indication is: to remove the irritant cause, or to assuage the increased irritability of the intestinal canal; or to do both. This fundamental idea may be carried out in very various ways, according to the various irritant causes, or the increased irritability being dependent on weakness or augmented vitality.

Hence the treatment of the single species.

The most common and first to be mentioned is *Diarrhœa æstiva*, which springs up epidemically in the prolonged heat of the months of July and August, and is accompanied with more or less griping pains. It is always of a bilious nature; the bile being increased in quantity and acrimony by the heat of the season. In general nothing more is wanted than rhubarb, which is here a specific, and a strict observance of diet, avoiding all acids, fruit, beer, vegetables, and living on water gruel, pearl-barley soup, rice-water, chicken, or veal. The rhubarb may be taken in the form of tincture, as an ounce of tinct. rhei. aquos., or the mixture No. 178 daily. This will generally be sufficient. I have found pulv. rad. rhei. still more efficacious, prescribed in doses of 3 or 4 grains every 3 or 4 hours, formed into pills with liquorice, in order to correct the taste. Sometimes the evacuations are watery, and *sigua sordium sursum turgescientium* exist; here sal ammoniac. dissolved in mucilage, will best stop the watery effusion, followed by

an emetic of rad. ipecacuanhæ (which is also a specific in diarrhœa), afterwards rhubarb. It may be necessary to repeat the emetic several times.

Sometimes the diarrhœa is watery, and accompanied with violent griping pains; here oleosa combined with sal ammoniac and anodynes (vide No. 179) will give the most prompt relief; at the same time inunctions, cataplasms, oily injections may be made use of.

In *diarrhœa* owing to *indigestion*, the same treatment is required; if an emetic is indicated, let it be ipecacuanha; and followed by rhubarb.

Generally, these remedies suffice to perform a cure. Sometimes, however, the diarrhœa will notwithstanding persist and continue watery, prostrating the patient, without any signs of the presence of gastric impurities. The indication here, is to suppress the aqueous flux. The first ways must be previously cleansed, lest the suppressive means produce injurious and even dangerous consequences; and a proper succession must be observed, gradually passing from the mild to the stronger kinds. The remedies are the following: Above all is *antagonismus of the skin*. As suppression of cutaneous action is able to create immediately diarrhœa, so also may its restoration instantly derivate and remove the diarrhœa; therefore let the abdomen and back be wrapped in double flannel, which, in many cases will be alone sufficient. After this rhubarb in powder 1 or 2 grains, ipecacuanha in small doses (vide No. 180), and testaceous substances, as prepared shells, lapid. cancrorum, especially clay and bolus armenia (vide No. 181); farther, mucilaginous, gelatinous substances, gum arabic, salep, rice-pap, starch injections. I recommend extract. cascarrillæ (vide No. 182) as a very valuable remedy, confirmed to me in many cases by my own experience, since it stops diarrhœa without the least detriment; farther, nutmeg; at last opium, which is the most sure of all other means, but for that very reason it is also the most dangerous; therefore it must always be given in combination with evacants (vide No. 183).

Simple *rheumatic diarrhœa*, owing merely to taking cold, generally requires nothing but flannel around the abdomen, to lie in bed, to perspire, and to take mucilaginous drinks. If at the same time there is a gastric complication, this must have its appropriate treatment.

Habitual or chronic diarrhœa, is a continual looseness of the bowels, or a disposition to looseness from slight causes; in the latter case it is subject to alternate with

costiveness. It is frequently the sequel of a previous acute diarrhœa. A local weakness combined with increased irritability (irritable weakness) must always be supposed to be the original cause and object of treatment; but it is equally important to pay attention to the morbid stimuli connected with it, which frequently excite an erethismus, and, without the removal of which the use of the most powerful roborants will be fruitless, yea the removal of which alone is often sufficient to a cure. We therefore distinguish the following cases.

The merely *adynamic*, *erethic* chronic diarrhœa, requires the continued use of tonics, especially the bitter, astringent, narcotic, and antispasmodic kinds, and counter-irritants. Those most approved of by experience are: columbo (vide No. 184), of the powder 1 scruple 4 times a day, cortex cascarillæ, lign. campech. (vide No. 185), cort. aurantiorum, simaruba, salicaria, acorn-coffee, red French (claret), Pontac, Cahors wine, the same aromatized with orange peel, chalybeates; particularly Pyrmont water, flannel vest, strengthening embrocation on the abdomen and spine, strengthening baths, douches on the abdomen. I have found a little spice-bag worn on the abdomen (filled with cloves, cinnamon, pepper, cardamomum, and ginger, moistened morning and evening with cold rum), very efficacious. I should not omit to remark that, while irritability continues, small doses of laudanum must be added to the tonics. In several cases, where other means failed, tinct. macis along with laudanum (vide No. 186), has proved serviceable. When there is great atony, a cold diet must be observed. Nux vomica (vide No. 187) will often have an excellent effect. Terra catechu, as in the mixture No. 188, is very recommendable. In very obstinate cases I have performed perfect cures, merely by milk-diet and cold food; the patient being suffered to take nothing but milk, cold meat and white bread.

If one of these methods does not suffice, investigate closely whether or not a foreign irritant keeps up the diarrhœa; especially worms, or metastatic and specific morbid matters; most frequently gout, rheumatism, and psoric (particularly herpetic) acrimony, even lurking syphilis; if so, each of these will require its respective remedy. In the hæmorrhoidal, sulphur as combined in No. 189 is most valuable. Even the dietetic mode of living and clothing of the patient is to be regarded; too thin clothing, moist dwelling, frequent use of red wine are often the unknown causes.

Diarrhœa colliquativa, which associates as a symptom with phthisis, tabes, hydrops, and hectica, requires the treatment of the original disease, and besides the use of the stringent remedies previously mentioned, along with opium, especially starch injections with opium.

Putrid diarrhœa (which occurs in scurvy), is remedied by alum-whey, Peruvian bark, terra japonica, along with small doses of opium.

Diarrhœa owing to obstructions in the mesentery, tubercles of the intestinal canal (frequently met with in scrofulous children), requires acorn-coffee, extract of cascarilla, nutritious jellies, and malt-baths. The same applies to that kind of diarrhœa which is caused by other abnormal states and organic disorders of the abdomen. The use of snail-broth with cascarilla has proved beneficial in hectic persons, laboring under diarrhœa for years.

Diarrhœa purulenta with discharge of real pus is indicative of suppuration in the intestinal canal, and requires the use of milk, whey, butter-milk, salep, snail-broth, milk with an addition of lime water, myrrh, copaiva balsam, cinchona, injections of milk with myrrh or copaiva, 1 to 2 drachms and a little laudanum several times a day; even an addition of a few drops of acetum plumbi may be permitted.

Diarrhœa infantilis, vide *diseases of children*.

DYSENTERY.

Dysenteria.

Diagnosis. Constant urgency to go to stool, tenesmus, violent abdominal pains, fever; only mucus and blood, but no fæces in the stools. Therefore the disease is not properly a flux but a constipation, an essential difference, and the reverse of diarrhœa. In diarrhœa nuisible intestinal impurities are evacuated; in dysentery they are impeded and retained. Diarrhœa can get well by itself, not so dysentery. As soon as feculent impurities are discharged in dysentery, the disease may be said to be cured.

The course of the disease varies. Sometimes it is announced by previous symptoms, sometimes not. It may be of short duration, sometimes long, even passing into chronic dysentery. The precursory symptoms are frequently diarrhœa or dull pains in the abdomen. It commences by a cessation of bilious stools, which is followed by tenesmus with small mucous evacuations (*white dy-*

sentery), which on account of increasing irritation subsequently gets mixed with blood (*red dysentery*). In the beginning there are febrile motions, which soon cease in a slight attack of the disease. When the malady is severe, the pains continue to increase and the stools may augment to 100 in 24 hours, and their fetor increases with the fever. This aggravation is owing to the addition of inflammation, or to an excess of bilious putrid matter, or to exhaustion. Death ensues by inflammation and gangrene, or by exhaustion. The signs of gangrenous mortification are: sudden cessation of pain after having violently raged, a sunken-in countenance, cold extremities, small intermittent pulse, the evacuations are highly offensive, and are passed without consciousness. Amelioration is indicated by diminution of the pains and fever, and the evacuations becoming feculent.

Violent dysentery is frequently succeeded by paralysis, chronic diarrhœa, nervous fever, and lingering fever.

Pathogenesis. The proximate cause is a violent convulsive irritation of the large intestines, the secretion of mucus pathologically increased and rendered acrid. It is therefore not primarily an inflammation, but inflammation may grow out of it by an increase of irritation. It is very similar to that of catarrhal irritation of the mucous membrane of the bronchia; (when in more severe coryza and cough, streaks of blood are mixed with the mucus, and it is apt to pass into inflammation merely by an increase of irritation),—a *catarrhus* or *rheumatismus intestini crassi*.

This local irritation may have various remote causes: an unusual excitement or irritation of the organ. The most common cause is suppressed action of the skin (antagonistic irritation), with increase of quantity and acrimony of bile. On this account it is frequently epidemical, in August and September, after great heat of the day (which renders the bile more acrid and increases it), followed by cool evenings and nights, which arrest the perspiration. It therefore has always a bilious rheumatic character.

In severe epidemical dysentery, especially when it assumes a putrid character, a contagium dysentericum may be developed, which, however, seems to be only local, adhering to the intestinal evacuations, and rendering their emanations dangerous.

There is also an endemic disposition to this disease. Low, moist, marshy regions, such as predispose to intermittent fevers, incline also to dysentery; hence they generally prevail in such places.

Besides these causes of primary essential dysentery, there are also others which may create it symptomatically and secondarily, either by a violent local irritation, as caustic poisons, worms; or by an exceedingly increased irritability of the intestinal canal, as a hæmorrhoidal congestion, metastases; or consensually, as from difficult dentition.

Therapeutics. The fundamental indication is to assuage the excited state of the colon by removing the irritant cause and the increased irritability. The next thing to be done is to consider the respective characters of the different irritations.

The rheumatic-bilious character is of the most frequent occurrence, and is common to the autumnal dysentery. In this kind of dysentery we have in general only need of the following remedies: an emetic of ipecacuanha in the commencement; then a laxative mixture of manna and tamarinds, with a small addition of sulphate of soda and tartar emetic, continued for 24 hours; should no amelioration ensue, a mucilaginous emulsion containing small doses of opium (vide No. 190). Pearl-barley, water-gruel, gum-water, given at the same time as beverage, the abdomen and back clothed in flannel, and an embrocation of anti-spasmodic ointments with opium to the abdomen. Ipecacuanha given in the beginning as an emetic is generally necessary and of great benefit for the after treatment. There is but one exception to this rule: it is when the patient has no signs of saburra, and the stools contain no feculent matter.

Should no improvement follow this treatment, it is because of the following cases, which must be carefully distinguished.

1. The fever increases, the pulse becomes full and hard; or the patient is young and plethoric, the pains are severe, or confined to one spot; the abdomen is tense and painful to the touch. Here is incipient inflammation, and immediate need of venesection; or of leeches when the case is light. At the same time an oily emulsion (vide No. 47) is to be given, to which opium may be added as soon as venesection has abated the pulse.

2. Or the pulse is not full, but the tongue is unclean, with many other indications of gastric impurities, which are generally of a bilious nature. In this case the primæ viæ are to be cleared, carefully distinguishing whether the stools contain feculent matter or not. If they do, the above-mentioned tamarind mixture is to be given along with mu-

cilaginous drinks, until the stools become watery. But in the second case, when the evacuations are not feculent, another emetic must be prescribed which will usually render them feculent. Should this be unavailing, rhubarb (vide No. 191) or calomel with opium must be tried.

3. Or there exist neither signs of inflammation nor of gastric impurities; but the patient suffers violent pains with tenesmus, the stools are scanty, watery, mucous or bloody. Such a case is caused principally by cold; its character is rheumatic, a real *rheumatismus intestinorum*. Here opium with gum arabic administered internally, externally, and in clysters are the chief remedies; at the same time a vesicatory to the abdomen and warm baths are proper.

4. Or finally, the case is marked by extreme prostration from the beginning (*dysent. nervosa adynamica*). Here, the foregoing remedies (opium and mucilages, also emetics and purgatives when necessary) must be combined with nervines, valerian, angelica, arnica, wine, and warm baths. If it assumes a putrid character, which is recognised by extreme weakness and a cadaverous odor of the stools, arnica (1 scruple of the powder every 2 hours, or a decoction of $\frac{1}{2}$ ounce to 8 ounces of fluid) and wines are particularly recommendable.

Sometimes, however, the dysentery continues obstinate and will not cease, though it diminishes in force. Here, experience has shown that the following remedies are very efficacious: 10 grains of powdered nux vomica daily, or 2 to 4 grains of the extract; sulphur, calomel, even sublimate in minute doses ($\frac{1}{2}$ grain to 4 ounces of water with 3 ounces of mucilage of gum arab. and 12 drops of laudanum, one table spoonful every 2 hours), which may also be given in injections, though in smaller doses, as the $\frac{1}{16}$ of a grain with opium and mucilage. In such a case too, when all other means fail, the vitrum ceratum antimoni, in $\frac{1}{2}$ or 1 grain doses, which according to the experience of the most approved practitioners, has been used with the greatest benefit; also wax, made into emulsion with the yolk of eggs; warm baths, especially in rheumatic dysentery.

If dysentery becomes chronic, arnica, the root (1 scruple of the powder every 2 or 3 hours) is the principal remedy. But denudation of the intestines by loss of mucous membrane, and the rawness thereby created, deserves great attention; for which the frequent use of salep-mucilage is the most efficient, and will often alone suffice. In obstinate

cases it is best to hold to two ideas : that of weakness, and that of a chronic passive inflammatory state of the mucous membrane of the rectum. In the first, especially when accompanied by lingering fever, rad. columbo, lignum campechiense, and simaruba are most beneficial; in the second, injections of $\frac{1}{16}$ of a grain of sublimate with opium and mucilage or starch.

Suppressed dysentery This name designates a case, when the dysenteric evacuations have been suddenly stopped by violent means, as by red wine, brandy, large doses of opium, producing bad attacks. They are of a double kind: acute or chronic. First are inflammatory or spasmodic; known by violent pains, distention of the abdomen, totally suppressed discharges from the intestines, great anxiety, spasms. Here the discharge is to be restored as promptly as possible by oily remedies, manna, calomel, especially by frequent emollient clysters and cataplasms; where the character is more inflammatory, leeches; when very spasmodic, hyoscyamus, tepid baths. The chronic consequences are obstinate rheumatisms, paralysis, hydrops. Here resolvers and purgatives must be administered, and the newly generated diseases treated at the same time.

After every dysentery the use of bitter roborants, flannel around the abdomen, and careful diet are necessary.

The cure of the *symptomatic* and *chronic dysentery* is effected in conformity to the causes. Dysentery caused by worms, vide *helminthiasis*; by dentition, vide *diseases of children*; by metastases and ulceration or organic disorders of the intestinal canal, vide *diarrhœa chronica*.

The first indication is always to assuage the irritation, and then to remove the irritant cause. In every chronic dysentery we have carefully to examine, whether a fistula of the rectum may not be the concealed cause.

The best preservative against dysentery is a flannel vest worn around the abdomen. Ripe fruit, when not eaten in excess, is not injurious.

CHOLERA.

Diagnosis. Incessant vomiting and purging, accompanied with pains in the stomach and abdomen, anxiety and tenesmus. Sometimes the disease is very violent. The vomiting and urgency to go to stool being incessant; but sometimes it is moderate. The severer kind is soon fol-

lowed by exhaustion, small, scarcely perceptible pulse, fits of fainting, coldness of the extremities, spasms, convulsions. The discharged matter in the beginning consists of the contents of the stomach and bile (the latter is always present in *cholera biliosa*), afterwards of the watery lymphatic fluids, the intestinal secretions, finally nothing at all, there being mere vomituration and urgency to go to stool. There may also be cholera without any material evacuation (*cholera sicca*), sometimes only with a disengagement of air. Then it is a kind of windy colic (vide *flatulency*).

The course is variable. Sometimes the disease is announced by anxiety, pressure in the stomach, disturbed appetite. Sometimes it suddenly breaks out, sometimes it is slight, less severe, less fatal (as when owing to indigestion). Sometimes, however, it is very virulent, forcible, rapid (fatal even within 24 hours, as the epidemic, especially the oriental cholera). It cannot last longer than 3 or 4 days, without ceasing or ending in death. Death is brought on by inflammation, or by total exhaustion of vital power.

Pathogenesis. The proximate cause is a convulsive state, a true epilepsy of the stomach and intestinal canal, generally including the liver, as is evident in the cholera biliosa by the enormously increased secretion of bile. The proximate cause therefore is not inflammation, but this may easily become associated with it as an effect of violent nervous excitement. The exciting causes are: caustic poisons, indigestion (purely specific is the roe of the barbel), gall-stones, irritation by worms, dentition, parturition. The endemic and epidemic causes are the most frequent; moist marshy regions (the same where dysentery is engendered), above all the season, when great heat of the day alternates with cold nights (month of August). The endemico-epidemic may sometimes be transformed into a true epidemy, and then become contagious, as in the oriental cholera.

Therapeutics. Assistance must be prompt and efficient; for the time is short, only one or two days. The principal indication is: to assuage the convulsive excitement of the intestinal canal, cautiously however, not to suppress too quickly the evacuations. The best remedies for this purpose are: mucilaginous beverages taken frequently, such as pearl-barley, water gruel, gum water, weak chicken broth (Sydenham's specific), River's potion, small doses of hyoscyamus or ipecacuanha; oily injections, antispasmodic

ointments, narcotic cataplasms, dry cups on the epigastric region (a very valuable means to stop vomiting), warm baths. This treatment is sufficient in ordinary cases. Two points must be well attended to: 1. The danger of inflammation. As soon as the pains become violent and burning; and in a youthful plethoric constitution or in an inflammatory character of the epidemy, a venesection is immediately to be made. 2. The danger of exhaustion (of power). When the attacks do not abate under the above treatment, the pulse becomes small, the extremities cold, or fits of faintings set in, then there remains no other salvative for life but opium. It is best given in a mucilaginous emulsion, in divided doses, 2 or 3 drops of laudanum Sydenhami every half an hour; it must at the same time be employed externally by embrocations and clysters; always remembering that it is to diminish but not to stop the evacuations from the intestines, by which inflammation dangerous to life might be produced. In extreme prostration, besides opium a strong warming wine must be administered, best old Malaga.

For the treatment of the oriental cholera, vide *cholera orientalis*.

TENTH CLASS.

SUPPRESSIONES.

Generalities.

Diagnosis. Retention of normal secretions, the evacuation of which is necessary to health.

Every interruption to the usual and necessary evacuations from the economy is important in its consequences, and claims the greatest attention of the physician. The more necessary a discharge is to the system, the more sudden and complete the suppression of it is, the more important and dangerous will it be. The effects are always double: 1, retention of a corrupt matter injurious to health (*materia excrementitia retenta*), hence the purification and integrity of the system are impeded and disturbed by the presence of acrid, irritant humors, the consequences of

which are deficient nutrition, dyscrasia and cachexy; 2, disturbance of the organic balance, and an excitement of an antagonistic reaction, which will produce acute as well as chronic morbid affections of the internal parts, and vicarious secretions of different kinds. In this manner suppressions become one of the most prolific and formidable sources of a great number of diseases, acute as well as chronic, and merit the greatest attention and regard of the practitioner.

Pathogenesis. The cause of a retention or impediment to the flow of fluids, may be seated in the canal (*continens*); or be due to the contained matter itself (*contentum*).

The first may be a *spasm*, a cramplike contraction, or inverted peristaltic motion (as in some species of ileus); or *inflammation*, or the reverse of both states, an *inactivity*, atony, want of stimulus, or finally a *mechanical impediment*, organic induration, swelling, or excrescence in the vascular membranes, which obstructs the passage of the fluid. It is not uncommon for all the three causes to follow in succession, one engendering the other. First inflammation sets in, after its removal spasm continues, and finally, the long continued over-irritation and extension of the vessels create extreme atony and paralysis; they may even pass into disorganization.

The second cause may reside in a qualitative alteration of the matter to be discharged; an alteration which disqualifies it for motion (thickness or tenacity), an extreme over-filling; or finally a foreign body may be the cause. These material disorders may be consequences of the dynamic impediment, so that both classes of causes united produce the retention.

Therapeutics. The principal indication is: to remove the causes which give rise to the suppression; that is, the inflammatory state, when it is the cause; the spasm, or weakness, or mechanical hinderance, when they are the causes. This alone will often suffice to re-establish the normal discharge. Should it not succeed, we must have recourse to means which operate locally and directly; as laxatives, irritatives, even surgical assistance in extreme necessity.

When we are unable to restore a suppressed secretion, we have but one expedient left, which is to create a supplementary evacuation of a natural or artificial kind.

CONSTIPATION OF THE BOWELS. COSTIVENESS.

Obstructio alvi. Dyscopria.

Diagnosis. Individuality is to be discriminated. There are men, to whom it is natural to have a stool only every two or three days, and without annoyance. It is, however, a rule of the normal state and proper to health, to have one stool every day. If constipation continues for too long a time, the consequences are: the *faeces* thicken, harden, accumulate, and distend the colon; create abdominal obstructions, hæmorrhoidal complaints, and congestions to the head and chest, sympathetic disturbances and hypochondria.

Pathogenesis. The causes are: insufficient drink (hence constipation is more frequent in females than in males), hard, heavy, dry aliments (farinaceous meals, potatoes, pulse, nuts, almonds, chestnuts), continual sitting, tight lacing of the abdomen, deficient and defective bile, especially the habit of resisting and neglecting to go to stool.

Therapeutics. To prevent this troublesome complaint, the patient must acquire and adhere to the habit of going to stool regularly every morning. This is more important than medicines, since nature thereby resumes her healthy order. To cure constipation, a larger quantity than usual of water must be drunk, or of light beer; the patient must live on vegetables, juicy greens, fruits, especially apples and prunes; avoid dry, heavy food; take exercise, make frictions on the abdomen; take remedies which promote, ameliorate or replace the secretion of bile, even gall itself (*fel tauri insip.*); rhubarb (vide No. 192), aloes, senna leaves, herb. *gratiolæ*, will prove serviceable. Purgative salts must not be used, for they leave a disposition to costiveness. A combination of aloes or scammony, with a small addition of iron (No. 193 a), is worthy of notice, for iron greatly increases the efficacy of the first articles. The most innocuous and surest remedy, but which loses its power by habit, is senna, in pills (as No. 194), or the tea of St. Germain (No. 195), which is still better, since in this the resinous principle is abstracted from the senna leaves by the previous digestion. Two ounces of this specific are to be infused in five cups of boiling water, and then digested for ten minutes in a warm place, without boiling; after this, the clear fluid is to be decanted from the sediment. Half a cup of this, for a weak stomach with a small addition of Malaga, will be a dose. I have seen persons who made use

of it all their lives, without experiencing the least inconvenience, and with a never failing effect.

In the most obstinate cases of constipation, in the utmost inactivity of the intestinal canal, and when all other means are inefficacious, there still remains one remedy which, according to my experience, is almost infallible, extractum colocynthidis composit. (No. 193 b), one grain for a dose. The use of Carlsbad water, which often removes this disposition for ever, at least for a long time, is very recommendable; besides injections of cold water; or, where there exist accumulations and obstructions, Kampf's visceral clysters. Finally, nux vomica, given on the homœopathic principle, and in minute doses, is very useful.

ILEUS.

Miserere.

Diagnosis. Obstinate constipation, vomiting of the food and drink taken, then of the gastric juices, finally of excrements, violent pain in the abdomen.

The disease is always liable to inflammation, which brings on danger of life. If there is fever, a continual burning pain, impossibility to bear the pressure of touch, a distended, hot abdomen, and quick, small pulse; inflammation is present.

If the pain suddenly abate, followed by copious, fetid stools, the abdomen become tender and shrink, the pulse extremely small, weak, and intermittent, the extremities cold; the inflammation has passed into gangrene, and death approaches and cannot be prevented, though the patient in general feels happy, and considers himself past danger; when the physician must be very cautious, not to be deceived.

Pathogenesis. The proximate cause is a stoppage, an interruption to the passage of the contents of the intestinal canal, owing either to stoppage, or to an antiperistaltic motion having been created. This may arise 1. From a *mechanical impediment* within the intestinal canal, as an accumulation of indurated excrements in the colon and rectum; to foreign bodies, stones, kernels of fruit, worms; to volvulus, imperforatio ani, callous or scirrhus straitening of the intestinal canal, especially where the colon terminates in the rectum; or external to the intestinal canal, as from incarcerated hernia, compressing indurations and tumors, newly formed ligaments. 2. From *inflammation*. Hence,

ileus is always a symptom of enteritis. 3. From *irritation* and *spasm*. An accumulation of acrid bile, fermentive aliments, especially the antagonistic irritation by colds taken in the feet and in the abdomen, produce ileus, and render it sometimes epidemical; spasm is also apt to associate secondarily with the other causes, and to entertain the evil. 4. From *torpor* and *atony* of the intestinal canal, which may take place as a consequence of long constipation and distention of the intestinal canal, and keep up the disorder.

Therapeutics. In the treatment of ileus we must first proceed to examine whether the patient has a rupture; the neglect to do so has often rendered the treatment futile. For when this cause exists, salvation lies only in the cure of the incarcerated hernia. We must not be satisfied with the affirmation of the patient that there is no rupture, since they often do not know it themselves (in small incarcerations), or are ashamed, especially females, to tell it; but we must examine, ourselves, all those places in which rupture can happen.

The second is to investigate whether there exists inflammation of the intestines. He who neglects to do that, and prescribes strong purgatives in such cases, kills his patient. The signs are: a constant burning pain, great tenderness on the least pressure; tense, hot abdomen, violent fever, red urine, thirst. Such a case is to be treated as enteritis (*vide enteritis*), the cure of which also cures ileus.

If neither is the case, or ileus continues after the inflammation has been subdued, the next indication is to conquer the stoppage, partly by irritatives which increase the peristaltic motion, and partly by relaxative antispasmodic remedies, to remove the obstructing contents and to restore a normal direction to the intestinal action. The remedies most approved for this purpose are oily emulsions; they are more effectual than the strongest drastics, and particularly valuable is the fresh expressed linseed oil, one tablespoonful every two hours or oftener. If this do not avail, a strong infusion of senna with sulphate of magnesia, and extract of hyoscyamus (No. 196); of this two tablespoonfuls may be given every hour, and after it a tablespoonful of linseed oil; and in order to prevent vomiting, the Riverian saturation may be given intermediately. If this also have no effect, we may give a tablespoonful of castor oil every hour, and half a drop of croton oil on sugar or in the form of pills; also aloes and jalap. The mixture No. 197 has, according to my experience, sometimes operated extremely well. In a spasmodic state these

medicines may be mixed with extract. opii aquos. ; an infusion of tobacco (No. 198) is still more efficacious. But more serviceable than all internal remedies, which very frequently are immediately rejected by vomiting, are injections, administered every three or four hours. In the beginning they may be composed of sulphate of magnesia, infusion of senna, or castor oil ; then of two or three ounces of vinegar, four grains of tartar emetic ; the most effectual is half an ounce of an infusion of tobacco. It is true that the narcotic power of this remedy affects the nerves, and may even induce syncope, but a stool ensues during that fit. Also the "douche ascendante" into the rectum may be used ; it is effected by hanging a leather pipe of three or four feet in length, and filling it with warm water.

To this treatment external applications may be added, as emollient narcotic cataplasms, sinapisms, cups, especially warm half baths ; also embrocations of croton oil on the abdomen. Cold water used in any form (frequently repeated draughts of it, cold injections, and continual cold applications or ice on the abdomen), is here of extraordinary efficacy.

Should ileus resist all these means, a venesection may be made, although no signs of inflammation exist. It will often instantly dissolve the incarceration ; it prevents inflammation from setting in as an accessory, and allows the free use of opium and other heating remedies. Venesection is urgently required when, in the course of the disease, symptoms of abdominal inflammation appear ; such as a tense, painful abdomen, very painful to the touch, small, quick pulse, cold extremities, thirst and red urine.

Nor must we neglect to take the various remote causes into consideration ; as the arthritic metastasis, which requires venesection and a vesicatory on the abdomen ; or hysteria, spasm, when opium internally and externally may boldly be administered ; or worms, when anthelmintics and calomel are to be used.

In extreme necessity, provided that no inflammation exists, quicksilver may be tried. Half a pound of it may be swallowed at once, with a spoonful of oil or emulsion. It sometimes quickly produces an evacuation from the bowels.

Chronic Ileus.

Ileus may have also a chronic character. The patient has suffered a long time ; has constipation, stools are forced

from him with difficulty, by internal and external means; finally, they entirely cease to pass, and the usual remedies are unavailing. Here two causes are to be considered. The protracted costiveness has produced an engorged state of the colon by the long accumulation of hardened excrements which obstruct the passage; in this case one can often feel the whole region of the colon distended and hard; also isolated, prominent knots and strictures, which are frequently mistaken for organic obstructions of the viscera, but which may be distinguished by their mobility from place to place, spontaneously or by pressure. In such a case, after death, the colon is found distended into an enormous sack, and full of excrements. The part of the rectum immediately below the distention, and in consequence of it, is often so contracted as to have been mistaken for stricture. In such a case relief can only be had by a continual administration of emollient, dissolvent, soapy, oily injections; by the "douche ascendante," and even by mechanical dilatation and gradual removal of the indurated fæces.

A second case is that of an induration or scirrhus formed in the rectum or colon. This is to be treated by bougies and other mechanical dilatations, combined with vigorous resolvents. It is in this very case, that we may resort with safety to quicksilver, and derive benefit from it.

ISCHURIA. DYSURIA. STRANGURIA. ANURIA.

Diagnosis. In *strangury* the discharge of urine is painful and difficult; in *dysury* difficult and incomplete; in *ischury* it is totally suppressed. When the latter species is owing to an impediment in the passage, and is accompanied by swelling of the bladder, it is termed *ischuria vera*; when no urine is secreted, and there is no distention of the vesical region, the case is *ischuria notha, anuria*.

They are, therefore, only different degrees of the same affection; of which the slighter are only troublesome, but not dangerous. But true ischury, total retention of urine, ranks among the most dangerous diseases, and kills either by inflammation or by gangrene of the bladder, or by rupture of the bladder, the urine effusing into the abdomen (*ascites urinosus*). The urine is also sometimes resorbed into the mass of the circulation; in this case the disease lasts for a long time, and the blood exhibits a urinous acrimony; there is violent itching in the skin, even

cutaneous eruptions and urinous perspiration, saliva and the like.

Pathogenesis. The causes of ischury are :

Spasmodic contraction of the vesical sphincter ; hysteria and hypochondria ; nervous fever ; every irritant, within as well as without the bladder, such as worms, metastases, piles, suppressed perspiration, gastric accumulations. It is also frequently the consequence of a previous inflammation.

Or *sanguineous congestion* in the vesical vessels ; inflammation of the bladder (by all the above mentioned stimuli, when the irritation is increased to inflammation ; contusions, too long sojourn of the urine in the bladder ; frequently hæmorrhoidal congestion and syphilis ; also ardent diuretics, as cantharides and savin).

Or *inactivity, paralysis of the bladder*, which may be brought on by the causes previously mentioned, and by too long retention, and thereby immoderate distention of the bladder, apoplexy, old age, violent commotion.

Or finally, *mechanical impediments*, such as calculi sticking in the urethra, or sanguineous or mucous clots, varicose vessels, callosities and strictures, ascarides, hinderances or external impediments, as scirrhus prostratæ, polypus, prolapsus, and retroversio uteri and other tumors near the bladder, pessaries, most frequently the pressure of the gravid uterus in the last months of pregnancy.

Anuria is sometimes caused merely by spasm of the renal vessels (hence it is often met with in hysterical persons) ; by inflammation of the kidneys ; also by accumulations of calculi and organic diseases of the kidneys ; such, however, which affect both kidneys simultaneously, else one kidney would replace the function of the other.

A slight degree of the disease is more frequent, and is due to a diminished secretion, which is particularly the case in old persons and in little children. It is often an unsuspected cause of many diseases and dyscrasias.

Therapeutics. The treatment of strangury and dysury, as a symptom of gonorrhœa and vesical hæmorrhoids, will be found under the heads *syphilis* and *hæmorrhoids*.

In every strangury, one drachm of semen lycopodii, made into an emulsion with mucilage of gum. arabic and syrup, or in an oily emulsion, is a very salutary remedy.

The treatment of ischury must strictly conform to the causes and the various characters of the disease ; what is useful in one case, may be injurious in another ; hence its recognition and discrimination is very important.

1. The sanguine, the inflammatory, is recognized by violent and painful urgency to urinate ; violent and permanent pain in the vesical region, augmented by external pressure ; distention of that region, heat and fever. The insertion of a catheter and a bougie causes great pain, and is impracticable. It is also recognized by a knowledge of the exciting cause, as abundant potation of wine, ardent diuretics, hæmorrhoidal congestion, external lesion. Here the promptest and most vigorous antiphlogosis is required, as venesection, leeches to the perinæum and vesical region ; emollient clysters and cataplasms, embrocations of mercurial ointment, with oil of hyoscyamus and camphor ; internally nitre and calomel. Due regard must be paid to the exciting cause : as to cantharides, for which oil and camphor are wanted ; hæmorrhoids, metastases require anti-stimuli by sinapisms (plasters of cantharides are to be avoided), catheterism must be abstained from, for its use will increase the pain and inflammation, and bring no relief. But, if after a sufficient abstraction of blood, the urine does not come away, no time must be lost in administering opium with calomel, internally and externally, especially in injections ; for the inflammatory one has a tendency to pass into the spasmodic state. Urine will flow after the administration of opium ; or we may now venture a use of the catheter. Warm baths are also serviceable.

2. The spasmodic or erethic, is marked by the absence of fever, by the absence of violent pains, heat and external sensitiveness in the vesical region, sometimes also by a periodical return. In this case, antispasmodics, especially hyoscyamus and opium (*emulsio oleosa cum opio*), must be given ; and externally it is to be treated by injections, oily embrocations, cataplasms of hyoscyamus, linseed cataplasms, tepid semicupia ; after these remedies, we may endeavor to introduce the catheter, but with caution, and if found difficult to pass, it will be better to desist.

The remote cause must be duly considered.

3. The adynamic or paralytic is recognized by the absence of pains and the facility of introducing the catheter ; also by the circumstance that some little urine may be discharged by external pressure applied to the bladder. The first thing to be attended to is to evacuate the urine by the catheter, once in every twelve hours, in order to prevent distention of the bladder, which might cause additional atony and hinder recovery ; or the constant application of

a flexible catheter, which must be changed every eight or ten days.

The next thing is to invigorate the bladder and its nervous system, by administering roborants and excitants (*vide paralysis*), especially arnica, cinchona, and stimulant diuretics, as juniper (No. 199), turpentine, savin, cantharid. (No. 200), cold lotions to the vesical region and the sacrum, cold affusions to these regions, to the feet, also cold injections, even injections of cold water into the bladder, electricity (sparks in the vesical region, shocks in the direction of the os sacrum towards the bladder), stimulant embrocations on the lower part of the spine, vesicatories, moxa on the same part. Wildungen water may be drank at the same time.

It must be remembered, that these opposite states, ischuria and incontinentia urinæ, may be produced by the same cause, paralysis, and are then to be treated alike.

4. The mechanical obstruction requires suitable mechanical and surgical aid. When the obstruction is caused by clots of mucus or blood, it is to be treated by bougies, injections; also by bougies when caused by strictures.

Anuria is cured by removing the spasm or inflammation, or the mechanical or organic causes.

ANIDROSIS, ISCHIDROSIS.

Diagnosis. Diminished and suppressed perspiration; the sign of which is a dry skin (*chronic anidrosis*); or sudden suppression of perspiration by cold (*acute anidrosis*). The latter state is easily recognized; but not so the former; it requires the balance of Santorini, in order to determine the invisible increase or diminution of imperceptible perspiration. The diagnosis, therefore, depends upon a knowledge of the causes which have operated on the patient, as suppressive of the cutaneous perspiration; and of the effects, especially of rheumatic catarrhal affections.

Suppressed cutaneous secretion is rarely looked upon as a disease, but it is the most prolific source of innumerable maladies; a fact easily explained, since there is no secretion which has so general and important, material as well as dynamic influence on the whole system, as perspiration has.

1. Material. It is by perspiration that the greatest part

of the materials of the fabric which are no longer fit for the purposes of life, which have become deteriorated and are heterogeneous to the body, and which amount to two thirds of all the excretions, is evacuated. Obstruction to this discharge, therefore, always engenders a morbid matter of a serous and acrid nature, which operates first as an irritant; but subsequently and in chronic suppression, alters the quality of the humors, and generates a peculiar dyscrasy (the rheumatic).

2. *Dynamic.* No secretory organ has so large an extent and so universal a nervous connection as the skin; hence its vast antagonistic influence; firstly, on the organs and membranes which have an affinity to the skin, as on the serous and mucous membranes, and particularly the lungs and the intestinal canal; secondly, as a reflex on the nervous system of other secretory organs and on all the other systems of the body. The diseases which arise from this double influence are: cutaneous diseases, inflammations of internal and external parts, rheumatisms, catarrhs, blennorrhœas, nervous affections of all kinds, dropsy, pulmonary consumption, chlorosis, and other dyscrasias and cachexies.

Pathogenesis. The suppression may be acute or chronic; the first is brought on by the sudden influence of cold on a heated or perspiring body. The chronic, the imperceptible diminution or obstruction of cutaneous secretion by too light clothing, a moist atmosphere (moist climate, moist dwelling), frequent change of temperature (changeable climate, or an occupation which produces sudden changes), uncleanness, neglected cultivation of the skin, unctions, suppressing external applications, particularly such as contain lead; also sadness, inactivity, idleness, apathy.

Therapeutics. The treatment of the acute consists in warming the skin by clothing and baths, and by the use of diaphoretic remedies;—of the chronic, in exciting the cutaneous action, in directing the humors towards the surface, cleansing the skin, which is done by frictions and baths; corporeal exercise, pure, dry air, cleanly habits, exhilaration, activity of mind, medicines which have a tendency to the skin (diaphoretica, especially antimonials, vide *rheuma*).

ELEVENTH CLASS.

CUTANEOUS DISEASES.

EXANTHEMATA.

Generalities.

Diagnosis. Alterations of the skin in regard to color or form (hair and nails included), not owing to external lesions.

They appear in the following forms :

1. *Maculosa*, without elevation of the epidermis (scarlatina, petechiæ, lentigines).

2. *Papulosa*, with elevation of the skin, but without pustules (morbilli, essera, verrucæ).

3. *Pustulosa*, with elevation of the epidermis, empty or filled with a fluid lymph or pus (variola, miliaria, rubeola, pemphigus, scabies).

4. *Crustacea*, with dry crusts, scurfs (herpes siccus, tinea, serpigo).

5. *Ulcerosa*, with purulent destruction of the skin (herpes ulcerosus, lepra, ulcera).

These forms, however, especially those that are chronic, are very changeable, and liable to numerous modifications, which of late years have been carefully specified and gathered into a cutaneous flora of exanthemata. But these discriminations are only a kind of nosological natural history, and are of no practical value. The most of them depend merely on the individual peculiarity of the patient, are unessential, and afford no indication. Therefore it is best to comprise them under the principal forms, as is done in the preceding statement.

A more important distinction is that which belongs to their nature ; that is, whether they are necessarily accompanied with fever or not. Some are only a symptom or exanthema of an acute fever (*exanthemata acuta*) ; others set in without fever, though it may accidentally associate with them in their course (*exanthemata chronica*).

Their duration and course accordingly varies. The duration of the acute exanthemata is confined to that of the

fever which accompanies them, varying from seven to twenty-one and twenty-eight days. That of the chronic is indefinite; they may last for days, weeks, months, years, even through life.

Their importance and danger are not less variable. In the acute form, danger depends on the degree and character of the fever, which may render them very dangerous. The chronic, generally speaking, are not dangerous, but may become so by retrocession and metastasis, or by long continuance, an important disturbance in vital functions, nutrition and reproduction, and by bringing on a general dyscrasy and emaciation.

Pathogenesis. The proximate cause is an alteration in the nutritive process appertaining to the skin, and which is generally connected with a little local inflammation. These diseases vary essentially, according as they may originate in a febrile or non-febrile state.

1. *Febrile or Acute Exanthemata.*

They are essentially and originally connected with fever (*exanthemata essentialia, primaria*); or are accidentally generated during a febrile attack (*exanthemata accidentalia, secundaria*).

The first form is always due to a contagion, which by its nature tends to the skin and creates a peculiar fever, the crisis of which, though imperfect, is a cutaneous eruption. This formation may properly be compared to vegetation: contagion is the seed, the fever is the process of development and reproduction, the exanthema appearing at the height and perfection of fever (the plant), the florification and fructification.

Exanthematic contagion may be of a double origin, atmospheric or organic (individual); or mixed (originally individual, but then communicative from one to another person). The same is true of a fever not originally exanthematic. A cutaneous eruption may be developed, which exhibits a *contagium exanthematicum*. Every fever, accompanied by an exanthema, may become contagious.

In the second form, that of secondary or accidental exanthema, the eruption is not a necessary and essential effect of the fever, but arises from accidental, internal or external causes. The principal causes, by which an eruption may be created in every fever, are:

Heat, which promotes all kinds of vegetation, and this so called animal vegetation also. Hence, every high de-

gree of fever predisposes to eruptions by the increase of animal caloric which accompanies it; but a hot regimen, feather beds, stove heat, heating medicines, more surely do so. By immoderate warmth every febrile patient is transmuted into an organic hot-house.

Dyscrasia, acrimony of humors, above all the gastro-bilious (as when evacuates have been omitted in gastric fevers), the putrid disposition to decomposition, the rheumatic, catarrhal, arthritic.

Impure, confined air.

Cutaneous irritation. It may be local or sympathetic. The first is caused by rough, woollen, unclean clothing, diaphoretics, and applications which irritate the skin. Of the second class are verminous and other gastric irritations. It may depend on the season and local conditions, on the situation of the residence, the mode of living, atmospheric and epidemic constitution, and therefore be temporary, endemic, epidemic. Even medical treatment, the method of cure contributes to produce it; and it cannot be denied that, whilst the diaphoretic and heating method prevailed in fevers, purples, petechiæ and other eruptions appeared more frequently than at the present time.

Chronic Exanthemata

originate always in weakness or in irritation of the skin.

Three points must ever be kept in view: 1. The skin is the intermediate organ between general or dead and individual animated nature, the boundary line between death and life. It is constantly exposed to the noxious influence of the first—the dead chemismus; between which and the living there is a perpetual struggle. The former may easily preponderate in the reproductive chemistry of the skin, and engender an abnormal vegetation, a bastard organization, which shows itself in the form of exanthema. 2. The skin is the most general, and the most powerful secretory and excretory organ of the system, the function of which is inseparably connected with life and circulation, and cannot be interrupted for a moment without detriment. It may therefore readily become the receptacle of injurious internal morbid matters, and is used by nature for their expulsion. 3. By means of the nerves it has a very general and close connexion with the whole organism; hence it may be morbidly affected by the irritation of any internal part. This accounts for the frequency of cutaneous diseases and their vast influence on the whole system.

The remote causes of exanthema are the following:

First of all is *uncleanliness and neglected care of the skin*; hence cutaneous diseases are more common among the lower classes and among uncleanly nations (the Russian protects himself against them by his steam bath); *chronic suppression of the cutaneous secretion* by moist air, moist dwelling, moist climate, bad diet, acrid, salt, smoked, corrupt fat aliments, and cheese eaten too frequently, stimulating drinks, too rich food, exuberance of humors; whence are generated crudities not only in the first but also in the second passages (that is, matters not properly elaborated and assimilated into the blood; whence they are deposited as acrimonies in the skin—a frequent occurrence in children); *contagia*, the scabious, the syphilitic; *dyscrasias* of all kinds, especially the scrofulous, arthritic, scorbutic, atrabilious; *sympathetic irritations*, gastric accumulations, infarcts, worms; *antagonistic irritation of the skin*, *metastases* to the skin, by suppression of other secretions, as that of the intestinal canal, liver, kidneys, of menstruation, hæmorrhoids, or morbid secretions and crises, of blennorrhœas, arthritic crises, dysentery, intermittent fever; *quantitative disorders*, plethora, over-irritation of the skin as well as weakness, deficiency of vitality in it (the first is met with in children and young persons, the latter in old people, and is often the only cause of cutaneous diseases); *metallic poisonings*, especially chronic ones, by mercury, lead, arsenic; *local influence* of corrupt and noxious irritant substances, expired air, new-built rooms, great heat, too warm regimen and clothing, rough woollen clothing on the bare skin. In protracted cutaneous diseases one more cause is to be mentioned, one which renders the evil obstinate, it is *habit*. Nature has finally become accustomed to the eruption, the skin has become the excretory organ of morbid matters which tend thither, and which now rank among the necessary secretions. Finally, also the complete *destruction of the skin* may become a cause of their continuance and incurability.

Disposition to eruptions is owing to a psoric constitution, a proneness to cutaneous diseases, which is either congenital (prevailing through whole families); or acquired, most commonly by too warm regimen, in the first years of life, at both extremities of life—childhood and old age. In either case the secretion of the skin is altered, and thereby a disposition to cutaneous diseases is imparted; old age alone often generates obstinate cutaneous diseases,

which are nothing else than incipient dying away (mortification) of the skin.

Therapeutics. The principal thing is to discover whether the exanthema is the product and concomitant of an acute fever, or not.

In the first case fever alone is the object of treatment, which must be adapted to its variety; this cured, the eruption disappears. However, the difference in the nature of the eruption, whether it be contagious, symptomatic, or critical, must be taken into consideration, and requires a corresponding modification in the treatment.

In the second case, in chronic exanthemata, the chief indication is: to restore the normal function and organization of the skin. This can be effected by general as well as by local means; but in pursuing a merely local treatment, we ought to remember, that, when the cause is general and deeply seated, the cure is never radical and lasting, but the evil will ever and anon return, or, what is still worse, is followed by shifting to internal noble parts. A radical cure of cutaneous diseases, therefore, has the following rules.

1. Search for the general and remote causes and remove them; therefore, remove dirt, bad diet, the dyscrasias that cause the disease (vide *dyscrasia*); abdominal accumulations, hæmorrhoidal and menstrual disorders; in plethora and hypertrophy of the skin, an abstractive treatment, derivation; in vital weakness and atrophy of the skin (as in exanthemata of atrophic children, and persons poor in vital powers by want of aliments and old age), restorative treatment, nutritive food. This often suffices for a complete cure; the eruption disappears without any use of local remedies.

2. If this do not succeed, we must presume that the evil has already become idiopathic and independent in the skin itself; and then the treatment must be directed against the proximate cause, the abnormal state of the skin itself,—the direct treatment of cutaneous diseases. It comprises two things: *a*, the use of such universal and internal remedies, as improve the condition of the humors in general, and are possessed of a power tending to the skin and ameliorative of its action; *b*, the application of local means, which have the same effect. They are: pure dry air, exercise, great cleanliness, frequent change of linen, washing, tepid baths, promotion of all secretions, especially of that of the skin, purgatives frequently repeated, the antipsoric speci-

fics, as sulphur, antimony, æthiops, Plummer's powder, guaiac, root of sarsaparilla, bardan, carex. arenar., lapath. acut., taraxac., graminis, stipites dulcamaræ, cort. ulmi. To these means, when the general treatment fails, we must add such local ones as are able, by their dynamico-chemical power, to remove the vicious organization of the skin, and stop the morbid secretion. They attain this end by suppressing the vital action (lead, vitriol, alum, astringents), or by qualifying it. They first are risks, since they are apt to produce metastases, and must on that account be avoided; the latter are preferable. We may use for that purpose the most simple and innocuous, as soap and lime-water, or lime-ointment; also all medicines mentioned above, mercury, sulphur, antimony; likewise graphites, barytæ murias, calx chlorin., coal in the form of lotion and ointment, the previously named depurative vegetables in decoctions, ointments, and baths. Simply washing and bathing are often alone sufficient and are the best external means, they may be rendered more efficacious by the addition of soap, culinary salt, sulphur, cort. ulmi, sublimate.

3. When the disease is of a mere local origin, it may be treated in the beginning only locally, but when protracted it may have generated a general dyscrasia, or be sustained by complication and habit, and requires a general treatment.

4. On the other hand, a cutaneous disease, sprung up from general causes, may become merely local, and cannot be cured but by a concentrated application of local remedies.

5. In very obstinate cutaneous diseases two indications are recommendable for a cure: *a*, to investigate whether it is not dependent on some complication that keeps it up; *b*, whether the cutaneous disease has not become a natural and necessary habit of secretion. In the first case the complication must be remedied; in the second derivatives and supplementary actions must be created; and especially purgatives and artificial ulcers resorted to.

6. It is advisable in the treatment of every protracted or habitual cutaneous disease, to keep open a fontanel for some time, and even after it has disappeared, in order to prevent the injurious consequences which are apt to arise from the suppression of a habitual secretion. This is the more necessary, when the cure has been performed by local remedies.

SMALL POX.

Variola.

Diagnosis. Fever, at the end of the third day of which red spots appear; they grow larger during the next three days, and form pustules, then stand suppurating for three days more, begin to dry on the seventh day of their breaking out, (the eleventh of the disease,) and form scabs. Such is the course of each variolic pustule. But as new pustules continue to break out during the three first eruptive days, and as each pock runs through its own periods, the whole eruptive stage lasts three days longer, so that the general desiccation happens only on the fourteenth day.

This is the image of the normal, simple (benign) small pox. It cannot be mistaken. It can be confounded only with one of its varieties (varicella); a mistake which is injurious, and to be avoided only because it leads the individual to believe that he is safe from future infection, while he is not.

Course.

The disease passes through the following stages:

Stadium infectionis (communication of the virus). It is imperceptible, for the virus is still latent, without reaction. It may last seven days (as we see in inoculation), but may be fourteen days and longer in the natural infection.

Stadium irritationis s. febrile. The small pox fever is mild in the commencement, but increases from day to day until the fourth, when the eruption appears. It is a *f. continua remittens*. It is distinguished from other fevers by the following peculiar symptoms, which will enable us, even in this period, especially if variola is then prevalent, to say that the disease is small pox, which is of importance on account of the treatment. Nausea, vomiting, putrid odor of the breath and urine (peculiar to this exanthema), epistaxis, headache, which in adults increases to delirium, even to furor, in little children to epileptic convulsions, colic, pains in the back.

Stadium eruptionis et florescentiæ. At the end of the third febrile exacerbation, the small pox commences to break out, first on the face, the day after on the hands, the third day on the feet and the rest of the body. They appear first as

small, red points (*stigmata variolarum*), but increase every hour in extent and elevation. As early as the first day we may perceive, on close examination, a little knot, like a grain of millet, in every stigma (the pock to be), and thereby distinguish the small pox from spots of measles, petechiæ, and other cutaneous diseases. This stage lasts three or four days, when new pocks continue breaking out, so that the patient always has pustules of three dates, each of which observe this measure of time in all the following changes. Thus, the pustules on the face are in a state of suppuration, while they are only forming on other parts, and dry while the latter are suppurating. As soon as the eruption appears, in mild variola, the fever ceases, and the patient often feels quite well, except his suffering from the local irritation of the pustules.

Stadium suppurationis. The epidermis rises up and forms a pustule, small at first, depressed in the centre, and filled with a watery fluid. It gradually increases, grows elevated and filled with a yellowish pus, so that a perfectly formed pock appears as a convex, yellowish pustule, filled unto bursting, and resembles a split pea. This period, too, lasts three or four days. During it the following symptoms usually take place: *fever*, called secondary or suppurative; *swelling*, which generally accompanies the local suppuration, appearing first on the face, and when there are many pustules, the head is swollen like a deformed ball; the eyes are completely closed by the swelling of the lids; it then attacks the hands, at last the feet; *salivation*.

But all these accidents depend on the number of pustules, for where there are but few, and they are benign, the suppuration goes on without any of them.

Stadium exsiccationis. The pustules dry and form scabs in the same order as they broke out. This period lasts three, four, in many cases eight days altogether; single pocks may subsequently suppurate even longer. The scabs loosen slowly, and leave red spots for a long time, generally also cicatrices. The incipient exsiccation of the face is the most dangerous period of the whole disease. The most fatal issues then ensue, either by a putrid dissolution, mortification of the pustules, hæmorrhages, or local inflammation of noble viscera (as of the lungs, the brain, the abdomen), or by nervous fits and convulsions.

Bad consequences and subsequent diseases are very apt to remain. They are: disfiguration of the face by cicatrices, which often totally change the physiognomy, blind-

ness by destruction of the eyes, chronic ophthalmias, entire exhaustion of strength and humors, emaciation, pulmonary consumption, caries, chronic ulcers.

We distinguish *variola discretæ* and *confluentes*. The first, when the pustules appear single, separate from each other; the latter, when they break out in groups, and arriving at maturity, flow together into great suppurating surfaces.

Form and course may become subject to important anomalies by complication with other fevers (as the inflammatory, nervous, putrid, gastric). They are: in the *stad. eruptionis*, the pustules appear all at once in great numbers or in groups, or come out irregularly, tardily, interruptedly. The fever continues after the eruption, the pustules form imperfectly, or are stopped forming; they appear depressed (without areolas), watery (*crystallinæ*, *lymphaticæ*), empty (*siliquosæ*), of a false color, filled with blood (*sanguinæ*); during the suppuration, renewal of the fever; the pustules become suddenly depressed, and so does the swelling in the face; the exsiccation comes on too quick, too early, and too general.

This complication and anomaly of small pox is called malignant in antithesis to the simple, mild (*benignæ*).

Small pox is one of the most dangerous, painful and loathsome, even hideous diseases which we know of. It can transform the healthiest person within eight days into a putrescent, deformed, stinking corpse, which alone shows its foreign and tropic character.

The danger depends especially on the number of the pustules, particularly on the face (the more, the greater the virulence); on the complication (the more simple, the better), on the age (more perilous in adults than in children, except in the period of dentition), on the general constitution. It is always a milder disease in the beginning and at the end of an epidemic, than in the middle of it. Convulsions previous to their breaking out are not dangerous, but are most dangerous afterwards, during exsiccation. An eruption of a great many pocks setting in suddenly all at once, and gathered in groups is dangerous and ominous. The same is true of depressed, pale, or badly colored pustules; still worse are sanguineous pocks; worst of all, is evacuation of blood by urine and stool during the exsiccation.

Pathogenesis. Proximate cause is infection by the contagium variolosum. The whole disease is nothing else than a poisoning process, created on one hand by the virus and

its reproduction and multiplication, on the other hand by the reaction of the organism endeavoring to assimilate and expel it.

1. The variolous virus has the following properties: it has been known in Europe only since the seventh century, in America since the fifteenth, and in Iceland not earlier than the eighteenth century. Its origin is purely organic, not atmospheric; that is to say, it can only be generated by the living body, and after previous reception of the germ (infection). It is not communicated by the atmosphere, but only by contact, either of the patient himself or some solid body infected with it; in these ways it may be propagated for hundreds of miles; though the immediate atmosphere of the sick also is infective. It can produce its effect only once; that is, create one reaction in the same individual, twice in very rare cases. There are atmospheric constitutions, which favor its reception and reproduction, and vice versa; hence the disease may prevail sometimes epidemically, sometimes only sporadically, sometimes it does not at all appear for years.

2. The reaction of the system against the variolous virus, the poisoning process, the internal disease, comprises two things: the poisoning of the whole system, accompanied by a multiplication and reproduction of the virus; and the irritation of the nervous and sanguineous systems thereby created (the variolous fever), also the effort of the organism to assimilate and expel it. This internal process continues during the whole course of the disease, suffering various modifications, which constitute the different stages.

a. Communication of the virus. It is yet dormant, not yet vivified by the reaction of the living organism.

b. Perception and reaction of the system, manifested by fever (*stad. irritationis*). This is the very period in which the virus is reproduced and multiplied in the body; and that one in which the reaction of the organism prepares the crisis which follows.

c. Elimination and deposition of the virus into the skin. This is a crisis, though an imperfect one—metastatic. Simultaneously critical urine and perspiration. By this, in benign variola, the internal disease is terminated. Fever ceases, appetite and digestion return.

But when the number of pustules is very great, a new disease follows; the secondary or suppurative fever. Its causes are: the violent inflammatory cutaneous irritation accompanying the numerous little abscesses in the skin, the new poisoning and infection brought on by the absorp-

tion of the pus and the suppression of perspiration, causing an accumulation of acrid serous humors; hence the swelling and the salivary flux. The character of this new disease is therefore a mixed one and very malignant; partly inflammatory by the inflammatory irritation, partly adynamic by the exhaustion, partly putrid by the admixture of purulent and contagious matters.

d. Termination of the crisis, dying away of the contagious exanthematic efflorescences, exsiccation.

It is at this period, in cases when the pustules have been very numerous, that life is most endangered by a retrocession inwardly of the virus which was hitherto confined to the skin, and its attacking noble viscera.

Therapeutics. The fundamental idea here is: *respice febrem*, regarding at the same time the peculiarity of the variolous contagion. The treatment, therefore, varies as much as the fever which accompanies it does. However, there is one thing which never varies, because the nature of the variolous contagion essentially requires it, and it is indispensable in the treatment; it is—cold, and fresh air. It is incredible what may be accomplished by these natural agents in this disease, partly to diminish the reproduction of the poison and the multitude of pustules, partly to assuage the dangerous attacks inherent to this plague. We must consider that the patient is immersed in a poisonous fermentation which cold can decrease, and warmth augment; and at the same time that he is surrounded by a cloud of poisonous vapors, the reaction of which on the organism is most hostile and destructive, and which therefore ought continually to be dispelled and supplied by a constant renewal of fresh air. The experience of all, and also mine, have fully confirmed this great power, and it is certain, that a warm regimen and confined air alone suffices to render the mildest small pox malignant.

The modern treatment of this disease is advantageously distinguished by this, that it tends to decrease the reproduction and quantity of the virus; whereas the old faulty method was only calculated to throw it out, by which the internal poisoning was increased.

Special Treatment.

1. *Stadium irritationis.* This stage is the most important, and must be turned to profit in order to restrain the generation of too much virus in the system. Very much may be done in the first and second stages towards arrest-

ing an excessive formation of matter, and thereby diminishing the violence of the disease. The principal means for attaining that end are : cold and a moderate use of calomel ; for children one half to one grain, for adults two to three grains, several times a day. The next thing is to prevent complications, which is to be done by cool regimen, free air, keeping out of bed as much as possible, discarding feather beds, by cold washing of the face and eyes, cleansing the first ways by an emetic and cooling laxatives (vide No. 245 a.), (for children in the beginning, as much as will produce several stools ; at a later period of the disease, in such doses as will give two fluid evacuations a day), and venesection, if the fever be violent or the patient young and plethoric.

Convulsions occur very frequently in children. In general they require no other treatment than exposing the patient to the influence of cool, fresh air near an open window. This will act like a charm in removing them. Injections are also useful.

Violent delirium, furor in adults, requires venesection, mustard plasters on the calves of the legs, foot baths, injections, cooling purgatives.

If, in children, the convulsions and other nervous attacks continue, and that in the beginning the eruption comes and goes (*eruptio difficilis*), other causes are in operation, and the treatment must accordingly vary. We distinguish the following cases :

The child's face is pale, its extremities are rather cool than warm, and the urine is pale. This is merely a nervous condition ; for which tepid baths, injections, zinc along with musk, and sinapisms to the soles of the feet are the best remedies.

Or gastric signs may be present, and the cleansing of the first ways has been neglected. It is this that causes the spasm and restrains the eruption ; emetics, purgatives, and injections best promote the eruption.

The same is true in regard to a verminous complication, for which calomel and milk injections are particularly recommendable.

Or finally, the convulsions having ceased, the child is soporous, its face is red and forehead hot. In such a case inflammatory irritation of the brain exists, and inflammatory irritation restrains the eruption. The application of a few leeches behind the ears and cold washing of the forehead, along with internal cooling remedies, will best remove the spasm and facilitate the eruption.

The same considerations must be observed in the delirium and furor of adults, which arises from the same causes.

Particular attention is due to the eyes, in order to prevent pustules forming there; for this purpose cold lotions and the frequent application of camphorated rags is serviceable. Even stigmata already formed may be dispersed by dropping weak lead water on them.

2. *Stadium eruptionis*.

If the treatment previously advised has been complied with in the first stage, nothing else is to be done during the eruptive days. In benign pox, the cool regimen and No. 215 a. must be continued. But if the first stage has been neglected, and the same indications are still present, the necessary remedies, emetics, even venesections in adults are called for. In complicated small pox the treatment of the complicated fever is to be continued.

3. *Stadium suppurationis*, suppurative fever. In mild, discreet small pox nothing is needed but a continuance of the regimen and remedies already advised.

But when the pustules are very numerous and confluent, when the disease is very complicated, when a new disease, that is, the suppurative or secondary variolous fever springs up, when it is of a mixed and malignant character; the case claims the whole attention of the physician on account of its fatality. The indications are: to mitigate the inflammatory cutaneous irritation, to purify the blood of the absorbed purulent and retained perspirable matters, to correct the putrid disposition of the humors. The first will be better and more promptly attained by opening the pustules by means of a broad vaccinating needle, by which the resorption of the pus will be diminished. When there is violent pains and inquietude, a moderate dose of opium is to be given in the evening. If the pustules refill, they must be opened again. The second indication is fulfilled by drinking largely of cooling acid beverages, and by promoting the intestinal and urinary secretions, since that of the skin is closed. The third end is accomplished by mixing sulphuric acid in the drinks. But above all, the utmost cleanliness, constant renewal of air, daily change of linen and bedclothes are necessary.

Salivation is to be entertained by drinking abundantly of cold beverages. When it is suddenly suppressed, it may be re-established by warm vapors, emollient gargles, and fomentations around the throat; in attacks of suffocation, a vesicatory on the chest will be found serviceable. The

eyes are closed by the swelling which accompanies this stage ; the same cause and internal pustules close the throat. Against the first nothing can be done but fomenting and washing these organs with tepid milk ; against the latter, injections of emollient decoctions may be used. It often happens during this period that a complication which was hitherto imperceptible, becomes clearly apparent ; indeed, it is often only now that fever assumes a complicated character. This, in most cases, is an inflammatory movement recognizable by intense redness of the variolous areolas (halones), a hard pulse, heat, thirst, and the local inflammations of the lungs, brain, or abdominal viscera. It calls for vigorous antiphlogistics, calomel, leeches, vesicatories, even for venesection in adults, especially if this has been previously omitted. If the complication be nervous, which is known by the pustules being flat, limpid, empty, the areolas absent, the skin pale and cool, and the swelling of the face imperfectly formed, and by a spasmodic trembling, opium is the principal remedy, since it diminishes sensibility and spasm, strengthens the vascular system, increases the impulse to the skin, and specifically promotes the suppurative process, it therefore unites all the requisite qualities needed in this case. It may be combined with calomel, which, by its specific power as an antidote, weakens the poisonous property of the variolous virus which now attains its highest degree of malignancy ; recourse may also be had to musk, camphor, arnica, a warm bath of 28° Reaumur (63° Fahrenheit), sinapisms, vesicatories, even to embrocation of mercurial ointment. In the putrid (complication), which is marked with discolored, bluish, brownish pustules, intermixed with petechiæ, cadaverous fetor, tendency to gangrene, confluent variolous ulcers, which often cover the whole body and transform the patient into a putrid mass of flesh, with hæmorrhages from the nose, mouth, intestinal canal, kidneys, and the pulse extremely small ; the most vigorous application of cold and the excitant, antiseptic method is to be resorted to. Ice-cold air incessantly renewed, cold affusions, wrapping the body in cloths saturated with camphorated vinegar, or camphor dissolved in the yolk of eggs ; wine, sulphuric acid, alum, cinchona, serpentaria, camphor internally, have sometimes procured salvation, when all seemed despaired of. Finally, a gastric complication manifests itself, for which evacnants, especially the laxative, are of the greatest service ; matters evidently purulent, are frequently thus discharged.

Sudden exsiccation, abatement of the facial swelling. This is the most dangerous occurrence in the whole disease, and is generally a signal of death. The pustules in the face suddenly and prematurely lose their redness, sink in, become dry, and the swelling of the face also disappears. Art must now apply and unite all that has a tendency to raise the sinking vital power, to increase the impulse of the humors to the periphery, and to prevent a metastasis to noble viscera, which would certainly prove fatal. For this purpose, sinapisms, wrapping the hands and feet in emollient warm cataplasms, sharpened by mustard, wine, opium, with calomel and camphor, must be used.

4. *Stadium exsiccationis.*

The principal indication is to purify the humors of the remaining variolous virus, and which have been increased by resorption of pus. As the skin is inaccessible and closed, there remains no other way than by the secretion of the intestinal canal and the kidneys. Purging, therefore, is the principal thing to be done; indeed nature sets the example by a voluntary diarrhœa, which sometimes carries off matter evidently purulent. At the same time, purifying beverages, as whey, Selters water, decoction of radix graminis, althææ and diuretics (spirit. nitri æther.) must be abundantly used. Gentle cathartics must be continued for three or four days, and even repeated for two or three days more, according to the quantity of pustules. The purgatives are best combined with small doses of calomel. This is all that need be done in mild small pox. But in complicated, malignant variola, the previous strengthening, animative method of cure must be continued, especially the use of cinchona. It may also happen, in a sudden, premature exsiccation, that a congestion of blood to the brain and lungs endangering life, may take place; it is recognized by a soporous, apoplectic or suffocatory state. This requires a prompt abstraction of blood as the only salvative of life.

Subsequent Treatment,

Requires free air, baths, blood-purifying beverages, mild nutriment; animal food, which is apt to produce metastases, must be delayed.

When a patient survives the highest degree of malignant small pox, his condition is deplorable. There is no malady which is capable of exhausting the humors and strength of the body within so short a time (a fortnight), and of im-

pregnating the system with as poisonous a matter as small pox. The constitution wants an entire revival and restoration.

VARICELLA.

Variola Spuria.

Diagnosis. Pustules sometimes small, and perfectly similar to genuine small pox; sometimes they are found only on single parts, sometimes everywhere. They break out after a febrile commotion of twenty-four hours, which is in some cases very slight and scarcely perceptible, and in others violent, and increases to delirium. Some pustules form within the first twenty-four hours, and dry up in twenty-four hours more; but a few single pustules will continue to suppurate for a longer time.

The distinction between this and genuine small pox, therefore, consists neither in the form, nor in the fever, which sometimes is very slight in the genuine, and violent in the spurious, according to variety of constitution; but merely in the quickness of its course. In the genuine variolous disease, there are three days of fever before the eruption; in the spurious only one day; in the genuine there are three days for suppuration, in the spurious one day; the same proportion for exsiccation, so that the genuine small pox completes its course within nine or twelve days; the spurious within three or four days.

Life is never endangered by this disease.

Pathogenesis. The cause is a contagion similar to variola, but much weaker and essentially different; it may be communicated by inoculation, as the former, but it does not protect against variola; one may have had varicella and be still subject to variola, and vice versa. Thus, during the period when the small pox inoculation prevailed, it has happened through want of discrimination, that the spurious disease was inoculated instead of the genuine, and proved, of course, no protection. Varicella appears often before, during, and after a variolous epidemy, but often also independently of it.

Therapeutics. Nature makes the cure. There is rarely need for art to interfere; except at the end, and when the suppuration of single pustules lasts too long, a purgative is recommendable.

COW POX. VACCINATION.

Vaccinella.

Vaccination is one of the greatest and most salutary discoveries of modern times.

Protection from small pox may be attained in two different ways; either by avoiding the virus, separation; or by annihilating the susceptibility to it. The first is totally impracticable on account of the intercourse of mankind, and the impossibility there is to avoid infected substances, which are so without our being able to perceive it. Therefore there remains only the second protective method, annihilation of the susceptibility. An endeavor to attain this end was made by the artificial inoculation of the small pox itself; for this disease generally has the peculiarity of annihilating for ever a future susceptibility, and experience had taught that artificial infection, the patient being properly prepared, was less dangerous than the natural one. But there remained still some danger (one fatal case in five hundred), besides a perpetuation of the variolous virus. In the year 1769 it was discovered in Germany, that the pox communicated to men from the udder of cows was a protection against a future infection of small pox; and in 1798, Edward Jenner of England, made the first trial of vaccinating the human species, carrying in this way the discovery into practical use. It will easily be conceived how superior this vaccination is to the inoculation of human small pox, since there is never any danger from it, and man escapes a formidable malady by undergoing an insignificant, often a scarcely perceptible cutaneous affection, and by which he escapes a most hideous disfiguration. Vaccination has since been spread, not alone throughout Europe, but throughout the world, and in many countries it is enforced by legal enactments, which at the same time strictly prohibit the inoculation of human small pox.

The operation of vaccination is very simple and easy. The principal care is to obtain genuine and perfect cow pox, and to watch that it turns out so, for it is subject to degenerate and become spurious, in which case it loses its protective power.

The following points are to be complied with for that purpose.

1. Selection of the vaccine matter. The lymph must be taken as soon as it is generated, and while it is yet pelli-

cid ; as early as the sixth or seventh day after vaccination. The earlier it is taken, the more infectious it is, and the more sure and protective will be its effect. When it has become yellowish and puslike, it has lost its power. We must also be careful that it is genuine, and that the person to be vaccinated be healthy.

2. Vaccination. The principal condition for obtaining perfect and protective virus consists in transferring the lymph directly from one living person to another. A broad and slightly concave, very sharp needle is to be insinuated into the pustule, and becomes charged with the virus. Being so prepared, we make with it three or four punctures in each upper arm of the person to be affected. These punctures are made by passing the instrument between the epidermis and the cutis, so that only a little red spot appear, but no bleeding follow, for this would wash away the vaccine matter, and thereby render the operation fruitless. We are next to cover the spot with a small piece of linen, in order to prevent it from being rubbed off, and this completes the operation. It may be done at any season and at any age, except in the two first months of life, for as yet the skin is too imperfectly organized, and an imperfect pock is apt to form.

3. The phenomena which follow the operation are to be observed, in order that we may be convinced of the genuineness of the protective pox, and the protective quality of the generated pox.

The diagnostic phenomena and the course of genuine protective pox are as follows:

For the first two or three days after the operation no alteration is perceived in the vaccinated spot ; on the fourth day it appears red and somewhat elevated, on the fifth day it grows still more elevated, and on the sixth a small pustule filled with watery lymph is evident. This pustule continues to increase in size on the seventh and eighth days, but more in breadth than in height. It attains a diameter of two, sometimes of four lines ; is surrounded by a red inflammatory halo of several lines in diameter, and fills with a watery lymph of a bluish cast. On the eighth day it commences to assume a yellowish color, to grow thicker and purulent. The axillary glands swell a little, but not always ; slight febrile motions are manifest in the pulse, by an increased warmth and a sensation of fatigue. In adults the irritation is sometimes more violent. Appetite and digestion remain generally undisturbed. Only in some cases a transient diarrhœa and vomiting

sets in. On the eighth, ninth, or tenth day a new peripheric inflammatory redness around the pustule is exhibited, extending several inches, even sometimes occupying the whole upper-arm, and which causes more itching than pain. This lasts for two or three days. The pustule then dries up, and changes into a dark brown scab, which loosens after eight or more days. Now the disease is at an end. Generally, as many pustules as vaccinated spots are generated. But sometimes after the eighth day little red pustules are observed also on the rest of the body, which however disappear after a few days. No subsequent malady takes place; only a pale color, and sometimes an insignificant miliary-like eruption is generally observed for some weeks longer.

The imperfect, the spurious, non-protective cow pox is distinguished by the following signs: premature eruption (already on the third or fourth day after vaccination a pustule raises), the form of the pock is not flat and depressed in the middle, but convex and quite filled; want of the secondary peripheric redness around the genuine vaccinated spot on the eighth or ninth day, which is the chief sign of a general infection and of the protection against the human small pox.

The causes of this anomaly are: matter is taken too late, or which is too old, and which has lost its contagious property; or a deficient susceptibility of the individual.

This artificial disease requires no medical treatment. The vaccinated may be allowed to continue their customary mode of living. It is advisable on the seventh or eighth day, when fever and general infection is expected to take place, to keep them at home. After the disease is terminated, that is, after the peripheric redness has disappeared and the pustules dried up, it is recommendable to give several purges of calomel and jalap, in order to prevent subsequent cutaneous diseases and glandular swellings.

VARIOLOIDES.

A variety of genuine small pox, generated by the variolous virus, sometimes attacks an individual previously vaccinated.

It is a bastard-plant, originated by variolous seed, but which, by the vaccinated soil in which it springs up, is so modified in its development and vegetation, that it does

not exhibit the genuine variola, but a milder variety of it. In its nature it is variola, and may again produce variola by infection, though sometimes only in the second generation.

It is distinguished from genuine variola in its external form by the following signs: It observes on the whole, the same stages as variola, differing in this respect from vari-cella; but the fever is generally much lighter, and the suppurative fever is in most cases entirely absent. The pustules appear in the same order, sometimes also very numerous, even confluent; but they are commonly small and filled with lymph; sometimes they are entirely empty (*siliquosæ*); the scabs are less thick and hard, and therefore leave neither impression nor cicatrices, but only a red elevation on the variolous spot for some time. They generally do not endanger life; but there are rare cases, when they assume the virulence of the genuine variola, and may prove even fatal.

The cause of their appearance resides in the susceptibility of the organism for the variolous contagion, not having been entirely annihilated by the vaccination. It is not owing to time. Some have believed that it depended on the vaccine matter having lost its infective power by the length of time it has been in use, and its frequent reproduction, or on the receptibility of the organism having been re-established by the length of time elapsed since the vaccination. Both assertions are refuted by the circumstance, that varioloids may originate equally well in those vaccinated for 20 and more years, when the vaccine matter was yet fresh, and in those but recently vaccinated. Nor can the small number of vaccine grafts be regarded as a cause, since it is not the quantity of virus communicated, but its intensity and the susceptibility of the person which are to be considered. Even Jenner never made more than 6 grafts, and these were perfectly protective. The true reason of receptibility not having been entirely annihilated, must be sought for either in a spurious, or too old and corrupted lymph used for vaccination, or in the imperfect reception, infection, on account of the organism wanting the disposition to it at the time of vaccination, whereby also the receptibility was but imperfectly annihilated. The best preservative therefore is revaccination, by which one may hope to extinguish entirely the rest of receptibility which might perchance have been left.

The treatment is the same as that of variola.

MEASLES.

Morbilli.

Diagnosis. Red spots, one or two lines in size, in most cases somewhat elevated, which are preceded by a catarrhal fever, the symptoms of which are: a dry cough, red lachrymating eyes, frequent sneezing. It precedes the eruption for three or four days, and follows it as many. The cough and affections of the eyes continue with the fever, and disappear with a branny desquamation of the epidermis. This peculiarity of desquamation is important for the diagnosis, since it is often the only sign by which we are able to discriminate this exanthema from others.

Course.

Stadium infectionis et irritationis.—This stage which lasts generally three days, sometimes still longer, is distinguished by remittent fever, which is similar to a catarrhal one, but which is marked by a peculiar, short, dry cough, red, lachrymating eyes, intolerance of light, frequent sneezing and running of the nose. These symptoms and the fever increase every day until the eruption breaks out; headache, especially in the forehead, associates with it; when the malady is severe, there is also delirium; and in infants spasms may set in the same as in small pox, and frequently also diarrhœa.

Stadium eruptionis et florescentiæ.—At the end of the third or fourth day the measles appear, generally first in the face and on the arms; in the shape of small red spots, which form sometimes little elevations, but no pustules. When they are very numerous, the skin of the face and hands swells, similarly but never so much as in small pox. The affection of the eyes and the cough increase at the same time, for it is nothing but the morbillous irritation in the mucous membrane of the lungs, which may sometimes increase to a real bronchitis and pneumony. After three days of florescence, the spots grow pale, and disappear in the same order as that in which they sprung up. Cough and ophthalmia decrease in the same proportion. The fever, in mild measles, ceases after they have broken out; if it continues, it is indicative of a complication, or effect of profuseness of measles and of a too great irritation.

Stadium desquamationis, the scaling off.—After the redness disappears, the epidermis scales off in little bran-like pieces, often like meal; it is the fading and the decay of

the blossom. This takes place on the sixth or seventh, sometimes also on the ninth or tenth day of the disease, and lasts for several days. Sometimes however, especially in a slight eruption, the desquamation is so trifling, that it is not at all perceived. There also occurs at the same time a critical perspiration and critical urine; in most cases a diarrhœa also sets in, which is here a very salutary crisis; after which all morbid symptoms disappear. But sometimes new and dangerous attacks occur in this period, a new fever, local inflammations, most frequently of the lungs, but also of the abdomen and head.

The measles are very apt to leave subsequent diseases, especially of the lungs (cough, generation of tubercles, phthisis); or of the eyes, and of the glandular system, also of the nerves.

The disease itself is much less dangerous than small pox; only pneumonia or retrocession of the eruption or complication may make it fatal. But the consequences are dangerous, and two thirds of those who die by the measles, die subsequently and often without showing any signs that death is owing to them. It is especially dangerous to those, who labor under morbid lungs and a phthisical disposition.

Measles, like small pox, may be simple (benign), or complicated with other species of fever, from which arise many anomalies in form as well as in course. When the complication is inflammatory, a very violent fever, early and copious eruption sets in; but this last may also be impeded and accompanied with a pulmonic affection; in the nervous complication, the eruption is interrupted and apt to retrocession; there are nervous attacks of all kinds, and a pale color; in the putrid complication, intermixed petechiæ, hemorrhages, colliquation; in all the complications, the fever continues after the eruption; in the inflammatory, a new pneumony; in the nervous, a retrocession and metastases; in the putrid, increase of colliquation.

Pathogenesis. The proximate cause is, as in variola, a specific contagion, and the disease is nothing but a reaction of the organism brought on by the contagion. Like the variolous virus, it is of modern origin, and has been observed only since the sixth or seventh century; like the former, it infects only by immediate contact or in the neighborhood of the sick, but not by the atmosphere; like variola, it affects the system only once (to this, however, there are a few exceptions), and requires, like it, a specific disposition for its reception; the atmosphere also may favor

or hinder its development, hence it may appear sporadically and epidemically.

The morbillous virus is distinguished from the variolous and other contagia by the following peculiarities: It has a particular affinity for the mucous membrane, especially for that of the lungs, and thereby produces a state very like catarrh; its virulence is less intense than the former, and is more of a lingering than of an acute character.

Therapeutics. The indication is the same as in small pox: to pay attention to the fever and the peculiarity of the morbillous virus. As regards the latter, the treatment is opposite to that of the variola, for the principal rule is to keep the patient moderately warm, as in a catarrhal fever. Whereas cold is the best mitigator and regulator of small pox; in measles it is apt to disturb the crisis and cause a dangerous retrocession. The principal object of the treatment must be to promote the proper development and evaporation of the virus through the skin; to prevent retrocession and metastases; and to prevent the acute contamination from passing into a chronic one, and into subsequent diseases. The principal means in this respect is to maintain a uniform moderately warm regimen (not over-heating) and to avoid cold. As for this, especially in children, no other means exist but staying in bed, it must be an inviolable rule in measles, to confine the patient to bed for 14 days from the commencement of the disease; and in winter time for 3 weeks; not in feather beds but on mattresses, and covered with blankets. The temperature of the room must be 15° Reaumur. In winter the open air must be avoided for 6 weeks, an important precaution to prevent metastases.—In benign measles nothing more is needed than this regimen, an antiphlogistic diet, much drinking, and at the last a laxative.

In the first stage of benign measles this general treatment along with a cooling diaphoretic (vide No. 245, b.) is sufficient; at the same time due regard must be had to the ophthalmia and cough, which are the most troublesome symptoms. They are, however, a component part of the disease, and cannot be removed, but only mitigated; the ophthalmia by keeping from the light, by fomentations of lukewarm milk, decoct. of mallows, mucilage of quinces (beware of saturnine and astringent remedies); the cough, by frequent drinking of water gruel and barley water, and similar linctus, to which, when there is great irritability, oils and narcotics may be added (vide No. 246); by promoting perspiration; for this is in direct proportion to the

increase and decrease of the cough; by removing any accessory stimuli and complication, which may often render the cough extremely violent, especially the gastric irritants which may be removed by emetics; and the inflammatory irritation, which leeches will remedy.

In general, this is the period in which complications and accessory irritants are most easily combated and removed; particularly gastric accumulations and an inflammatory diathesis, even pneumonia, which is not uncommon at the approach or at the time of the eruption. In such a case venesection is not to be omitted in plethoric subjects; in children leeches are to be used.

The stage of eruption and florescence requires a continuance of the foregoing treatment; carefully avoiding cold, and paying particular attention to pneumony, which may occur, especially if this care has been neglected in the first stage, in which case the abstractions of blood must be subsequently made.

The most dangerous case that can arise is retrocession of the eruption, caused either by taking cold, or by a mental affection, or faults in diet. This emergency must never be disregarded, though it may seem in the beginning to have no injurious consequences; for it is always the result of a disturbance of crisis, which, if it does not, as often happens, endanger life, may give occasion to the worst metastases and subsequent maladies. The principal indication is to re-establish the cutaneous crisis. All depends here on a due consideration of the various causes and effects, and we distinguish three cases:—either, no bad symptoms appear, but critical sweats, urine, and even moderate diarrhœa follow. Here nature has herself taken charge of the crisis; a warm regimen, warm diaphoretic beverages, elder tea with small doses of *vinum antimonii* will be all that is necessary for a cure. Or dangerous attacks, inflammation of the lungs, of the throat, of the abdomen, of the head set in, with violent fever and delirium, bordering often on fury. Then, above all, the metastatic inflammation must be subdued by abstraction of blood, and antistimuli applied to the skin (sinapisms, vesicatories), and nitre; and when this has subsided, the eruption must be re-established by diaphoretics, of which camphor with nitre is the most appropriate. Or the patient lies in a state of greatest weakness and spasm, with convulsions and cool extremities. Such a condition calls for antispasmodic diaphoretics, first camphor along with *spiritus Mindereri*, *liquor c. c. succin.*, musk, opium, sinapisms and particularly

warm baths. Profuse diarrhœa, if such exists, must be stopped. If overloading of the stomach has brought on the retrocession, an emetic is the best means of relief.

In complicated measles that method of treatment is continued, which is suited to the respective febrile state.

The stage of desquamation, in benign measles, does not require any thing but the continuance of a warm regimen, in order to make the crisis perfect; an antiphlogistic diet and the use of mild and cooling purgatives, manna with soluble tartar. We must always bear in mind the idea, that the virus yet lurking in the system is to be expelled, either through the skin, or, as the skin has been made partly impracticable, by desquamation, through the intestinal canal and the kidneys. When new local inflammations, especially of the lungs, take place, the treatment appropriate to them is required, and even the abstraction of blood, calomel and vesicatories may be needed. These two remedies are in general those, which answer best in the metastases which might form; also camphor may be used. The greatest attention, however, is due to the remaining cough; for it indicates a lurking remnant of morbillous poison in the mucous membranes of the lungs, and leads to fear an incipient formation of tubercles, and finally a transition into tuberculous consumption. We must first attempt to remedy this state by a continued use of laxatives and diaphoretics, calomel, vesicatories, covering the chest with flannel, and warm baths, which will often be followed by good success. If this treatment do not suffice, the repeated use of emetics is recommendable. If this also prove vain, prescribe serum lactis, Selters water with milk, calomel with sulphur aurat. antimonii and opium, senega root. A combination of sulphur with aqua laurocerasi and cicuta has likewise proved very efficacious; also artificial ulcers, especially by cort. mezerei, entertained for a long time. If cough continues with expectoration, Iceland moss jelly is serviceable.

The measles have been inoculated; the tears flowing during the efflorescent stage, or the blood from a morbillous spot have been used for that purpose. But as the disease is far less dangerous to life than the small pox, this mitigating method is to be recommended only in very malignant epidemics.

SCARLET FEVER.

Scarlatina.

Diagnosis. Fever with a greatly accelerated pulse, pain in the throat, after one or more days a breaking out of large scarlet-red spots, without definite limits, and like erysipelas gradually diminishing in color, as they approach the surrounding skin; they often extend over whole limbs with a uniform redness. They disappear after four or five days, when the epidermis scales off in large pieces or patches, and are followed by a great disposition to watery accumulations. The spots are generally smooth, but sometimes little miliary-like pimples form on them. This has given rise to a distinction of scarlatina into two kinds (the smooth and the pustulous scarlet fever); but they are only varieties of one disease.

Such are the essential pathognomic symptoms. But no malady affords so many anomalies in its appearance as this one. Sometimes there is merely an angina (internal scarlatina of the mucous membrane of the throat), and externally little or no redness appears. Sometimes this is entirely wanting, and the existence of the disease is recognised only by the subsequent desquamation or hydropic accumulations.

Course.

In the first stage there is pain in the throat and the pulse is greatly accelerated. An equally quick pulse is not met with in any other disease, and is to be regarded in this stage as a prognostic sign of imminent scarlet fever. It is distinguished from measles by the absence of cough, sneezing, and lachrymation. Fever and angina increase with the approaching eruption; and in some subjects delirium and spasms are also observed.

In the stage of the eruption and efflorescence the spots appear first on the fore-arms and hands, gradually spreading over the whole body, but rarely in the face. They increase in size and redness, and are augmented by new ones. The angina also increases in equal proportion; for it is nothing but internal scarlatinous inflammation. The fever continues and becomes often very violent. Only in slight cases it ceases with the appearance of the eruption. In more severe attacks the brain and abdominal viscera are inflammatorily affected. The exanthema, like erysipelas, is very volatile, and apt to disappear and shift inwardly. This stage lasts five or six days.

Stage of desquamation. On the sixth, sometimes not earlier than on the ninth day, the epidermis begins to scale off in large pieces or patches. After violent scarlatinous inflammation, the whole skin of a part, as of the hands, feet, or scrotum scales off, retaining the shape of the part. A similar desquamation takes place also from the internal membrane of the throat, after a violent angina. The desquamation lasts many days, and in some cases is repeated several times. The fever ceases during critical secretions by urine and other ways, except when metastases happen.

It is not unusual for this stage to be followed by a stadium secundarium s. metastaticum, generally hydropicum, most frequently the consequence of taking cold or a disturbed crisis. The most common occurrence is dropsy, a hydrops acutus, which may become fatal within 8 or 14 days. Its onset is first recognised by an œdematous swelling of the eyelids, then of the extremities, succeeded by general anasarca, ascites, hydrothorax, and hydrocephalus. Metastases to the eyes, ears, glands, indurations, and abscesses are still more frequent. The scarlatinous metastases are very destructive. I have seen within 8 days eyes lost by suppuration, and the auditorial and nasal bones destroyed.

Scarlet fever is one of the most malignant and deceitful of all eruptive diseases. It may, in single cases, and even prevailing as an epidemic, be so slight and benign that fatal cases seldom occur. But sometimes single cases, and even a whole epidemic is so virulent and dangerous, that its fatality equals a pestilence, one patient in every sixth, even fourth, or third becoming its victim. The malignity may be so great that the patient dies on the first or second day, from metastasis to the brain and nervous apoplexy. Thus, in single cases it may appear slight and benign at first, and nevertheless suddenly kill afterwards, by a metastasis to the brain, or by a rapidly generated dropsy. Death is most frequently caused by inflammation of the brain, by angina or dropsy.

Scarlatina may associate with every species of fever and thereby becomes anomalous. The *inflammatory* complication is remarkable for the intensity of the fever and heat, the high scarlet redness and the universality of the eruption, the intensity of the angina, and by the readiness with which inflammation of internal viscera happens; the *nervous* is distinguished by a pale, cool skin, the imperfect appearance and disappearance of the eruption, the spasms and nervous apoplexy, which are likely to arise, foreboded by

a constant urgency to urinate; the *putrid* is marked by extreme debility, violent fever, hemorrhages, colliquative evacuations, livid color of the eruption, intermixed with petechiæ, and by angina rapidly passing into a gangrenous corruption. Most cases of *angina gangrænosa* belong to this species of scarlatina.

Pathogenesis. The proximate cause is an atmospheric contagion, but which is afterwards communicable from one person to another. The infection may, therefore, be double, atmospheric as well as individual. The effect of this contagion has the peculiarity of affecting specifically the throat and the skin, and generating in both an inflammation similar in appearance and fugaciousness to erysipelas, apt to be propagated to the brain; of prostrating particularly the action of the absorbent system, finally producing watery infiltration, due in part to the disorganization of the skin, and consequent arrestation of transpiration, partly to a debility of the lymphatic system. Susceptibility to a future attack is not so completely annihilated as in small pox and measles. It may, therefore, affect the same individual oftener than once. It also differs from those diseases in this, that it is not propagated by contact from one to another person like small pox and measles, but is much more frequently communicated by atmospheric influence.

The disease is of modern origin, and has not been observed before the seventeenth century.

Therapeutics. The treatment must be fundamentally antiphlogistic, excepting as regards external warmth. Staying in bed for three weeks in order to prevent metastases, is to be observed, and constant attention must be directed to local inflammation, especially of the brain, which may happen.

A difference in intensity and complications calls for corresponding *special treatment*.

In benign scarlet fever nothing more is needed than to keep the patient in bed, cooling, gentle diaphoretics and laxatives that will give two stools a day. A solution of soluble tartar, along with small doses of vin. antimonii answers this purpose best.

But when the disease is violent, distinguished by great heat, ardent fever, high redness and a general spreading of the eruption, the danger of approaching inflammation and corruption is to be subdued as quickly as possible. Two remedies have proved particularly efficacious for attaining this end: internally the use of chlorine water (acid. muriat. oxygenat.) daily, two or three drachms for children, the same

number of ounces for adults, diluted in water, and agreeably sweetened; and externally (but only when there is a dry skin, burning heat, and dizziness in the head), the skin is to be cooled by quick ablutions of cold water, which may be repeated every two or three hours. More active and debilitating antiphlogistics, especially abstractions of blood are of dubious utility, since they tend to produce an adynamic state; therefore general bleeding is improper, but leeches may be applied in youthful and in plethoric subjects, when violent angina and affections of the brain are present.

Cold fomentations to the head, and repeated affusions of the head with cold water, are of excellent use when the fever is at its height, and the brain so affected as to produce sopor and delirium. When angina is slight, it calls for gargles of infusion of elder flowers, mallows, and oxymel simplex (No. 247 a.), flannel round the throat; when it is more intense, leeches and sinapisms must be applied.

In a nervous complication the nervous power is to be supported from the beginning by appropriate nervines; the putrid complication requires antiseptics, and the treatment already mentioned in putrid angina (*vide angina gangrænosæ*), is of importance. In gastric complications, the first stage requires emetics and cathartics. But the most important treatment is that which is to be observed during desquamation; and to prevent subsequent dropsy.

The principal thing during this period, is not to permit the patient to leave the bed, and to confine him to the house for a month in the summer, and six weeks in the winter season; to prevent him from taking cold, and to use gentle laxatives and diaphoretics; intermediately a few doses of calomel may be given, in order to increase the action of the lymphatic system. This is generally sufficient, and prevents bad consequences. But as soon as the first vestiges of œdema appear, prompt measures are needed, and the most concentrated means must be used to procure absorption and secretion, (especially by the kidneys and intestinal canal). This end is best attained by calomel (one, two, or three grains, according to age, to be taken every three hours), combined with jalap and digitalis, a diuretic tea (No. 247 b.), and warm baths. Above all things, we must examine whether a febrile phlogistic state is present or not. If there is, and the pulse active, and the individual is plethoric, a venesection (of three or four ounces in children) produces a most excellent effect, and is an indispensable remedy. It will generally be followed by diuresis; and diuretics which were previously inefficacious, will now operate. In a phlo-

gistic state, we ought to prescribe nitre, along with cremor tartari, squilla, senega, wrapping the whole body in flannel fumigated with amber. Radix belladonnæ, combined with calomel, has proved very serviceable in some instances; and in obstinate cases so has tincture of cantharides.

Belladonna in very small doses has been used, according to Hahnemann's recommendation, as a preservative; and many cases have confirmed its utility. But as the disease is sometimes very slight and without danger, this preservative is to be recommended only in malignant and dangerous epidemics. The prescription is: one grain of well prepared extract of belladonna, dissolved in half an ounce of cinnamon water, of which five drops may be given daily to children of five years of age, increasing the dose one drop for every additional year.

RUBEOLÆ.

Diagnosis. Red spots, from a third to an inch in diameter, in the middle of which little vesicles spring up in groups. They appear after a few days of febrile motion, and sore throat; last for five or six days, after which they desquamate in patches larger than in measles, and smaller than in scarlet fever. Hydropic accumulations are apt to follow.

The shape, the angina connected with it, and the subsequent dropsy designate this disease as a variety of scarlatina, not of measles.

The treatment must therefore be the same as in scarlet fever, and it is equally necessary to remain in bed. Rubella generally is benign, and requires only three weeks of care, and the use of cooling, gentle cathartics and diaphoretics. In very severe cases, and when complications exist, all the rules which have been given for scarlet fever are to be observed, and especially those which are preventive and curative of dropsy.

ESSERA.

Diagnosis. Red, elevated pimples, resembling bug bites, accompanied with slight or scarcely perceptible febrile motions, and disappearing again after a few days. The disease is never dangerous.

The cause of it is gastric or catarrhal, and requires no-

thing further for a cure than a few days care and a cathartic afterwards.

URTICARIA.

Diagnosis. Large, red, diffused patches, white in the centre, troublesome by itching and burning. It is similar in shape and sensation to lesions by burning, and is peculiar in this, that it disappears in warmth and becomes visible in the cold.

They set in without, sometimes with, febrile motions, and disappear after a few days.

Cause and treatment is entirely the same as in *essera*. Both, urticaria as well as *essera*, are apt to assume a chronic character; that is, they reappear on the least occasion, and then become a troublesome evil. It is owing to a faulty condition of the skin and its secretion, or to a general dyscrasy. It is to be cured by a general improvement of the cutaneous action, and purging (vide above the general treatment of *cutaneous diseases*); or, when it will not yield by these means, by removing the deeper seated causes; which requires particular attention to the scrofulous, arthritic, and syphilitic dyscrasies.

MILIARIA. PURPURA.

Miliaria Alba et Rubra.

Diagnosis. *Miliaria alba*: small, white vesicular elevations of the skin, resembling millet-seed, on all parts of the body, especially on the chest; they sometimes unite, forming large vesicles, even phlyctænæ, which are filled with a limpid serum.

Miliaria rubra: small, purple, papular (not vesicular) elevations of the skin, so small as scarcely to be seen, though easily felt.

The white miliary disease is more frequent than the red one. Both kinds are sometimes present in the same patient.

The concomitant symptoms are: fever, profuse perspiration of a sour odor, dry cough, anxiety, oppression, and moaning.

The appearance, course, and duration are uncertain and indefinite. The eruption may appear as early as the third

or fourth day of the fever, sometimes not until the seventh or eighth, and even as late as the fourteenth day. In some cases it appears and disappears alternately. The eruption may be slight, or very abundant, covering the whole body, but particularly the arms and chest. The face generally remains free from it.

The indications of an approaching miliary eruption are : from the beginning of the fever very profuse perspiration, which emits a putrid, sour odor, anxiety, difficult (not short) respiration, accompanied with moaning and sighing; short, dry cough, inquietude, frequent chills, stinging and itching in the skin, sometimes there are nervous attacks, spasms, delirium. The fever sometimes abates after the eruption has come out ; so also does anxiety, cough, and other affections. But sometimes it continues, even increases, and eruption augments, so do the nervous attacks. It terminates by a light desquamation. Miliaria is always a redoubtable phenomenon, which rather increases than alleviates the disease. It is generally symptomatic, an additional symptom to a fever that always affects the nervous system in a particular way, and is apt to excite dangerous nervous attacks. Symptomatic miliary eruption is recognized by its appearing prematurely or very late in a disease, and by the disease not diminishing on its appearance. Death, which follows a retrocession of the eruption, is caused by apoplexy or suffocation. The eruption, however, is sometimes critical, if it appears on the critical days, the seventh, eleventh, or fourteenth, and the attacks abate. But even then there is danger, for the eruption is apt to retrocede and produce fatal consequences.

Pathogenesis. The proximate cause is a peculiar corruption of the perspirable matter. This is converted into a volatile matter particularly hostile to the nerves, and which sometimes becomes contagious (miliary acrimony); it is produced by great weakness and colliquation of the cutaneous system. The exciting causes are : debility of the cutaneous system, a rheumatic and catarrhal diathesis, too hot regimen in fevers, especially lying in feather beds and in confined air, hot diaphoretics, omission to evacuate gastric accumulations, and the puerperal state.

The relation which this disease bears to the history of mankind and the art of healing, deserves notice. We find no mention of it in antiquity, nor in the earlier periods of modern times. It first appeared in the seventeenth century, at the time when the diaphoretic method of curing fevers prevailed, especially in those countries where feather beds

are used. It remained so up to the middle of the eighteenth century, when the antiphlogistic method and a cool regimen was introduced in the treatment of hot fevers. It must, therefore, be supposed that this pathological phenomenon was partly the product of the general constitution, and partly of art. It is seldom met with now; generally only in particular epidemics, or in a subject predisposed to it, or in a too hot treatment, and omission to cleanse the *primæ viæ*.

Therapeutics. The principal indication is to anticipate miliaria, and always to consider it as a troublesome addition to fever; one rather to be avoided than promoted. Therefore, when light covering, moderate temperature, pure air, and cleansing of the *primæ viæ* are attended to, miliaria will rarely break out. Even when its forerunners have already appeared, this treatment will check it; frequently it will be sufficient to remove a feather bed. These remarks do not apply to critical miliaria; that is, when it appears at the critical period of the fever and is followed by an abatement of the fever and other symptoms. In this case, it must only be moderately fostered, and its retrocession prevented.

The special treatment does not differ from that of the fever with which it is connected, and must comply with the character of the former. Miliaria and the cutaneous colliquation by which it is accompanied, indicate the use of mineral acids: as of acid. muriat. oxygenat; or, when the colliquation is far advanced, acid. sulphur.; when the *primæ viæ* have been neglected, gentle, cooling purgatives, especially tamarinds, must be given. Cold must be carefully avoided, lest it produce retrocession.

When retrocession happens, its effect must be observed. If no injurious consequence arises, and nature replaces the cutaneous crisis by increasing another secretion, as that of the intestinal canal, nothing else is needed but a warm regimen. But if dangerous metastases, nervous attacks, cerebral or pulmonary affections follow, we must endeavor to promptly re-establish the cutaneous crisis by sinapisms, vesicatories, camphor, musk, and warm baths. A local inflammation, which may perhaps happen in a predisposed individual, calls for abstraction of blood (*vide morbilli*.)

Chronic Miliaria.

A miliary eruption may break out without fever, and then it is of indefinite, often of very long duration; or there re-

mains a disposition in the skin to reproduce it constantly. This eruption is in general only the form or deposition of a dyscrasy. Thus I have seen a miliary eruption break out in the spring in gouty persons, and leave them free of podagra and arthritic affections for the remainder of the year. The same is true of scorbutic miliaria.

The treatment depends altogether on the dyscrasy that lurks in the system. Besides the general skin-cleansing remedies, baths and repeated cupping may especially be applied.

PETECHIÆ.

Diagnosis. Spots of a violet, brown, black, and sometimes of a red color; of one or two lines in diameter. They are generally round, circumscribed, and accurately limited; but sometimes are irregularly shaped. They appear on all parts of the body, without order or definite periods, accompanied by fever (*petechiæ acutæ*, *febris petechialis*, spot-fever), or without fever (*petechiæ chronicæ*). In certain cases they break out in large spots of several inches in circumference (*ecchymoses*, *vibices*). We must avoid the mistake of taking the smaller ones for flea-bites, which they very much resemble; but from which they may be distinguished by the mark of the bite.

Febrile petechiæ (like miliaria) may break out on the first days of the disease, or at any future period, even very late. They continue for an indefinite time, and disappear without desquamation. In general their appearance brings with it no amelioration to the disease (*petechiæ symptomaticæ*), but in some cases it does (*petechiæ criticæ*).

Pathogenesis. They consist of little extravasations of blood under the epidermis, and ought therefore to be classed with hæmorrhages, which they often accompany. They are generally caused by debility or a decomposition of the blood, and are consequently often a symptom of putrid fever; but sometimes they are owing to local debility and irritation of the skin, the effects of hot regimen and over-heating, in which cases the accompanying fever is of an inflammatory character; sometimes they are only sympathetic, of a gastric irritation, therefore, like miliaria, they frequently occur in gastric and verminous fevers, especially when purgative remedies have been neglected; finally they appear as concomitants of a crisis, of which, however, they are only a symptom. Therefore, as regards

their origin, they are to be ranked with miliaria, which they often accompany. They may also happen in certain epidemics. They are not contagious, though the typhus fever to which they belong may be infectious.

Therapeutics. The principal indication is, as in miliaria, to prevent as far as possible their formation, and, when they have formed, to remove them as quickly as can be done.

The first end is attained by cool regimen and cleansing the primæ viæ in the onset of the fever.

The second is accomplished by a proper treatment of the fever according to its character (which is most frequently putrid, but sometimes may be inflammatory and then abstractions of blood may be needed), and by the use of gentle cathartics (especially tamarinds), mineral acids; by washing the skin with vinegar; by cool and pure air (ventilation). Purgatives remove them most promptly.

Chronic Petechiæ,

Appear without fever and are commonly a symptomatic phenomenon of various chronic diseases, especially of such as are of a gastric and verminous origin. They constitute a peculiar disease in the morbus maculosus hæmorrhagicus Werlhofii, which is a scorbutic dissolution of the blood, and must be treated accordingly (see *hemorrhages*).

PEMPHIGUS.

Diagnosis. Blisters varying in size from a pea to a walnut; filled with a watery fluid; of a round shape, excepting when several coalesce, and then it is irregular; surrounded by a more or less red margin, which feels itchy and prickly. Pemphigus may be accompanied with fever (*pemphigus acutus, febris bullosa*), which lasts several days, at the end of which the vesicles either dry up or pass into a protracted ulceration; or it may be unaccompanied with fever (*pemphigus chronicus*), in which case new blisters continue to form for months or years.

Acute pemphigus has a great resemblance to erysipelas bullosum, both in its origin and in its treatment. The general treatment must conform to the character of the fever. Application of lead, vitriol, and other repulsive remedies are to be carefully avoided, lest they create dangerous metastases. When the blisters stay long, they ought to be cau-

tiously opened by puncture, through which the fluid may ooze, leaving the epidermis to protect the subjacent surface, while nature effects the exsiccation. The painful prickling is to be remedied by fomentations of rosewater and mucilage of quince-seeds. If suppuration ensues, fat ointments must be avoided; for they are apt to render suppuration chronic. When they manifest a gangrenous character, as is likely to happen in old age and typhus fevers, fomentations of Peruvian bark, lime-water, and camphor will be useful.

Chronic Pemphigus,

Is one of those maladies, which is apt to become very protracted and very difficult to cure, since its remote causes are deeply seated and are difficult of detection. They most frequently reside in a suppression of distant secretions, especially that of urine; or in general dyscrasies.

The cure, therefore, consists, first in the general treatment of cutaneous diseases (see *generalities*); and in an investigation and treatment of the particular causes. If the disease is owing to a disturbed secretion of urine, diuretics are advised; if to a dyscrasy, this must be properly attended to. Regarding the latter I cannot forbear directing the attention of the practitioner to a syphilitic taint of long standing; in which a mercurial treatment is the only one capable of removing the evil. Baths of chloride of lime, one ounce to a bath, and sublimate baths are of excellent effect.

THRUSH.

Aphthæ.

Diagnosis. Little, white, sloughy ulcers in the mouth, on the tongue, palate, and fauces; sometimes extending the whole length of the intestinal canal; causing a pungent pain; lasting for a few days, weeks, or months, one crop being replaced by a new one. The irritation from these little ulcers causes much local as well as sympathetic suffering, corresponding with their seat and violence. They cause in the throat anginous difficulties, painful deglutition; in the trachea a cough; in the fauces and stomach nausea, eructation, spasm in the stomach, vomiting; in the intestinal canal colicky pains, diarrhœa, even dysentery, charged with the sloughs, enteritis.

The precursors are : dryness in the mouth and throat, thirst, sensation of a foreign body in the throat, nausea, vomiting, cough, rawness and pungency in the throat, hoarseness, anxiety, pressure at the præcordia, soda, stupor.

It may end fatally by angina, gangrene, and enteritis supervening.

Aphthæ are an exanthema of the internal mucous membrane, the organization of which is the cause of their peculiar form ; hence it is, that persons of a delicate and relaxed fibre (as children) are more subject to them. They are most frequently occasioned by gastric impurities, the evacuation of which had been neglected ; by suppressed secretion of the skin ; by rheumatic and catarrhal metastases ; finally by a general corruption of the humors, therefore apt to be associated with gastric putrid fevers, and to form in the colliquative stage of phthisis. They resemble miliaria very much in their origin, and may be found under similar circumstances ; therefore they happen more as a symptom than as a crisis of fever, and like miliaria, they may also appear epidemically, as a peculiar symptom of the reigning fever.

They may be chronically generated as a metastasis from a sudden cure of ulcers on the legs or other cutaneous maladies.

Therapeutics. The indications are : to remove the local or general causes, to attend properly to the fever or dyscrasy of which they are a symptom, and to cure them by local applications.

In febrile aphthæ the principal thing is to clean the primæ viæ by purgatives and emetics, which are often sufficient to cure them. Pure air, and proper treatment of the fever, according to its character is needed. When the ulcers present a livid appearance, and there is a putrid tendency in the system, roborant antiseptics are called for. The mouth must repeatedly be cleansed by gargles (vide No. 251) ; borax is a specific in this disease. Alum, vitriol, and similar astringents must be avoided, since they are apt to make the aphthæ disappear suddenly, and to produce dangerous metastases, especially to the brain. It is only when they are obstinate and pass into a chronic state, that sulphate of zinc may be used as a wash. When they are very painful, mucilaginous decoctions of mallow flowers, or marsh-mallow root may be given as gargles ; in a putrid disposition, Peruvian bark and alum. When the aphthæ extend into the fauces, stomach, and intestinal canal, oily emulsions, also oil and milk injections are of service.

Chronic aphthæ require, besides the local treatment, that of the dyscrasy, which is their remote cause, as suppressed cutaneous eruptions or ulcers, which must be re-established or replaced by artificial ones.

Aphthæ infantum, see *diseases of children*.

ITCH.

Scabies.

Diagnosis. Small pustules with a reddish margin, containing a pellucid watery fluid. They appear first between the fingers and on the hands, and cause a violent itching, increased by the warmth of the bed and by rubbing. When they last long, they form scabs which are dry, moist, or even suppurate. The eruption may spread over all parts of the body except the face, but takes most hold in the folds of the skin and flexures of the joints. Its location between the fingers is a sign characteristic and distinctive of herpetic and other cutaneous diseases.

It is unaccompanied by fever, and, if left to itself, may last for months, even years. In the beginning it does not affect the organism perceptibly (except a great sensibility to external cold and excessive hunger), but when it is protracted and universally spread, it finally causes emaciation, even lingering fever. Itch is contagious.

Pathogenesis. Genuine itch (*scabies vera*) is always caused by a peculiar contagion (*contagium scabiosum*), which is of a fixed nature, and infectious only by immediate touch either of the person or of things infected by him. Infection, however, depends greatly on individual susceptibility, which may sometimes be so deficient, that any communication, even inoculation, is incapable of producing it; on the other hand it may be exceedingly favored and promoted by a number of circumstances, especially by uncleanness, corrupt air, bad food or want of it, dampness and exposure to cold; which accounts for its spreading in hospitals, orphan asylums, armies, and in times of war.

But itch may appear also as a product and symptom of internal diseases (*scabies spuria*). Though it is only the form of another disease, it may finally develop a contagion and thus become infectious. Of this number are the syphilitic, scrofulous, arthritic, and scorbutic itch, also the critical, an itchlike eruption, with and by which the crisis of acute as well as of chronic diseases follows.

Also in genuine itch we ought to be careful to distinguish the causes of its formation, and the causes of its duration and obstinacy. The latter are often debility brought on by the disease, or a complication with other maladies and dyscrasies.—The mites (*animalcula*) discovered in pustules are not the cause, but the effect of the itch.

Therapeutics. The treatment has to comply with the following indications: to destroy the specific contagion by a specific remedy, which is sulphur (as specifically curative of itch, as mercury of syphilis); to improve the action of the skin and to remove the accessory causes, which nourish and favor the disease.

Many difficulties and many considerations are here met with. We may, for instance, by a merely local application of the specific on the skin, suppress the morbid cutaneous action; but the contagion which has already penetrated deeper is not destroyed, and in consequence itch reappears, or, what is still worse, is translated to internal parts and creates dangerous and obstinate metastases. Thus it can generate pulmonary consumption, dropsy, spasm of the stomach, epilepsy; and all kinds of nervous diseases. This is still more hazardous, when itch is complicated with another disease, or even the product of a crisis.

The *special treatment* is to be regulated in the following manner.

1. Itch, engendered by infection in an otherwise healthy individual, and still recent, that is only since 8 to 14 days. In such a case we may rightly presume, that the contagion is superficial and still confined to the skin, and therefore we may immediately resort to the local application of sulphur. Washing the affected parts with sulphur water, or anointing them with sulphur ointment, or, what is most convenient, with sulphur soap (two parts of black soap and one part of sulphur rubbed in every evening, and a soap-bath in the morning), will destroy the contagion and thus remove the disease. However, it will be better to take sulphur (1 drachm of flor. sulphuris daily at the same time) internally; this mode will guard against all injurious consequences, besides helping as an external remedy, for sulphur given internally ultimately reaches the surface, as is made manifest by the sulphureous character of the perspiration. In slight infections mere local frictions of soap, and a few soap-baths will suffice for a cure; but the frictions must be so made as to rupture the pustules, and performed in the evening, that the remedy may remain applied until morning, when it is to be washed off with soap-

water or a soap-bath. In children the unguent. Helenii applied daily, is an excellent and innocuous remedy, surpassing all others.

2. Itch by infection in a healthy person, but already of long standing. Here the internal use of sulphur for several days, before we proceed to an external application, is indispensable. A blood purifying potion (vide No. 202) and soap-baths may be used simultaneously.

3. Itch generated by infection in an unhealthy individual. In such a case the treatment of itch must be combined with that for the disease with which it is complicated, which in children is most frequently scrofula.

4. Inveterate itch, requires, besides sulphur, such remedies, as excite and invigorate the action of the lymphatic and cutaneous systems, particularly the use of mercury. Aethiops mineralis, or Plummer's powder added to sulphur, answer this end. Also the use of Werlhof's ointment (vide No. 252), rubbed on the wrists every evening, or sulphur ointment strengthened by the addition of white vitriol, or of white hellebore; washing the parts with a decoction of tobacco, and sulphur baths are serviceable. At the same time a decoction of rad. bardanæ, sarsaparilla, lignum guaiaci, also resina guaiaci, $\frac{1}{2}$ drachm daily may be given internally. Most recommendable is external cleanliness; for the obstinacy of itch is often caused by nothing else than by the patient continually infecting himself; linen, bed-clothes and dress ought therefore frequently to be changed. Another cause of obstinacy often met with, especially in poor people, or in persons debilitated by previous diseases, even by the long duration of itch itself, is weakness of the constitution; in such a case the best treatment is nourishing food, the use of strengthening medicines, among which I have found arnica very efficacious. Finally, the complication of another malady may be the only cause of the obstinacy of itch; in such a case it must be investigated whether concealed syphilis or scrofula, or a scorbutic diathesis exists, and we must act up to the indication.

5. Itch without infection, being the mere product and symptom of another disease, as syphilis, scrofula. The original disease is to be treated, and if its cure does not include that of the itch, the specific treatment of scabies must be resorted to.

Suppression of Itch.

As shown above, the translation of psoric matter to internal organs. The most dangerous and obstinate maladies

may arise from a sudden suppression of the eruption, if the system have not been properly prepared by the treatment. In such a case sulphur is the true and sure remedy. Phthisis, nervous diseases, even dropsy, may frequently be removed by it alone. Artificial ulcers may be used simultaneously.

HERPES.

Diagnosis. Small vesicles on a red ground, in clusters, sometimes in one, sometimes in several places; sometimes they are small and limited, sometimes continuing to spread, even covering whole limbs; itching, burning, and painful in a high degree. They may be dry (*herpes siccus*); or cause the epidermis to peel off in large patches, or like meal (*herpes farinosus*), which is renewed in successive series; or they discharge an acrid watery fluid (*herpes humidus*); or form crusts and exulcerations, which with a violent painful itching, extend by corrosion (*herpes exedens*, *phagedænicus*, *esthiomenos*, *lupus*), or may form a herpetic ulcer, which is distinguished by an ichory, imperfect suppuration, an exsudation of an acrid watery serum and a callous thickening of the cellular tissue.—The disease is without fever and not infectious.

Herpes may assume a variety of forms, even degenerate into a leprous state. They have been classified into a multitude of species, and designated by different names. But such an attempt is a useless multiplication of nosology; for they are only varieties of the same disease, modified by individuality. They are always herpes for the practitioner, and the treatment is the same.

Their course and duration vary very much; they are of short, or of long duration, lasting for months and years, even through life; permanent, or periodical, disappearing and returning; in which the seasons have a particular influence (being less in dry summer heat, more in damp cold air); confined to one spot, or "vagus," wandering from place to place.

Herpes is a very troublesome and obstinate disorder, though never dangerous unless greatly spread, degenerating and destroying the cutaneous function, whereby hectic may arise, or by retrocession and translation to internal parts.

Pathogenesis. Proximate cause: A peculiar corruption and abnormal condition of the skin, altered in its secretion and reproduction, by which at last a general dyscra-

sias (herpetic acrimony), but a contagion is never developed.

The remote causes may be referred to: hereditary disposition (which cannot be denied, is the most frequent, and may render the evil prevalent in whole families); diseases of the liver and acrimony of bile thereby created; glandular diseases, scrofulosis; long suppressed perspiration (damp dwelling); acrid, too much salted or fat food; hæmorrhoidal congestion to the skin, anomaly of hæmorrhoids, a frequent cause; disorders of menstruation, pregnancy; local irritation of the skin by too great heat or by coarse clothing; old age, which makes the skin and even the kidneys dry and inactive; finally a general dyscrasy, especially a lurking syphilis. A tender delicate skin predisposes to the disease, especially to herpes farinosus.

Therapeutics. The first and most important thing in the treatment of this as well as of all other diseases, is to remove and properly attend to the remote cause. The patient must therefore adopt, above all other things, a moderate and mild diet, avoid all kinds of heating food or beverage, and live in a dry pure air. If the biliary secretion and the liver are disordered, solvent remedies and such as promote the secretion of bile must be used. If the cause is hæmorrhoidal, which is recognisable by the phlogistic character of the herpes, by former and occasional hæmorrhoidal complaints, sulphur and the treatment of piles must be resorted to. The same principle applies to disturbed menstruation. If it is owing to scrofula, mercurials and barytes are to be given; if to arthritis, guaiacum and other arthritic remedies; if to syphilis, which is often the remote and concealed cause, mercury.

If none of these causes can be detected, or they have been removed, then the treatment is to be directed against the proximate cause, the cutaneous corruption and herpetic acrimony (the specific herpetic treatment). Dulcamara ranks first; to be taken in decoction, 2 to 4 drachms daily; or as extract 1 or 2 scruples a day; the next in rank of efficacy is crude antimony, (one drachm or more daily with magnesia). A combination of both these remedies in the form of pills (vide No. 248), is still more powerful. Recourse may likewise be had to Plummer's powder, pulvis antidyscrasicus (vide No. 201), submuriate of mercury, a decoction of cortex ulmi, sulphur, calx antimonii sulphur (the artificial sulphur water), resina guaiaci, corrosive sublimate in decoction of sarsaparilla, graphit 1 scruple to 1 drachm daily, a strong decoction of pansy (*herba jaceæ*)

continued for some time ; in the most obstinate herpes the decoctum Zittmanni has effected a cure. When herpes is of a phlogistic character, whey, the fresh expressed juices of herb and root of dandelion, of dog-grass, tussilage, nasturtium aquat., fumaria, and repeated cupping are serviceable ; also muriatic acid (10 to 25 drops three times a day) is of excellent use ; even the most severe cases of this kind, even ichthyosis, have yielded to it. Baths, especially of soap, with one pound cortex ulmi, or the cool sulphur springs, particularly those of Nenndorf and Eilsen, merit high recommendation as true specifics in inveterate herpes. I have seen the most malignant, suppurating, crusty herpes, which would not yield to any other remedy, removed by these means. In obstinate cases baths of corrosive sublimate also may be taken.

Local means may be added to this treatment ; but no repellents, especially lead, which are apt to cause a retrocession, and a dangerous translation to internal parts. In slight dry herpes, embrocation made of bruised walnuts, or what is better of fresh expressed nut-oil (*oleum juglandum*), likewise washing with a solution of borax (*vide* No. 249, particularly recommendable for the face), calx muriatica or chlorinica, lime water, especially when mixed with palm soap, or weak sublimate water, ointment of white precipitate applied to the eruption, lime-ointment, which is particularly salutary in facial herpes. In order to allay the violent burning, there is nothing better than spermaceti and almond oil, and if that do not sufficiently mitigate it, repeated cataplasms of cream may be tried. In inflammatory and painful herpes, especially in the face, the application of rags, moistened with fresh water, renewed every hour, is often the best mitigative, even curative ; when the pain is very severe, recourse may be had to a frequent application of fresh bruised leaves of beta alba or plantain, by which I have seen the worst suppurating and corroding herpes in the face (*sycosis*) cured.

Also a covering of leather is often a good curative. In obstinate cases, which have resisted all other remedies, tar (*pix liquida*) has proved the most vigorous and perfectly curative means, in the following form : 1 cup of tar, 2 yolks of eggs, and 1 cup of cream mixed together, and used twice a day.

One of the most stubborn species of herpes is *sycosis menti*, *lupus*. When the remedies before mentioned are unavailing, Zittmann's decoction will be the best.

In every obstinate herpes, and especially when local re-

medies are used, derivations by artificial ulcers and purgatives are recommendable, partly to promote the cure, and partly to prevent metastases to internal parts.

CRUSTA LACTEA.

(Vide *Diseases of Children.*)

CRUSTA SERPIGINOSA,

Is an assemblage of scabs, which cover the lower part of the face, in adults. It is to be treated like herpes.

LEPROSY.

Lepra.

Diagnosis. Uneven, tumid, knotty, entirely disorganized skin, covered with thick crusts and intermediate suppurating points; violent pricking and itching, on different parts of the body, even in the face. Finally, a total destruction of the cutaneous system.

This disease presents itself in several degrees and forms.

In the worst species (*lepra orientalis*), which is no more met with in Europe, whole parts, as eyes, nose, hands and feet fall into gangrene and destruction. Corrosive ulcers are formed. The pains are excessive, especially during the night. The whole body is covered with scabs, and is deformed, especially the face. Swelling, anxiety, deafness, hoarseness, hectic fever associate with it, and death ensues by consumption. This kind is evidently infectious.

In the milder kind (*lepra occidentalis*) all the accidents are milder, the destruction of the skin is less extensive, the disease is more local, does not affect the internal parts; therefore it is neither fatal nor infectious.

Elephantiasis exhibits the skin of single parts, especially of the feet, thickened, indurated, and covered with a thick rough crust, like the skin of an elephant, discharging in several places a fetid and corrosive ichor.

Vitiligo is distinguished by large white spots on the skin, with constant scaly desquamation of it, and induration of the subjacent cellular tissue.

Pellagra (which seems to be a species of this disease) forms on the back and the extremities large erysipelatous, extremely pungent spots, which pass often into blisters, with scaling off of the epidermis. It appears in the spring, and goes off in the winter time. The nervous system, especially the brain, is simultaneously much affected, and may run into mental maladies. The disease is endemial and occurs only in Upper Italy.

Only the milder species of lepra are now seen in Europe. The virulent form of this disease has been extinguished in this country, by the careful measures of isolation taken in the previous centuries, and is now only found in the East.*

The cause of the violent oriental or genuine lepra is a peculiar contagion. The slighter occidental species seem to be leprous forms of other cutaneous diseases, and rather to be classed with the worst kinds of herpetic corruptions.

Cure is very difficult. It must be pursued according to the same principles and by the same remedies as that of herpes; particularly the following:—mercurials, antimonials, sublimate with opium, cicuta, decoct. of rad. caricis arenar., lapath. acut.; externally mercurial applications, salt, sulphur, and corrosive sublimate baths, the use of tinct. cantharid. 30 to 40 drops, acid. muriat., in the worst cases the external use of arsenic.

ERYTHEMA. PHLYCTÆNÆ.

Diagnosis. Red spots, little blisters or suppurating pimples, which disappear after a few days; especially in the face.

A slight, insignificant disorder of the skin, but which is very common and displeasing to young females.

The common cause is plethora, sanguineous congestion to the head, caused frequently by tight lacing and constipation of the bowels, and tender skin.

The treatment must be: to diminish the plenitude of blood by a cooling, less nutritive and vegetable food; avoiding all heating drinks, as wine, coffee, beer; drinking plenty of water, to make a derivation by repeated cathartics (bitterwater, fol. sennæ, rad. jalap.), foot-baths, also repeated cupping; externally by washing the parts with aqua cosmetica every evening.

* It is also yet met with in the negroes of the West Indies.

It is not uncommon to meet with these temporary inflammations of the skin, in catarrhal and rheumatic fevers, especially in children; in which cases they are frequently taken for scarlatinous or morbillous spots. But they disappear very soon, do not desquamate, and are merely symptomatic cutaneous irritations, proceeding from a catarrhal or rheumatic acrimony, and which wear away with the fever and do not require a particular attention.

SCALD HEAD.

Favus, Tinea.

Diagnosis. Little ulcers in the hairy parts of the head, which secrete a viscous, fetid matter, itch violently and form scabs. The disease exhibits two forms, *favus*, *achores*, the slighter kind, the common scald head; and *tinea*, the malignant scald head, when the head is covered with white, fixed crusts, and the roots of the hair are enlarged.

Scald head is a disease very common in children; it has, however, become strikingly rarer, since the habit of going bareheaded and having the hair cut shorter. Less frequent is the malignant scald head; but it is a very obstinate disease.

The causes may be referred to a neglect of cleanliness, keeping the head too warm, most frequently to a scrofulous dyscrasy and mesenteric obstructions, also to suppressed perspiration. Tinea is an idiopathic disease, and has its proximate cause in a swelling and disease of the roots of the hair.

The cure of the common scald head is effected by cleanliness of the head; frequent combing and cutting the hair (with the precaution, not to cut it too short, especially in cold weather, since this would have the same effect as the removal of a fur cap, and produce a retrocession of the eruption), washing of the head with tepid soap-water; anointing the hard scabs with butter or oil; internally *æthiops mineralis* with rhubarb and magnesia, a tea of sassafras, and every 8 days a cathartic of jalap and calomel may be used. Thereby a cure is generally effected. If the evil be more obstinate, baths, Plummer's powder with guaiacum, and also cicuta are needed. External roborants are seldom required; and great precaution must be observed in using them, since they are apt to cause re-

trocession and dangerous metastases to the brain and the organs of the senses. In obstinate cases, the application of cabbage leaves is a very good remedy; they are to be applied triple, repeated three times a day, which will gradually loosen the scabs, and the cure may be finished by oily applications.

Tinea calls likewise for the internal use of the remedies mentioned above, but the principal thing is to remove the diseased roots of the hair. This is done by small stripes of pitch plaster (resin mixed with a little flour), daily applied to a small spot, which when taken off draws with it the roots of the hair. Or also gumm. ammoniac. cum acet. squill. coct. ad consistentiam emplastri, put on and left, until it can be easily taken off. When the evil is very obstinate, take a mixture of one teaspoonful of mercury dissolved in muriatic acid, mixed with a like quantity of butter, anoint the part with it every day, and repeat this, until the whole is entirely cleansed.

GUTTA ROSACEA. VARI.

Diagnosis. Large purple, reddish brown or copper-colored spots on the face, especially on the nose, and sometimes on other parts; elevated, and imparting a sensation of heat.

They are called *vari* when they are round or conical, callous and elevated, with an orifice at the summit through which exudes a purulent or watery, sometimes even a sanguineous fluid.

Each of these forms may occur separately or together, and both are brought on by similar causes.

The principal cause is a peculiar disposition of the skin; hence gutta rosacea may be hereditary and run through whole families. The most common exciting cause is an excess in spirituous liquors; but disordered biliary secretion and menstruation may also produce it.

The cure is difficult. It consists in a removal of the causes, in a derivation by purgatives, and long continued artificial ulcers on the arms, foot baths of mustard, wearing socks of oiled silk, and the application of the cosmetic water, No. 249; inunction of white precipitate ointment about the parts, or, when these remedies are unavailing, the mixture of sulphur and camphor (No. 250), which is specifically efficacious in this affection. We must be careful not to use quickly repelling remedies, for they are apt to produce dangerous metastases.

BOIL. CARBUNCLE.

*Furunculus. Carbunculus.**Furunculus.*

Diagnosis. Round or coniform hard elevations, from the size of a few lines in diameter, to that of several inches, which slowly inflame, assume a brown-red color, break and discharge a purulent matter mixed with blood, but retain in their cavity a slough, that is to say, a portion of dead cellular tissue, the evacuation of which is necessary to a perfect cure; but should the ulcer heal over the slough, this may still be felt, and will cause the part to break again sooner or later. Furunculi may form on all parts of the body, especially in the bends of the joints and where there is an adipose accumulation.

The causes are the same as those of cutaneous diseases in general; but the furuncular form seems to depend on a peculiar condition of the skin itself; hence it is that some persons suffer from furunculi on the least occasion, and almost continually. They are frequently the crisis of, and follow acute fevers, acute eruptive diseases, the termination of itch and other chronic exanthemata; and are also a crisis of gout. The topical treatment consists in accelerating their maturation by emollient and irritant cataplasms (of linseed), hyoscyamus, saffron boiled in milk, and emplastr. diachyli compositum or oxycroceum, and after they are broken, in accelerating expulsion of the slough by digestive ointments.

When a general disposition to furunculi exists, or when furunculi frequently return, we must resort to the general treatment of cutaneous diseases, or to the particular disease of which they are a form.

*Carbunculus.**(Malignant Furuncle, Pustula Nigra.)*

A livid, bluish or black spot of a large surface, violently painful, and finally blistered. It is most apt to form in the neck, and between the shoulders; is a symptom of gastro-nervous fevers, and endangers life, for a fatal putrescency may readily spread from the local mortification over the whole organism.

The cure consists in the cure of the fever (first an eme-

tic, and then the most active antiseptic excitant remedies), and in a proper surgical treatment. First, a deep crucial incision reaching to the living flesh, must be made, and then the most vigorous antiseptic balsamic remedies, cinchona, arnica, myrrh, and camphor, the whole treatment of gangrene as taught by surgery, must be applied to.

When the case is slight, merely cataplasms of aqua oxymuriatica, combined with scarifications, have been sufficient.

The carbunculus contagiosus is brought on by infection from without, and is a symptom of the disease whence it arises, as well as are bubo and anthrax symptoms of the plague (*vide contagious typhus*).

INTERTRIGO. RHAGADES.

Diagnosis. In intertrigo the skin becomes sore in the bendings of the joints, pubes, lips; it cracks and causes pain.

It is most common in infants, and is owing to a neglect of cleanliness, or to the acrimony of perspiration and urine.

Be careful not to apply saturnine or other quickly drying remedies. The best is cold water and the powder of lycopodium.

The same remarks apply to adults, especially to females, who are very subject to it. We must, however, inquire whether some internal disturbance may not be its remote cause.

The cracked skin of the hands and feet, which happens at change of seasons, is generally due to cold, but also to general causes and dyscrasies, as the arthritic.

The treatment consists in the application of mild unctuous remedies, as almond soap, cacao-butter, especially deer's tallow, which is preferable to any other kind of grease, a fact which proves that fatty bodies differ from each other in their action as a remedy, though they are chemically alike as regards their composition; for there are persons whose skin is so excitable as to be irritated by one kind of grease, and be benefitted by another; of this kind is that of the deer.

Borax may also be used in combination with the aqua cosmetica.

When the chaps are caused by cold, we must resort to the treatment for chilblains. Often a dyscrasy, espe-

cially the arthritic, is the latent cause of the disorder, and must be attended to accordingly.

Intertrigo and rhagades may also be dependent on a too great delicacy and tenderness of the epidermis; when this is the case, astringent lotions and cold baths are recommendable.

FRECKLES.

Lentigo. Ephelis.

Lentigines, small, brownish-yellow spots on the face and on the hands, imparting no sensation, appear in spring and summer time, and disappear in winter. They are most frequently met with among females, in persons of light and red hair, and generally in persons of a delicate and white skin.

Ephelides, yellow or brown spots, from the size of one to several lines, or even inches in diameter; in single patches, or spread about everywhere, commonly divested, but sometimes accompanied with itching and desquamation of the epidermis.

Both are superficial affections of the skin; in the ephelides, however, a bilious dyscrasy is the remote cause, as a polycholia or a disturbed function of the liver. Menstrual disorders are also capable of producing them; so that there are women who discover that they are pregnant by the appearance of ephelides, and which disappear after parturition.

The cure of lentigines requires shelter from the rays of the sun, abstinence of washing immediately before exposure to open air, and the use of aqua cosmetica in the evening before retiring.

The ephelides are most certainly removed by borax (half a drachm of borax dissolved in an ounce of rose water; moisten the spots frequently); where there is an indication of bilious acrimony, by dissolvent remedies, which purify the bile and blood.

COMEDONES.

Diagnosis. The skin of the whole body is apparently dead, languid, pale and dry, beset with a quantity of small, elevated, black points, from which a thickened matter in the form of little worms, may be expressed. In a high degree the skin is covered with these vermiform threads.

It is associated with all the signs of atrophy, general emaciation, weakness, the physiognomy of old age. It ends in death by exhaustion.

This disease is met with only in children in the first years of life, and has its cause in a want of cutaneous vitality, a suspension of secretion and absorption, which permit an accumulation of sebaceous matter in the little follicular glands, in which it becomes moulded, and gives a form which has been mistaken for worms; and, as the whole nutritive process suffers, these worms have been considered as comedones (eating companions).

The remote causes are always referable to a neglect of cleanliness, or of cultivation of the skin, and to the use of bad food.

The cure consists in animating the skin by baths of soap, malt, aromatic herbs, pure air, nutritious aliments, and a cautious use of wine, and internally exciting remedies; when the lymphatic system, especially that of the abdomen, is greatly affected, aethiops mineralis, antimony, and rhubarb may be given (vide *Diseases of Children*).

CALLOSITAS CUTIS. EXCRESCENTIÆ. CLAVUS. VERRUCÆ.

Diagnosis, common to all, is an induration or a thickening of the epidermis or the cuticle.

Callositas, scirrhus cutis, the induration of a great part of the skin. This disease is not uncommon in new born infants, especially in France, where it is called *l'endurcissement du tissu cellulaire*, and has a fatal issue (vide *Diseases of Children*).

An induration of the skin and cellular tissue of whole limbs is sometimes met with as a symptom of scrofula, and as a consequence of erysipelatous inflammations, and it is occasionally combined with considerable tumefaction and deformity. It has already been mentioned above as a symptom of several chronic, especially herpetic cutaneous eruptions.

The treatment requires a most vigorous use of internal and external remedies; such as have a particular tendency to urticate and act on the skin, as mercurials, antimonials, belladonna, cicuta, opium; salt, sulphur, and alkaline baths, emollient cataplasms, unguentum, oxygenatum (which I can highly recommend); and of artificial ulcers.

Verrucæ, warts, are single indurations and excrescences of the epidermis on all parts of the body; called *clavi* (corns)

on the toes ; *cornua*, when they attain a hornlike hardness ; and also a hornlike form and size, which sometimes happens.

Warts sometimes spring up single, sometimes in great number, especially in children, and disappear again without any perceptible cause. Frequently a mechanical pressure is the evident cause ; but frequently, too, particularly when numbers come at once on various parts of the body, they are owing to a cutaneous disorganization, brought on by some internal disorder ; their formation seems also to depend upon the period of development (puberty), upon scrofulous, arthritic, and venereal dyscrasies.

The topical treatment consists in the application of caustics, such as tinct. cantharid., nitric acid, muriate of antimony, nitrate of silver, hot iron or the ligature. When they are symptomatic, the treatment of the original disease must be pursued.

Sometimes the whole skin becomes covered with wart-like excrescences—*morbus verrucosus universalis*.

The callous and porcupine skin is to be classed here. The disease is to be treated according to the above principles, but is rarely curable.

PLAITED HAIR.

Plica. Trichoma.

Diagnosis. Confusion and entangling of the hair, which at last forms into cuds. The hair curls and mats into inextricable meshes like tails, thickens and exudes a viscid matter, which condenses and thickens them into still greater masses. When the disorder is very intense, the disorganized hair may become painful, and excrescences may also be formed on the nails. It is preceded by lassitude, pain in the limbs, headache, dizziness, febrile irritations, and fetid sweats. After the eruption has appeared, these symptoms cease. If the plaited hair is cut off prematurely, it soon reappears, accompanied even with lameness, deafness, blindness, etc.

It is a chronic disease, and cannot be entirely removed.

The proximate cause is a peculiar disorganization, or rather hyper-organization of the skin.

Its exciting cause is purely endemical, for it occurs only in Poland (*plica Polonica*), and when it appears in other regions, the matter of it has been originally brought thither from that country. Probably a neglect of cleanliness, the use of fur caps, and perhaps a peculiar condition of the

water concur to originate it. The peculiarity of the race (the Sarmatic),* seems to be particularly liable to it, for we meet with it only in Sarmatic villages, and not among Germans or Russians living under the same circumstances. But, according to the experience of the best observers, it is contagious, and may be communicated particularly by coition. Also the preceding complaints, their abatement on the appearance and return, on the suppression of the eruption show, that the disease is not merely local, but that this disorder of the hair is the product or rather the critical metastasis of an internal dyscrasy.

The indications are: to remedy the general dyscrasy and to separate cautiously the plaited hair.

The special treatment must be adapted to the stage of the malady.

1. During the precursory stage, the general dyscrasy must be ameliorated and the metastasis promoted. This is to be attained by general diaphoretics, especially antimony, which seems to operate specifically in this case, also the decoction of guaiac. In a sthenic constitution, the excitement requires a venesection.

2. After the hair has become plaited, these remedies are to be continued and increased in strength, in order to render the crisis complete.

3. When the separation is completed, which is recognized by the hair losing its glossy appearance and feter, and by its being replaced by new, healthy hair, the matted hair may be cut off.

This period is to be particularly watched, and to be accelerated by employing the means before mentioned. If the plaited hair is cut off at an early stage of the disease, the most dangerous accidents happen.

At the conclusion of the treatment, tonics must be given.

I cannot forbear remarking, that great attention is due to the concealed trichoma, which may be a cause of the most protracted and obstinate nervous diseases.

MOLE.

Nævus.

Diagnosis. Congenital spots, or spongy, wartlike elevations of the skin, of different colors, usually red, brownish,

* It is found also among the Jews.

or violet; of various size and figures, often beset with hair, (which liken them, by means of imagination, to strawberries, raspberries, mice, etc.). They last for life and retain their original form and condition, or, by accessory causes, especially topical irritation, enlarge and are transmuted into more injurious pseudo-organizations, and into cancerous disorganizations.

They are owing to the first conformation in the womb, and on that account they frequently appear hereditarily on the same spot, where the father or mother has the like. It is probable that a continual pressure during the fœtal state, on the part affected, which hinders the free circulation and formation of the skin, may give rise to them; but other causes also, even mental affections, which sometimes have a fatal influence on the fœtus, may contribute to their origin, and excite such disturbances in the formation of the skin, so that we need not presume a superstitious influence of the imagination.

The treatment must be entered into with great caution, for any local irritation may excite an increase and a still greater degeneration of this pseudo-organization. It will be best to consider them a "*noli me tangere*," and to avoid all touch and pressure. Such trials are most dangerous, if made in the face. When treatment is asked for, weak solutions of borax, alum, alkali, submuriate of mercury, and limewater may be used; spongy excrescences with a small base may be removed by ligature. In those called wine-stains, tatooing into the part a color conformable to that of the natural skin has been done with success.

BALD HEAD.

Alopecia.

Diagnosis. The hair is dry, white, cracks and falls out.

As causes we may enumerate all such as prevent the nutrition of the hair, especially old age, preceding acute fevers, particularly acute diseases which affect the head, as erysipelas, excesses in venery, violent grief and anxiety (of which there are instances in which the hair grew gray in a single night), chronic cutaneous diseases, dyscrasies, especially syphilitic.

The treatment consists in frequent combing and brushing the hair, washing it with soapwater, with a decoction of burdock root; anointing it with a pomade of beef's mar-

row and oil of cedar; powdering with a mixture of burnt culinary salt and hair powder, also washing with a solution of blue vitriol.

ULCERS.

Ulcera.

Ulcers of the skin and bones (*caries, spina ventosa*) are treated according to the same principles as the cutaneous diseases (*vide generalities*).

Here also an internal medical treatment, and an attention to remote causes, especially to the various dyscrasies, is of great importance; but of equal importance is the surgical treatment, therefore they are referred to the department of surgery.

Also *noma* is here to be mentioned; for which we will only observe, that the application of pyroligneous acid has proved most efficacious.

TWELFTH CLASS.

DYSCRASIES.

Generalities.

Faulty condition of the humors, which operates as an exciting cause of disease, and is called *cachexy*, when it disturbs nutrition and reproduction.

Diagnosis. Alteration of the complexion, cutaneous eruptions, secretions changed in quality (especially the urine, also the blood, as seen in venesection), irritations of the nerves as well as of the vascular system, causing thirst, pains, spasms, irritated pulse, febrile motions, inflammations, faulty reproduction, and pseudo-organizations; frequently a production of contagion, parasitic formations and disorganizations.

Dyscrasies vary in their nature and in their effects. Sometimes they are slight and without danger; sometimes

very important and destructive to health and to life; they are chronic and sometimes last for life. Their effects are: all kinds of chronic and acute diseases, ending in hectic, atrophy, phthisis, dropsy, and terminating in a general consumption of the powers, or in a local destruction of noble viscera.

Pathogenesis. The purity or normality of our humors and of organic matter in general depends on the quality of what enters into the body from without, on its proper elaboration and animalization within the system, and on the due excretion of what has been used, has died away, and has consequently become foreign and injurious.

Dyscrasy, impurity, anormality (acrimony) of the humors may therefore be caused,

1. By a *faulty accession from without*.

A. Here nutriments are first to be mentioned: food and beverage must be considered in regard to quantity as well as quality. Quantity: *a*, too much may be taken, overtaxing the digestive and assimilative powers, and therefore preventing its proper conversion, suffering it to form crudities; hence proceed degenerated, imperfectly assimilated and consequently heterogeneous humors; *b*, or too little. Insufficient, bad, unusual food produces dyscrasy, by absence of the necessary supply and consequent debility. In regard to quality, heavy, indigestible, greasy, or too irritative, spicy, acrid, heating, salted or putrid food and beverages are injurious.

B. Air; subject to a double consideration; *a*, by deficiency of oxygen; as confined air, the oxygen of which has been consumed or animalized; *b*, by deleterious admixtures.

C. Warmth; its excess and deficiency; the climatic influences fall under this head.

D. Poisons; especially the metallic, as quicksilver, lead, arsenic, and silver.

E. Contagia and miasmata, especially the syphilitic and the psoric; and

F. Neglect of cleanliness, dirt in general, which is often the only though unperceived cause of dyscrasies in the lower orders of people, even of certain nations.

2. By *faulty metamorphosis*—the assimilation, animalization, and transition of the ingesta into the animal, animated, and individual nature. It consists of three main operations, each of which may become disordered and thereby cause a dyscrasy.

A. Digestion. Weakness of the stomach, imperfect di-

gestion produces saburra, acrimony, and in consequence imperfect, vitiated, watery, and acrid blood. This is also true of the influence of warmth.

B. Chylification. Disordered condition of the chylopoietic system, obstructions in the mesenteric glands, generate a bad chyle and faulty humors. The whole lymphatic system is to be ranged here, inasmuch as it introduces into the blood all that is received from without; thus the dyscrasia serophulosa is engendered, the original seat of which is in the lymphatic system. Also the dyscrasia arthritica has its original source and laboratory in disordered digestion and chylification.

C. Sanguification. The proper transformation of chyle and lymph into healthy, well animated, and well organized blood may be prevented by general debility, by want of muscular exercise, but especially by disorders of the lungs and respiration, the principal organ of animalization and sanguification (e. g. asthma, blennorrhœa, pulmonary tubercles, phthisis, even kyphosis); and by disorders of the heart (especially aneurisma, ossification, persistence of the foramen ovale and ductus Botalli, interfering with the passage of the blood through the lungs). Thereby are generated various dyscrasies of the blood; too watery or a mucous condition of it, chlorotic dyscrasy, but especially the deficient transmutation of the venous into arterial blood, the venous character, hypercarbonization of blood, the cyanotic and scorbutic dyscrasy.

3. *Faulty secretion and excretion.* Proper secretion and excretion of what is corrupt, used, decayed, is an essential condition of pure blood; hence disorders of these functions are the richest sources of dyscrasies. They may be double:

A. Obstruction, suppression of secretion, by which the matters destined to be discharged are retained. The most common of which is: *a.* Suppression of the secretion of the skin, especially of the imperceptible one (owing to cold, dampness, uncleanness, want of exercise); it generates the perspirabile retentum, the rheumatic dyscrasy, the psoric dyscrasy. *b.* Suppression of the secretion of the liver (one of the most important blood purifying organs, especially for removing carbon); hence the dyscrasia biliosa, icterica, atrabilaria. *c.* Suppression of the secretion of the kidneys, especially the chronic; thence the dyscrasia urinosa.

B. Degeneration, qualitative alteration of the secretion (pathological secretion). A novel heterogeneous matter

(morbid matter) is generated within the body, which may become mixed with the humors and corrupt them. Here the cause of the dyscrasy may be merely local. Of that number is the dyscrasia purulenta, owing to absorption of pus, in external or internal ulcers, caries, gangrene, cutaneous diseases, the dyscrasia herpetica, leprosa, cancrrosa.

Therapeutics. The principal indications are the following :

1. To investigate into, and to remove the various causes. In this regard the treatment varies very much. Faults in the mode of living, of diet, of external influences, digestion, chylication, sanguification, secretion, specific miasmatic and contagious matters, local diseases are to be remedied.

2. To purify the humors. This is effected by general blood purifying remedies (*alterantia*, *purificantia*). The principal one, and which is the basis of all others, is water. Copious drinking of pure water, and bathing in it alone is capable of curing the most difficult and obstinate dyscrasies, as experience has sufficiently shown. Besides, such vegetables as are possessed of the above stated properties; the most efficacious are the fresh expressed juices (of *taraxacum*, *fumaria*, *rad. graminis*, *nasturtium aquaticum*), the decoctions and infusions of *rad. bardanæ*, *saponar.*, *sarsaparillæ*, *caric. arenariæ*, *guaiacum*, *lapathum*. Antimonials, sulphur, mercury (only under certain conditions), cathartics (especially senna leaves, indisputably the most efficacious of all vegetable antidyscrasic medicines, even in the form of powder; I have given 1 to 1½ drachm of it in an affusion daily with the greatest benefit; and *jalap*). In obstinate cases several of these remedies may be combined, the *pulvis antidyscrasicus* (vide No. 201), one of the most usual and efficient remedies in dyscrasies; the *species purificantes s. lignorum* (vide No. 202), the *decoctum Pollini* (vide No. 203), particularly the *decoctum Zittmanni* (vide No. 204), which, in spite of its nonsensical mixture, has most excellent effects. The doses must, of course, be modified according to individuality.

3. Abstinence, fasting cure. It operates by withholding the matter, as well as the power which engenders dyscrasy. It is most indicated and efficacious where excessive nutrition and plethora are the causes of dyscrasy.

4. Renovation of the humors. Direct correction of the matter by pure sound additions from without; the generation of a new blood. This is indeed possible, and frequently is highly efficacious. The principal means are: milk and pure air. Dyscrasies, which were incurable by

any other means, have been remedied by milk diet (living upon nothing but milk, white bread, and country air). The method of the ancients—*purificatio veteris, regeneratio novi*.

There are, however, cases in which a real want of nutritive substances in the blood is the sole cause of dyscrasy, as in poor, famished persons; after severe maladies and medical treatment. In such cases good, nourishing, healthy food is the best curative of the dyscrasy.

CHLOROSIS.

Diagnosis. Pale, white color of the skin, cheeks and lips; deficient warmth, chilliness, lassitude, weak, slow pulse, want of air on the least exercise, palpitation of the heart, œdema of the feet, want of appetite, and on the contrary a desire for substances, not usual as food, especially for earthy matters, as chalk, and the like; the blood is thin, watery, poor in cruor, consisting almost entirely of serum. When the disease is protracted, general dropsy, ascites or tabes, also nervous diseases are apt to form.

Pathogenesis. The essence and proximate cause of this cachexy is a peculiar disordered condition of the blood, in which the watery constituent prevails, and the cruor and fibrine, which contain the warmth, redness, plasticity and vitality, are absent.

The most usual exciting cause is an obstruction of the sexual development and of the first menstruation (in the female sex); it may however be brought on by too great a loss of blood.

Therapeutics. The principal object is to increase the cruor and fibrine, the caloric and coloring ingredient of the blood, which alone is possessed of vitality. The chief remedy is iron. Nothing in nature replaces so promptly and directly the cruor, redness, warmth, and vital power of the blood, as this great and wonderful mineral, so nearly kindred to animal organism, so necessary to its existence, and so intimately related to magnetism, and the most secret creatory powers of nature. It is capable in young chlorotic girls to produce within a few weeks a blooming complexion, and to impart new life (hence the chalybeate pills have received the name of red-cheek-pills). It may be used in all forms and preparations, but it operates most vigorously in substance (vide No. 205), in delicate individuals, who labor under great weakness of the stomach and mucosity, dissolvent ferruginous salts, ferrum tartarissatum,

flores sal. ammon. martial. (vide No. 206), and chalybeate waters (Pyrmont, Driburg, Schwalbach, Cudowa). The patient must enjoy open air, and use moderate corporeal exercise at the same time.

If the disease is owing to a retention of the menses, a treatment appropriate to the various existing circumstances, must be combined with the above remedies (vide *Diseases of Females*).

If it is caused by onanism, iron and animal food are to be prescribed.

CYANOSIS.

Diagnosis. Livid color, frequently (after exercise) even a dark-blue one, of the extremities, especially of the fingers and toes, and of the face, sometimes of the whole body; at the same time, difficulty of breathing (especially when exercising), palpitation of the heart, deficient warmth, general debility. Its duration is very indefinite, lasting sometimes for months, but also for years, even to the age of 25. Issue: increasing decomposition of the blood, passive hæmorrhages, dropsy, also death by asphyxia.

Pathogenesis. The proximate cause is an impediment to the conversion of the venous blood into the arterial; consequently the blood persists in a carbonized, venous, imperfectly animated state. The causes are either congenital or acquired.

The congenital (in the plurality of cases) are: the persistence of the foramen ovale, the ductus Botalli; organic disorders of the heart, the aorta originating from the right ventricle, absence of valves, undeveloped lungs (which frequently causes death immediately after birth).

The acquired causes contracted in the course of life, are: the bursting of the foramen ovale (by vehement exertions, violent rushing of blood into the heart), aneurisms of the heart, ossification of the valves; tubercles in, and impermeability of the lungs (hence sometimes produced by asthma or phthisis). Also the scorbutic state, which is likewise a venous condition of the blood, may produce similar phenomena.

Therapeutics. The direct cure must tend, as far as possible, to oxydation and carbonization of the blood. Acids, muriatic as well as sulphuric, ought to be prescribed internally, and as lotions and in baths (one or two ounces of muriatic acid to a bath), and pure air abounding in oxygen

may be inhaled. The causes must also be regarded. In diseases of the heart, rest, avoiding all hard exercise, occasionally small venesections, in short, the treatment of the diseases of the heart (*vide asthma syncopticum*), are to be put in practice.

In the cyanosis of the new-born, to make the infant cry has been recommended, as a probable means to cause the adhesion of the foramen ovale.

SCURVY.

Scorbutus.

Diagnosis. Lassitude, spongy, livid, dirty, itchy gums, bleeding on the least touch; looseness and falling out of the teeth, putrid breath, weak respiration, rendered difficult by the least exertion; feeble, tardy pulse, pale countenance, bloated face, bluish spots on the extremities, swelling of the feet, sadness, saturated urine, which readily putrifies. When the disease is increasing, there are frequent hemorrhages from the mouth, nose, and other parts, which are difficult to suppress; increasing feebleness, fits of fainting easily brought on by exercise, unclean, livid, spongy ulcers on the feet, which are very apt to bleed, dull pains in the legs affecting the bones; gangrene and sphacelus on the feet set in spontaneously—unprecedented by inflammation, detaching sometimes entire parts from the body.

We distinguish land-scurvy and sea-scurvy. The former is slight, and may last for years without dangerous occurrences, though it may sometimes engender important diseases, as *morbis hæmorrhagicus maculosus*. Sea-scurvy is more formidable; it grows rapidly worse, and is more destructive. It may end fatally by loss of blood, by gangrene, or by extreme exhaustion. Dropsy and emaciation are also apt to supervene.

Pathogenesis. The proximate cause is a decomposition or dissolution of the blood, diminished vitality, and plasticity of it, and a disposition to putrescency.

The remote causes are: damp, cold air (hence is more prevalent in the northern coastward countries), impure, pent-up air, want of fresh vegetable food, salted, corrupt meat and putrid water, want of muscular exercise, sadness. All these causes are united in a long sea voyage; therefore scurvy is most frequent, formidable and fatal during

such a time. On land similar occurrences may happen ; as during sieges and other general calamities. There exists, however, also a congenital *dispositio scorbutica*.

Therapeutics. The principal intention is, to enliven, refresh, and oxydate the blood ; the second, to strengthen. Therefore the cure of the sea-scurvy is very easily effected by country air, fresh water, and fresh vegetables ; and it is perfectly prevented even on board of vessels during the longest voyages, by cleanliness (constant ventilation and washing of the ship), exercise and exhilaration of the crew, and by sour-crout, citrons and beer. The most efficacious remedy is lemon-juice, six to twelve ounces taken daily, and also externally applied to the ulcers. In land-scurvy, yeast has proved of excellent service ; from four to twelve ounces a day must be taken, and be also applied externally to the ulcers. In great debility, besides the foregoing remedies, cinchona, calamus, acida mineralia ; in a disposition to hemorrhages, alum ; against the ulcers in the mouth and stomacace, mel rosar. with muriatic acid, gargling the mouth with chlorine water, decoction of Peruvian bark, calamus with alum. Carrot pulp, frequently renewed, is useful, to heal the external scorbutic ulcers. In such cases, also, herba sabinæ, used in fomentation and baths, has extraordinary and specific effects, even for curing caries.

JAUNDICE (YELLOWs).

Icterus.

Diagnosis. Yellow color, perceptible in the white part of the eyes first, next over all the rest of the body ; varying in degree from pale to saffron yellow, even to brown and blackish yellow (*icterus niger*) ; urine orange-colored, staining linen yellow ; fæces hard, and without the yellow color, but white or gray ; when the disease is very intense, even the perspiration will color the linen yellow. At the same time, difficult digestion, tension and tumefaction of the epigastrium, flatulency, mucous accumulations, acidity, deficient appetite, nausea, tension, pressure, and sometimes pain of the hepatic region.

Jaundice, by itself, is not a dangerous disease ; it may, however, become so by the causes which produced it ; as inflammation, incurable obstructions and disorganizations

of the viscera, or by a long continuance creating cachexy, and finally hectic or dropsy.

The first sign of improvement is the reappearance of color in the stools.

Pathogenesis. The proximate cause is: the existence of bile in the blood and lymph, and absence of it in the intestinal canal, caused by retrocession of already secreted bile into the vascular system. It is therefore not impeded secretion, for without secretion there is no bile in the organism; but impeded excretion of bile, which is absorbed into the blood. The obstruction may take place in the ductus cysticus, or choledochus, or in the ductus hepatici, or in the puncta biliaria; the latter is particularly apt to be the case in the inflammatory and spasmodic jaundice.

The remote causes of jaundice may be dynamic or mechanical. Such a suppression may be brought on dynamically by over-irritation, or by deficiency of irritation and action (atony) of the liver. The over-irritation may be inflammatory or spasmodic.

The exciting causes may be ranged in three classes. Irritation, which retains the bile. Of this class are inflammation of the liver and contiguous parts, violent bilious mental affections, indigestion, gastric accumulations, certain poisons, taking cold, strong emetics and cathartics, gall-stones; in great irritability of the liver, spasms, as in hysterical persons.

A mechanical obstruction to the excretion; due to biliary concretions, gall-stones, even worms, which obstruct the ductus choledochus—obstructio hepatis.

Atony of the liver, which arises very frequently secondarily, and entertains the disease as a secondary cause.

Therapeutics. The principal intention is, to regulate the function of the liver, and to restore the free discharge of bile into the duodenum. This may be done in various ways, by varying the treatment according to the character of the disease. Above all, examine whether an inflammatory state is present, which may be recognized by the fever and by pains in the hepatic region (signs of hepatitis). When this is the case, abstractions of blood and the complete antiphlogistic treatment of hepatitis are indicated; which will also remove the yellow color, or at least render the application of specific remedies practicable.

In ordinary cases, the normal function of the liver and excretion of bile are restored by the continued use of solvents and purgatives; among which rhubarb (which has

a specific tendency to the liver) is particularly to be selected (No. 207, 208). Should these means not suffice, an emetic is to be given intermediately. Injections, antispasmodic embrocations on the regions of the liver and stomach aid the cure. Should these also fail, then aloes, which is an efficient excitant of the hepatic secretion, may be employed, and will in most cases be sufficient to accomplish the task. Prescribe one grain, to be taken three or four times a day.

Should even this not effect a cure, then use more vigorous resolvents, especially soap, gummi ammoniac daily, up to two drachms, soda, mineral waters of Carlsbad, Marienbad, Saidchutz, Pullna; asa fœtida, calomel, sulph. antimon. aurat., scilla, fumaria, centaur. min., especially fresh expressed juice of taraxacum (herb and root), two or three ounces morning and afternoon, likewise extract of chelidonium. maj., still better the fresh expressed juice of it, one teaspoonful, gradually increasing to a tablespoonful, two or three times a day. At the same time, three or four yolks of eggs in water or broth, taken every morning; also rad. belladonnæ, with rhubarb (No. 209).

If even these remedies do not succeed in attaining the end, the cause of obstinacy must then be in a weakness and deficient action of the biliary organs, and it becomes a rule of practice to combine resolvents with roborants, especially quassia; even ferruginous remedies, particularly the use of Pyrmont or similar chalybeate waters. Sometimes a spasmodic state keeps up the disease; in which case, injections with opium will prove efficient.

In all kinds of jaundice we must attend to an amelioration and purification of the blood, to removing the bile that has entered into the humors. This end is best attained by frequently drinking of acid beverages, cream of tartar water, tamarind-whey.

Nor ought the remote causes to be lost sight of, such as worms, metastases, especially psoric acrimony, gall-stones, obstruction of the viscera, especially of the liver; for which mercurial embrocations on the hepatic region are of great use. Sometimes icterus is purely spasmodic, and then opium is most serviceable. The periodical, typically intermittent jaundice is to be treated as an intermittent fever.

Icterus Niger.

The severest kind of jaundice is when the color becomes dark-brown or blackish. It manifests the highest degree

of biliary obstruction (usually incurable disorganizations of the liver or concretions of irremovable gall-stones), and of bilious corruption of the blood. It rarely admits of a cure, and passes in most cases into dropsy ; in a few cases, the use of Carlsbad, the fresh expressed juice of taraxacum, combined with the simultaneous use of the yolks of eggs, also tartaric acid, and in one case oxalic acid salt has effected cures.

SCROFULA.

Diagnosis. This disease appears in two forms ;—as a scrofulous disposition, and as a confirmed scrofulous affection.

1. *Scrophulosis* (scrofulous disposition) manifests itself in infantile age by the following signs : scrofulous parents (for hereditary transmission is so certain that we may conclude that it exists in the children), an unusually large head, especially protuberant occiput, short, thick neck, compressed temples, broad jaw-bones, tumefaction of the face, especially of the upper lip and nose (a principal sign), fair hair, fine white complexion with red cheeks ; in most cases blue eyes and large pupils, the whole body full and well fed, but the flesh, instead of being full and firm, is lax and spongy to the touch, the abdomen large and more distended than natural, frequent bleeding at the nose, and constant disposition to accumulate mucosities in the intestinal canal and to engender worms ; likewise to blennorrhœas of the lungs, nose, etc., irregular stools, costiveness and diarrhœa alternating ; acuteness of understanding, precocity of genius ; whilst the corporeal development, as dentition, walking, is tardy and irregular.

2. The confirmed scrofulous disease. Its signs are : Glandular tumors and indurations (scrofulous glands), are the most universal and surest symptom. They appear first on the throat, under the jaws, in the neck, as larger or smaller knots (from the size of a pea up to that of a walnut), sometimes as a chain of small knots ; on other glandular parts of the body, below the axillæ, in the groins, finally everywhere. In the commencement they are soft, without pain, movable, and may continue in this state for years ; or they gradually grow larger, and painful, the superimposed skin reddens ; they at last pass into suppuration, break and form scrofulous ulcers. Be careful to distinguish genuine from spurious scrofulous knots (*scro-*

phula vera et spuria) ; the genuine are owing to a scrofulous diathesis, the spurious are glandular tumors, which arise from other causes ; as, dentition, development of growth, irritation of contagious matter, (as that of small pox, measles, scarlatina,) and local inflammations. The scrofulous nodes may form in external as well as in internal parts (*scrophula externa et interna*), especially in the mesentery, and in the lungs, but also in the liver, spleen, and brain.

2. Chronic inflammations of glandular parts, especially of the eyes (*ophthalmia scrophulosa, psorophthalmia*), marked by great photophobia, epiphora and viscid secretion of the Meibomian glands. The frequent appearance of hordeola betrays a scrofulous diathesis.

3. Frequent and chronic blennorrhœa, in children often otorrhœa, also fluor albus.

4. Cutaneous diseases ; in children the most frequent forms are : achores, favus, tinea ; besides universal eruptions of various kinds, especially the herpetic.

5. Constantly a tumid, hard abdomen, lymphatic tumors, extravasations, indurations, scirrhus,—scrofulous ulcers, which are distinguished by the absence of pain, are of a very passive character, have an impure surface, do not furnish a good pus, but a watery, acrid ichor, which corrodes the contiguous parts, dry in one place and break in another.

6. Enlargement of bones (*spina ventosa, pædarthrocace*) and caries ; the first is an internal, the latter an external corrosion of the bones ; the first is peculiar and characteristic of the scrofulous disease.

7. Finally, cretinismus remains to be mentioned as the most complete, formed and universal scrofulous malady of the whole organism, in which even the mind suffers, and the whole body turns into scrofula.

When scrofula is of long duration, of a high degree, or is inveterate, worse and more dangerous diseases form : they are atrophica mesenterica, tabes scrofulosa, phthisis tuberculosa, hydrops (especially ascites and hydrocephalus), cancer scrofulosus, especially on the lips and in the face.

Scrophulosis may become fatal by these diseases, though it seldom goes so far ; but disappears again, or accompanies the patient through life ; remains his troublesome companion, and mingles with all other diseases that may attack him, frequently produces symptomatic fevers, and even nervous diseases.

Its course varies much. It is usually a disease of chil-

dren, and terminates at puberty. It manifests itself sometimes in the first year of life, generally not before the second or third. Its appearance is often brought forth by the influence of accidental causes or pathological irritations; as by serious lesions, dentition, acute fevers, especially exanthematic and contagious ones, as variola, measles, scarlet fever, even vaccine. But sometimes it remains dormant in the earlier periods of life, and breaks out at the time of puberty. After this period, and during the years of complete growth and formation, that is, from the twentieth to the fiftieth year of age, it is less perceptible, and lies dormant, but sets in again, in females particularly after the cessation of the menses. A part of those glandular diseases and indurations which then form, must certainly be attributed to this diathesis.

The season of the spring, the formative period of nature, exercises an important influence on this disease; the symptoms usually are then more manifest. Even the moon, its increase, influences the economy in this respect.

Pathogenesis. Scrofula is a disease of the lymphatic system, and of the lymph itself. It depends on weakness, deficient and irregular action of this system and its glands; on faulty secretion, by which the lymph is badly prepared, assimilated and animalized. The effects are: imperfect, seemingly rich but unsound nutrition, stagnation, accumulation of lymph in the vessels, degeneration of it into scrofulous acrimony (scrofulous virus), irritation, even local inflammation (but of a passive nature), thereby thickening, induration, formation of tubercles, extravasations, suppurations of the glands, of other organs also, of the bones, and noble viscera; abnormal secretions; metastases, finally general cachexy, deformity, rachitis, disorganization and destruction.

The lymphatic system is the system of development; the scrofulous disease, which originates and is located in this system, is therefore a disease of development; that is to say, it is intimately interwoven and connected with the developing process of the organism. It therefore is most prevalent at these principal periods, that of dentition, of growth, sometimes not earlier than that of puberty, but it is also terminated by them and their happy completion. The double schema, which this disease is able to assume, the *schema externum* and *internum*, is worthy of particular notice. In the first case, the disease attacks chiefly the external glands, the lymphatic vessels, the skin, and in general the external parts; in the latter, the internal ones,

the mesentery, lungs, brain, bones, and few or no swellings of the glands are observed, as happens in rachitis.

All that has a tendency to create faulty lymph, or to weaken and depotenciate the lymphatic system, may act as an exciting cause of scrofula.

The remote causes are: scrofulous progenitors (for this disease is surely a hereditary one, and is peculiar to whole families), also such ones as are very much debilitated by dissipation or old age, likewise syphilitic parents (for experience has but too frequently shown, that the children of such parents are scrofulous from birth, and that scrofula very often is nothing but a degenerated, a modified syphilis in the second generation).—Farther, bad nutrition in the first year of life from sickly, scrofulous, or even syphilitic mothers and nurses; particularly rearing without mother's milk, by artificial nursing;—living in impure, confined, animalized, damp, moist-cold air (hence its climatic diffusion, which is most frequently met with in England and the northern coastward regions; likewise in the deep vallies of mountains, where the highest degree of the disease, cretinism, is alone bred); in a general neglect of cleanliness; bad, heavy, indigestible food in the first years of infancy, especially heavy, not well fermented, farinaceous meals, potatoes, premature usage of brandy, much sitting, and neglect of corporeal exercise during the age of childhood; premature exertion of the mind;—acidity, verminous accumulation in the *primæ viæ*;—former diseases, which particularly affect and weaken the lymphatic system, as small pox, measles, scarlet fever, also acute fevers, terminated by incomplete or disturbed crises.—Finally, strong astringent medicines, which impede and stop the salutary motions of nature, especially the abuse of opium in children, may give rise to this disease.

Therapeutics. The cure of scrofula, as of a constitutional disease, takes a long time and is difficult. For a radical cure requires a deep penetration into the vegetation of the system; altering and improving the functions of chylickation, assimilation, and animalization.

The principal intention is to ameliorate and regulate the function of the lymphatic system, and correct the specific corruption of the lymph and its effects. This is accomplished in part by general, especially by dietetic means, partly by specific remedies which have a particular tendency to the lymphatic system and the dyscrasy in question (*antiscrophulosa*).

Before entering into the details, I will give a few general rules concerning the cure of scrofula.

1. In no disease does patience form so indispensable a part of the physician's duty as in this malady. Months, even years, are required. The end is not attained by rash tempestuous means, but by a quiet and persevering treatment.

2. Profit of the times, the periods of development for the cure. Success has often failed a long time, but suddenly makes rapid progress. The same remedy which previously proved unavailing, is now of excellent service. Also pauses in the administration of medicines are salutary, by which they often receive new efficacy.

3. Spring is the most favorable season for the cure of scrofula, when the impulse, which the new life of nature imparts, and which is also evident in the more striking manifestations of scrofula, increases also the efficaciousness of the remedies.

4. Distinguish palliative treatment (cure of the symptoms) from the radical one (cure of scrophulosis, scrofulous diathesis). The symptoms may be removed and yet the disease continue.

The chief thing, the whole basis of treatment for scrofula is a suitable regimen. Diet alone can ameliorate the growth, the material organic state, the humors, especially the lymph—the chief object to be attained. Without diet, the best antiscrofulous remedies are unavailing; on the contrary, the whole cure may be effected by it alone; and it is by diet alone that the radical cure of scrofulous diseases is accomplished.

It consists in the following: healthy food; that is, nutritive, easily digestible aliment, such as resists acidity; it is best to combine vegetables with the animal food, especially roots (carrots, scorzonera), herb-soups, pure water, light beer, also egg-water, the yolk of one egg shaken with two pounds of water (a little culinary salt and sugar may be added), to be taken as beverages. Pure salubrious air is most essential. The best is the country air in a dry region, living in the open air, ventilation of the bed-chamber.—Cleanliness, frequent, daily change of linen and bed-clothes; feather-beds must be discarded, and mattresses of hair, moss, or chopped straw substituted for them. It is incredible how much this alone will contribute to a cure. Succinous fumigation of the linen, before using it, is also very wholesome.—Muscular exercise, even strong, gym-

nastic exercises.—Daily washing and friction of the body with cold water.—A tepid bath every two days. Bathing alone is very efficacious, and its efficacy may be increased by additions of soap, culinary salt, malt. Finally, I also mention acorn-coffee in the number of dietetic remedies. It greatly supports the treatment, and ought not to be omitted in the diet of any scrofulous child, and is at the same time an excellent nutriment.

The pharmaceutic treatment. The principal remedies are: mercury, which is here almost as specific to annihilate the symptoms as in syphilis. Usually and in ordinary cases no other remedy is needed. Its internal use is alone sufficient to remove all symptoms and forms of this disease, such as swollen glands, indurations, tumors, cutaneous maladies, scrofulous ulcers, scald-head, scrofulous ophthalmias, even pædarthrocace and caries. The use of it must be persevered in until the symptoms disappear, sometimes for a number of weeks, even months, but so that after two or three weeks using it a pause of eight days may be made, in order to observe the secondary effect of the medicine; then begin again. It is necessary to give it in combination with sulphur or antimony, in order to prevent salivation, or, in children to prevent excess of purging. The best form for children is *æthiops mineralis* and *antimonialis* (vide No. 210), mixed with *magnesia* and *rhubarb*, as many grains as the child has attained years, up to 8 grains daily; for stronger ones and adults *Plummer's powder* (vide No. 211) is best. If this prescription does not purge by itself, a cathartic of *jalap* and *calomel* is to be given every fortnight. In obstinate cases, the effect may be increased by an addition of *resina guaiaci*, or *cicuta* in substance or extract (vide No. 212). External means are generally not needed, and it is better to dispense with them. Next to mercury in efficacy is *urias barytæ* (vide No. 213), it frequently surpasses even the former in this respect. Also *calx muriatica* and *chlorinica*, in the same form and dose as *baryta*, *sassafras* as a tea (vide No. 214), or a few drops of the ethereal oil triturated with sugar, may be administered.—Emetics and cathartics may be given intermediately during this treatment; they assist by freeing the first ways from the impurities and worms, and partly by exciting the action of the lymphatic system. I have found it best to prescribe every 8 or 10 days a cathartic of *jalap*, 10 to 20 grains, according to the age of the patient, combined with or without *calomel*. *Herba conii maculati* and *digitalis* have also proved serviceable in scrofula. The

vegetable resolvents, the most efficacious of which are the fresh expressed juice of taraxacum (herb and root), of gramin, fumaria, and tussilage, particularly the latter in doses from 2 to 4 ounces, mixed with weak broth, taken every morning, I have seen produce excellent effects. Soda, soap, calx conchæ, lime water, are likewise advised. Seabaths, the baths at Ems and Obersalzbrunn, salt-baths are of great efficacy and recommendable in obstinate cases. When great debility and atony exist, cinchona, and chalybeates are to be prescribed; they often produce resolvent effects, dissolving the glandular stagnations and knots. Iodine has lately come into use in the treatment of scrofula; and it must be admitted that it resolves the nodes and indurations very efficiently; but it may attenuate the whole system, and produce irreparable injury in the general nutrition, and thereby create tabes and hectic. Therefore it must not be used in delicate children; but resorted to only in the most stubborn cases, and even then, only in the alkaline mixture (vide No. 233), or as spongia tosta, and not for too long a time. In very inveterate and obstinate scrofula, Zittmann's decoction also merits recommendation. In general observe this rule: administer anti-scrofulosa until the symptoms disappear. But do not believe, that the original disease, the diathesis scrophulosa, is always therewith removed; but have the general dietetic treatment continued, and watch, whether symptoms do not reappear, when the use of the specific remedies is to be resumed. Also a change in medicines is recommendable in stubborn cases.

• As for single symptoms, the following remarks must be borne in mind. The glandular nodes and indurations, usually disappear by the internal use of mercury and by baths, in obstinate cases by combination of several anti-scrofulous remedies (vide No. 215, 216). But if this do not succeed, the efficacy must be supported by external means, among which the following are the principal: embrocations of mercurial ointment, ung. digitalis, a solution of chloride of lime in water (vide No. 217), as a lotion and applied by means of linen dossils, the continual wearing of a solvent plaster, emplastrum cicutæ, saponis mercurialis. In the application of plasters as well as of all external means, we must be attentive, that the swelling be neither red nor painful. As soon as this happens they are to be laid aside, in order to prevent the part from becoming inflamed and passing into suppuration; which is never salutary, but generates a scrofulous ulcer. Also iodine oint-

ment (vide No. 218), or a lotion made of iodine; likewise aurum muriatic. $\frac{1}{10}$ grain a day, rubbed under the tongue, may be used. In obstinate cases artificial ulcers next to the tumor; salt, sulphur, and corrosive sublimate baths. In a general glandular induration, I have seen excellent effects follow the use of cicuta baths (2 to 4 ounces of cicuta herb for one bath).

Scrofulous ulcers do not require an external application of ointments and plasters; these only serve to make them more impure and phagedenic. The best treatment is a course of internal medicines, moistening with a solution of chlorine, weak corrosive sublimate water, or aqua phagedænica, and an artificial ulcer contiguously.

Scrofulous diseases of the bones (*pædarthrocace*, *caries*,) are treated in the same manner. The treatment consists principally in internal medicines and baths, to which, in such cases *calamus* and *sabina* may be added. Here also the combination of *asa foetida* with internal antiscrofulous remedies, as well as with external means, is of great efficacy. Liver oil has an excellent effect. I have seen the worst kind of scrofulous caries soon cured by its internal use.

Scrofulous ophthalmia must by no means be considered and treated as inflammation, but only as blepharophthalmia (an abnormal secretion, usually attended with a passive state of the organ), which it really is. Leeches, therefore, are here unavailing, even injurious; the internal antiscrofulous treatment, especially mercury and baryta, baths, derivation by artificial ulcers, and externally nothing but frequent fomentations with a tepid decoction of mallow-flowers and *herba hyoscyami*; also an addition of aqua laurocerasi and præcipitate eye salve (vide collyrium No. 219), once or twice rubbed on the margin of the eye-lids daily. Borax in the formula No. 220, applied to the eyes on linen dossils, is also very useful. Sometimes, however, a really inflammatory state may set in, and then the application of leeches will be salutary.

The scrofulous cutaneous eruptions do not require anything to heal them but the internal use of remedies, especially *æthiops mineralis*, or Plummer's powder, good diet and baths mingled with cathartics. A tea of *herba jaceæ* (pansy) taken at the same time will assist the cure. All external repulsive means must be avoided. The same treatment applies to *favus*, *crusta lactea et serpiginosa*, and *tinea* (vide *Tinea*).

Struma. [Goitre, Bronchocele.]

Tumescence of the glandula thyreoidea and the contiguous cellular tissue; frequently to an enormous size. In the plurality of cases it is of a scrofulous origin; the endemic constitution, however, exercises a particular influence; hence it occurs most frequent in mountains, especially at their foot, and in the vallies, and the evil disappears merely by a removal from such places into a level region.

If it be a scrofulous symptom, the antiscrofulous treatment is often sufficient to cure it. The principal and truly specific remedy is burnt sponge (*spongia tosta*) in all forms, most efficacious in powder (*vide* No. 221), but also in a decoction (*lixivium spongiæ*, *vide* No. 222). Be cautious however in persons that have irritable lungs, a phthisical disposition, dry cough, or disposition to hemoptysis; for in such cases it may accelerate the transition of the morbid disposition into consumption. The use of soda is also recommended as able to cure struma (*vide* No. 223). Externally embrocation of hydriodic ointment.

RICKETS.

Rachitis.

Diagnosis. The first indications are: slow and imperfect acquisition of the power of standing and walking; enlargement of the epiphyses of the bones, especially those of the wrist (a principal, often the first and only sign). In its further course incurvation of the bones, especially of the tibia, sternum, and ribs (hence asthmatic complaints), and of the spine; tumefactions and deformities of the bones, frequently of the whole body, particularly of the pelvis, hence a hobbling, waddling gait. Usually precocity and acuteness of the mental faculties.

The disease often disappears of itself with the progressive development and growth of the body. In the higher degrees, however, incurvation of the spine, feet, sternum, and ribs, even sometimes a universally crippled state, continue through life.

The fundamental cause is scrophulosis, and rachitis is nothing but a particular modification of it, a metastasis of it on the osseous system, a scrofula of the bones. An acid character is prevalent.

The treatment is that of scrophulosis, especially the general regimen, animal food and baths. Malt and salt-baths, mixed with radix calami aromatici, also dry sand baths (sand heated by the sun), washing the back and the limbs with whisky, also with spirit of ants, are very serviceable. Terrea and iron (vide No. 224; children bear and digest iron in substance very well; in case of constipation a few grains of rhubarb may be added), and rad. rub. tinct. and calamus are very wholesome. Liver-oil (oleum jecinoris aselli) also has an excellent effect, a teaspoonful taken morning and evening.

Claudicatio spontanea is most frequently owing to scrofula or rachitis, and requires an antiscrofulous treatment; besides baths, embrocations, leeches, exutories (vide *diseases of children*).

GOUT.

Arthritis.

Diagnosis. Pains in the joints, with inflammatory or chronic cold swelling, readily passing into arthritic nodes and calcareous formations; connected with digestive difficulties, flatulency, generation of acidity, mucosity, apepsia, obstruction.

This original and essential form may, however, be variously modified, so that these signs only partially exist, or may be entirely absent; in this case the disease may appear in a form foreign to gout, under the mask of any chronic malady, and deludes the observer; it is therefore rightly termed a pathological Proteus. We cannot sufficiently bear in mind that gout can be present as an occult cause in all complicated, chronic, and obstinate maladies.

Its two principal forms are consequently *arthritis manifesta* and *occulta*.

1. *Arthritis manifesta* is subdivided into:

a. *Arthritis regularis, acuta*, which makes regular attacks at the time of the equinoxes; is attended with fever and terminates in crises; followed by longer or shorter intervals (six months to a year) of entire absence of gout. The attack presents a perfect image of an inflammatory febrile crisis. The local affection consists in an accumulation of gouty matter in the part, a kind of critical metastasis added to the general crisis. An inflammatory affection of a joint, with redness, heat, swelling, and pain, which

are often considerable, accompanied with fever. It lasts three or four weeks, even longer, and is subject to relapses; it runs through the stages of increase, acme and decline; terminates in a critical perspiration, which has usually a sour odor; and in a thick, white, chalky, sometimes reddish sediment in the urine. It is named differently, according to its location, *podagra*, *gonagra*, *chiragra*, etc. Sometimes it is wandering (*vaga*) and moves from one place to another, in which retrocession to internal parts is much to be dreaded.

The attacks of regular gout most usually happen at the end of winter, in the months of February and March. Sometimes, instead of them, other critical secretions, sweats, cutaneous eruptions (*purpura arthritica*), lasting for some weeks, take place. I myself have seen critical salivation in the place of an attack of gout.

b. Arthritis chronica, irregularis. This form of gout occurs at indefinite times, and without fever. Its duration is indefinite; it may last for days and weeks, the pain changing place, and frequently shifting in a moment to a remote part; it may also last for months, even for years (*arthritis fixa et vaga*). Crises are rare or only imperfect. The disease may be a primary or secondary one; or the consequence of another attack not entirely resolved by crisis.

Arthritis Nodosa, Destructoria, Disorganisans.

It arises and grows out of the former merely by length of time. It generates various disorganizations and degenerations of organic matter. The most common are: arthritic nodes, calcareous concretions, which form about the joints, rendering motion difficult, even impossible. It is not rare to see real enlargement of the bones and exostoses.

2. *Arthritis occulta, larvata, anomala*, gout which does not appear with the usual, but with totally heterogeneous symptoms. It seizes either upon the internal organs, instead of the external ones (*arthritis interna*), when it produces painful affections, or painless, diverse, but very often important and obstinate disturbances of function; as when it affects the stomach, arthritis and spasm of this viscus, acidity, mucosity, chronic vomiting; when the head, cephalalgia, vertigo, deafness, etc.; when the chest, chronic cough, pains in the chest, asthma; when the whole nervous system, hypochondriasis, spasms, convulsive diseases, pa-

ralysis; when the kidneys, lithiasis; when the abdominal vascular system, hæmorrhoids; when the lymphatic system, hydropic effusions.—Or it creates unusual external phenomena, as ulcers, indurations, tumors, chronic cutaneous eruptions. In general it is noticeable, that the internal as well as the external affections of anomalous gout, true to their original character, are apt to generate thickenings, indurations, exsudations of coagulable lymph, stones in all organs seized by it.

Arthritis occulta and *anomala* may be brought on in a double manner, and is consequently of a double kind:

1. By a retrocession which had already manifested itself externally, to internal parts (*arthritis retrograda*). This may happen either suddenly in a febrile attack of gout, generally by taking cold (*podagra retropulsa*), of which the consequences are likewise acute and inflammatory; gastritis, catarrhus suffocativus, mania; or, it may happen chronically where also the cessation of the habitual chronic attack is to be mentioned.

The diagnosis of these arthritic diseases depends on the previous existence of arthritic attacks, after the disappearance of which the actual evil arose.

2. By impediment to the formation and deposit of gout externally, confining it within the internal system (*arthritis atonica*). It remains most frequently in the abdominal viscera and nerves (its receptacle); hence arise chronic disorders of digestion, and abdominal maladies, especially hypochondriasis and other nervous diseases (which, therefore, are removable by a single attack of podagra). Also all other chronic diseases may have an arthritic source; it is frequently the cause of cutaneous diseases, chronic ulcers (arthritic ulcer).

In such cases the recognition of the arthritic nature of the disease is much more difficult. The principal signs are: descent from gouty parents, fugitive arthritic pains once in a while appearing, the beneficial effect of sweat, or calcareous, arthritic sediment in the urine, that it greatly depends on season and weather, especially on barometrical changes of the atmosphere. A peculiar sign of concealed gout which I have observed very often is, a sensation of local numbness on a limited part of the skin, or a feeling as if fur or wool was laid on the place.

Pathogenesis. Proximate cause: a peculiar dyscrasy of the humors and anormality of the general nutrition, the character of which is a disposition to thickening, to calcareous formations, development of acids, ossification, de-

pendent and founded on weakness of digestion and faulty chylication. The whole phenomenon of the arthritic disease is nothing else than a continual attempt of nature to elaborate and eliminate this morbid matter. When this is performed with energy and fever, a perfect local and general crisis ensues, and the patient remains free of arthritic attacks for a longer or shorter time. If this energy is wanting, the morbid matter is either left fixed in the external parts, and chronic gout forms which finally affects the organization of these parts, and destroys them in a peculiar manner (for arthritic enlargement of the bones, exostosis and caries differ altogether from similar syphilitic and rachitic affections); or it is deposited on internal parts and systems, giving rise to the occurrences of atonic and larved gout.

It is this internal nature of the malady which constitutes the essential difference between gout and rheumatism, which is double: *a.* The gout forms from within to without, rheumatism from without to within. The former, therefore, is a disease developed in the internal organism, critically operated on by the same, and deposited by nature towards the exterior; the phenomena of which are the so called attacks of gout, and are only to be considered as symptoms of a deeply seated internal morbid state. Rheumatism, on the contrary, is a disease impressed on the organism from without by checked action and secretion of the skin, the character of which, therefore, always remains more external and local, and, by its nature, does not in the least disturb the functions of digestion and assimilation. *b.* Gout is combined with a specifically characterized morbid matter; by a tendency to thickening in the tissues of the part affected; by the generation of earthy matter and acidity, an abnormal organic matter; not so rheumatism, in which the "serum acre retentum" is the only morbid material.

Remote causes: luxury in eating and drinking, connected with idleness (hence podagra is a disease of the rich), especially the immoderate use of wine, particularly of acid wines, excesses in venery, particularly sudden continence after long prosecuted excesses; damp, cold atmosphere (hence it is of frequent occurrence in northern littoral countries), moist dwellings, moist occupation (washing, laboring in water), colds, chronic as well as acute (rheumatism assumes the arthritic form); suppressed habitual hemorrhages, as that of the piles, and cessation of the catamenia. Women often become arthritic after this pe-

riod, the cause of which, however, is traceable to an arthritic disposition, which hitherto had been derivated by the periodical evacuation of blood. Above all other causes, the most remarkable is a hereditary disposition, which in no disease is so great and striking as in gout, on which account it may attack even children.

The generation of the arthritic matter takes place evidently in the organs of digestion and chylication (*abdomen officina arthritidis*), and Bacchus, Venus et Otium are, according to the testimony of the ancients, the contracting conditions. By the first (wine), rude, sour, acrid substances accumulate in the chyle; by dissipation and idleness the organs are debilitated and the substances are deficiently acted on. The proofs are: the preceding cause, the digestive difficulties previous to, or concomitant with, every paroxysm of gout; and the salutary effect of cathartics for removing, and of the roborants for preventing arthritic attacks.

Arthritic attacks frequently alternate with piles; this points to a causal connection and common origin in the abdomen. There used to be a hypothesis, that gout was owing to retained spermatic matter; but this is sufficiently refuted by the circumstance that eunuchs are also liable to gout.

There is also an *arthritis spuria*; other maladies may assume the form of gout. Of this class are rheumatism, syphilis, scurvy, metastases of suppressed cutaneous disease, healed old ulcers.

Therapeutics. The cure is double: the generation of gout, and the symptoms of gout are to be attended to. Unless we admit the existence of a material arthritic substance, we cannot form a satisfactory idea, nor decide upon a proper treatment of gout.

Treatment of Gout already existing; of Arthritic Affections.

It varies according to the different forms.

The *acute febrile gout* (*podagra*, etc).—In such a case there is only one indication: to consider the arthritic attack as a crisis, and to do all to make it as perfect as possible; but especially to avoid all that can disturb the crisis. In a moderate degree of fever this is best effected by leaving nature to operate alone, and by prescribing a proper regimen, which is antiphlogistic, diaphoretic, attending to perspiration by flannel, oiled silk, or what is better, flannel. All other external remedies are hazard-

ous, even injurious. Cold water, saturnine remedies, camphor, and all dissolvent remedies are apt to cause a retrocession to noble parts, and to suppress at least in that part the vital action (the inflammation), which is necessary for completing the crisis, thereby giving rise to a transition into chronic gout. The same is true of the local abstractions of blood, which, surely, remove local inflammation and pain, but not gout, render it on the contrary chronic and obstinate, or create such a local weakness, that topical evils remain for a long time. They not only take reaction away, but they disturb the local crisis and the operation going on in the arthritic matter, which is here so necessary; consequently this matter either remains in that part, causing tumefaction, stiffness, ankylosis; or the gout is suddenly translated to another, often to a noble part, or at least, the disposition to a frequent return of arthritic attacks is left behind. Relaxants and warm cataplasms are equally to be avoided. They, indeed, sooth the pain, but produce sluggishness, weakness, œdema, exsudation, even suppuration in the part. Nor is the use of emetics and strong cathartics, as recommended by many, advisable. It is true, the attack of gout is thereby often immediately removed, but the consequences are hazardous. In the first place a translation of gout from the surface to some internal part may thereby be effected (of which I have seen melancholy instances), or only a temporary debilitation and obstruction of the arthritic crisis ensues, the gout soon returns in a worse form, or becomes even chronic. Even the specific remedies which quickly remove the evil, as *vinum seminis colchici*, are unsafe, since they are also apt to interrupt the crisis and to create bad metastases.

The only cases with which art may safely interfere, are the following:

1. In violent inflammation, when the patient is very plethoric, robust, the fever violent, the part affected very red and hot, nitre and sal. ammoniac along with tartar emetic, and when the pulse requires it, a venesection besides the local abstraction of blood is needed.

2. In a gastric complication, gastric cleansing remedies must not be neglected; especially when used previously to the paroxysm, they can contribute to shorten it very much.

3. In very violent pains, unaccompanied by great inflammation, but with a nervous spasmodic character, narcotics, of which the best is extract of *hyoscyamus* diluted with water to the consistence of ointment, may be applied

tepid to the surface, and also taken internally ; when this does not sufficiently relieve, mix it with pure opium, camphor, or take a dose of Dover's powder in the evening.

4. When the fever ceases, but the pain and local affection continue ; the crisis, not being perfect, must be supplied by art. Here the specific antarthritica are proper, above all, guaiacum, which promotes all the secretions, even the discharge from the intestinal canal. Give it in the prescription No. 225 a., so that it produces two stools daily. Also camphor, spiritus Mindereri ; in old persons disposed to atonic gout, liq. c. c. succin. may be administered ; if all this do not suffice, have recourse to the treatment of chronic gout.

Chronic Gout.

Here all depends on the proper operation on, mobilization, neutralization, and secretion of arthritic matter ; in short, on producing by art such crises as in the former case nature effects. This requires :

1. Specific remedies, which have a particular power to neutralize and destroy arthritic matter, and to annihilate the arthritic character prevalent in the economy. For that purpose, the alkalines rank first : Carlsbad, soda, soda with bitters (No. 226), lime water, ammonium, sulphur and sulphur baths, as Aix la Chapelle, Neundorf, Warmbrunn, the alkaline preparations of sulphur, ammonium sulphuratum, which is the strongest and most volatile, antimonium, sulphuretum antimonii auratum, tinct. antimonii acris, especially aqua calcis, antimonium sulphurat. (No. 227), liquor c. c. succin., liq. antarthriticus Eller. (liq. anodyn. Hofmanni and liq. c. c. succinat. â â), ol. jecinoris aselli, mercury, especially corrosive sublimate, aconite, guaiacum, of which the solution of the resin in taffia, one tablespoonful morning and evening, and continued for some time, deserves recommendation as one of the most efficacious remedies, savin (No. 228, 229), sarsaparilla, rhododendron chrysanthum, colchicum. Baths of ants, of salt, of brandy lees, of Wiesbaden and Teplitz the springs are very efficient.

2. To vigorously increase the secretions, to excite the crises, artificial secretions, especially strong diaphoretics persevered in, artificial ulcers. Vesicatories used consecutively, are very efficacious. First lay one vesicatory near to the affected part ; if it gives no relief, apply a second one next to it, and thus several successively, by which the most ob-

stinate gout may often be conquered ; antimonial ointment, cortex mezerei, steam baths, Russian baths.

3. To purify and invigorate the digestive and abdominal system, by warming resolvents and purgatives, emetics, the continued use of bitter remedies, especially of quassia.

4. To regenerate and renovate the humors, for which milk diet, persevered in for several months, is the principal means.

5. To consider and treat the various constitutions ; the debilitated torpid body by restaurants and roborants ; the plethoric and robust by abstractions, a scanty antiphlogistic diet, evacuants, even bleeding, particularly frequently repeated cupping.

6. Local treatment, which has a double end : *a*, to assuage the local affections by means that accord with its degree and character ; in an inflammatory case by local abstractions of blood (in which, however, the rule previously intimated, not to weaken too much, must not be lost sight of) ; in a nervous case by sinapisms, vesicatories, narcotic, volatile, antispasmodic embrocations and applications ; *b*, to excite the formation of the arthritic matter, when gout is fixed in a part.

The most approved remedies are : continued warmth, maintained by oiled silk cloth, wool, cat-skin, embrocation of petroleum, ol. cajeputi, sabinæ, balsam of Peru, balsam vitæ Hofmanni, emplastrum resinos. resolv., galbani cum opio., mercurial ointment, vesicatories long kept in suppuration, fontanels, in obstinate cases moxa, local steam baths, made stronger by ammonia, sulphur, and the like, douche-baths, in extreme cases, and after proper internal treatment, cold baths.

Ischias, coxagra, when they arise from an arthritic cause, are to be treated in the same manner.

In conclusion, we must use the radical treatment ; especially a proper invigoration.

When contractions and disorganizations have already formed (*arthritis nodosa*,) besides the internal use of alkalis, Zittmann's decoction, baths of corrosive sublimate, steam baths, local douches, but especially the thermal baths, particularly those of Wiesbaden, Teplitz, Aix la Chapelle, are of excellent service.

Retroceded Gout.

The leading idea in the treatment is to re-establish the gout externally. Here we must well distinguish :

1. Sudden febrile suppression. In such a case, a venesection (for all gout is apt to produce internal inflammation), antiphlogistic treatment, application of sinapisms on the part previously arthritic, and vesicatories on the actually affected part. After the fever has subsided, camphor or sal succinatum along with nitre. In cephalic arthritis, one of the most painful and dangerous metastases, I can recommend the application of leeches and two grains of calomel, along with half a grain of aconite, to be taken every three hours, and a vesicatory on the neck, as capable of giving prompt relief. In arthritis of the stomach, after a proper abstraction of blood, but which is often unavailing for removing the pains and the danger of inflammation, a vesicatory on the epigastric region is most beneficial.

2. Chronic suppression. Here likewise rubefacients and vesicatories, and internally camphor, musk, ammonia, naphtha phosphorata, tinct. guaiaci volatile (No. 225 b.), are to be used.

Atonic Gout,

Calls for the treatment usual in retroceded chronic gout, especially during the violent attacks; and the treatment of gout in general, invigoration and rousing of the energies. Particularly are to be mentioned: infusion of ginger, vinous infusion of mustard, tinct. guaiaci volat., pepper, quassia, Pymont and Dryburg waters, strengthening baths. A combination of sulphur with a few grains of alcoholized iron, and extract of quassia formed into pills, is also of great use.

Radical cure of gout, cure of the arthritic disposition,

Has three indications:

1. To do away the remote cause before stated, to which the generation of gout is due; therefore frugal meals, avoiding excesses in venery and wine, especially acid wines; labor and strong muscular exercise, dry air and habitation, changing a cold for a warm climate (most efficacious).

2. To strengthen digestion; which calls for bitter remedies (quassia, gentian, Portland's powder, etc.), ferruginous remedies, especially Pymont and Dryburg water, and the like baths, also cold sea bath.

3. To promote all the secretions, especially those by which arthritic matter may have been engendered, and can be secreted and discharged; to promote the secretion of the skin by motion, friction, flannel clothing, warm baths

throughout the whole year, once a week ; the secretion of the kidneys by diuretics, particularly colchicum ; and the evacuations from the intestines by cathartics, but choose those of a warming character. For this purpose, the use of the herb-wine is very serviceable, continued for several weeks in the spring and autumn (infus. vinos. guaiaci, rad. helenii, gentianæ, jalapæ, fol. sennæ, rad. scillæ, cort. aurant. cardamomi, cinnamomi). Sulphur and guaiac combined (No. 230), administered to a person predisposed to gout every month for four or six days, in such doses as will cause two or three stools a day, fulfil this end most efficiently and specifically, and are the best preservatives against arthritic attacks. Warm sulphur or thermal baths, used for four weeks during the summer season ; in lymphatic, plethoric individuals, an artificial secretion by means of fontanels, are likewise of great benefit.

VENEREAL DISEASE.

Syphilis, Lues.

Diagnosis. It presents itself in two forms, as *syphilis localis s. primaria*, and *syphilis universalis s. secundaria* ; which latter again divided, appears as *syphilis manifesta* or *occulta s. larvata*.

Syphilis Localis s. Primaria.

The diagnostic signs are : local irritation and inflammation in the part affected, passing into increased and altered secretion of mucus (blennorrhœa), when the muco-secretive organs are affected, or into ulcers, or into both.

1. *Blennorrhœa syphilitica.* It is either gonorrhœa (urethritis exsudatoria) or fluor albus. It always runs through two stages ; the inflammatory (when in a high degree it is attended with consensual irritations, phimosis, paraphimosis, buboes, tumor testiculi) ; and the abating or critical, which is frequently succeeded by a third stage, the secondary or gonorrhœa chronica, fluor albus chronicus. The duration of the first stage is indefinite, varying from three to six weeks ; the last to years. Generally the infection continues local, and when ulcers are not associated, it does not become universal through the system (constitutional). There are, however, exceptions to this statement.

2. *Ulcus syphiliticum* (chancre). It is discerned by a

specky surface and prominent edges, and little pain. It likewise excites, when the irritation is great, sympathetic irritative occurrences, buboes and the like. The purulent infection may remain also local, and die away with the local infection; but the danger of general infection is by far greater. It may last three weeks, but also as many months.

The most important diagnostic sign is the circumstance that the local affection has followed a suspected coitus, or a vulnuerated part denuded of epidermis having touched another suspicious object. Therefore, every local phenomenon that follows such contact, must be considered important, although it have not the characteristic marks. The infection through lesions always produces the most dangerous accidents.

Syphilis Universalis s. Secundaria.

General infection follows the local affection in very indefinite spaces of time, sometimes within a few weeks, sometimes after months. It is readily communicated through wounds and chancres. The difference between blennorrhœal and ulcerous infections deserves to be adverted to; the former is always more chronic and mild, the latter more acute and destructive.

The signs of universal infection are all those syphilitic symptoms, which appear elsewhere than in the place of infection. The principal ones are: condylomata, little ulcers on the palate and uvula, ophthalmia, eruptions of herpetic form, in the shape of small spots similar to essera, on which the epidermis scales off, especially on the forehead; buboes and swellings of the testicles after the local infective symptoms have disappeared, swelling of the glands, and lymphatic tumors.

The signs of a more severe and deeper seated infection are diseases of the bones, nodi, tophi, especially on the tibia, caries, particularly of the nasal and frontal bones, pains of the bones during night, scirrhus indurations, spongy, fleshy excrescences, polypus.

Syphilis Occulta et Larvata s. Degenerata s. Modificata.

Syphilis may make pauses in its action for a while, that is to say, it lies dormant, exhibiting no sign of its existence; but reappears after a while with increased virulence; or it may manifest itself under entirely different and un-

sual forms (larved). There is no chronic disease whose form syphilis cannot assume. In either case the diagnosis is difficult. There are only two means: *a.* To trace the evil to its often very remote origin; in the prosecution of which task we will ascertain that the patient has been venereally infected for ten, fifteen, and more years ago, and has had since that time a series of alternating diversified complaints, frequently intermixed with pauses of apparent health, until the accession of the present malady. *b.* By trying the use of mercury, which will give a prompt amelioration, if the disease is syphilitic, the surest confirmation of the diagnosis.

This malady combines all that can render human suffering tedious, tormenting, and distressing in body as well as in mind. It is a most disgusting disease; and it is no less remarkable that nature has connected it with a singular degeneration of the human features, imparting its stamp to the most noble prerogative of man, by a deformation of the nose, the ornament of the face, and to the voice, the highest expression of human mental dignity.

It is a protracted disease, difficult of cure, productive of the most hideous disorganizations and painful sufferings (especially those of the bones, which torture the patient nightly often for years), tedious and dangerous not only to the affected, but also to others, frequently tormenting through life, even to advanced age; yea, a demon which accompanies man through life, if not really, at least in imagination; it may become even fatal by emaciation, colliquation, and dropsy. It owns farther two properties, which increase exceedingly its danger and obstinacy. The first is this, that at its commencement it appears light and greatly insignificant, hence it is often not at all or insufficiently attended to, creeps imperceptibly deeper and deeper, and poisons the whole system; the second is: that the virus, probably in consequence of its human descent, is possessed of a particular affinity and homogeneousness to the human organism, uniting with it more intimately than any other infection, even becomes one and the same with it, so that no power in the world can separate it from the animal economy.

Finally, it is one of the unfortunate properties of this disease, that there exists no certain sign, by which we may judge that the system has been entirely freed from it.

Pathogenesis. The remote cause is the contagium syphiliticum; the proximate cause is the infection created by

the communication and reception of this contagion in the animal economy.

The syphilitic contagion is of modern origin, at least in Europe, and known only since the year 1493. It is permanent (propagated from the first generation, and constantly reproduced), and fixed (not soluble in the air).

Infection, therefore, can happen only by immediate contact with the virus itself in an infected person, or with an infected object ; and can only take place through parts not covered with epidermis, as the genitals, anus, lips, fauces, nipples, eyes, nasal cavity, or where the epidermis is abraded. But even then there must exist a susceptibility, and when this is wanting, no infection takes place. The deficiency of receptibility may depend on the whole system or the location where the virus has been applied. Thus infection is more difficult through mucous surfaces, but readily and quickly effected through a wound or a surface denuded of its epidermis.

The interval between the application of the virus and the eruption of the disease is variable ; being only a few days when received through wounds and ulcers, but otherwise an interval of fourteen days may occur.

The affection thereby created is always double : irritation and reproduction of the virus. But it is variously modified by the variety of the degree of infection, of locality, and primary or secondary infection. We distinguish the local (primary), and the constitutional (secondary) infection.

In respect to the primary infection there are evidently different degrees of intensity and perfection.

The most important to be mentioned here is the distinction between blennorrhœal and ulcerative infection (termed by some writers clap and chancre, essentially distinguished as such ; but they are evidently products of the same syphilitic contagion, only variously modified).

1. Blennorrhœal infection, the milder degree. The virus is enveloped in mucus, mitigated, fixed. It receives a mucous character, creates but little local irritation and inflammatory reaction (*clap, fluor albus*), is only slightly reproductive, and is therefore less infective to the patient himself and to others, and may remain local for a long time, even while it lasts.

2. Ulcerous infection (*chancre*). This virus immediately produces a topical destruction and erosion of the surface, an ulcer. The matter thereby becomes much more caus-

tic, poisonous, corrosive, infectious to the individual as well as to others.

The length of time which the primary affection will take to pass into the secondary (local into constitutional syphilis), cannot be laid down. In some cases it happens after a few days, in others not before the expiration of weeks and months. The disease may remain local, especially in females, and in organs which secrete mucus for years, without the infection spreading in the individual, though she may infect others.

The transition depends: *a*, on the liability of the individual; *b*, on the location and quality of the primary infection (most readily and rapidly when the infection is a purulent one, and such as proceeds from a wound); *c*, on the treatment (suppression of the topical affection, of gonorrhœa, of chancre, may occasion the virus to be translated into the constitution).

The way by which the virus is conveyed into the organism, and the original and peculiar seat of the syphilitic infection or venereal disease, is the lymphatic and glandular system. It creates through inflammation of the lymphatic vessels, swellings of the glands (buboes), first in the adjacent, next in the remote parts. Besides, the virus has a particular affinity for the mucous membrane of the palate, the nose, the eyes, where it produces inflammations and ulcerations; and to the external skin, where it engenders peculiar cutaneous eruptions and chancres; and finally, when it penetrates deeper, it affects the bones, even at last internal noble organs.

Of the essential nature of the venereal poison we know as little as of any other contagion. We know only that it belongs to the fixed (not soluble in the air) and chronic (not febrile, but exciting chronic reaction) ones, that it loves most the lymphatic and glandular system, the mucous membranes and bones, that it imparts to the organism a particular disposition to abnormal productivity, to carious and osseous excrescences and hyper-vegetation, and finally penetrates the whole animal economy, most intimately unites with it, so that it is difficult to separate them. The essence of the disease must therefore be regarded not only as a dynamic, but as a chemico-organic poisoning process.

Now in case of long duration, the virus may, as it were, assimilate with the human system, and assume a milder character, that of a lurking poison; yet may even rest for a

while, and make pauses in its operation (latent syphilis). The poisonous seed is dormant, but the germ has not died; but may be revived by exciting reaction and re-exhibit the disease. The causes of such pauses are chiefly an imperfect mercurial treatment, which has only suppressed the distemper, suspended the operation of the virus, but not extinguished it (the germ of the virus is not killed).

In the same manner, and by the same causes, the disease may also assume another form, affect other organs, as the nervous system, the lungs, the abdominal viscera, and create unusual occurrences, the phenomena of quite a different disease (larved syphilis).

Therapeutics. The treatment has two indications: the destruction of the poison and the cure of its effects.

1. The cure of the venereal infection (the specific anti-syphilitic treatment) comprises always two things: *a.* The communicated or internally created poison is to be annihilated. *b.* Its regeneration is to be prevented by annihilating the capability of reproducing the virus or the generation of the virus in the system itself. Both must be united to effect a perfect cure. The actual virus can be destroyed and the present symptoms removed; but if the power of the organism to engender the virus anew is not annihilated at the same time, the virus will be regenerated within a longer or shorter time, and the disease will reappear in the former or in a different shape. This constitutes the difference between a symptomatic and a radical cure. The symptomatic cure may delude for a very long time, for the venereal infection and the specific capability of its reproduction may remain inactive and dormant in the body for a long time.

The only means for attaining both ends is mercury; and the art of curing syphilis consists in administering this remedy in such a manner that this double end be attained. It must never be used to a greater extent than is necessary for that purpose, paying constant regard to avoid those detriments which this metal itself may inflict on the animal economy, and never forget that mercury is a poison, and that a thorough mercurial treatment is an artificial mercurial poisoning.

Mercury is capable of curing a venereal infection in whatever form and way it may be administered, provided that two essential conditions are complied with, the first of which is—that it penetrate into the substance of the system; and secondly, that it excite such a degree of reaction as is requisite for subduing the virus. The proximate and

original effect of mercury is on the lymphatic and glandular system, and this very system is the primary and principal seat of syphilitic infection. It is in this that the process of taking away the poison must next and principally succeed. As for this process, the best idea, and which may safest guide in practice is this: as syphilitic poisoning is a specific chemico-animal abnormality and corruption of organic matter, so is the effect of mercury an opposite specific chemico-animal alteration, by which the former is annihilated and neutralized. It is therefore necessary that the mercurial treatment be carried to saturation. The signs of it, showing that mercury has sufficiently penetrated the lymphatic system, are the forerunners of salvation.

2. The cure of the effects and symptoms of the infection is only calculated to subdue the reaction which the infection has aroused in the animal economy. This reaction is double: primary and secondary. The primary is inflammation or a nervous affection. Either of them may, indeed must be attended to, and if possible removed; we may thereby even succeed to apparently cure the symptoms; but let us be careful not to indulge in the belief that the infection also is removed. The secondary effects and symptoms are: various disorganizations, indurations, tumors, exanthemata, ulcers or dynamic anomalies, secretory and nervous diseases. They are attended with a continuance of the infection, or with diseases that persist subsequently and without the infection. In both cases they require particular attention as regards the treatment; in the first case as an accessory and assisting indication; in the latter, as the principal indication.

But never forget that this treatment is only palliative, if the infection is not overcome; and look not upon disappearance of the symptoms as a cure of the disease.

The special treatment is divided into the treatment of primary and secondary infection.

I. Primary or Local Infection.

The first infection is always local, and may remain so for a long time, especially when it is blennorrhœal, and may be removed and annihilated by the healing power of nature, and disappear as a merely local evil. Many have left their case entirely to nature, and have been cured without any further bad consequences. In modern times, even art holds to the maxim of leaving the primary infec-

tion to nature, treating it only by antiphlogistics and a scanty diet. Experience has also shown that the affection may be entirely removed in many instances without subsequent constitutional infection. But experience teaches likewise, that in some the symptoms do not disappear without the use of mercury, and that in others, it is true, the primary local symptoms have disappeared under such treatment, and the patients believed themselves cured, but sooner or later the same symptoms have reappeared (proving that the infection had not been fully destroyed), or syphilitic symptoms appeared on other parts (by which it is evident that the virus had penetrated deeper and produced a universal infection).

As it cannot be known and determined on beforehand that the patient is one of the happy ones, in which nature alone or the general treatment can and will effect the cure and annihilate the infection, it must remain a rule to every conscientious and true physician to consider every local infection as a source of poison, whence the virus sooner or later may pass into the organism and produce constitutional infection; and to do all that lies in his power to immediately annihilate the virus, and thus prevent it from passing into and affecting the whole system; which must always be considered one of the greatest misfortunes that can happen to a man, since it is known how difficult the extinction of the virus is, when it has once passed into the animal economy.

This can be effected by an early administration of the only specific antidote, mercury, and thence results the rule, to use mercury in every local syphilitic infection that does not heal by itself, partly in order to immediately destroy the communicated virus, partly to excite by the specific operation of the mercury a specific antisyphilitic reaction in the organism, by which it is prevented from being received, spread and reproduced. For the possibility of this cannot only be demonstrated theoretically, but is also sufficiently confirmed by a number of instances of experience, to which I can add my testimony. In the commencement it requires a very moderate and minute use of mercury; on the contrary, when some time has already elapsed, a tenfold larger quantity is perhaps wanted; and which the patient will therefore be spared, with all the certain and often horrible subsequent phenomena of mercurial poisoning. I refer for illustration, how by the timely use of mercury a contagion may be prevented from passing into the organism, to hydrophobia, in which it is confirmed by a number

of experiments, that a vigorous use of mercury resorted to immediately after the infection of the hydrophobic virus has taken place, may prevent constitutional infection, and thus rabies itself.

The primary infection is either a blennorrhœa or an ulcer. This makes a material difference in the treatment. I repeat here what I have previously said, of the dangers to which mere topical and antiphlogistic and dietetic treatment exposes. We have seen instances when the patient felt perfectly well for months; and then, after good health of several, even ten months, the most formidable constitutional lues, even enlargement of the bones, all at once manifested itself; an occurrence which the patient might have escaped by a timely use of twenty or thirty grains of some light mercurial. What is the detriment of such a trifling mercurial treatment, compared with the danger of a horrible constitutional malady!

1. BLENNORRHŒA (*gonorrhœa*, clap; *fluor albus* in the female sex).

Yellow-greenish mucus at the commencement, whitish pus subsequently escaping from the urethra. The inflammatory stage is attended in the beginning with pain at the time of making water, and when the inflammation runs high, with dysury, ischury, priapism, chordee, also sympathetic swellings of the testicles and inguinal glands. It sets in after sexual intercourse. This latter circumstance is the most essential for diagnosis; a gonorrhœa may arise also from other causes, as the arthritic, scrofulous metastases, hæmorrhoidal anomalies (*vide gonorrhœa*), and then calls for quite a different treatment. Even that one which manifests itself after coition may be non-syphilitic, and generated by other topical diseases of the uterus; in this case it will nevertheless be the best plan to regard it as syphilitic, and to treat it as such.

The treatment has two stages. During the first, the inflammatory one, it must be antiphlogistic, negative. Complete rest, avoiding every thing heating, and animal food; drinking frequently of mucilaginous beverages, linseed, hemp-emulsion with small doses of nitre, extract of hyoscyamus, cleanliness, frequent ablution with tepid water, wearing a suspensorium, and in violent pains the application of leeches, are the principal means, and often fully sufficient to remove these evils without any bad consequences. Injections are not necessary, they do more injury than good. They are apt to leave strictures and callosities in the urethra, the present frequent occurrence

of which must be attributed to the abuse of injections. If painful erections, priapism, increased to chordee associate with blennorrhœa, the first thing to be done is to abstract blood (in plethoric persons venesection), and then opium, used internally and externally, is best given. In phimosis (contraction and swelling of the prepuce before the glands), the inflammatory state is first to be removed by abstractions of blood, and then opium must be applied internally and externally, connected with emollient fomentations of lead water and decoction of hyoscyamus, and injections between the prepuce and the glans, and local baths, in order to wash out the matter which may have gathered there. The greatest attention is needed, since suppuration, gangrene, and loss of the glans is very apt to follow. Chancres are usually present at the same time, and the simultaneous use of mercury is required. Paraphimosis (the retraction, constriction, and swelling of the prepuce behind the glans), is treated in a similar manner.

When gonorrhœa is not removed by the foregoing antiphlogistic treatment, and the pains do not abate after a fortnight, then it is always advisable to make a moderate internal use of mercury (in the same way as will be directed hereafter under the head of chancre), a remedy which we do not hesitate to resort to in every other kind of obstinate inflammation of the mucous membrane, as in moist ophthalmia, and which is here at the same time efficient, and indicated as the antiphlogistic specific for extirpating infection.

But should the blennorrhœa pass into the secondary stage (*gleet*, discharge of mucus without pain), balsamica are proper, of which two rank highest: balsamum copaivæ (twenty-five to thirty drops three times a day, taken best on sugar or in pills), and turpentine; also cubebæ and root of juniper (one ounce a day) are serviceable. I have found also one drachm of barytæ murias or chloride of lime mixed in an ounce and a half of aqua laurocerasi, thirty drops taken every day, very useful. When the disorder is obstinate, and there is suspicion of a syphilitic character, pulvis antidyscrasicus is most serviceable. If these internal remedies do not suffice, injections are to be resorted to, first of lime water, or aqua laurocerasi mixed with it; then a weak solution of corrosive sublimate (one grain to two or one ounce of water), vitriol, zinc, copper; still more vigorous is argentum nitratum. Finally, astringents, alum, decoction of cortex salicis with aqua laurocerasi, myrrh with sugar of lead, cold topical baths may be applied. But

if the gleet continue, we must pay attention to complications, which may perhaps exist, and are often the only cause of the persistence of the mucous flux.

2. The ULCEROUS INFECTION (*primary chancre, venereal ulcer*).

Besides originating after sexual connexion, it is sufficiently marked by its specky surface, the elevated edges, and the trifling sensation of pain; it may be combined with gonorrhœa or not, hence examination is necessary in every blennorrhœa.

Every chancre must be regarded as the beginning of constitutional infection, and calls for the internal use of mercury, in order to remove it in its onset and to check its progress. Therefore instantly (it is understood after abstractions of blood have previously been made in inflammatory cases), the well prepared velvet-black mercurius solubilis Hahnemanni, which approaches the metal most of all mercurial preparations, consequently contains more of the specific antisyphilitic nature, and is at the same time mild and affects the organism less injuriously than any other, is to be administered. Give two grains of it a day, and increase the dose one grain daily, until the specific manifests itself in the smell of the breath, pains in the gums, light swelling of the cervical glands, precursors and commencement of salivation. In such a course the chancre usually heals on the seventh or eighth day without any external means. Then continue the remedy for the same length of time, but only one grain a day. It is very momentous to observe the patient in this, as in every mercurial treatment, for some time, in order to discover whether any new syphilitic phenomena appear; if so, the course must be continued.

External remedies are generally not at all needed. Frequent cleansing and washing with lime-water, and covering the part with a little digestive salve, is all that is requisite. By such treatment we may be sure that the cure is progressing from within outwardly, by extinction of the virus. The mere local treatment by water of corrosive sublimate, red precipitate, zinc, sulphate of copper, alum, even lapis infernalis, which is, alas! too much in vogue, has only the effect of a local suppression, and very often after the chancre has been cured, an ulcer in the throat, or another venereal disorder presents itself, as an evidence that the cause of the disease has not been eradicated, but only its organ removed.

Not unfrequently swellings of the inguinal glands (*bu-*

bones), and of the testicles (*hernia humoralis, orchitis*) accompany gonorrhœa and chancre. They are generally nothing but symptoms sympathetic of the inflammatory irritation, and disappear after the inflammation is gone; nor do they require any other treatment than the antiphlogistic, and externally fomentations of tepid lead-water. They, however, may also be the symptoms of a deep spread infection, which is recognized by their continuance after the inflammation has been removed. In such a case, the internal use of mercury must be resorted to, conforming with the directions I have already given. Buboës are also met with as a symptom of primary infection, without clap or chancre; an occurrence which calls for the immediate internal use of mercury, taken as mentioned before.

What here has been said of gonorrhœa and chancre, applies to that *FLUOR ALBUS* which replaces gonorrhœa in the female.

Condylomata require the general mercurial treatment, which most commonly cures them simultaneously with the ulcers. If they persist for a long time, the external application of sabina and of kreosote are the best means; excision and cauterization may likewise be resorted to.

I must add a word in regard to the suppression of gonorrhœa. It takes place after the use of a too irritative or astringent injection, or after taking cold, and may leave very bad consequences; as a violent increase of the local and sympathetic inflammation, or a remote nervous affection; even trismus and tetanus have been observed to arise from it. The treatment must be, first to assuage the inflammatory irritation (even venesection in plethoric individuals), and the internal and external use of opium, emollient injections and warm narcotic cataplasms.

II. *Secondary, Universal (Constitutional) Infection. Syphilis, Lues Universalis.*

Eradicative treatment of the venereal disease.—In the first degrees and signs of the malady, which manifest themselves by pains in the throat, chronic inflammation, and ulcers in the fauces; or by ophthalmia, or cutaneous eruptions, especially in the forehead, the use of a mild mercurial oxyd, as *mercurius cinereus*, or *solubilis* or *calomelas*, is sufficient for a cure, and affects least the animal economy. The most recommendable preparation is *mercur. solubilis Hahnemanni*, taken in the same doses and in the same manner as in primary chancre, in doses, however,

to be augmented by less quantities (only for half a grain a day). I must here make a general remark, that it is possible for the symptoms to disappear quicker by very large doses of mercury, but there is never a certainty that the remedy has properly penetrated into the organism and fully extinguished the internal infection.—Order at the same time ptisans of species purificantes (No. 202), to be taken as a beverage, since the drinking of much watery fluid greatly promotes the cure and the effect of mercury; and command the patient to stay in his room during the treatment, i. e. to the termination of the precursors of salivation and disappearance of the symptoms. At the same time a scanty vegetable diet, avoiding acids, salted, acrid, spiced nutriment, must be adhered to.

If the disease has penetrated deeply into the system, is of an old date, or has been treated unsuccessfully and imperfectly by other remedies, corrosive sublimate is the best and most penetrating remedy, and has at the same time the advantage of not being so apt to create salivation. This is particularly important in such persons as have taken much mercury, and are so easily affected that a few grains of simple oxide of mercury will bring on salivation and compel a discontinuance of its use. Corrosive sublimate may be used without detriment and for a long time, by observing the following rules: let it be given in pills, in order that it may dissolve slowly; in a mucilaginous vehicle, in order to obtund its caustic operation on the membranes of the stomach and intestines, and to prevent nausea, colic, and diarrhœa. Hence results the formule No. 231, which I consider the most appropriate for the cure of syphilis, and which I have always used, often for months. Prescribe half a grain, to be taken every day; if the disorder is obstinate, increase the dose to three quarters of a grain daily. It is understood that a warm regimen and good diet be observed. Also copious drinking of ptisans of sarsaparilla and the like; warm baths assist the cure. It is proper to remark, that corrosive sublimate is apt to affect the lungs; therefore another preparation, as the following, must be resorted to in persons of a phthisical disposition, or when pain in the chest sets in during its use. The use of a strong decoction of sarsaparilla (two ounces in two pounds of water reduced by boiling to one pound of fluid, taken every day), is often alone sufficient to perform a cure.

Next to corrosive sublimate, red precipitate is the most efficient mercurial preparation to subdue syphilis, it even

surpasses it sometimes, and cures when the former proved abortive. Give a dose of one eighth to one sixth of a grain twice a day, in the same way as corrosive sublimate, in the form of pills (No. 232).

It is worthy of notice, that the change of form is also promotive of a good effect. If one preparation does not prove efficient, choose another, and the cure will immediately make better progress. It has been also observed that some mercurial preparations are particularly appropriate to, and efficient in certain forms of syphilis, as calomel, or soluble mercury in inflammatory affection, corrosive sublimate and the red precipitate of mercury in cutaneous affections and ulcers in the throat.

Pauses and omission of the use of mercury are also very useful.

It has frequently been proposed to cure syphilis without mercury, and it cannot be denied, that this may be attained in hot climates by sarsaparilla, guaiac, and similar general antidyscrasic remedies; but these same are not sufficient to eradicate the evil in our climate. On the other hand, it is certain, that when mercury has been sufficiently used and the evil will not entirely yield, the best treatment is to discontinue mercury, and to administer strong decoctions of guaiac or sarsaparilla for some time.* In weakly persons the use of roborants may exceedingly promote the cure and remove the remainders of the disorder.

In speaking of venereal disease in general, it is greatly to be regretted that there is no certain sign by which we may know whether the disease is perfectly and radically cured; that is to say, whether the infection as well as the capability of reproducing the virus is entirely annihilated; for the disappearance of the symptoms is not sufficiently satisfactory; it may be demonstrative of the former, but not of the latter condition. There remains no other expedient but to continue the use of mercury in small doses for some time after the symptoms have disappeared. This must be done longer, the longer the use of mercury was required for removing the symptoms; and shorter, when this required less time to accomplish. The patient must be carefully observed when he uses the above mentioned (not mercurial) antidyscrasic remedies, to discover whether any new syphilitic phenomena appear.

* An instance of it is the celebrated Hutten, who, after having used mercury for a long time, even undergone inunction and salivating treatment without success, was perfectly cured by decoction of guaiac alone.

By the uncertainty of the diagnosis, and by neglect of the above rules, now-a-days imperfect mercurial cures become, alas! very frequent. The patient uses mercury for some time, until the symptoms disappear, exposes himself perhaps to taking cold and to dietetic faults, and considers himself restored to full health, but he is not so, and is attacked again with the original distemper after a longer or shorter interval.

A second matter of much regret is, that the use of mercury itself, when long continued, may excite affections very similar to the syphilitic, as glandular swellings, ulcers, may partly affect the economy in its innermost recesses, and create a dissolution, a scorbutic diathesis, in short, what we call mercurial disease (poisoning by mercury).

III. *Inveterate Syphilis (Lues Venerea Inveterata).*

When the disease is of old date and is assimilated to the vital principle, when it has affected and disorganized the deeper seated organization, as the bones; when the usual mercurial treatment has been undergone without success, or imperfectly; or when, what is of most frequent occurrence, the disease has been suppressed for some time, but has reappeared in an altered form: then a more efficient treatment is required.

The first means is the application of mercury to the skin, the direct absorption of it into the lymphatic system. It is undeniable, that mercury used in this way, operates more vigorously and rudely to destroy the disease; and this fact may be easily understood, by reflecting that it thus operates in its primary strength, without having been submitted to the unavoidable alterations which the digestive powers of the stomach will exercise on it.

The first application of this kind are baths of corrosive sublimate. One half or one ounce of corrosive sublimate of mercury is dissolved in the bathing water. Such baths are of excellent efficiency, and may be used without detriment or exciting salivation.

The second is inunction. Its effect is double; by salivation or not. The latter end is attained by frictions made with Cirillo's ointment (No. 254, one drachm daily applied to the soles of the feet), and it is preferable, and to be used first, in order to save the patient from salivation, which must always be considered a great evil.

Inunction with salivation. One or two drachms of the

unguent. mercuriale cinereum alternately rubbed every day in various parts of the surface, and continued along with tepid baths, strict diet or even fasting, until salivation ensues, generally announced by febrile irritation, after which it must be moderately used for a longer or shorter time, according to the intensity of the malady. This method is undoubtedly the most powerful, but also the most rigorous kind of treatment for syphilis.

It is a real crisis, attended with good as well as bad qualities. It is remarkable for this: the mercury is immediately introduced into the general system in its metallic state, and in this way it has without doubt a more powerful action over the virus; and, therefore, it is more capable than any other method to combat the inveterate venereal disease; for the same reason it exercises on the organism a more destructive effect, even may remain in it in the metallic form: in the second place, for the loss of humors; and that of one, the saliva, which is so indispensable to digestion and nutrition, and may be followed by great debility, emaciation, exhaustion, even hectic and tabes, when salivation is carried too far on in a predisposed individual. It is, therefore, to be resorted to only in extreme cases, and even then with caution and moderation; and must be entirely omitted in aged and very debilitated persons.

The fasting method of treatment by itself, or combined with small doses of corrosive sublimate, is also very potent in curing inveterate syphilis. Be careful however that external appearances do not deceive. For abstinence from food has often no other effect than to suspend for a while the power of the organism to react on the virus, but which it resumes when the patient returns to a good diet, and with it has a return of the symptoms.

The contrary may also take place and assist the cure. By a long duration of the disease, and by a debilitating treatment, the system is brought into so great a degree of weakness and torpor, that though the specific character of the disease has been annihilated, it may continue as a simple dyscrasy; this explains the use of roborants, as arnica, cinchona, iron, which is the best for removing these relics.

This is the very case in which a decoction of sarsaparilla or guaiacum (in whose stead *carex arenaria* may be substituted), with an addition of senna leaves, or Pollini's potion, (No. 203) removes the remnants of the disease. In the excruciating nightly pains of the bones, mezereum, used internally (cortex mezerei two drachms daily, made to a

decoction), but better if combined with sarsaparilla, proves a true specific.

Zittmann's decoction is of great service in obstinate venereal disorders; such as have been unsuccessfully combatted by other methods. It has frequently effected a perfect cure, as I can assure from my own experience.

Aurum muriaticum, in small doses, rubbed under the tongue, has been applied with benefit.

Iodine has proved exceedingly efficacious for the final extirpation of inveterate venereal disorders; especially the alkaline solution of it (No. 233).

It may happen, after the specific character has been extinguished, that the local disorders, especially the corrupt secretions, eruptions and ulcers, which were the consequence of a former syphilitic disturbance, now continue merely as the effects of a general dyscrasy. In such cases mercury is no longer of any use; but the general antidyscrasic remedies must be resorted to. Here mineral acids are of excellent service, especially nitric acid, one to two drachms daily, diluted in two pounds of mucilaginous water.

It is not uncommon for a particular morbid state to set in towards the end, which deserves the greatest attention, and may seriously embarrass both patient and physician. It is a mercurial disease, or a peculiar dyscrasy, created by the non-expelled mercury and an imperfectly extinguished syphilitic matter (*dyscrasia mixta*). It is the consequence of an immoderate or disorderly use of mercury without proper care, and a disregard of taking cold. The distinctive sign is, that the symptoms, which are often nothing but mercurial symptoms, effects of the mercurial poisoning, do not yield to the continued use of mercury, but become aggravated. For such a case, the principal remedy is sulphur in its most volatile form, the artificial or natural sulphur water, taken internally, but especially in baths (Neundorf, Weilbach); the most efficacious are the thermal baths of Warmbrunn, Landeck, the strongest of all those, Aachen (Aix la Chapelle).

IV. *Larved or Latent Syphilis.*

The diagnosis is most difficult. The most dissimilar and opposite chronic diseases may be nothing else than the effects and forms of a lurking syphilis. Paralysis, spasms, hypochondriasis, profluvia and obstructions, hectic and dropsy, may be of a syphilitic nature and not curable but by mercury. We cannot be too much on our guard against

latent syphilis, especially in certain ranks of society, and in large cities, where syphilis has become very prevalent. This often throws light on obstinate chronic diseases. On inquiry whether the patient has ever been infected, we shall often find that to have been the case, and from that period up to the time of inquiry there has existed a continuous chain of phenomena, hitherto unsuspected of a venereal origin. Now try mercury, and the promptly beneficial result will surprise and immediately convince us of the true syphilitic nature of the evil; and then the antisiphilitic treatment is regularly to be pursued.

(Even lately I have again had such a case. A modest woman, already advanced in age, labored for a year under an extremely troublesome feeling of crawling and painful boring near the anus; without the slightest discoverable trace of swelling or altered color. She had used many remedies without relief. It was most natural to consider it a hæmorrhoidal anomaly; but neither leeches nor other antihæmorrhoidal remedies had the least beneficial effect. Finally, on accurate inquiry, it was ascertained, that the woman had had a venereal infection 12 years before, and as usual had been treated in a very superficial manner. Since that time she had been subject to various complaints of one kind or another, with occasional intervals of entire freedom from the complaint. I first made trial of an external application of corrosive sublimate in water to the part, and I was astonished at the rapid amelioration, which no other external means, either opium or other narcotics, had been able to effect. I then prescribed pills of submuriate of mercury in doses increasing up to $\frac{2}{3}$ of a grain a day, which perfectly cured her. But some time after she had eruptions, and once even glandular tumors formed; which were likewise cured by corrosive sublimate or the red precipitate of mercury; but more than a year elapsed, before the struggle with the inveterate enemy was entirely terminated and the patient perfectly cured.)

Finally, one word may be said in regard to *prophylaxis*. Various embrocations and lotions have been recommended and applied previous to and after coition; but none of them has hitherto stood the ordeal; and the old adage, *Unicum prophylacticum Mali venerei est abstinencia a Bono venereo*, is still true.

POLYSARCA.

Adiposis.

Diagnosis. Excessive accumulation of fat either in the whole system or in single parts; forming externally adipose tumors (*steatoma*); internally, accumulating around the heart, in the omentum, and about the kidneys.—Its effects are: to impede the functions of the part concerned; and when it is universal, to embarrass motion, to overload the individual, to molest the whole economy, to oppress the circulation, to obstruct secretion and excretion; to dispose to external erysipelatous inflammations and abscesses; finally, transition into cachexy and dropsy.

Pathogenesis. Immoderate use of nutritive, especially animal food, while exercise and elimination is wanting; a phlegmatic temperament, lax fibre and constitution, cessation of habitual hæmorrhages, therefore occurring in women after the cessation of the menses. In general a congenital disposition has a great influence; hence some men continue lean though supplied with the richest food, and others grow fat though subject to restriction.

Therapeutics. The leading idea of cure is to diminish the accession, and to increase the elimination of the aliments. The principal remedies are, consequently, scanty, unnutritive, vegetable, watery food; strong corporeal exercise; little sleep, excitement of mental affections, promotion of all the secretions, especially that of perspiration and the discharge from the bowels; fasting, mercurial treatment, in extreme cases iodine.

THIRTEENTH CLASS.

DISORGANIZATIONS. PSEUDO-ORGANIZATIONS.
PARASITES.

We comprise under these terms all deviations from the normal state of structure and internal organization of an organ. In external disorders of this kind the diagnosis is easy, and falls more within the department of surgery. Those disorders of the internal viscera which come under this head more particularly concern the physician. They are, in regard to diagnosis as well as to treatment, the most difficult tasks in practice.

They were formerly comprised under the general name of *obstructiones viscerum*, or when in a higher degree, of excrescences, indurations, etc. Modern, pathological anatomy has distinguished them with more accuracy and care, and has enriched nosology with a multitude of such abnormalities and metamorphoses. But they are of value only as regards the natural history of the human body, nosology and surgery, and much less as regards internal treatment. For, in the first place, the diagnosis is deficient, it is impossible to recognise and accurately distinguish the various species of disorganization in the internal viscera; in the second place, special therapeutics are also deficient, and, in general, we must be satisfied with general principles of treatment, which are most likely to effect a cure.

Therefore, for practical purposes, it will be sufficient to classify them according to the various cavities of the body in which they are found, and to describe the symptoms which authorize us to suppose, that organic disorders are located in them.

In the *abdomen*: Examine the abdomen by feeling, whether in one or several parts a distention, tumor, hardness, with or without pain is discoverable by pressure. This examination is best performed on the patient in a fasting state, lying in bed, standing, bent forwards, and towards the sides, since the deep seated and smaller nodes appear only in different positions. Ascertain farther, whether the

patient finds trouble or impossibility to lie on either side or on the back ; if so, the seat of the evil may always be presumed to be on that side, on which he can lie best, with the exception of painful disorders. Observe also the continued disturbance or stoppage of the functions of that organ, in which the evil is situated ; likewise the faulty condition of its secretions, hæmorrhoidal complaints. Finally, a peculiar cachectic complexion, pale, light-yellow ; in disorders of the liver, yellow, particularly in the eyes, deserves attention.

In the *pectoral cavity* : Difficulty of respiration, inability to lie on either side, or on the back, disordered motion of the heart and the pulse (vide *asthma*, *phthisis*), come here into consideration.

In the *cephalic cavity* : Constant, irremovable pains in one part of the head, most felt in certain positions, dizziness, stunning, disturbance or obtusion of mental action or of single senses ; spasms and paralysis are here observed.

The *proximate cause* of all malformations, as well as of the parasitic products, is a faulty plastic process.

This can be caused in a quadruple manner. By *immoderately increased plasticity*, as inflammation, congestion, infantile age, excess of nutrition ; by *diminished, obstructed plasticity* (likewise as the monstrosities of the first formation), as old age, debilitation ; by *qualitative change of plasticity*, as dyscrasy, metastasis ; by *mechanical pressure* and *chemical operation*.

The *exciting causes* may be the following : *inflammation*, acute as well as chronic ; and *congestion*. Inflammation is the most frequent cause, but not the constant one. It particularly engenders hypertrophy, physconies, thickenings, indurations, adhesions, pseudo-organizations ;—*mechanical pressure* obstructing the afflux and reflux of humors, and the normal action of the vessels, as by lacing, ligatures, permanent sitting, contraction of the abdomen ;—*nervous affections*, the disturbed or faulty influence of the nerves of a part is capable of producing a disturbance and degeneration of its normal reproductive action ; such as the frequently observed influence of fright, grief, sorrow, tending to create such products, especially in the glandular system (which is evidently proved in the milk tumors that form in the breast of nursing women immediately after fright) ; *metastases*, when the normal nutrition is deranged by the deposition of a morbid matter, as after suddenly suppressed intermittent fevers, cutaneous eruptions, syphilis, scrofula, arthritic matters (such organic disorders are nothing but

symptoms of these diseases);—finally, a *vitiated condition of the humors*; thus it is certain, that a too thick, viscid, atrabilious blood may contribute a great deal to produce obstructions in the abdominal viscera; a too viscid bile to obstructions in the liver and the formation of gall-concretions.

Of great importance for the practice is the circumstance, that an organic disorder may become a depository or derivative organ for other maladies and morbid matters. This is especially true of internal congestive diseases and dyscrasies; even nervous and mental diseases arise from that cause. As soon as an external pseudo-organization forms, these general or internal evils abate, they become, so to say, concentrated in one point, corporified and derivated.

In regard to their *different nature* we distinguish for practical use:

1. *Obstruction*, the slighter degree. Accumulation, stagnation, thickening of the humors contained in the vessels (particularly the venous), thereby stoppage, impermeability, distention (hypertrophy, physcony, infarcts), disturbed function of a viscus, most frequently in the abdomen and in the plurality of cases occurring in the liver.

2. The higher degree, real *disorganization*. Here scirrhus, tubercles, polypus, fungi, tumors, steatomata and osteosteatomata, mollifications and ossifications, generation of calculus are to be classed.

3. *Parasits*, newly generated animated organisms, entozoa; to which not only worms, but also several organic diseases, as hydatides, encysted tumors, even scirrhus and cancer are to be counted, inasmuch as they possess a peculiar life and vegetation.

Therapeutics. Above all, two rules must be adverted to and strictly complied with. In the first place, avoid as long as possible to presume that an organic disorder is the cause of disease; for to do so, usually precludes all kinds of treatment, and discourages us from searching for other, curable causes, that perhaps exist, and seeking for new ways and methods of cure. In the second place, though organic disorders decidedly exist, they must not be judged of precipitately, and pronounced to be incurable; but all possible curative means must be tried, since experience has taught, that even in such cases complete cures have unexpectedly been effected, or at least that the evil may be arrested and life preserved.

The external (surgical) part of the healing art has in this

regard the advantage over the internal; for the surgeon may easily recognise and discriminate the various species of degeneration, but it is not so with internal diseases, which fall to the lot of the physician. In general, he only perceives a derangement in the functions of an internal part, but is rarely capable of discerning of what special kind it is. He is, therefore, guided in his treatment by general principles. These are: to promote the internal, especially the venous action of the organ by discutients (motion and friction); to promote its absorbent action by absorbents (among which mercury and soda rank first); to excite the nervous action of the part by remedies which have a specific influence; to derivate the nutrition of the part by diminishing or withholding the nutritive matter; to remove the inflammatory state, if such a one exist; to dissolve and discuss the stagnant matter by chemically decomposing means (of which water, soda, and iodine are the principal ones); and finally to respect the specific character of the obstruction or degeneration, as the syphilitic, when recourse is to be had to the specific antidote, mercury.

It is also useful to establish an artificial ulcer near the disorganization, in order to derivate and to withhold its support; which, if used at an early stage of the disorder, will do away with it entirely, if at an advanced stage, will stop and prevent it from increasing.

The seat of the disorder makes a difference, and requires a modification in the treatment. We distinguish:

1. Obstructions and disorganizations in the abdomen, which are the most frequent. They are most commonly seated in the liver, the spleen, the pancreas, the mesentery, and in the female, in the ovaries. For the diagnosis see above. The treatment consists in the employment of dissolvent vegetables, especially of dandelion, solvent salts, the gums of ferulaceous plants, soda, similar mineral waters, antimonials and mercurials, clysters, baths; in obstinate cases, great insensibility and atony, aloes, scammony, and similar drastics (see visceral treatment of *hypochondriasis*). When the liver is obstructed, mercury, internally as well as by inunction, is chiefly to be relied upon. But in general, we cannot too strongly recommend in abdominal obstructions, soda, especially Carlsbad spring; when that cannot be procured, it may be replaced by the artificial water. I have seen cases of the worst kind, in which the whole abdomen was greatly distended, perfectly relieved by this agent, after the most vigorous dissolvents, even mercury, had proved abortive.—Iodine is also one of

the most efficient dissolvents; but it is always an unsafe remedy, apt to operate destructively on the whole animal economy and to leave bad consequences; therefore it ought to be used only in extreme cases and with caution, corrected by alkalines (vide No. 233). If pains are present, do not omit to apply leeches from time to time.

Also external embrocations of dissolvent ointments and cataplasms, for which all kinds of dissolvent herbs, particularly cicuta, may be used, are of great service. Even gentle rubbing, repeated several times a day, continued for a length of time, is beneficial. Of unguents the following have proved most efficacious: ammoniac, mercurial, digitalis, and iodine ointments; I can particularly recommend a mixture of castor oil and tincture of colocynth (vide No. 255), which is also very serviceable in external indurations. —A resolvent soap plaster, worn constantly on the part, has also a very good effect.

2. When such disorders are located in the chest, and especially in the lungs, great caution must be observed in the use of dissolvents, lest they create too much irritation, hæmoptysis, inflammation, increase of tubercles or suppuration, terminating in phthisis (vide *phthisis tuberculosa*). As regards the treatment of organic disorders of the heart, see *asthma syncopticum*).

3. Organic disorders in the head can rarely be distinguished with such certainty as will justify a direct special treatment. We must therefore be guided by the general rules just stated; treat the dyscrasies which may exist, and promote absorption. The principal remedies for these are derivatives, especially by the intestinal canal and the skin; issues on the neck and arms are to be kept open for a long time, and abstractions of blood repeatedly made.

In treating these external disorders, we must never forget that they may be the depositories or secretory organs, as it were the vicars or substitutes of internal diseases, and that their retrocession, like the suppression of a cutaneous eruption, create an internal disease. Derivatives therefore are to be resorted to only after the internal cause, the dyscrasy, has been removed. In general, we ought carefully to weigh the difference between enduring the external disorder, and the danger of giving rise to a worse internal one.—This precept is particularly to be observed by the surgeon before extirpating such evils.

Finally, cases may occur, in which a cure can be effected only by destroying the parasitic being, the pathological animal, as the scirrhus or cancer, by arsenic.

Two diseases of this class merit our particular attention, and must be here specially treated of, lithiasis and helminthiasis.

WORMS.

Helminthiasis.

There is no part in the human body, in which worms or other imperfectly organized beings cannot be developed or received.

They are most frequently found in the intestinal canal, but also in all the other viscera, in the liver, lungs, kidneys, bladder, uterus, ovaries, even in the brain and eyes, especially the encysted tapeworms, *tæniæ hydatigenæ* (*viscerales*), or in the external parts and cavities (*externi, superficiales*).

1. *Intestinal Worms, Vermes Intestinales.*

The most common are mawworms (*ascarides lumbricoides*); the small white worm (*ascarides vermiculares*); the tapeworm, of which there are two species, the broad one (*tænia lata*), and the catenated, or the pumpkin-seed-like solitary worm (*tænia solium*); the hairworm (*trichuris, trichocephalus*).

Besides, larvæ of various insects are frequently met with.

Diagnosis. General signs are: pale and changeable complexion with livid circles around the eyes; saliva accumulates in the mouth in the morning and in a fasting state; nausea, fetid breath, irregular appetite, great hunger, frequent itching in and on the dorsum of the nose, sneezing, distended, but not hard abdomen, pain in the umbilical region, dilated pupils, bleeding at the nose, frequent starts and fright during sleep, grinding of the teeth, lying on the belly, somnambulism, unusual emaciation, disposition to spasms; but the most important and only sure sign is the discharge of worms or parts of worms.

Special signs of *ascarides*: troublesome itching in the anus, particularly in the evening, dysury, strangury, tenesmus, apparent hæmorrhoidal complaints, discharge of mucus from the rectum, bladder, vagina, extraordinary disposition of the mind and periodical sadness.

Of the mawworm: besides the general signs, frequent

bellyache, and a vermicular sensation in the umbilical region.

Of the tapeworm: a sensation, as of something suddenly rising from the left side into the throat and falling back, a feeling of a lump in one or the other side making an undulatory motion, feeling of sugillation in the abdomen, dizziness, creeping, surdity, numbness of the fingers and toes, sudden cessation of the abdominal troubles suddenly after a swallow of brandy or of essence of absinth.

Effects: The worms may, by the irritation they cause, and the influence they exercise on digestion and assimilation, have a very important influence on the human economy, and on all the vital functions, even on the psychical; hence they may produce great disturbances and consequently manifold and dangerous maladies, especially most strange nervous diseases (see pathogeny); therefrom results a momentous rule, to suppose the presence of worms, and to act accordingly in all such diseases, especially at the infantile age, where no other sure cause can be ascertained; for experience has shown that an anthelminthic treatment has procured complete relief in very serious diseases, after all other methods had proved abortive. This applies not only to cases, in which signs of worms are present, but also when there are none; for worms may exist without any symptoms of them being perceptible.

Pathogenesis. We must view two things: the origin and formation of worms, and that of verminous diseases.

The generation of intestinal worms occurs in two ways. Some are evidently brought in from without, as the larvæ of insects and other imperfectly organized animals (snails), which can live for some time in the intestinal canal. Others, on the contrary, are evidently products of the human economy itself.

The causes, which favor this creation (*causæ remotæ*), are: particularly the age of infancy on account of the general predominance of nutrition (whence the intestinal canal, being the receptacle of nutriment, is most disposed this way), laxity and weakness of the intestines, accumulation of mucus, animal and farinaceous food, moist habitation and a like epidemial constitution of the atmosphere, hence verminous maladies may become endemial and epidemical.

Origin of verminous maladies, or of worms as cause of disease. These parasites do not always cause disease, when they are not too numerous and remain in repose, but they must always be considered as something heterogeneous, as a morbid disposition; they may even become

causes of the most dangerous maladies, or at least impart the most dangerous complication to all diseases which afflict the patient.

The manner and way, in which worms create diseases is: they withhold the nutritive substance of the food (they are co-eaters, parasites; hence, where they exist in great number, emaciation, and finally fatal atrophy ensue); they create putrid and mucous impurities in the intestinal canal, by their excrements and dead bodies; hence gastric putrescency in verminous fevers, and acrimony even in the humors; they excite irritation, when they are hungry or stirred up by other causes, or gather on a particularly sensible part of the intestinal canal, or when the sensibility of the intestinal canal becomes suddenly increased, as by fever. The irritation is partly local, partly consensual. It produces, locally: pains, spasms, increased secretion, and action of the intestinal canal, diarrhœa, dysentery, spasmodic incarceration, ileus, abscesses, through which worms are discharged. It affects the nerves by sympathy, causing convulsions, all kinds of spasms, particularly chorea, epilepsy, somnambulism, periodical paralysis, insanity, fury; and operates on the vascular system, giving rise to verminous fevers, sanguineous congestions, hæmorrhages, blennorrhœas, exanthemata.

The effects of verminous irritation are not always apparent: individuals may have worms and nevertheless feel very well for a long time; but suddenly verminous attacks may set in. This happens by accessory causes, which excite them, as by ingesta disagreeable to them, by hunger, by accumulation and sucking from a sensitive part of the intestinal canal, or by increased sensibility of this gut, which is the case in every fever; hence every fever is likely to give trouble to the worms.

The treatment is double: *palliative*, soothing the worms; and *radical*, annihilating the verminous disease itself.

Palliative treatment,

Is of great importance, partly to remove the frequently violent and dangerous symptoms of worms; partly in fevers associated with verminous attacks, producing local pains in the abdomen, which may even cause inflammation, abscess and perforation; partly in the treatment for worms, when they become too much agitated.

The indication is double: to appease the worms and to soothe the spasm created by them. The principal remedy answering both ends, is milk, in all forms used, as beverage, injection, fomentation on the belly. Next to it is oil, oily

emulsions (oil at once weakens, kills and prevents the worms from sucking), flores zinci, extract of hyoscyamus, mercurial water (vide No. 234) as a drink and in clysters; in obstinate cases, emetics, asa fœtida, valerian. In violent attacks of tænia, a tablespoonful of the tincture of absinth is the best suppressive remedy.

The *radical treatment* must tend to dislodge the existing worms, and to prevent their reproduction.

The Expulsion of Worms,

Can be effected in three ways; by remedies which annoy the worms, drive them downwards, debilitate and kill them (anthelminthics, of which semen Santonici or cinæ is the most common, efficacious, and appropriate to all sorts of worms), followed by cathartics to purge out the dead worms; or the simultaneous use of anthelminthics and purgatives; or by strong drastics, which forcibly expel the worms living or dead, by increasing the peristaltic motion of the intestines.—In all attempts to cure worms it will be well to take advantage of the declining of the moon; for at that time the worms are weaker and less capable of sucking; and it will also be proper to combine the anthelminthics with such remedies, as dissolve mucus (neutral salts, oxy-mel scilliticum, and the like), since mucous accumulation is always present, forms the lurking place for the worms, and blunts the power of the anthelminthics. Finally, I must observe, that a patient may be perfectly cured of worms, though none may have appeared to be discharged; for when killed by the anthelminthics, like all dead matter they may be digested and evacuated as excrements.

Every species of worms has its peculiar vermifuges.

Ascarides,

Are efficiently destroyed by injections of a decoction of tobacco, oil, culinary salt, mercurial water, or water with a small admixture of a weak solution of corrosive sublimate, pills of extract of quassia and tansy (vide No. 235) continued for several months.

Lumbrici.

The most efficacious remedy is semen Santonici (vide No. 237), which we may administer in the form of electuary (vide No. 236), or in substance with honey to chil-

dren who dislike medicine. Let a teaspoonful be taken for a fortnight every morning fasting during the decline of the moon, and be followed by a purgative of jalap and calomel. The following remedies may also be used : tanacetum, absinth., rad. spigel. anthelmint. (vide No. 239), extract. nucis juglandum, all mercurial and ferruginous preparations (vide No. 240), aloes, fucus helmintochoitos (vide No. 238), valerian root, pulp of carrots mixed with sugar, taken fasting ; also mechanical stimuli, as iron filings, dolichos pruriens. One ought to be acquainted with several kinds of anthelmintics, for that which is efficacious in one case is not so in another. External means also aid in dislodging worms ; as embrocations of oil of tansy, or petroleum on the abdomen, cataplasms of tansy and absinth.

At the same time a proper diet must be enjoined. Farinaceous and glutinous food, as well as warm drinks must be avoided ; a little culinary salt, occasionally a little wine and much exercise are to be taken.

Tapeworm.

There are two methods of dislodging the tapeworm. One is to weaken it gradually, to destroy it, and remove it gradually without any violent commotion ; the other, to expel it at once, as if it were by storm.

The first, gentle method, is the safest, and ought to be tried before the other. It is the only one, applicable to delicate and sensitive patients. It consists in the persevering use of such remedies as are troublesome, debilitating and fatal to the worm. Of this number are : Glauber's salt and Sedlitz salt taken every morning ; and several times during the day elixir acid. Halleri, or pewter filings, 3 or 4 drachms a day, mixed in conserves of roses ; garlic stewed in milk, taken every morning fasting ; also the bark of pomegranate root (vide No. 241) has proved very efficient in my experience. I have succeeded without any trouble to expel the tænia in a nervous woman within eight days, by the following combination : Tinct. absinth, asa fœtid. āā M. S. 60 drops 3 times a day. Limatur. stanni 1 ounce, pulv. rad. filicis maris 2 drachms, conserv. rosar., as much as will make an electuary, 1 teaspoonful 3 times a day and a tablespoonful of castor oil after every dose ; meagre food and more salted than usual.

The second, the forcible method, is of course more prompt and efficacious, but also more dangerous ; is capable of producing all the consequences of poisoning, and may

impair the digestive organs to such a degree, that the patient for ever after feels its effects, suffering more from the consequence of the treatment than he did by the tapeworm; it is, therefore, not applicable in feeble individuals. When, however, the worm produces very obstinate and malignant disorders, as epilepsy, and the gentle method is unavailing, no other expedient is left.

The principles of this method, which may be styled a kind of military expedition against the enemy, are: to commence by weakening the foe, in order to deprive it of the power of assuagilating and creating spasms; this is attained by cold, oil, hunger; to drive it down to the lower part of the intestinal canal, by remedies offensive to the animal (of which the root of the genuine malefern is the most efficacious of all); to prevent spasms during the operation, by which the discharge might be stopped and bad symptoms excited (which is accomplished by *asa fœtida*, *hyoscyamus*); and finally to enforce its discharge by drastic purgatives. In obstinate cases the powdered seed of Indian caustic barley is a very efficient remedy; from 10 grains to one scruple may be taken every morning mixed in honey.

The most efficient method, according to my experience, is: in order to ascertain the existence of the tapeworm, when it is not positively known, is to give a few days previous to the above course, *resina guaiaci* with bitter almond water daily, when pieces of the worm will be discharged by stool.

After this the patient is to live for a few days on herrings, sardines, and similar aliments, and for supper only panado, and before retiring, according to his capacity 1 or 2 drachms of malefern root in powder, or 30 drops of the very efficacious ethereal oil of the same in pills. On the following morning he is to commence by taking a glass of cold water, then a powder of 6 grains gamboge, 1 grain of calomel, 10 grains of magnesia, 1 grain of extract of *hyoscyamus*; half an hour afterwards he must swallow $\frac{1}{2}$ ounce of castor oil and receive an injection of milk, and the abdomen may be embrocated with petroleum. If the worm is not discharged, the same remedies are to be repeated two hours afterwards, and if they again fail, the purging not being too strong, let them be repeated once more. When the worm is not completely discharged, but hangs out of the rectum, caution must be used not to break it, but wind it around a little piece of wood, to prevent it from returning; the patient must sit in a vessel filled with warm

milk, and the worm is to be gradually extracted by winding it up. It is only when the pointed end or head has been evacuated, that we are sure the whole is really expelled.

To Prevent the Formation of Worms,

Requires fortification of the intestinal canal by a nourishing diet, more animal than vegetable ; a moderate use of wine, much and vigorous exercise of the body, ferruginous remedies, as a small quantity of Pyrmont water, taken every morning for a length of time, or ferrum alcoholisatum. In children it is very salutary to give every month, at the decline of the moon, wormseed (*semen Santon.*) and a dose of jalap after it.

2. *Vermes Superficiales.*

Mercury, and particularly the red precipitate ointment, is the most sure remedy against body and head lice and other insects burrowed into the skin. In phthiriasis, baths of corrosive sublimate, and in an extreme case a solution of arsenic may be used against this formidable evil. When worms are engendered in ulcers, the application of tar is the surest remedy.

LITHIASIS.

The formation of stone, under which head ossification is also to be classed, can take place in any part of the economy ; they occur most frequently in the urinary passages and gall ducts ; they are also found in the intestinal canal, lungs, brain, salivary glands, blood vessels, especially in the heart and the large vessels. Their formation is either due to a tendency to decomposition of the substance in which they are found (as urine, bile, saliva) ; or to a vitiated secretion and reproduction. In the latter respect old age always favors ossification, by a defect in nutrition and a prevalence of the earthy matter.—“*Pulvis es, et in pulverem reverteris.*”

URINARY CALCULUS.

*Calculus Urinarius.**Stone in the Bladder, Stone in the Kidneys.*

Diagnosis. Stone in the bladder. Constant urgency to urinate, accompanied by the most violent pains, especially in the glans; sudden stoppage of the stream (all these accidents are less in the recumbent than in the standing position); strangury, dysury, a constant troublesome itching and tickling in the orifice of the urethra; slimy sediment in the urine, frequently mixed with gravel or little stones, sometimes with blood, especially after rough exercise; sensation of pressure and heaviness deep in the pelvis, alleviated by lying down, aggravated by standing; exploration, either by the finger in the rectum and vagina, or by a catheter. The detection is often very difficult, even by the catheter, when the stones are encysted,—*calculi cystici*. The disease is apt to be confounded with vesical gout and vesical hæmorrhoids.

Course. Frequently returning spasms and inflammatory attacks in the bladder, which terminate in disorganizations, thickening and callosity, spongy excrescences and suppuration of the bladder, lingering fever, phthisis vesicalis, and death by emaciation.

Nephritic Stone is recognized by the permanent or periodically returning pains, or a sensation of heaviness and pressure in the region of the kidneys; by colic occurring from time to time (*colica nephritica*), which is generally followed by a discharge of gravel, by the red color of the discharged gravel, a dull pressure felt in the leg of the side affected, even weakness and lameness of it. It is frequently attended with nausea and vomiting in a fasting state, even with vertigo.

The calculary paroxysms or calculary colics are violent, sudden, acute, extremely painful attacks, particularly in nephritic calculus. They are distinguished by the violence and the sudden occurrence of the pains in the region of the kidneys or bladder, spreading over the whole abdomen; by the vomiting and crying, which is always connected with it, by spasmodic sympathetic sensations in the cremaster, testicle, leg of the same side, in the urethra; and especially by a previously existing lithiasis being known and by the exciting causes. These causes are:

either increased irritation of the calculus (when it tends to a new position, or to pass through the ureter into the bladder), or increased irritability of the kidneys. The first may be brought on by rude motions, as riding; the latter by excessive use of ardent or diuretic beverages, violent passions, overheating of the body and taking cold, metastases.

The effects of a nephritic stone, when it remains in the kidney, are: besides the pains it creates, disturbances of urinary secretion, nephritic colics, inflammations, disorganizations, induration, suppuration of the kidneys; and when it is dislodged, passing through the ureter, pains, spasms, inflammation, colic, frequently also incarceration and stoppage in the ureter, followed by adhesion. It can become fatal by inflammation and suppuration.

Pathogenesis. The formation of stone is a chemical process, which can form under favoring circumstances in all parts of the body (even in the brain), and from all the humors (even from saliva). The favoring circumstances are: stagnation, disorders of nutrition, and a condition of the humor chemically inclined to concretion.

In the urinary ducts this process is very apt to take place, for this fluid, by its very nature, contains more chemical affinities and materials for calculary formations, as is seen in every urinal.

The remote causes are: either chemical (*lithiasis accidentalis*), stoppage of the urine (in cavities, diverticles of the bladder, chronic pressure on the kidneys, etc.), by which decomposition of the urine is made possible, the presence of a foreign body, which serves as centre of aggregation (shot, ears of wheat, coagulated blood and mucus); certain kinds of food, which particularly favor the generation of calculus, especially the use of sour, acerb wines. Beer drinkers are less subject to stone; it is also evidently more rare since the introduction of tea, coffee, and diuretic drinks, and it is more seldom met with in beer than in wine-drinking countries.—Or organic (*lithiasis constitutionalis*), a disorder of the secretion of the kidneys, which yields this product. It is either congenital (*lithiasis congenita, hereditaria*), or acquired, in which case a metaschematismus of other diseases, especially of gout, may be the cause (being very similar in both, stone in the kidneys, in arthritis, concretion in the joints). Hence, both alternate, and gravel is often nothing but a *metastasis arthritica ad renes*. Calculus and diabetes have also some analogy: in the first, stone; in the latter, saccharine matter is gene-

rated; in both a predominance of acidity is the base, engendered perhaps by the same process differently modified.

The chemical ingredients of urinary calculus are: phosphoric acid, benzoic acid, oxalic acid, calcareous earth, mucus, but varying in proportion; sometimes ammoniacal calculary ingredients, but in by far the greater number of cases acidity predominates.

Therapeutics. The treatment is palliative or radical.

The *palliative treatment* has for its end to soothe the nephritic attacks and complaints, the cure of the nephritic colic.

Inquire whether the attack be inflammatory or spasmodic. The first is recognized by its violence, pain, and duration (inflammation may associate as an accessory to the spasmodic); by pain on pressure over the vesical region, by a febrile pulse, and heat in passing urine.—Such a case requires the treatment for cystitis: a venesection is to be made immediately, leeches, cataplasms of linseed and hyoscyamus are to be applied; and oily emulsions containing extract of hyoscyamus, cooling purgatives must be administered internally.

The spasmodic state is recognized by the absence of inflammation, and presence of the spasmodic symptoms.—Such a case calls for the most vigorous anodynes, oily emulsions with opium, decoction of linseed as beverage, also clubmoss seed made into an emulsion, embrocations of volatile liniment, of camphor with laudanum, oily injections of $\frac{1}{2}$ of drachm of hyoscyamus herb or opium, narcotic cataplasms, tepid hip-baths. It frequently happens that the pains are so constant, as to require the daily recourse to the use of opium.

The *radical treatment* has two indications: to annihilate the formation of stone, and to dissolve the existing one.

The first intention is to bring the secretion of the kidneys to its normal condition, and to take away the disposition to that specific decomposition and combination of those materials which originate stone. In this respect the cure is very similar to that of diabetes mellitus. That which produces a saccharine state of the urine in diabetes, in the latter produces stone.

A remedy, answering both indications, and which is therefore rightly styled the principal lithotripticum, is soda or alkali in general; and among all preparations known to me, Carlsbad is the best; when the natural cannot be procured, the artificial must be used. In lack of this, soda

dissolved in carbonic acid water (the soda water of the English). Next to it is the kali causticum vel purum (10 drops twice a day in broth); soap, or limewater, taken by the pint daily; Harlem oil, and Loof's remedy. It is proved by experience, that stone may be dissolved by these alkalis, and may be prevented from forming. It is a fact, that alkali passes really into the blood and urine, and may be there made to effervesce by acids; the urine thus is made to receive a chemical dissolving property, as alkaline water possesses out of the body. I have seen myself stone transformed into gravel, which alone is a great advantage. Carbonate of magnesia, $\frac{1}{2}$ drachm three times a day, the pulvis aërophorus natronatus (vide No. 243), 20 to 30 grains three times a day, the carbonic acid soda water (which may be easily made by dissolving $\frac{1}{2}$ drachm of bi-carbonate of soda, in a bottle of Selters' water), the Fachingen, Geilnau, and Wildungen water, are all useful.

Some vegetables also have proved serviceable, as radishes, strawberries, red bilberries (*vaccinium vitis idæa*), honey, a powder composed of quince-seed, acin. cynosbat., juniper-berries, a teaspoonful three times a day; especially bear-berry leaves, which possess also the advantage of allaying pain, $\frac{1}{2}$ drachm 3 or 4 times a day.

A chemical examination of the discharged calculi may be profited of, in order to distinguish whether the stones have more of an acid or alkaline base, and to determine on the remedies accordingly.

If all prove abortive, nothing is left for the relief of the poor sufferer, but the operation of lithotrity, or of cutting out the stone. The first may always be performed, but the latter requires great precaution, and must never be permitted, when suppuration in the bladder or kidneys is manifest; nor when gravel is simultaneously present.

GALL-STONE.

Calculus Biliarius s. Felleus.

Diagnosis. Frequent pressure and complaints in the hepatic and epigastric region, especially spasms of the stomach with vomiting. The principal signs are: colics, remarkable for this, that the patient is from time to time affected with most violent pains in the hepatic and epigastric region, accompanied with violent vomituration and vomiting, followed by a yellow color of the skin, lasting

for a few days ; after which gall-stones are found discharged in the stool.

Pathogenesis. Gall-stone is not stone, but a resinous-earthly combustible mass, a concretion of bile. The exciting causes are such as have a tendency to create a profuse and viscid secretion of bile and stagnations in the liver, as a choleric temperament, much heavy, fat, animal food, omitting fluids, sedentary life, lacing of the abdomen, long continued grief and sorrow, especially suppressed anger during eating (therefore of frequent occurrence in unhappy marriages).

Therapeutics. The cure consists in that of the colic of biliary calculus. It is the same as that of nephritic colic. Oleosa, narcotica, clysmata, semicupia, and where there is an inflammatory disposition, venesection, are chiefly to be relied upon.

The radical treatment tends to dissolve and remove the calculus and to prevent its regeneration. For this alkalies are also the principal remedy, especially soda, the Carlsbad well, and when the natural cannot be had the artificial one, or other preparations of soda, also soap pills with bitter extracts (vide No. 242), continued for a long time, and purgatives given intermediately. In great inclination to vomit I have found the combination of soda with pulvis aërophorus (vide No. 243) excellent. Of a similar effect is bi-carbonate of soda, 1 drachm dissolved in a bottle of Selters water drank daily, or the English soda water. The turpentine in Durand's remedy (vide No. 244), vegetable diet, much drinking, exercise, in general the whole treatment of visceral abdominal obstruction.

DISEASES OF FEMALES.

SEXUAL DISEASES OF FEMALES,

Do not comprise the general maladies to which a female may be liable, but such as are peculiar to the female sex, or what is the same, diseases of the sexual system, of the conceptive and productive functions. It cannot, however, be denied that this destination of the female imparts a particular character to the whole economy, and modifies all her diseases, giving them, as well as the treatment, a female character.

Physical Characteristics of the Female.

To give birth to children is the destination of the female ; therefore pregnancy, parturition, and nursing is her natural state ; while menstruation is a vicarious or surrogate condition—a malady.

The whole economy of the female is arranged and calculated for reproduction and a double life. The sexual function is in her a prevailing tendency, in man it is subordinate. (This is made evident even by the position of the genital organs ; in the former they are placed internally, and are intimately interwoven with the organism ; in the latter they are external, and as it were, only an addition.) The character of the female sex is to receive, that of the male is to give ; hence in the former, passive life, susceptibility, flexibility predominate ; in the latter, activity.

The essential differences are as follows :

1. Greater laxity of the fibre—hence a disposition more to diseases of atony and relaxation.

2. Greater irritability and sensibility of the nervous system ; hence sensibility is very apt to become morbidly increased ; disposition to nervous diseases ; little irritation produces intense reaction, unusual sympathies.

3. Quicker and richer chylication and sanguification ; sanguification calculated to the nutrition of a second being, hence a plethoric state, a disposition to congestions, hemorrhages.

4. Greater productivity and plasticity ; hence more inclination to abnormal productions, especially when the sexual production is interrupted or ceases.

5. Great influence of the uterine and gangliary system on the organism ; hence the hysterical state and character frequently attendant on all the affections of females.

6. Easy excitability, but less endurance of energy, more suffering than active power ; hence diseases are apt to pass from the active into a passive state.

7. On the whole, much resemblance to the character of children.

MENSTRUATION.

Menstruatio, Catamenia, Menses.

It is the blossom of sexual life, the sign of aptness for procreation, and at the same time a sign and a general preservative of the health of the female economy (*signum et præsidium sanitatis*). Therefore it is, that this function is so important to the health and life of females. The more regular the menses are, the healthier is the female. These monthly turns render females even less liable to some diseases, and enable them to resist them longer than males, as in consumption.

Menstruation is owing to the double sanguification of the female, and to the necessity of evacuating from time to time the abundance of blood, which is destined to the formation and nutrition of the fœtus. Menstruation, therefore, is only a surrogate of pregnancy, a temporary, a vicarious secretion, to prevent the danger of sanguineous accumulation, but at the same time an expedient, dispensing woman of the physical necessity of sexual gratification, and securing her moral freedom.

The circumstance of this secretion being performed by the uterus, is accounted for by the irritability being increased by the awakening of sexual instinct.

Menstruation, therefore, must not be regarded as a mere passive flowing, but as an active critical periodical secretion, not only to discharge the blood, but also as regards the productivity connected with it. Therefore its signal influ-

ence on the whole organism is not only an excitement and purification of the uterus, but arouses and purifies the whole economy, as is sufficiently manifest in many persons by the altered smell of their breath, their dim eyes, slight cutaneous eruptions, excitement, abnormal tone of the nervous system and mind, even by actual nervous attacks. In short, it is a perfect monthly crisis.

The conditions of it are : a proper quantity of blood discharged, properly irritating in its quality (cruor, warmth), a proper degree of irritability and tone of the uterine system (middle degree).

Diseases of Menstruation,

May be divided into disorders previous to the first development, during its course, and at its cessation.

1. The First Development. Puberty. Morbid Obstruction of it.

It is the awakening of sexual life, of a new (a parasitic) life, even of a system of the economy, developing new irritations, new sympathies, new relations, impressing a new character to the physical as well as to the mental life; consequently one of the most important revolutions in organic life.

It sets in, in our climate, between the fourteenth and eighteenth year of age, earlier in the south; later in an active, industrious mode of living, earlier in idle life; in rare cases only in the twentieth, even only after marriage. A premature appearance is always significative of a weak constitution and strong sexual instinct. It is better that it appear too late than too early. It is therefore of the greatest importance not to accelerate this period, nor to attribute all the affections of disease and sickness, which may occur in a young girl at this period, to that source, and try to remove them by promoting menstruation. But it is equally important to assist nature where there is a morbid obstruction, to promote menstruation; for the consequences are: sanguineous congestions to noble parts, as the head, lungs, stomach, which often degenerate in hemorrhages of these organs; nervous fits, hysteria, spasms of all kinds, cachexy, particularly chlorosis, phthisis, tabes, hydrops.

The first and most momentous point of treatment consequently consists in discriminating the morbid retention

from the natural retardment ; and the rule must be this : to presume a morbid obstruction, a retention, only when *molimina menstrua* and signs of puberty have already really set in. These are : pains in the small of the back and in the abdomen appearing from time to time, periodical distention of the belly, development or painful tension of the breasts.

If these are wanting, abstain from medical acting, but wait patiently. There are cases when they never appear (*viragines*). When *molimina* are present, but nothing morbid, it will be sufficient to assist nature occasionally. This is done by foot baths, taken in the evening at the time of the *molimina*, and a few grains of the *pilulae balsamicæ Hofmanni* (No. 171), along with chamomile tea. The same maxim is applicable to menstruation when it appears once and then ceases, or when it is more watery than sanguineous.

It is only when the *molimina menstrua* are attended with morbid troubles, that morbid retention is supposed to exist and is an object of cure.

It is then proper not to immediately attack with emmenagogues, but to investigate into the cause, which may vary very much.

1. Plethora, over-filling of the vessels, and a strong, firm fibre may be the cause of obstruction, as this is often the case with vigorous country women, also in the well-fed inhabitants of towns. Full pulse, strong development of the body, a vigorous habit, are the discriminative signs. In such a case, which borders often on inflammation, the intention is to diminish and attenuate the quantity of blood, to relax the fibre ; for which the principal means are a venesection in the foot at the time of the *molimina*, foot and steam baths, effervescent powder. Besides, vegetable diet, borate of soda, decoction or extract of grass, powdered madder, half a drachm three times a day, tepid baths. If this do not succeed, apply leeches at the genitals, cups to the internal side of the thighs at the time of the *molimina*.

2. Or a reverse state exists. The patient is pale, weakly, more inclined to cold than to warmth, lazy, inactive, her pulse weak, and disposition to chlorosis is visible. In such a case, blood is defective of irritative power, and the vessels, especially those of the uterus, lack irritability. Ferruginous and bitter remedies, best combined with oxygen (*chalybeate waters*), or *flor. salis ammoniaci martiales* along with *arnica* (No. 127), sulphate of iron and the like, are chiefly to be relied upon ; also the red cheek pills (No.

128), so called since they change very soon the pale countenance into a florid complexion. At the same time, animal nutritive food, a motory life, exciting corporeal and mental activity, walking, riding in a carriage, still better on horseback, and the balsamic pills at the time of the molimina may be used. In this case, onanism and irritated sexual instinct must be well attended to and counteracted.

3. It is a middle state. Weakness combined with increased sensibility, erethismus. Here spasm prevents menstruation, and the antispasmodic treatment is best, especially by valerian, asa fœtida, castoreum, galbanum, warm baths, steam baths to the genitals. Here also plethora of the vessels may be combined with irritable weakness, and besides the use of the above mentioned remedies, topical, sometimes also general abstractions of blood are called for.

4. Finally, material local stimuli and substances may exist in the body, which, by their operation, obstruct the uterine function. Of this number are worms, scrofulous diathesis, and glandular obstruction in the abdomen, especially of a mucous character, dyscrasies, especially psoric and syphilitic. In such a case the treatment must tend to remove those irritatives, as worms, and the obstruction by the continued use of resolvents, the dyscrasies, etc.

If all prove abortive, the patient must be examined, whether it be due to a mechanical obstruction, an atresia vaginæ. This may be suspected already at the commencement, especially in otherwise healthy persons, when very urgent molimina menstrua appear every four weeks, the abdomen swells very much, a sensation of fulness and pressure in the depth is felt, and all other signs of puberty are present. I beg, never to forget this intimation. In this case, the mechanical surgical process, the cutting of the hymen only affords relief.

Only after being convinced that no remote causes of retention exist, or the same are removed, the menses nevertheless not appearing, have recourse to the methodus emmenagoga (*vide obstructio menstr.*).

In the first appearance of menstruation, it is most important that it be not disturbed nor interrupted. It is of moment for the whole life, for when it once has assumed a proper typical order, it is not easily interrupted afterwards; bear in mind, that the menses are a monthly crisis, protective and conservative of the female health.

Therefore the following

Regimen Menstruale

must be observed, not alone at the commencement of the menstruation, but through the whole life.

Avoid, during the menstruation, any kind of over-heating (especially dancing), and taking cold, heavy meal-meats, particularly fresh baked bread, violent mental affections, coition, medicines, especially emetics and purgatives, and baths.

This must be adhered to even in diseases, medical treatment, water-cure; and menstruation is to be respected, except in cases of diseases endangering life, when imminent danger of life requires the use of remedies.

2. *Suppression of Menstruation (Obstructio Menstruorum).*

Suppression of menstruation is either a sudden stoppage of its course (suppression properly so called), or a cessation of it (obstruction of the catamenia).

The sudden stoppage during its course, which may happen by taking cold (particularly on the feet), or over-heating, or mental affections, or faults of diet, is an acute case, often rapidly dangerous, sometimes, however, only detrimental in its consequences.

The treatment depends solely on the circumstances, causes, and phenomena.

When violent abdominal pain or congestions to other noble parts set in from the beginning, attended with a full pulse, fever: there is an inflammatory state, and we must guard to use emmenagogues. A venesection on the foot, or when the state is not sufficiently plethoric for that, leeches at the genitals and antiphlogistic medicines (internally), foot and steam baths, warm, emollient narcotic cataplasms on the genitals and uterine region, emollient injections restore best the flux and prevent danger. Should these means prove unsuccessful, administer borax, pulvis aërophorus. When the phlogistic state has passed by, or no sign of inflammation was present from the beginning, but all point to a spasmodic state, foot and steam baths, cataplasms, injections, and internally pulvis aërophorus along with extract. hyoscyami and crocus, or extract. taxi, one grain as a dose, also castoreum and chamomile tea are serviceable.

If this be too weak, add a few drops of laudanum; the same also to the injection.

But it is otherwise when the menses fail to appear (*ob-*

structio). In this case the principal thing is to ascertain the cause. I cannot sufficiently impress upon the mind of the young practitioner, that his first suspicion must be the most natural one—pregnancy. This is often disbelieved, even by married women, and is often purposely concealed, especially by unmarried persons. If the physician is heedless of such a state and uses emmenagogues, he will likely produce abortus, and may lose not only his professional reputation, but cause—what is still worse—bitter remorse.

The physician is, assuredly, in a bad dilemma, for it is known that even exploration does not afford certain knowledge in the early months of pregnancy. My advice, which is that with which I have always complied, is therefore as follows: Never use in married or in unmarried persons, unless the suppression is due to a sudden interruption in the first months, remedies which directly promote its flow; but temporize, and be content with means directed against the general causes or the actual urgent exigencies (as in violent sanguineous congestions a venesection in the arm and cooling remedies). If nothing is indicated, and notwithstanding the person asks for remedies (in order to obtain something which may bring on abortion), give something trifling, as pills of bread and the like, in order to prevent her from procuring abortives from a quack. Thus delay, until the three or four first months are passed by, when, if pregnancy exists, more evident vestiges appear, and at the half of the term the motion of the child will remove all doubt. In this way reputation and conscience are best secured.

After being satisfied that it is not pregnancy but a morbid retention, relief is necessary; for the consequences are very serious, as hysterics, epilepsy, vomitus cruentus, spitting of blood, consumption, dropsy. First, try to remove the causes, which have produced and sustain suppression: this alone is often sufficient to restore the catamenia. They are: debility, paucity of blood (brought on by grief, want of nutrition, severe diseases, too many abstractions of blood, and other evacuants, hard labor, as that of harvest in country women, and fluor albus). Here the material for menstruation is wanting, and to provoke the latter would be foolish. Nourish and well strengthen the patient, after which the catamenia will come by itself. If it is due to obstructions in the abdominal viscera, and uterine system (especially after a sedentary life); vigorous *resolventia visceralia* and *uterina* must be used; if due to a spasmodic state, antispasmodics; if to worms, dyscra-

sies, metastatic, frequently specific irritatives, amongst which lurking syphilis is particularly important, those disorders must be attended to according to their respective character. Should the causal treatment not suffice, or when there is no indication for it, recourse must be had to the direct emmenagogue method. It comprises two kinds of remedies: *pellentia*, such as produce from within a stronger rush of blood to the uterus; and *attrahentia*, such as attract it from without. The latter are more safe and preferable in all cases, where congestions to noble parts are to be dreaded.

The *pellentia* are: aloes, myrrh, the balsamic pills, oxygen, mineral water, borax, iron, sulphur, tinct. fulig., mercury, colocynthides, crocus, guaiac, hellebore, galbanum, the strongest is savin (No. 129, 130, 131, 132).

The *attrahentia* are: foot baths and steam baths to the genitals, rubbing of the thighs, injections, cups on the internal parts of the thighs, leeches to the genitals, fontanels on the internal parts of the thighs, kept open for a length of time, especially electricity (sparks to the genitals and uterine region, shocks across the pelvis and directed from the sacrum to the os pubis), and the strongest of all, acupuncture in the inguinal region.

When *molimina* exist, it is a good period for the application of these remedies.

3. *Immoderate Flow of the Menses, Hemorrhages from the Uterus. (Menstrua Nimia, Metrorrhagia.)*

It is difficult to say what is profuse menstruation; for quantity proves nothing; some need much, some only a little. It is the effect that furnishes the measure. When there is a weak or even intermitting pulse, a general prostration, cool extremities, feeble respiration, palpitation of the heart on exercise, want of appetite, and melancholy, perhaps also œdema of the feet in the evening, menstruation is too profuse. Likewise, when the catamenia last too long (eight or more days); when they return too often. The case is called *hæmorrhagia uteri*, when feebleness increases to fainting. *Hæmorrhagia uteri chronica (stillicidium uteri)* is a constant discharge of blood, confined to no periods.

The consequences of too profuse menstruation are: general debility, especially of the nerves, and all its effects, hysterics, spasms of all kinds—never forget in these dis-

eases to inquire after this cause—cachexy, a disposition to dropsy.

The causes are: general laxity and weakness of the fibre, sedentary life, especially high living, increased sensibility, particularly of the uterine system, morbidly increased sexual instinct, too frequent coition, masturbation, frequent childbeds, local weakness of the uterine system, dissolved scorbutic blood, abdominal irritatives, especially bile, local irritatives of the uterus, metastases, polypus.

The treatment is double: radical and palliative. The radical treatment is guided by the causes. The most frequent of all is weakness and laxity of the uterus recognizable by the general habit of the patient, frequent parturition, sedentary life. In such a case, the use of bitter, astringent, aromatic remedies gives the surest relief; such as cinchona (No. 133, 134), cort. salicis, terra japonica, kino, cort. aurantiorum, cinnamon, sulphuric acid, especially alum, given as alum whey (No. 135); cinnamon tea, made by infusing one drachm of cinnamon in two cups of water, drank daily, is a very approved remedy. In great debility, ferruginous remedies, combined with acids; the best preparation is sulphate of iron (No. 136). At the same time, all debilitating causes must be avoided, and a cold diet observed. When increased sensibility exists, antispasmodics, particularly ipecacuanha in small doses; if in a higher degree, opium may be prescribed. In case of plethora (which is very rare and only found in combination with local uterine weakness), a venesection on the arm is to be made, and tartaric acid, cooling purgatives and mineral acids must be given. In a scorbutic dissolution, scurvy is to be attended to. Look particularly for morbid stimuli, as bilious matter, abdominal obstructions, worms, dyscrasies, especially the syphilitic, and remove them. (I have once seen the flux of menstrual blood stopped by the use of guaiacum when arthritis was the remote cause of the disorder.) If these means prove unsuccessful, it is probable that a polypus of the uterus exists, when exploration and operation are called for.

The palliative treatment, during a dangerous hemorrhage, calls for the most vigorous astringents, of which alum ranks first (ten grains in powder or half a cup of serum lactis aluminat. every two hours), besides too, sulphate of iron (No. 137), tincture of cinnamon, thirty or forty drops at a dose, cold fomentations on the uterine region and genitals, cold injections, also injections of red wine, or alum, dossils impregnated with the same inserted,

horizontal position, and extreme quietude, ligatures round the thighs.

4. *Difficult, Painful Menstruation, Menstrual Spasms.*
(*Menstrua Dolorifica, Difficilia.*)

Diagnosis. At every menstruation, violent colic, throe-like pains, headache, vomiting, toothache, or still more violent and general accidents, cholera, fits of fainting, convulsions, epilepsy, delirium, melancholy, mania are observed; they occur only during the flux, or several days before or after it.

The consequences are: half a life spent in sickness (every month for eight or fourteen days), and sterility.

Pathogenesis. The proximate cause is excessively increased morbid sensibility of the uterine system, or of the whole nervous system, by which it happens that the local irritation of the uterus appertaining to the menstrual period degenerates into spasm, and which is communicated to remote systems.

The remote causes are: local irritation and debilitation of the uterine system by onanism (physical and mental), excesses in venery, especially without satisfaction, general hysteria, obstructions of the abdominal viscera and infarcts of the uterus itself, worms, specific, frequently concealed irritatives, especially latent syphilis, rarely plethora and rigidity of fibre.

Therapeutics. The cure is most difficult. First, the remote causes must be ascertained and removed, and if the evil do not yield to such treatment, the general spasmodic disposition, and the weakness of the uterine system must be attended to. The most appropriate remedies are: a long continued use of asa fœtida, camphor, quassia, elixir acidum, and of baths, tepid at first, and lastly cold, especially those containing iron (Pyrmont and Dryburg at the well); however, attention must always be paid to obstructions in the abdominal viscera, and even in the uterine vessels, as probable causes of this troublesome evil, and remedy them. I have several times seen the Carlsbad water effect a perfect cure, after all the foregoing remedies had been administered without success.

If all these means fail, resort to magnetism, which may prove very beneficial in this case as well as in all other nervous diseases, which are in causal connection with the menstrual function.

The palliative treatment consists merely in the mitigating

and antispasmodic method. The most reliance is to be placed on the internal use of opium, but in an oily emulsion, combined with warm narcotic cataplasms on the genitals and uterine region, antispasmodic ointments, emollient injections, tepid hip-baths. In plethoric individuals, and where gastric impurities are present, instead of the opium, extract of hyoscyamus must be given.

5. *Cessation of Menstruation, the Dying of Sexual Life.*
(*Cessatio Mensium.*)

Takes place, in our climate, between the forty-fifth and fiftieth year of age. This, however, varies as well as does the first appearance of the catamenia, according to constitution, climate, and mode of living. The earlier they appear, the more laborious and toilsome life has been, the colder the temperament, the sooner does menstruation usually cease. The contrary conditions retard it.

The cessation happens in the following manner. It ceases either suddenly and all at once, which is always hazardous; or decreases gradually, failing once or twice, then reappearing again, sets in at greater intervals, and finally disappears entirely. This is the best and most harmless way. In some females the menses terminate with considerable hemorrhages. In rare cases the menstrua continue alternating with interruptions up to the sixtieth year and longer. We farther perceive an essential difference. In some, momentary flushes with passing sweats, cutaneous eruptions also appear; the impulse of the humors tends to the periphery. This is salutary, and guards against bad consequences. In others, cold and chills occur, premonitors of internal affections and congestions.

This period is important, is even decisive of female life. This period is therefore rightly styled the critical time of female life, for mortality is then greatest.

The effects are double. In some the change is for the better; they become healthy, robust, even blooming and vigorous,—it is to them a kind of regeneration. In others it is for the worse: sanguineous congestions to the head, lungs, stomach, hemorrhages, particularly vomitus cruentus, serous and mucous profluvia supervene.

Nervous diseases, hysteria, spasms, especially cardialgia. Dyscrasies, acrimonies, especially cutaneous diseases and arthritis. Scrofula, which existed in infancy, reappear.

New formations, pseudo-organizations, scirrhus, cancer,

polypi uteri. This is the period when long dormant indu-rations begin to revive, become painful, larger, inflame, and scirrhus passes into cancer.

Therapeutics. A correct idea of this state is of the greatest importance. Three circumstances belong to it, and which also point out objects or leading principles of cure.

1. Continuation of the double sanguification, and im-peded excretion—plethora.

2. Productivity still existing, but retiring inwardly, on account of the dwindling away of the uterus—hence the disposition to pseudo-organizations.

3. Acrimony, dyscrasy, owing partly to the monthly crisis now absent, which in many serves to discharge not only blood, but also other morbid matters; partly to the abundance of humors now suddenly arising.

The chief indication is therefore :

To derivate the congestion, to restore the balance, and to compensate the menses.

Special Treatment.

Such persons as feel well, even better than they used to do ; such as are poor of blood, or who labored under too co-pious catamenia—must be left alone ; exercise and regular diet are to be enjoined, this is all that is needed.

But when congestions and other morbid accidents set in, a venesection is called for, and must be repeated, accord-ing to the varying plethora, every six or twelve months ; intermediately once in a while scarification may be useful as a means of derivation. Simultaneously cream of tartar (one teaspoonful in a glass of sweetened water), serves best against phlogoses ; and use every two or three weeks Saidchutz water or a solution of Glauber's salt. In very plethoric persons, or in great danger of congestions, me-tastases, especially scirrhus, a fontanel on the arm or foot may be made ; to nervous individuals, give the elixir aci-dum. At the same time, corporeal exercise, regular diet of an antiphlogistic character. Abstractions of blood must be continued as long as indications of congestions exist ; but increase the intervals, as time advances. This course must sometimes be pursued for several years before the vas-cular system becomes settled. It is advisable in most cases to bleed in the first year three times, in the following, twice, and in the third, once.

PREGNANCY.

To be pregnant, to breed and to nurse, is a natural state, and is therefore the healthiest one of woman. Woman is to be blessed by giving birth to children, says the holy writ. The healthiest women are those in whom these functions are regularly performed. Menstruation is only a surrogate, a poor compensation of pregnancy, important and necessary to woman, whereby she maintains her moral dignity, and ceases to be the slave of brute instinct; but it is still an abnormal morbid state. In well organized constitutions, and when the mode of living accords with nature, pregnancy produces no morbid symptoms.

The usual complaints which trouble pregnant women are the following: nausea, vomiting, headache and toothache, spots on the skin, and eruptions, nervous attacks of all kinds, hysterism, sometimes a peculiar change of mind and temper, even delirium, mental derangement, melancholy, and mania, which cease when pregnancy terminates. The most dangerous of all its accidents is abortion.

The prompt diagnosis of pregnancy is very important, though very difficult in the first months, lest we mistake for disease that which is only a symptom of this state, and make use of remedies productive of the greatest injury, which might even disturb pregnancy by producing abortus. The most common and surest signs are: absence of the menses and swelling of the breasts; in the plurality, but not universally, also nausea, vomiting, and some have their peculiar sensations and phenomena. But sometimes all these symptoms are wanting, even the catamenia continue. The discrimination by the stethoscope (hearing the fœtus) does not apply to the first periods of pregnancy, it is of use only in the second period. But, on the reverse, menstruation may stop, and nevertheless no pregnancy exist, but a morbid suppression which sometimes affects and increases the breast. It is still worse in those who conceal pregnancy.

In all such cases I cannot too urgently enjoin on the young practitioner the following as a golden rule: rather to suppose the existence of pregnancy, and to act accordingly; that is, to temporize rather than act the contrary, until the fourth month arrives, when the motion of the child will remove all doubt. The physician will thereby avoid much mischief, and preserve his conscience as well as his reputation.

Pregnancy is certainly not a disease by itself, but a natural state. It can, however, give rise to many morbid attacks, especially where great sensibility, or a relatively weaker part, or an idle life predispose to them; therefore, accidents are met with more frequently in the higher refined and effeminate classes, than in the lower and laborious.

The essential idea of the pregnant state is: a living being within a living being, a double life, increased productivity and sanguification.

All accidents of pregnancy spring from four sources: 1, from plethora, from the suppressed menstrual blood, which in the beginning is not sufficiently consumed by the fœtus; hence this class of accidents occur most frequently in the first three or four months; hence persons poor in blood feel better at this period of pregnancy; 2, from nervous, spasmodic affections, from the irritation of a foreign body, and the nervous sympathy of the revived and newly excited uterus (similar to the verminous irritation); 3, or from gastrosis, accumulation of gastric impurities in the stomach and intestinal canal, by the perturbed secretions and excretions of the intestinal canal, the liver, and other abdominal viscera; or finally, 4, from mechanical pressure effected by the distended uterus on the blood and lymphatic vessels, and on all the abdominal viscera; hence in the last half, especially in the last months of pregnancy, there is retention of stool and urine, hæmorrhoidal complaints, obstruction to the lymphatic absorption, œdema pedum et labiorum vulvæ, varices on the lower extremities.

General Rules for Pregnant Women.

1. In all cases, the principal and promptest means of relief is horizontal position, persevered in for a few hours.

2. Avoid tight lacing and tight dressing.

3. Moderate exercise, and the enjoyment of free air. All laboring women have an easier parturition than idle ones.

4. Mental discipline; avoiding all violent and injurious affections, on account of their operation on the fruit; even good morals, tranquillity, and purity of mind are influential in this regard.

5. Avoid exertion and forced motions, especially lifting and carrying heavy loads.

6. Constant respect in selection of remedies, to avoid such as might operate injuriously on the fœtus and its preservation and tend to abortus. Drastic aloetic remedies

and oxygenated, especially chalybeate mineral waters and warm baths are to be avoided, especially during the first half of pregnancy.

7. Regular stools, especially in the last months. It is best to give for that purpose, a purgative every four weeks.

The Special Treatment,

Depends entirely upon the various causes.

If plethora is the cause, which may be recognized by a full pulse, the constitution and the previous habitually copious menstruation, a venesection in the arm, antiphlogistic diet, and the use of cooling remedies, especially No. 138 are indicated, and best cure headache and toothache, spasms and other nervous attacks, arising from that source. I would here enjoin one rule, which applies to every venesection, but especially to that made in pregnant women : perform the venesection while the patient is lying and her legs extended. This is the best means to prevent fainting (on account of the blood having an easier reflux), which is of great importance in pregnant women, for a stagnation of the circulation is always dangerous, as regards mother and fœtus.

But if it be owing to nervousness, which is recognized by the absence of plethoric signs, by the sensitive constitution, pale urine, etc., antispasmodics are proper ; among which, however, the hot ones, particularly opium, are to be avoided, or at least not resorted to, except in extreme necessity.

The cause is often only gastric, and then remedies to cleanse the intestinal canal are needed, carefully avoiding, however, all hot drastics, aloetics, since they are apt to produce abortion ; and cooling neutral salts, tamarinds, sharpened by senna, are preferable.

Finally, the effects of mechanical pressure can be prevented by a mechanical expedient—horizontal position. It is the principal means to diminish all these troubles in the last months of pregnancy. Apply also remedies to soothe or remove the effects, injections, purgatives in constipation, abstractions of blood in hæmorrhoidal and varicous complaints.

In obstinate constipation or retention of urine during the second half, we must be attentive to examine whether or not an inversion of the uterus is the cause, which case require the assistance of the obstetrician.

HEADACHE AND TOOTHACHE,

Particularly the latter, torment most in the first months. There is most commonly congestion of blood; therefore a venesection in the arm, the powder No. 138, a sinapism on the arm, and cooling purgatives afford the most sure relief. When the pains are violent, or a nervous state exists, give one dose of the powder every two hours, to which add half or a whole grain of hyoscyamus. As an external remedy cold water, taken into the mouth, also leeches on the gums are serviceable; and also the remedy No. 139.

VOMITING OF PREGNANT WOMEN.

It is one of the most common and troublesome concomitant complaints of pregnancy, especially in the first months, and sometimes through the whole period. It generally takes place in the morning and forenoon, sometimes, however, at all hours of the day. It sets in soon after conception, and is one of the most common signs of pregnancy; is insignificant and innoxious when it is not too violent. But when it becomes very violent and continues, then it may not only weaken and impair nutrition, but even give rise to hernia and abortion.

It is impossible to cure vomiting perfectly; for it originates from pregnancy itself. It is owing first to a sympathetic irritation, communicating by the fœtus to the uterus and the new life of this organ to the stomach; next, to local plethora of the stomach, caused by suppression of menstruation and the too little consumption of blood by the fœtus; and finally by the secretions of the stomach and the biliary system becoming frequently disordered by the new abdominal affections.

The treatment, therefore, must be confined to moderating its violence and duration, and art can indeed do much towards that end. First, a young plethoric person, who has always had copious menses, who now has a full pulse, must have the plenitude of blood diminished by a venesection in the arm, which alone will often procure relief and prevent dangerous consequences. When indications of impurities, tardy stool exist, use gentle purgatives and antiphlogistic remedies, and if all this be unavailing, and the person is nervous and sensitive, antispasmodics, par-

ticularly such as counteract the inclination to vomit. Experience has recommended the following as very suitable for that purpose: the most efficacious is River's potion, with a little hyoscyamus (No. 140), (it is better than the effervescent powder, since the effervescence of the carbonic acid gas might operate as a *pellens* on the uterus), drinking of a decoction of cream of tartar, elixir acidum aromaticum c. tinctura. ambrae (No. 141), embrocation on the epigastric region with spirit. matricar., bals. vitæ Hofmanni, laudanum, epigastric plasters of emplastr. arom. c. oleo cajeputi and opium, cataplasms of mint steeped in wine, emollient clysters. The latter are very important, particularly during the second half, when fæces enormously accumulate by the pressure of the uterus on the colon. This accumulation keeps up the vomiting and cannot be dislodged by a purgative. In such a case, order three or four emollient injections to be given every day for a continuance of several days. In obstinate cases of vomiting I have observed good effects from animal magnetism.

PREVENTION OF ABORTION AND PREMATURE BIRTH.

Abortus is most apt to take place in the third month. The precursors are: pain in the loins and in the abdomen, softening of the breasts, chills, cold in the back, sensation of pressure in the pudendum, urgency to urinate, discharge of mucus by the vagina—finally, when the abortion is near at hand, and can scarcely be prevented—slight sanguineous discharge from the womb. To these signs are added cessation of the motion of the fœtus after the fourth month.

The usual causes are: violent fright or anger, a fall, a push, over-heating, and taking cold, violent exercise, too frequent or forced coitus, fever.

The consequences are, besides the loss of the child, the risk of hemorrhages from the womb, sometimes also inflammatory affections, but particularly a remaining weakness of the uterus and a disposition to a repetition of abortion at the same time in a future pregnancy.

All must, therefore, be done to prevent abortion, and it can be prevented, if seasonable and sufficient attention is paid to the emergency.

The means for attaining this end are: the first and most important, without which all the rest are unsuccessful—horizontal position and complete rest of the body, contin-

ued for several days, immediately after the first precursor, until the signs have disappeared. The second is a venesection in the arm; and when too great debility forbids this (which, however, rarely happens), the application of eight to twelve leeches to the breasts, being a locality to which the most efficient derivation from the uterus may be made. Give at the same time the powder No. 138, and order the belly and sacrum to be washed with warm spiritus matricalis. In the spasmodic state of nervous persons, and when the pains are violent, an oily emulsion containing extract of hyoscyamus, one grain every hour, and externally embrocations of oil of hyoscyamus one ounce, tinct. of opium one drachm, curled mint half a scruple, are best.

Should gastric crudities exist, gentle cooling cathartics are of use.

The disposition to abortion may become a real disease, so that abortion takes place in every pregnancy at the same period. I know of no better remedy to counteract such a state, than Pyrmont water, used as a drink and bath, or similar martial waters; in short, iron, internally as well as in baths, which of course is to be used during the absence of pregnancy. During pregnancy such persons have to observe for the three or four first months the greatest repose, horizontal posture, light antiphlogistic diet; constipation of the bowels must be removed by injections, plethora by venesection in the arm; the belly and sacrum are to be washed daily with spiritus matricalis. Also zinc has been found particularly useful to prevent abortion, likewise a mixture of Haller's acid elixir, one drachm, essence of ambergris two drachms, thirty drops of which in a cup of water, to be taken three times a day.

CONVULSIONS OF PREGNANT WOMEN.

They break out either in the last months of pregnancy, or at the commencement of the pains and during labor. They are generally accompanied with loss of consciousness and a soporous state, and are apt to pass into complete apoplexy.

In the majority of cases, they arise from a sanguineous congestion of the brain, a general plethora, or are owing to an omission of venesection. The exciting cause is a violent excitement of the body or mind, a difficult parturition, or a faulty position of the child.

The treatment consists in a prompt derivation of the blood from the head by venesection, leeches, purgatives, cold fomentations on the head, sinapisms on the extremities, and when the accidents do not abate after the proper abstractions of blood and diminution of the pulse, the use of opium with calomel and a warm bath, must be resorted to. An examination must be made, to ascertain whether or not a mechanical impediment to labor exists, which must be removed; and in an extreme case, the birth must be accelerated by artificial assistance.

PARTURITION AND CHILDBED.

Parturition is the object and concluding act to which all the organic functions and efforts of the female tend. It must be regarded as the most important moment of a woman's life, not only as an act productive of a new being, but also as the most momentous crisis of the female economy itself. It possesses all qualities of crisis; as the restoration of equilibrium, secretion and excretion. The more complete it is, and the better attended to, the more perfect will be the health of the woman.

Characteristics of this State.

It is the most sublime act, and at the same time the most extraordinary catastrophe and revolution of organic nature. An operation in which the self-preservative and restoring principle, the sanative power of nature is most perfectly exemplified; and that which will render it ever wonderful is, how an act which is connected with the most dangerous accidents, the most extraordinary metamorphoses and the greatest peril to life is generally performed, even in millions of cases, without injurious consequences, still more, followed by a complete restoration to health.

The subject is worthy of our highest attention. The investigation of the pathogenetic state previous to birth, as well as of the pathogenetic state created by the very act of parturition, and of the institutions and crises devised by nature herself to guard against accidents, merit our best regard, in order that we may form a correct idea of the deviations and diseases which are likely to occur, and to appreciate them the better.

The following are the particular characteristics of parturition :

1. Plethora abdominalis, a natural effect of sanguineous plenitude, attracted hither by the formative process, a quantity which is no longer consumed, but is still increased by the sudden removal of the uterine pressure.

2. Abundance of plasticity and plastic lymph, which are now deprived at once of an organ and an object to act on.

3. Altered circulation and retrograde motion of the blood from below to above.

4. Gastric accumulations, especially of impurities which have been retained by the pressure of the last months, now suddenly become free, giving rise to a true "turgescientia sordium."

5. Vulneration, irritation, and debilitation (by hemorrhage). The act of parturition unites all the properties of vulneration, irritation, and bleeding; and every puerperal woman is to be regarded as a wounded one. Consequently there is a disposition to inflammation, but which is of an exsudatory kind, and likely to become asthenic.

The sole means by which provident nature effects this crisis, and causes this perilous state in millions of women to pass imperceptibly and easily into health, are two crises: the lochial flux and lacteal secretion, both derivatives of the abundance and plasticity of the blood and restoratives of the balance of organic action.

Treatment after Delivery.

Above all things, hold to the idea, that parturition and confinement are not diseases, but are natural acts, the most normal and necessary, for the happy termination of which nature has taken wise and wonderful care—a natural crisis. As a rule, therefore, nothing is wanted, but to abstain from disturbing the crises ordained by nature (lochia and lacteal secretion), and to guard against all injurious influences (taking cold, over-feeding, mental affection).

The following are the general rules for the treatment of the childbed state.

1. The whole term of confinement must be reckoned six weeks. Before that time, the organism, especially the uterine system is not entirely what it has been and ought to be.

2. The lying-in woman must constantly be observed and carefully attended to during the first twenty-four hours, lest she die by bleeding during sleep.

3. The first fortnight must be carefully attended to; that is to say, she must lie in bed, avoid taking cold, mental af-

fections, and dietetic disorders. 'Decubitus is required, in order to prevent prolapsus uteri and hemorrhages. It is also the period when puerperal fever is apt to set in.

4. Diet and treatment must be antiphlogistic during this period. Water gruel and barley-water, and panado are sufficient. To very weakly persons broth may be allowed a little earlier; but the days of lacteal fever, the first week, must always be respected.

5. Moderate temperature of the room, not too much bed clothing, and the greatest possible cleanliness are also principal conditions.

6. Cleansing of the primæ viæ is necessary to every lying-in woman, and best prevents puerperal fever. But be careful not to purge strongly within the first three days, for it might disturb the lacteal crisis. Give, therefore, in the first days, only a light saturation (No. 1), and an emollient injection every evening, in order to free the large intestines; but after the fourth or fifth day, a cooling laxative continued for some days. A spoonful of castor oil, or the mixture No. 6, answers this purpose best.

7. The child must be applied to the breast twelve hours after birth, and so continually applied for a fortnight, whether the mother will nurse it or not. Her own preservation requires this, in order to prevent puerperal fever and stag-nations of the milk.

8. Proper attention must be paid to the lochial flux, as being the second principal crisis, designed for the diminution of local plethora. A cup of chamomile tea occasionally taken, best subserves this end in common cases, and it most effectually mitigates at the same time, the after-pains.

9. In violent and very painful after-pains, an oily emulsion, which may be strengthened by a few grains of extract of hyoscyamus (No. 142 a.), is the best and safest remedy. Some recommend opium, which is, however, not to be approved of, is even dangerous, as it creates constipation, a state much to be guarded against, and increases the inflammatory disposition, always existing, and most to be dreaded.

PUERPERAL FEVER.

Phlegmasia exsudatoria abdominalis, puerperalis, Peritonitis puerperalis.

A lying-in woman may, like any other person, be affected with any kind of fever and inflammation ; such a one is during childbed, but not a childbed (puerperal) fever. Puerperal fever is a peculiar disease, distinguished from any other by particular symptoms, and by characteristics of its own.

Its distinctive symptoms are : immediately from the beginning, a violent pain in the abdomen, attended with a considerable distention of it, which is very apt to increase to a tympanitic tension ; and there is such sensitiveness, that the patient cannot bear the slightest touch, not even covering ; the pulse is very quick from the commencement ; there is great prostration and low spirits, suppression of the lacteal and lochial secretion, violent thirst, usually diarrhœa, with frequent urgency to stool, also vomiting.

It is rapid in its course, terminating fatally in three or four days. The favorable issue is either a perfect restoration ; or, what is more frequent, a metastasis, as a military eruption, a cerebral affection, milk abscess, leucophlegmasia. Dissection shows gangrenous inflammation of the peritoneum, sometimes also of the intestines or the womb, with an unusually large quantity of coagulable or perfectly milk-like lymph effused.

Genuine puerperal fever may prevail epidemically, become even contagious in houses where many lying-in women are gathered together. In some years it is rarely met with, in others a great many women are affected by it.

This fever occurs only in lying-in women ; its existence depends on the peculiar state of the human economy previous to, and after parturition.

Pathogenesis. The proximate cause is an inflammatory state in the abdomen, sometimes located more in the peritoneum, in other cases more in the intestines ; sometimes affecting all these parts together ; attended with a great disposition to a quick and large lymphatic exsudation into the abdominal cavity (*inflammatio exsudatoria*). But this local inflammatory state is of a particular kind, and is possible only to recently delivered women, in the first week of childbed, and therefore dependent on the peculiar state of the organism previous to, and after parturition. In the last months previous to parturition, the distended uterus presses

on all the systems of the abdomen, thereby impairing them and disturbing their action ; to this is added a double sanguification. The consequence is an atony of the gastric, sanguineous, and lymphatic systems of the abdomen, accumulation of bilious matters and impurities in the gastric system, frequently even hardened excrements in the colon, sanguineous and lymphatic plethora of the abdomen.

While the female economy is in this state and disposition, the violent commotion of parturition, an act very similar to vulneration takes place, exciting more or less an inflammatory state of the uterine and abdominal systems, but which, by two crises—the lacteal secretion and the lochial flux, is brought back to the normal state and has its balance restored. However, the following accidents may occur : suppression of the lacteal secretion, suppression of the lochia, taking cold, or over-heating by stimulant food, too hot regimen, overloading of the stomach, mental affection, laborious parturition with lesion. Under such circumstances the inflammatory disposition increases unto real inflammation, which, however, has a peculiar character, namely : it is located, 1, in an extremely impaired part (like an inflammation “post commotionem”), of a typhoid type, very liable to pass rapidly into a nervous or gangrenous state ; 2, it is attended with lymphatic plethora of the abdominal system, and consequently is much inclined to lymphatic effusion ; 3, it is accompanied with great accumulation of gastric impurities. This is the essential character of puerperal fever.

Therapeutics. The treatment may be prophylactic or curative. Reliance must principally be placed on prophylactic treatment. It consists in this : during the last months the patient must take daily exercise and procure regular stools (for the latter, electuarius lenitivum is best), and if she be young, and to a certain degree plethoric, she must be bled shortly before delivery. After delivery the infant must be applied to the mother’s breast, and she must herself nurse it for a few weeks, even when it is the intention not to continue nursing. She must spend the first nine days in her bed, and not leave her room before a fortnight has elapsed ; observe an antiphlogistic vegetable diet, avoid external cold and over-heating, and when she nurses her child, use gentle cooling evacuants, the best is citrate of potassa ; but when she does not nurse the child, after the third day, stronger cathartics, as sulphate of potassa (No. 142 b.), are to be taken, so as to produce several fluid stools every day.

The Curative Treatment.

At the first appearance of the disease, announced by bellyache with febrile motions, use cooling laxatives, injections, frequently applying the child to the breast, in order to keep up and increase the lacteal secretion; when the lacteal secretion has been suppressed, the same remedies must be used and dry cups applied on the breast, emollient cataplasms. In case the lochia should stop, administer borax, and inject emollients into the womb; if this does not suffice, apply leeches to the genitals; in evident gastric turgescence, an emetic of ipecac. When the disease increases, and the inflammatory state is more pronounced, a venesection must be made; should the pains continue notwithstanding, leeches are to be applied, or what is more efficacious, eight to twelve cuppings on the abdomen, an oily emulsion with aqua laurocerasi, and cooling purgatives, calomel, embrocations of camphorated oil and mercurial ointment with opium, emollient narcotic cataplasms, in short, the whole treatment of enteritis, having constant regard to the liability the disease has of passing into a nervous or putrid state. Should the first (nervous state) take place, valerian, musk, and opium; in the latter, Peruvian bark, camphor, and arnica must be resorted to. Gangrene of the uterus, indicated by putridity of the lochia, may set in, must not be lost sight of, and is to be counteracted principally by injections of arnica and cinchona into the womb. Every indication of a lacteal translation to the surface must carefully be promoted.

LACTEAL SECRETION AND ITS TREATMENT, IN CASES OF SUCKLING AND NOT SUCKLING.

I would enjoin the following rules in regard to this important function.

1. Before the time of lying in, the nipples ought to be prepared, and made fit for their office, which is done by placing over them little hollow shields, made out of an excavated nutmeg, or a thimble of wax or elastic gum. During the last months, they ought to be washed every day with French brandy (the best preservative against excoriation). If they are very much sunk in, the milk-pump may be used for drawing them out.

2. The child must be applied to the breast twelve hours after delivery, partly to promote the secretion of milk and

prevent metastases ; partly to accustom the infant to suck before the breasts grow too hard and large. I advise suckling of the child for the first fortnight, even when the mother is not to be the nurse. To do so is advantageous both for mother and child ; for the mother, because it is the best mode of relieving the breast ; for the child, because the mother's milk is the most appropriate nutriment of the first days.

3. Now, two cases may present themselves : the mother intends to suckle the infant herself. In such a case, the principal thing to be done, is, to apply the child frequently, and in order to promote and increase subsequent secretion, she may drink largely of fennel-tea, beer, and soups ; and she may be permitted to take substantial food earlier than one who is not to nurse. Or she is not able, or is not willing to suckle the child. In this case, three things must be done : the lacteal secretion must be prevented, the milk already in the breasts discussed and removed by discharge and derivation. The means for accomplishing these ends, are : the application of cotton fumigated with burning sugar and ambergris, gentle support of the breasts ; when the milk accumulates, it must be evacuated by drawing ; the diet must be meagre and watery, cathartics administered, and perspiration favored. A remedy particularly suitable for consuming and removing the milk is sulphate of potassæ (formerly termed *arcanum duplicatum*, No. 142, b.), one or two drachms daily, so that it produce several stools.

4. When swellings, pains, indurations of the chest follow, use warm emollient cataplasms ; to make milk flow, embrocations, and application of spermaceti and almond-oil, frequent sucking and pumping out, warm fomentations, and low diet.

In soreness of the nipples, a most tormenting evil, French brandy, cacao-butter, lime-ointment (No. 143), cacao-butter with zinc, powder of gum-arabic, 1 ounce, and flores cassiæ, 1 scruple, spread on the part may be used.

FLUX OF MILK.

Galactorrhœa.

Sometimes the lacteal secretion does not stop with the cessation of suckling, but continues to an inordinate

degree. This creates, besides its inconvenience, great weakness, even tabes.

The cause is either a too protracted lactation, or a non-return of menstruation.

The remedies are: to restore the catamenia, and to apply externally aromatic herbs, especially camphor, to the chest and in the axillæ; also carrot herb in the axillæ.

WHITE SWELLING OF LYING-IN WOMEN.

Phlegmasia alba dolens puerperalis.

Diagnosis. A white, rapidly formed, large leuco-phlegmatic, very painful swelling of the thigh, which sometimes extends to the whole regions of the pelvis and genitals, attended with febrile motions. It happens within the first fortnight after delivery, and lasts eight to fourteen days, and when relief is tardy, terminates in death by gangrene or lacteal abscesses.

It is an analogous disease to the puerperal fever. It consists in a lymphatic infiltration into the cellular tissue of the pelvis and thighs, the effect of an inflammatory state of the venous and lymphatic vessels of the pelvis dependent on pressure during pregnancy. It is puerperal fever without the peritoneum, as this one is phlegmasia alba within the peritoneum. The exciting causes may be the same as those which create puerperal fever; a suppressed lacteal and lochial secretion, taking cold, mental affections, gastric accumulation. Death is owing to lymphatic inflammation extending to the abdomen.

The treatment consists in removing inflammation as quickly as possible, and promoting absorption. The principal remedies are, first: the application of leeches to the thighs and groins, embrocations of mercurial ointment, vesicatories to the thighs kept in suppuration, cooling purgatives (sulphate of potassa), calomel, digitalis; externally dry cataplasms of discutient herbs; in violent pains, fomentations made of a decoction of hyoscyamus with a little saturnine water. In some cases, emetics repeated for a few days, are an efficacious remedy.

WHITES.

Leucorrhœa, Fluor Albus.

Diagnosis. Discharge of mucus from the vagina, of a white yellowish, or greenish color; puslike, thin and watery, or thick, gelatinous; mild (*fluor albus benignus*), or acrid and corrosive (*fluor alb. malignus, acris*). It may be permanent, or only periodical before and after the menstruation.

When this discharge is protracted or copious, but especially when it is acrid, it is injurious to the whole economy, and causes a pale color, a hysteric state, and bad digestion. When we meet with the latter symptoms, we must suspect the existence of leucorrhœa, and discover whether such is the concealed cause. It may end in a lingering fever or tabes. Particular attention must be paid to the possibility of a scirrhus of the womb being the cause as well as consequence of fluor albus. This is to be feared, when the patient feels pungent pains shoot through the pelvis, or boring violent pains and a fetid, sometimes a blood-colored discharge, already exist or subsequently appear. In such a case, or even when there is only a suspicion of scirrhus, exploration is indispensable.

(Syphilitic fluor albus is a symptom of syphilitic infection, and belongs to the head of *sypphilis*.)

Whites is one of the most protracted diseases, and hardly admits of a cure. It is most curable when it is a precursor of the first catamenia (of puberty), or a consequence of suppressed menstruation, when it is removed by the appearance of the catamenia. When it is hereditary, constitutional, or the effect of an unalterable mode of living, or a symptom of every menstruation, it is least curable.

Pathogenesis. The proximate cause is, as in all profluvia: either local irritation, or a local weakness, frequently both act simultaneously.

The remote causes are: most frequently a sedentary life, and eating largely of rich food, excess in warm drinks, especially of tea, fat, and rich milk; therefore it is more rarely met with in an active, industrious mode of living, in poor, than in an idle state of life. Farther, moist climate, damp dwelling (hence more frequent on the sea-coast); chronic suppression of perspiration, hence, may be due to too light dress; local debility from too frequent coition, parturition; also the bad habit of sitting over

warming-pans; increased and unsatisfied sexual instinct, excited imagination, sentimental erotic readings, masturbation, young widowship, syphilitic infection, metastases of all kinds, especially catarrhal, rheumatic, psoric, scrofulous, anomalous hæmorrhoids, mucous hæmorrhoids of the vagina, a vicarious secretion in suppression of menstruation, accumulations and obstructions in the abdominal viscera, worms, local stimuli, infarcts, polypus, scirrhus of the uterus, even ascarides. A lax, leucophlegmatic, lymphatic constitution, and watery blood, predispose to the disorder.

Therapeutics. The leading idea in the treatment must be to consider the disease as a catarrhus vaginæ vel uteri, and to act accordingly. Hence, it is evident, how absurd and injurious the usual routine is: to view the evil as merely local, and try to suppress the flux by merely topical means, such as injections and the like. What would be thought of a physician, who would treat coryza by mere topical means, cold water and astringents? And what would be the consequence? Remove therefore, above all, the causes. Too light dressing and sedentary life come first into consideration; in such a case, warm clothing and daily strong exercise are the principal remedies, and often perform a cure. Farther, gastric impurities, worms, abdominal obstruction, scrofulous and other dyscrasies must be attended to; physical and mental sexual stimuli must be shunned, tonics must be taken when general debility exists, and the menstruation be promoted. Of particular value are purgative, strengthening visceral remedies, especially rhubarb in small doses, aloes, bitter extracts, balsamic pills, guaiac with calomel and sulphuret of antimony. They are alone sufficient to effect a cure in many cases.

When the discharge continues after the causes have been removed, or when none can be found, and the disorder is merely owing to a local weakness, the direct, that is, the local treatment, may be commenced, beginning with internal specifics first, remedies which, by their particular affinity to the uterus, operate directly on it and on this anomaly of its action. Of that number are: balsam of copaiva, 30 drops three times a day on sugar, savin, rhubarb (one grain morning and evening), with prepared oyster-shells, mastic, terra catechu, alum (No. 144), cinchona, ratanhia, elm-bark, herba lamii purp. (both in decoction, one ounce daily), sulphate of iron, muriate of barytes, a long continued use of ferruginous water in small doses (a glass every morning), especially Pyrmont, Driburg, and Spa water.

Combine with the use of these medicines, external ablutions of cold water and lime-water, also tepid baths. This is sufficient in the majority of cases. It is only when this treatment proves abortive, that there is reason to suspect a high degree of local weakness, or organic disorder of the uterus, and then it is time to have recourse to more vigorous local applications in the way of injections. However, even here a graduation must be observed. Commence by cleansing, alterative, gently strengthening remedies, as lime-water, decoction of elm-bark, cicuta with laurel-water, calomel; after these, sulphate of zinc, corrosive sublimate in solution; finally, Peruvian-bark, oak-bark, alum, sulphate of iron, nitrate of silver. Farther, fumigations of balsamic substances, as mastic, benzoin, storax, baths of oak-bark, sulphate of iron, or chalybeate balls; also sulphur, sea and ferruginous baths.

BARRENNESS.

Sterilitas.

Pathogenesis. As little as we know, and ever shall learn of the mystery of procreation, so much is certain, that a sufficient degree of vitality, of excitability, irritability and productivity of the female organs of generation is requisite.

Besides the foregoing causes of sterility, there are the following:

1. Mechanical obstructions, which prevent the sperm from penetrating in the womb, atresia, callosities and a spasmodic contraction of the vagina.

2. Disorders of menstruation; absence of it prevents conception (*sine menstruâ nulla conceptio*); therefore the viragines (manly women), who never have catamenia, are barren. Profuse menstruation annihilates and washes the germ away (of that class are the imperceptible abortions which are renewed every four weeks).

3. Fluor albus, and concretions in the uterus.

4. What is called "cold temperament;" that is, a deficiency of irritability, plasticity, animal warmth, watery blood, phlegmatic temperament, lack of susceptibility.

5. Want of nourishment and grief may have the same effect; as also will the reverse, a too ardent temperament, excess of excitability and sensibility may prevent conception; the same is true of the crethic spasmodic state, which

makes the excitement during coition degenerate into spasm, even into violent pains (though productiveness may be so great in some, that neither insensibility, nor aversion, nor pain during coition, can hinder conception; of which I have seen instances).

6. Too frequent or forced coition, which makes conception so rare in prostitutes.

7. Finally, organic disorders of the uterus, scirrhusities, polypus, and dyscrasies, particularly affecting this part, as the scrofulous and syphilitic, though conception is frequently possible even in these states. Barrenness may therefore be absolute, relative, and temporary. A woman may be barren during a prevailing sickness, mental disposition, distress; not so at other times; she may be barren with the same man when the temperaments differ, at one time, not so at a later period. This is owing to the accommodation of temperaments by time, when one part is too ardent in proportion to the other, which decreases by years and is equalized. We have observed marriages barren for ten years, and longer, become prolific later in life.—Even change of climate, travels can contribute very much towards fruitfulness. Thus, women who are barren in the north, become mothers in the south.

Therapeutics. It is very important, though very difficult, to examine and discriminate, whether the fault of barrenness lies with man or with woman.

The treatment of barrenness itself, must first begin by removing the remote causes, the mechanical impediments, the amenorrhœa, fluor albus, dyscrasies, constitutional disorders; the cold atonic weakened state must be remedied by strong nutriment, tonics, excitants; the nervous spasmodic state by antispasmodics; the plethoric, phlogistic, by a moderate diminution of the blood, by limiting the frequency of coition, and doing away with unnatural stimuli. After this, the uterine system must be attended to, by respecting the indication, *to impart to the genital organs that degree of excitability and plasticity which is requisite for the procreation of a new being*; in short, to clear the ground and render it apt for fructification. When stagnations and infarcts of the uterus exist, which is recognized by the menstrea, before and after they appear, being attended with pains and spasms, by the discharged matter being mucous, or mixed with membranous and other concretions, and the lower abdominal region being distended, the uterus must be freed and cleared from those foreign substances, for which resolvents, bitter extracts, asa fœtida,

galbanum, aloes, soda (Carlsbad), even calomel and visceral clysters, and warm soap and sulphur baths are recommendable; most efficient are Ems and Wiesbaden springs.

The second indication is to *arouse the specific sexual action in the uterus*. This end is best attained by iron and baths, still more by thermal baths. Iron is undoubtedly the greatest remedy to create productiveness, and to increase the plasticity of the blood. Among the springs, I can praise most Ems (renowned for his *boy-well* already since ancient times), and Pyrmont. I have undeniable proofs of their efficacy. The former is more suitable to delicate nervous persons, and who labor under infarcts; the latter more to very debilitated, atonic persons.

Also, some secondary considerations may have an essential influence in this matter; the time when coition is performed, immediately after menstruation has terminated, during a joyful excitement, in the morning; position during coition in case of a faulty position of the uterus.

DISEASES OF CHILDREN.

This is a very important part of the practice of medicine; for one third of all diseases belong to the age of infancy, and they constitute a particular branch of the healing art, that requires a special study. One may be a very good physician for adults, but a very unsuccessful one in the treatment of children; for the difference does not lie in a diminution of the strength of the doses, but in a different semiology, a modified pathology requiring corresponding therapeutics; the character is quite different, and ought to be understood.

We, therefore, shall here treat of the diseases which occur in infantile age, and of the peculiar character which this age imparts to all diseases and to the whole practice of this period.

Characteristics of Infancy and its Diseases.

1. The essential character of this period of life is: an unfinished state of existence, a continual development of the yet incomplete economy. The first months after birth, the first year of life, may especially be considered as a continuation of generation, one half of which has taken place within, the other without the womb. New organs form, those already existing progress, are perfected, or altered; others disappear, entirely new spheres of existence are opened, first the sphere of atmospheric life, then that of the senses, and finally the intellectual world.—The life of a child is therefore not yet a normal state, but an effort to become so, a morbid state, a crisis, and must be considered and treated as such by the physician. Many a phenomenon, which we might consider a disease under other circumstances, is the effect and symptom of a continued critical operation of nature.

2. The first great step of infantile life is a transition from a dependent parasitic existence into an independent one. We cannot sufficiently admire the wisdom of nature, which has ordained this gradual transition, requiring the child to

remain, by suckling, an integral part of the mother for six months or a year, receiving from her vitality and nutrition. This period of transition, founded on the laws of nature, is of the highest importance, and exerts a decisive influence on the whole term of future life. Want of it is most unnatural, and cannot be made good by any thing.

3. The vital operations of infancy are more active than those of the adult. The circulation is more rapid, interstitial exchange of material takes place quicker, consumption and restoration are greater; hence diseases run sooner into danger; but their crisis and convalescence are also sooner attained. Hence also a great need of restoration by sleep, and the more so the younger the child.

4. Irritability and sensitiveness are greater. There is an especial preponderance of sanguineous life and productiveness; hence a great inclination to nervous affections, spasms and inflammations.

5. Predominance of vegetative life and nutrition, growth, increase, and formation. Hence the great importance of the digestive and assimilative functions, but particularly of the lymphatic and glandular system; hence the great disposition to diseases affecting these systems.

6. Unequal and disproportioned size and development of the organs, hence unequal distribution of the blood and humors. Brain, liver, and intestinal canal are particularly pathogenetic parts.

7. Importance of the periods of development. They may create diseases (often in appearance only) and remove them; especially the period of dentition, growth, and the 7th year.

8. The sympathies are numerous and strong, especially that of the stomach and intestinal canal with the brain, to which alone often the existence of various disturbances and maladies, even their fatal issue, are owing.

9. Infantile age may be divided into three essentially different periods:

The first, from birth to the end of dentition. It is a real continuation of generation, the time of development, the most imperfect, but at the same time the most creative, hence it is the most mortal. (The third part of all born die in this period.) However, it is a wonderfully restorative period, and terminates at the great crisis of dentition, which brings with it a new mental life.

The second, extends from the commencement of dentition to the seventh year; it is the termination of generation, the equilibrium is more perfect, there is less suscep-

tibility of diseases and less mortality, but a great tendency to inflammation, especially to croup and exsudatory inflammation of the brain. The seventh year commences a remarkable section. Croup, asthma acutum, and hydrocephalus rarely occur after this age. In this period generally the 6th part of all born die, so that the half of mankind die before attaining the 14th year.

The third, from the 7th to the 14th year, is one of the healthiest and least fatal periods of life.

Diagnostics in Children.

Diagnosis, on the whole, is difficult and is quite peculiar. For on one hand, we have not the aid of language or reason; a child is unable to describe its sensations; even the pulse is an unsure sign, on account of the great prevalence of irritability. On the other hand, the diseases, like the organism itself, are less distinctly characterized and defined.

The principal signs are:

The pulse. In the first year it generally beats 90 times in a minute; so that it is only when the frequency is higher we may presume fever.

Temperature. Increased warmth of the head and forehead, is a chief sign of fever. The same is true

Of thirst, heat in the mouth.

Want of appetite, is indicative of impurities in the first ways, or of fever.

The excretions, especially by stool, their color, consistence, frequency or deficiency; eructation, discharge of winds, vomiting, odor of the breath; state of the tongue; of the urine, its color in the first periods of infancy; open or dry skin, eruptions.

Condition of the abdomen, especially of the præcordia and hepatic region.

Respiration, coughing, rattling in the throat, hot breath, a chief sign of internal inflammation.

Crying. The only expression of the sensations, which a child is capable of uttering; we must, however, understand it and know how to interpret it. Much crying and restlessness indicate disagreeable sensations; crying and drawing the legs towards the belly, pains in the abdomen; crying and carrying the hands to the mouth, pains of dentition; crying in coughing, pains in the chest.

Altered voice, hoarseness.

Impediment in suckling and swallowing.

Sleep, too little or too much, quiet or restless, with convulsions and starting up, are in general indicative of nervous affections.

Therapeutics for Children,

Must be founded on the foregoing characteristics of infantile age. The leading principles are as follows:

As the diseases of children in the first periods of life have generally an indefinite and undefined character, the best course is to treat them according to the principles of general pathology and therapeutics. The most simple treatment is the best.

In treating diseases of children, we must be all fear and all hope: this is to say, we must always be prepared to meet with the occurrence of sudden and dangerous accidents; but we must not despair even in the greatest danger, since the creative power of the organism is so powerful at this age, and can do wonders at restoration.

A chief rule with us must be, not to do too much, not to be too active, for fear of the extreme irritability and sensitiveness. The practical rule: "Not to do harm in attempting to do good," is nowhere of greater importance. The greatest caution is particularly due to the doses; the smallest being the best. "Little, very little can do very much." This applies to diagnosis as well as to therapeutics. Very trifling causes may produce the most violent effects; as something acid in the stomach, or winds may produce convulsions. Hence it is that the weakest remedies, seemingly insignificant, may produce great effects; as magnesia, and phosphate of lime, which soothe convulsions. In short, nothing must be regarded as trifling in children.

In the first period of life the attention of the physician must always be directed, first, to the *primæ viæ*. Acidity, mucosity, overloading of the stomach, winds, accumulation of *fæces* in the bowels are the most frequent causes of morbid attacks in the first years. Therefore we must begin with magnesia, rhubarb, fennel seed (*vide* No. 256), and injections, as they give prompt relief in all accidents. By using these remedies at the onset of a disorder, we may prevent a most severe disease, which will often form if this timely assistance be neglected. Rhubarb is the chief remedy for infants. It does not only cleanse the first ways, but promotes also, what is so important here, the secretions of the liver and kidneys, and is not weakening as other purgatives are, but, on the contrary, it is possessed of a tonic virtue.

Next, the nervous system must be appeased and spasms prevented ; for which purpose nothing is needed but magnesia, prepared chalk, rad. pæoniæ, small doses of valerian, and emollient injections (vide No. 257).

Constant attention is to be paid to congestions to the head, which are likely to happen. They are recognized by heat of the head, redness of the face, a soporous or convulsive state. Derivations by the intestinal canal, injections, and in an obstinate case one or two leeches behind the ears (in the first year) are the best remedies.

Be very cautious in the use of debilitating remedies, especially of evacuants ; for a fatal exhaustion is apt to follow them in the first periods of life. This is especially true of the administration of strong emetics and cathartics. Even nitre is too debilitating for the stomach of little children. The same applies to the treatment of profuse morbid evacuations ; try to moderate them promptly.

Equally great precaution is needed in regard of excitant and all volatile remedies, which deeply affect the organism ; they are very apt to create dangerous congestions to the head. This is especially true of the use of opium, which, as a rule, never ought to be given in the first periods of life, for it may readily bring on apoplexy. This drug ought not to be used even subsequently, except in extreme danger of life ; as in diarrhœas, which cannot be stopped by any thing else, and also then only in the most minute doses, $\frac{1}{6}$ of a drop of the tincture of opium (1 drop triturated with a drachm and a half of sugar, and divided into 6 parts) ; $\frac{1}{60}$ grain is sufficient ; or what is better, let it be applied only externally, or by injections.—In general it is better to abstain from all kinds of narcotics, or when given let it be with the greatest caution ; for there is always reason to fear, that, while the formative process is active, they affect and disturb this important act (especially the organization of the nervous system), and become as it were incorporated with it, leaving consequences pernicious to life ever after.

The application of medicinal agents through the skin is of great importance in children, for in infancy the skin has a high nervous susceptibility as well as absorptive power, and many an injurious influence, as that of opium on the stomach and intestinal canal, can thus be avoided.

A child has less power to live on itself than an adult has. It consumes quicker and requires a constant supply. Therefore children require more sleep, more frequent nutrition ; to withhold food for a long time, even in diseases, is there-

fore not advisable. Air is particularly wanted, and the greatest care must be taken to provide it pure.

Great consideration is due to sympathetic connections and their effects in the economy; for, at no time is nervous sympathy as great as in infantile age. This is important, partly, because it interprets the phenomena and morbid accidents, especially as the cause must often be sought for in quite a different location, than that in which the disease is seated, as when the cause of the most violent cerebral affections may reside in the stomach; partly, for the treatment, since the great use of antistimuli and of the derivative method in the diseases of children rest on this observation, as when antistimuli are used by the skin and the intestinal canal. A merely emollient injection, an emollient poultice, and fomentations of milk on the abdomen or feet often work wonders. In this respect, we cannot sufficiently recommend emetics, not only as evacuants, but as the best antispasmodics, and as efficient to remove morbid sympathies between the stomach, the brain, and the lungs. There is little danger in their administration; for children throw up easily, especially when we use the linctus emeticus (vide No. 258).

Be always attentive to respiration and the voice, in order to discover in time the commencement of croup.

Finally, I add a general admonition. Do not believe every affection to be a malady. Many complaints are only symptoms of development, and are peculiar to this important process, which is not to be interrupted but only rightly guided. In children of more than 2 years of age, who are plethoric, well fed, and are good eaters, but especially in such as have a scrofulous disposition, the old maxim of our predecessors is highly important, and I can bear testimony to its utility: purge every 4 weeks by a dose of rhubarb or infusion of senna. In such children an abundance of undigested, unassimilated, excrementitious matter is formed, and if not evacuated, gives rise to many diseases, or at least obliges nature to throw it off by cutaneous eruptions, boils, etc. These evils, and even inflammations and congestions to the head, are prevented by such purgation, to say nothing of worms, which are readily generated, and require to be discharged. Even moral education is thereby facilitated, for I have found children become more gentle and flexible after such purifications. The great influence of abdominal accumulations on the character is a well-known truth.

*Regimen for Children.**Physical Education.*

The fundamental principles must be: As the life of the child in the first period is a continued generation and development, it is most important that these acts should not be disturbed. Regard the child therefore in the first six months as a vegetative being, which prospers best in a state of rest and sleep.

Try to effect the development of all the systems and faculties as uniformly and successively as possible. No impediment, no disturbance must be caused, nor premature activity and development; especially the premature excitement and development of the sensual and mental faculties is to be avoided.

Try to accustom the child gradually to the external influences, even to the injurious ones, to which it will be exposed during life. This is the system of a reasonable hardening. This purpose is answered by daily washing the whole body with cold water, which may be commenced as early as the sixth week after birth, gradually changing the water from tepid to cold. It is the most effectual remedy to invigorate the nervous and cutaneous system, and to guard against nervous as well as catarrhal and rheumatic complaints. The same applies to the daily enjoyment of free air.

In general, air and water, as they are the fundamental elements of organic life, are also the principal elements of a reasonable physical education. Daily washing of the whole body, a tepid bath a few times a week, daily exposure to free and pure air, and its admission into the dwelling, especially into the sleeping room, are chief requisites.

Cleanliness is a main condition of a good education. Pure air, removing all pernicious exhalations from the nursery, cleansing the body by washing and bathing, frequent change of linen and bedclothes must therefore be observed.

Sleep during the first 6 months is a sacred sleep. It is the laboratory of ever creative and formative nature. The infant must sleep that the plant may prosper, and must in no way be disturbed. The younger the infant, the more sleep it requires, and it must be left to the instinct of the child itself to shorten sleep.

Food must be digestible, assimilative, nourishing, and appropriate to the constitution of the child, and according

with its various periods. It is, therefore, most proper in the first periods of life, the period of transition from the parasite to solitary existence, that it be prepared by another being, and full of her vital power, a mother's or a nurse's milk drawn from the breast (the vital fountain); when this cannot be had, use boiled milk diluted with half the quantity of water. It is best to give nothing but milk during the first year; after the first 6 weeks it may occasionally be thickened with meal or biscuit, administered first once, then twice, and finally three times a day. To feeble children weak broth may be given after the first six months; animal food must not, however, be much used before the dentition, since it is apt to inflame the blood and to give rise to inflammatory accidents. No solid food previous to completed dentition. After this period up to the seventh year, milk every morning and evening, for dinner a little meat, with easily digestible greens, carrots, scorzonera-roots, spinage, mashed potatoes, fruit; no fat, no cakes, no confectionary, no spices, no coffee; water and milk as beverages, wine is not allowed. It is incredible, what advantage it is, to be accustomed to water-drinking. It is the surest means to preserve a good stomach, which can bear and digest every kind of aliments, and an unimpaired digestive power; whereas on the contrary, premature drinking of wine deprives us of this advantage by over-irritation, and weakens instead of strengthening.

Finally, premature exertion of the mental faculties must be avoided. The body must first have acquired its energy and development, lest we disturb them and predispose to nervous diseases, even to stupidity.

It is also an important rule to lead the attention of the children not too much to their physical condition, nor to make them anxious or careful of it; but rather to accustom them to disregard little evils, indisposition, and pains.

DISEASES OF THE NEW-BORN AND INFANTS.

Transition from the womb into the world of light and air, from a parasitic existence into a solitary one, is so important and extraordinary a step, that we are rather astonished at, and admire the wisdom of nature, seeing that so many children perform it without suffering, than that some become affected with disease and die in the attempt.

Form a correct idea of this transition and the state of a new-born child. Transition into an entirely new world;

exposure to influences entirely novel ; unusual stimuli and potences, light, air, change of temperature, irritation of the senses, clothing ; further, instead of the hitherto dependent existence, a solitary one takes place, living on and consuming itself, digestion, the preparation of the food, sanguification, generation of its own warmth. Finally, an entirely new circulation, new functions, as that of respiration, the most important of all vital operations ; secretions, and excretions.

Generally, nature alone conquers and succeeds in equalizing this first step into life ; and wants nothing but a uniform support of warmth, a mother's or a nurse's milk ; and rhubarb, mixed with a carminative (vide No. 259), in order to evacuate in the first days the mecony, continued until the discharged matter ceases to be black. By this practice jaundice, bellyache, acrimonies, even more dangerous evils are prevented. When infants cry and draw their legs to the belly, indicative of abdominal pain, the infantile powder and an injection of a decoction of chamomile and gruel with a little oil gives the surest relief.

The diseases which occur in the first days after birth, some of which, as trismus and erysipelas, are highly apt to endanger life ; others, as ophthalmia, threaten blindness ; are the following :

ASPHYXIA.

The first accident which endangers life on its very entrance is asphyxia.

Diagnosis. Cessation of circulation and respiration, and motion. It is often a continuance of the fœtal state (hydatidic life), a failure of the commencement of atmospherical, independent existence.

General causes : congenital debility, difficult parturition, violence committed during labor (by the forceps), the umbilical cord wound round the neck, accumulation of mucus in the throat, too rapid separation from the mother (by tying the navel string), too hot or too cool surrounding temperature. The state may differ according to the causes and so will the treatment.

1. Real debility, vital debility. Pallor, absence of any sign of life.

In such a case excitants ; as a warm bath, insufflation of air into the mouth and anus, injections, cold water or wine dropped on the pit of the stomach and chest.

2. Plenitude of blood in the heart and brain ;—recognized by a red bloated face ;—causes : lengthened parturition, coiling of the navel string round the neck, tying it too soon.

In such a case blood (one or two spoonfuls) must be abstracted from the umbilical cord.

3. Suffocation, mechanical impediment to breathing made by mucus. The child endeavors, but cannot cry, there is hoarseness, and rattling is often heard in the throat.

The only salvative is an emetic, after which come excipients.

The chief remedies in every asphyxia neonatorum are : animal bath, which consists in the close application of the child to its mother, warming it on her bosom, and a proper covering.

ICTERUS,

Arises from retention of the meconium in the intestines, and of bile in the liver ; the meconium having been absorbed into the blood, and from the unaccustomed impression of air on the skin.

It is without danger, and generally passes away in a few days.

The best medicine for it is the linctus of rhubarb (vide No. 259).

EXCORATIONS.

Chafing between the legs and arms is a very common accident to infants during the first weeks of their life. It usually yields to cleanliness, to frequent washing with fresh water, and the use of some drying powder continued for a few days. Salves and greasy substances must be avoided ; they are apt to cause ulceration ; topical repellent remedies, as lead, which may produce fatal spasms, are also objectionable. In order to prevent adhesions, order the parts to be strewed with lycopodium. Should this simple treatment be of no avail, and the excoriations pass into ulcers, becoming deeper and phagedænic, an internal dyscrasy, scrofulous or syphilitic, is to be supposed, the latter either in the child itself or in the nurse ; and cautious use of mercury is the only and the surest remedy ; commence with *æthiops mineralis*, and if this do not take effect, give mer-

curius solubilis Hahnemanni, $\frac{1}{10}$ grain a day, along with magnesia. In obstinate ulceration zinc-ointment is the best external application. Sometimes the excoriation of the anus is of an aphthous character, and attends thrush in the mouth. This requires the treatment of aphthæ.

THRUSH.

Aphthæ Infantum.

Diagnosis. Spongy little ulcers in the mouth, throat, and anus (vide *aphthæ*).

They often appear during the suckling of infants, and generally in consequence of a neglect of cleanliness. Frequent washing of the mouth, and on the least appearance of them, rubbing them with fine pulverized sugar prevents and heals them best in the commencement; let also laxatives be given. When they increase, borax (vide No. 260) will cure them.

OPHTHALMIA, BLEPHAROPHTHALMIA.

A redness of the eyelids with discharge, appearing immediately after birth, or a few days later, but always within the first eight days. The phenomena increase in a few days, especially the discharge of a yellowish-white puslike matter. The eyelids swell and are glued together by the matter. The duration varies from 8 days to 3 weeks. The issue, if proper assistance is not procured in time, is opacity of the cornea, suppuration, adhesion, and destruction of the eye.

Causes: Too bright light in the first days after birth; fluor albus of the mother, neglect of cleansing the eyes and the whole body, dust, impure air, too warm covering of the face, meconium, congenital dyscrasy, scrofulous or syphilitic.

Therapeutics. Preservative treatment. Keep the infants away from too bright a light during the first days; the eyes must be carefully and frequently washed. General cleanliness and pure air; the meconium must be purged off.

Curative treatment. The principal things to be done are: constant and frequently repeated fomentation and washing of the eyes with tepid water and milk, or elder tea, by means of a sponge or rag, to prevent the accumulation of

acrimony under the eyelids. In the same way a weak solution of vitriol or lead may be frequently used; in obstinate cases a very weak solution of corrosive sublimate, a collyrium of zinc and mercury on the eyelids. Give at the same time internally pulvis puerorum as a laxative; and should the complaint not yield, add $\frac{1}{12}$ grain of calomel to it, twice a day. Tepid baths.

ERYSIPELAS.

Induratio Telæ Cellulosæ.

Diagnosis. Within the first 6 or 8 weeks, fever, thirst, red spots appearing, first on the extremities, then on the abdomen and genitals, with induration of the skin. Sometimes the induration is unaccompanied with fever, heat, redness, but rather with increased cold. The infant is unable to cry; utters only dull sounds, on account of the induration of the maxillary muscles. Finally, the skin becomes as dry as wood.

The duration of the disease is 4, 7, or 14 days. Death ensues by gangrene or by suffocation. Dissection shows an effusion of yellowish lymphatic fluid in the cellular tissue, swelling of the glands, of the lymphatic vessels, and of the liver.

Pathogenesis. Taking cold, neglected cleansing of the intestinal canal, impurity, dyscrasy of the mother.

Therapeutics. Cleansing of the primæ viæ by evacuants and injections, warm baths, small doses of calomel; externally powder of bean-meal, elder flowers, and roses.—As soon as the redness changes to livid, or spasm sets in, an infusion of valerian, flores zinci, and musk, are to be administered; externally fomentations of cinchona and arnica are to be applied.

TRISMUS ET TETANUS.

Diagnosis. These affections happen only in the first days of life. The child cries, wants to suck, and is not able; the milk chokes it, and it is returned. On examination, the masticator muscles are found stiff, the lower maxilla cannot be depressed; the jaws gradually close, the abdomen swells, the whole body stiffens, and an apoplectic death follows.

Duration is from two to four days. The disease is, in most cases, incurable; mortality is in proportion of one to fifty.

Pathogenesis. Vitiated milk, accumulation of meconium, confined vitiated air, local irritation, especially from the navel-string being too closely tied, taking cold.

Therapeutics. An emetic and change of milk, injections and warm baths must immediately be resorted to; internally, zinc (No. 261), and linctus (No. 262), is to be given. I once succeeded in saving a child by these united means.

The ointment, No. 263, is to be rubbed into the gums, spine, and abdomen. If this is unavailing, try injections, with six drops of laudanum, every four hours, and frictions of ointment of cantharides on the back and chest.

ASTHMA THYMICUM.

Diagnosis. Attacks of short whistling, imperfect inspiration; sometimes a complete stoppage of respiration; spasmodic motions of the limbs, cold extremities, red face; these symptoms last for some minutes and then pass off, leaving the patient perfectly well and breathing freely. Children are liable to this complaint from the first weeks to the second year. The attacks most commonly happen at the time of awakening in the morning, or after excitement and anger. They may, though rarely, terminate in fatal suffocation, but more frequently they are free from danger, gradually decrease, and finally cease entirely.

The cause seems to be a too large and firm thymus, and its tardy absorption, connected with great irritability and sensibility of the pectoral nerves.

A cure, therefore, can only take place by a gradual diminution of this gland, an operation which is the work of nature. Art can do nothing more than promote this process by low diet and frequent purgatives; and, as a palliative, diminish the spasmodic action of the pectoral nerves and fits of spasm. This is best effected by phosphate of lime, valerian (*pulvis antispasmodicus*, No. 257), small doses of zinc, and, in more violent degrees, musk and warm baths.

SYPHILIS.

Diagnosis. Ulcers or eruptions which exist at the time of birth, or come on a few days after, the parents being evidently infected with syphilis.

Therapeutics. The treatment must be mercurial, but in the mildest forms and doses. *Aethiops mineralis*, half or one grain a day, along with *pulvis puerorum* and baths, are generally sufficient; in obstinate cases, *mercurius solubilis Hahnemanni* or calomel is to be administered. If a syphilitic mother nurses the child, she is to undergo the same treatment. Syphilitic ulcers in the mouth of the child may be moistened with a diluted solution of corrosive sublimate and lime water ($\frac{1}{4}$ grain of corrosive sublimate to three ounces of aqua calcis).

DIARRHŒA,

Is one of the most common accidents of this period. It may be attended with or without pains, which are recognized by the child drawing its legs up to the abdomen. It is generally without any danger, is even salutary, and must not be stopped. It becomes dangerous only when it causes exhaustion by its copiousness and long continuance, or when it is suddenly stopped.

The most common cause in suckling infants is acidity in the first ways, or taking cold; when older, irritation by dentition, overloading of the stomach, also worms. Frequently returning diarrhœa creates weakness of the digestive organs, and thereby a disposition to its return. The worst cause is obstruction of the pancreatic and intestinal glands (vide *Atrophia*).

The treatment depends altogether on the causes, which are :

1. *Acidity.* Is recognized by green stools, having the appearance of chopped eggs, and the sour breath of the child. Such a case is promptly remedied by magnesia, with rhubarb (*pulvis puerorum*), and, if this is ineffectual, by *lapides cancerorum* (No 264). When the bellyache is violent, an injection of chamomile tea, with gruel, and a teaspoonful of oil gives relief. When the diarrhœa ever and anon returns, the cause lies in the food, which inclines too much to acidity. If the child is at the breast, the nurse must take more exercise, eat animal food, and take the milk-powder (No. 265). When this course will not do, change the nurse. Diarrhœa is more frequent in dry nursing, when faulty diet, acescency of the aliments, and using milk or gruel kept too long are the causes. This must be carefully attended to.

2. *Irritation caused by dentition.* It is recognized by the

respective signs (vide *dentition*), and the stools generally being watery. If the diarrhœa be moderate, do not interfere. It is the best derivative from the head and preservative against dangerous accidents, as spasms, fever, &c., and saves the use of purgatives. But when it becomes violent, nothing else can be done than to moderate the irritation; for we cannot do away with the stimulus itself. This end is usually attained by absorbents and mucilages, as prepared chalk, or pulvis puerorum, in small doses; or the antispasmodic infantile powder (No. 257), salep, mucilaginous injections. But if it becomes so violent that spasms set in, then strong astringents are needed, the surest of which is opium. The greatest caution, however, must be observed in its use; and I cannot sufficiently inculcate prudence; for if the dose is only a little too strong or improperly prescribed, it will create a sudden stoppage, which may be followed by instantaneous death, in consequence of apoplexy. For, in the first place, this immoderate diarrhœa may be the effect of the dental irritation, accompanied by too great a sanguineous congestion to the brain, to which are also due the concomitant nervous attacks. It is, therefore, not owing to weakness. It may easily be conceived, that opium, given in such a state, must produce apoplexy. This must be presumed to be the case in a plethoric well-fed child, or when the head is hot and the face flushed. The first thing to be done is to apply two leeches behind the ears, after which the diarrhœa will often cease of itself; or, if that does not suffice, we may have recourse, with safety, to laudanum.

The second case is when no signs of congestion are present. The child is not plethoric, but rather weakly and ill-fed, and nervous fits set in. It allows opium to be administered immediately, but only in the most minute doses, for a small dose is sufficient to attain the end sought, and avoids the injurious influence on the brain. It is to be given as directed in No. 266. Commence by giving one of these powders (containing $\frac{1}{4}$ drop or $\frac{1}{40}$ grain of opium), and wait for the effect, which often suffices to moderate the discharges; repeat it only when they again become frequent. But if the first dose takes no effect, give a second powder four hours after, and continue so until the violence of the diarrhœa is diminished, when the use of it is to be stopped, or longer intervals made. Give, at the same time, an injection of starch, of salep, rice, or egg-water; and make an embrocation of the ointment, No. 267, on the abdomen. In great weakness and continual diarrhœa

the simultaneous use of extract of cascarilla (No. 268) is an excellent and really a specific remedy. Also warm baths are of great use.

3. Finally, merely a cold can be the cause, owing to too light clothing, lying exposed during the night, leaving the infant wet; causes into which the physician must particularly inquire, since they are often totally disregarded. In such cases, wrapping the belly in flannel, a warm regimen, elder tea, and injections of starch generally are sufficient for a cure.

Does diarrhœa become chronic with children, or does it return on the least occasion, the continued use of extract of cascarilla is the best remedy; besides warm baths, covering the abdomen and back with flannel, embrocations of the strengthening ointment, in both regions, warm baths with chamomile, strict animal diet. In children of more advanced age, acorn coffee is also recommendable.

One cause more of diarrhœa remains to be mentioned, which sometimes occurs in children, and calls for our attention. Softening of the membrane of the stomach, which may increase to perforation. Its signs are: sudden appearance, rapid decay of the countenance, and quick emaciation, discharge of mucous water, sometimes also vomiting of acid-smelling matters, of food, frequent whimpering, inflation of the epigastric region, coma; pulse extremely quick and small, much thirst. The best treatment is, application of two or three leeches to the epigastric region, warm fomentations of a decoction of balm-mint, elder-flowers on it, tepid baths twice every day; internally a teaspoonful of a mixture of aqua chlorin. in six ounces of water, with mucilage of gum arabic, to be taken every two hours, mucilaginous injections, milk as a beverage; cold fomentations on the head.

VOMITING.

Vomitus.

The principal rule here is also: *Vomitus vomitu cūratur.* In most cases the vomiting of children is nothing but a salutary attempt of Nature, to rid herself of injurious matters contained in the stomach. It is, therefore, best to promote vomiting, so as to attain that end. In little delicate infants, frequent drinking of chamomile tea, and a teaspoonful of oxymel scilliticum is sufficient. In more

grown infants, a teaspoonful of the linctus emeticus. After vomiting a few times, follow up the treatment with rhubarb or pulvis puerorum, which will appease the throwing up and evacuate the remaining impurities by the intestinal canal; at the same time give mucilaginous beverages, and when the vomiting is violent and the bowels constipated, a mucilaginous injection.

But never forget that vomiting may have important and remote causes. The following cases deserve attention. If vomiting is attended with fever, the epigastric region distended, and painful on the pressure, causing the child to cry, an inflammatory state of the stomach is to be feared; for which the application of some leeches to that region, and the use of mucilaginous beverages and gentle purgatives are required. When fever is present with sopor and costiveness, vomiting is sympathetic of an inflammatory state of the brain, which must be removed. Does it return chronically, it may point to a chronic affection of the head, or softening of the stomach, also to worms.

NERVOUS ATTACKS, SPASMS, CONVULSIONS.

Eclampsia.

In all spasms and convulsions of infants we are to look particularly to the cause. It lies most frequently in the stomach and intestinal canal. Acidity in sucklings, overloading, sordes, worms, constipation of the bowels, even mere accumulation of winds may produce them. In such cases, cathartics, injections, absorbents (magnesia, lapid. cancror.), also the very efficacious antispasmodic infantile powder (No. 257), and carminatives are the best means of relief; vomits, when they are indicated. I have seen in the most violent and continuous convulsions, with sopor apparently apoplectic, after all antispasmodics had been used, and when it was ascertained that an overloading of the stomach had preceded, one single emetic immediately and completely remove spasm and sopor, and restore perfect health.—At a later period, the irritation of dentition may be the cause (*vide dentition*). In this and also in other cases, not seldom occurring, spasms are owing to sanguineous congestion or inflammatory affections of the brain, which are recognized by the redness of the face, heat of the head and forehead, and a soporous state (*vide hy-drencephalon acutum*). Such a case calls for the applica-

tion of a few leeches on the temples and behind the ears, and for purgatives and injections. When signs of congestion are absent, in weakly, nervous subjects, when the spasms continue, after the removal of the gastric causes, the use of direct antispasmodics is needed, of which the animal earths, flor. zinci, valerian, clysters, antispasmodic embrocations, and tepid baths are the principal ones to be mentioned.

Be cautious in using stronger excitants, for they are likely to create over-irritation and apoplexy. Only in extreme cases resort to musk and opium; the latter is best used in injections, and in minute doses.

FEVERS.

Febres.

Diagnosis. Thirst, heat in the mouth, hot breath, hot forehead, accelerated pulse. These signs suffice; for the pulse is fallacious in children.

Pathogenesis. The causes are usually a gastric, a catarrhal, or a dental irritation; therefore, in slight cases, nothing more need be done than to give a few doses of the infantile powder, and to confine the child to the room. Should this treatment fail, distinguish the different species of fever.

1. *Gastric Fever*, the most common in children.

Diagnosis. Want of appetite, nausea, eructations, bad breath, furred tongue; also spontaneous vomiting; frequently there is rattling in the throat, and oppression of the chest. Sometimes slight convulsions, particularly, starting up during sleep.

Therapeutics. Commence by giving the linctus emeticus, until three rejections have been effected (in case of constipation an injection must be previously administered), then injections and a purgative, antiphlogistic linctus, No. 269. No broth, no eggs.

In all fevers of children, when they are accompanied with an aversion of food, I advise the linctus emeticus, at the commencement. It will frequently annihilate the fever at its very origin; it will give to the disease and subsequent treatment a more favorable turn, even if the fever be premonitory of an exanthema.

2. *Cold in the head, Catarrhal Fever.*

Sneezing, discharge from the nose and eyes, cough, hoarseness; in infants there is commonly a rattling in the throat, because they cannot throw up the phlegm.

In this fever also it is best to commence the treatment by the linctus emeticus, partly in order to evacuate the gastric irritants which are generally present, partly to free the lungs from phlegm, partly to prevent croup. After this, an antiphlogistic diaphoretic linctus (No. 270), gruel with sugar-candy, and occasionally light elder-tea.

3. *Fever from Teething.*

Fever with all the signs of dentition (vide below).

4. *Worm Fever* (in children of more advanced age).

Fever with verminous symptoms, especially bellyache; a distended but not hard abdomen.

Antiphlogistic treatment, joined to the palliative method of cure of worms, especially milk taken internally, and by injections; oily remedies, mercurial water; calomel (vide *helminthiasis*).

5. *Inflammatory Fever, Pectoral Fever, Brain Fever.*

An inflammatory local affection of a noble viscus, especially of the lungs (*pectoral fever*), and of the head (*brain fever*). The first is recognized by a short rattling respiration, with a constant irritation, producing coughing; and constant crying (evidently caused by pains): the latter by a soporous state, and occasional convulsions. Local inflammation may also be generated in the abdominal viscera, especially in the liver, which is recognized by distention of the abdomen, heat at the part affected, and the expression of pain or pressure. The before-mentioned linctus, mixed with half a drachm of nitre; the application of some leeches on the chest, head, or abdomen; small doses of calomel; injections; when sopor continues (*hydrocephalus acutus*), cold fomentations on the head are of use. In pulmonary inflammation, when the above-named remedies are unavailing, and the rattling threatens to suffocate the child, the linctus emeticus, sulphur antimonii aurat. in small doses, triturated with sugar, may be resorted to.

In abdominal inflammations apply, besides leeches and general antiphlogistics, fomentations of warm milk and tepid baths.

But even in the apparently cerebral and pectoral affections of children, I cannot too strongly recommend attention to the probable existence of a gastric source. I have seen children lay for days in a soporous state, and all antiphlogistic remedies proving useless, when, finally, a single emetic has removed the whole disease. It was ascertained that a mere surcharge of the stomach with indigestible food was the sole cause of sopor and cerebral affections.

6. *Exanthematic Fevers* (see *Variolæ, Morbilli, Scarlatina*).

They hardly admit of recognition in the first stage ; and it is best to treat them according to general rules, and, particularly, not to neglect cleansing of the intestinal canal and the stomach by emetics.

DIFFICULT TEETHING.

Dentitio difficilis.

Dentition, by itself, is not a disease, but belongs to the natural developments, as birth does. But, as parturition by accidental and accessory causes may bring on maladies and danger to life, so may dentition. Thus it becomes one of the most frequent causes of the diseases of children, to which the physician cannot too earnestly direct his attention.

Diagnosis. The period of life (from the fifth to the twelfth or fourteenth month), the infant salivates much ; constantly carries things to its mouth, on which it may bite ; the mouth is hot, likes to have it touched ; frequently laments and cries ; the gums are swollen.

At the same time the following concomitant symptoms appear : most frequently there is diarrhœa ; in some there is costiveness ; fever, cutaneous eruption, heat of the head, coughing, rattling in the throat, difficulty of breathing, spasms, convulsions, local inflammations, especially of the brain and of the lungs. The accidents cease and return periodically ; cease entirely when the tooth has pierced the gum, but when the tooth has not pierced, they become more violent, and end fatally by convulsions, apoplexy, and suffocation.

The most favorable symptom is diarrhœa. It serves as a natural derivative, and prevents fever, spasm, cerebral affections, and all other dangerous accidents.

Course. Dentition commences about the fifth month, by an internal development at first, which is imperceptible externally. The tooth grows in all its dimensions, creating irritation by its pressure within the maxilla. This is generally made known only by increase of the salivary secretion; but it also frequently excites very violent consensual accidents. Next comes the cutting through of the teeth; the incisors appear first, then the first grinders, afterwards the eye-teeth (*dentes canini*). This process generally commences at the seventh up to the twelfth month, in rare cases earlier, even before birth. Tardy dentition is always better than too early.

Pathogenesis. It is not only the cutting of the teeth, but the acquisition of language, and its associate reason, the first appearance of mental existence,—the greatest revolution in life,—which are the causes that render this period so important and dangerous, and give particularly rise to great congestion to the brain.

The *effects* of dental irritation are double,—local and consensual. The local effects are: inflammation, swelling, pains, salivation, trismus, even sometimes suppuration and gangrene. The sympathetic effects are: first and most frequently, irritation of the intestinal canal; diarrhœa, even discharge of blood (teething dysentery), sometimes obstruction,—ileus; irritation of the vascular system,—fever; irritation of the skin,—eruptions; irritation of the chest,—cough, accumulation of phlegm, rattling; of the mucous membranes,—ophthalmia, otorrhœa; of the nervous system,—spasms, affections of the brain.

The *accessory* causes, which render this development difficult and make dentition a disease, are: *the form* of the piercing tooth; the eye-teeth, therefore, give most trouble, since they are pointed and increase conically in thickness, first break and then keep continually stretching; *too large a number* of teeth cutting at once, which may be particularly accelerated by fevers, as by exanthematic fevers (measles and small-pox may thereby terminate fatally); the *complication of other diseases*; and, finally, the *constitution*, the individual as well as the general (scrofulous, rachitic nervous constitution renders dentition difficult). Difficult dentition may, therefore, prevail even epidemically.

Therapeutics. The irritative, the exciting cause, the cutting tooth, cannot of course be done away with. Therefore, nothing can be done but appease the effects of the irritation,—the spasms, congestion, and thereby prevent danger.

The principal means for accomplishing this end is derivation by the intestinal canal (a remedy which Nature herself indicates by diarrhœa) by gentle laxatives and injections. In congestions to the head, one or two leeches on the head; in nervous irritation, spasms—flores zinci, valerian; when they appear very intense—musk, tepid baths, antispasmodic injections; locally, means which soften and wear away the gums, as by chewing marshmallow root and similar substances. In an extreme case, when the point of the tooth is still retained by a tender skin, cutting of the gum may be resorted to, but not too early, since this might rather prevent than promote its breaking through.

CUTANEOUS ACRIMONY, BILES, CRUSTA LACTEA, SCALDHEAD.

These disorders occur frequently in children. Often they are owing merely to abundant, especially too nutritious (animal) food, to plethora, or to injurious acrid and irritative aliments. They may also be caused by neglect of cleanliness, by corrupt, moist air, too warm regimen. They may, however, also be a symptom of a scrofulous diathesis.

In common cases nothing is wanted for a cure but regulation of diet, diminution of food, avoiding all fat, acrid, salted, heating meals, living on vegetables; cleanliness, frequent change of linen and air; tepid bran baths, the use of rhubarb and magnesia, or pulvis puerorum, along with infusion of pansy, continued for some time. If the complaint does not yield, add a few grains of aethiops mineralis ($\frac{1}{2}$ grain for each year of the child's age); it generally suffices. The doses of the powder must be made so as to purge several times a day. In very obstinate cases add (instead of aethiops) Plummer's powder (calomel, sulph. antim. aurat. $\frac{1}{3}$ or $\frac{1}{2}$ grain of each every twenty-four hours), and sassafras-tea (No 271). When the disorder is of a scrofulous nature, which is recognized by the symptoms of scrofula, especially by glandular swellings on the neck co-existing, the treatment of scrofula must be pursued (vide *Scrophulosis*).

The same treatment is the best for crusta lactea and scaldhead. In the first case, when it is obstinate, the nurse must be changed. In tinea capitis the hair must be cut, but not too short, and frequently combed and washed with tepid soapwater.

The use of external topical remedies is in general wrong,

for they are apt to produce a retrocession and metastasis of the acrimony to noble parts ; while the use of the above remedies is sufficient in most cases (vide *Tinea*).

In obstinate cutaneous diseases of children at the breast, the case must always be investigated, to know whether it be not owing to a concealed syphilitic dyscrasy of the nurse.

CROUP.

Angina polyposa, membranacea, Laryngitis exsudatoria.

Diagnosis. Hoarseness, short, difficult respiration, accompanied by a whizzing, or whistling, or rattling sound, cough with hoarse, whistling, croaking, barking tone ; when the oppression of the chest increases, the child makes attempt to stretch the throat and extend it upwards (not to shorten it by bowing forwards, as in pulmonary inflammation) ; violent fever ; in bad cases—sopor.

A prompt diagnosis is momentous on account of the great danger and rapid fatality of this disease. There are two diseases, with which it may be confounded :—the first is a violent catarrh of the throat. There are some kinds of this catarrh, in which hoarseness and a barking cough (the so called sheep cough) are present.—The second is the asthma acutum Millari. To confound croup with this affection is the more dangerous, since it calls for quite a different treatment, antispasmodic remedies, musk, asa fœtida ; croup on the contrary for antiphlogistics and abstractions of blood. They are distinguished by this : that asthma sets in all of a sudden, croup appears always after catarrhal symptoms have preceded ; the croup is always attended with fever, and usually a very violent one ; the attacks of asthma, as of a spasmodic disease, are periodically violent or weak, even cease entirely for hours ; the symptoms of croup are always present with equal intensity, and in croup the urine is feverish, inflammatory, red ; in asthma spasmodic and pale.

Its course is very rapid. The disease terminates within two, three, at most six days. Death ensues by suffocation or by apoplexy, sometimes even after respiration has become free, in consequence of congestion and paralysis of the brain thereby created.

Pathogenesis. The proximate cause is inflammation of the mucous membrane of the larynx, with the peculiarity

of coagulable lymph being extremely rapidly effused, thickening the membranes, and forming polypous concretions, which straiten, even mechanically close up the trachea.

The predisposing causes are: the infantile age up to the 7th year, on account of the great plasticity at that time of life; farther, a too nutritious and heating diet, animal food and wine, therefore it occurs now-a-days more frequently, on account of this unreasonable but fashionable change.

Exciting causes: Influence of cold, east and north-east air blowing into the open mouth, catarrh.

Therapeutics. The inflammation must be resolved as promptly as possible, and the thickened lymph or new-formed tissue be dissolved and dislodged. Assistance must be prompt, and remedies administered with all haste. The treatment, therefore, consists in using the linctus emeticus and warm vapors, as soon as the characteristic symptoms of the disease appear; and, if this be of no avail, in applying leeches to the throat, 1 to 3 for children of less than one year of age, 4 for those of two years, increasing the number in proportion to the years (12 leeches kill a child of six months; of this I have seen an instance); and administering a dose of calomel, in infants $\frac{1}{2}$ grain, in more grown children up to 2 grains; intermediately a linctus containing nitre, and inhalations of warm vapors (of elder flowers steeped in water) and injections with a tablespoonful of vinegar, in order to effect a proper discharge from the intestines, which is here highly useful, even indispensable to salvation. If no improvement follows within 24 hours, give sulphurate of copper, a most efficacious remedy for removing the spasmodic state, which keeps up the disorder. It may be triturated with sugar and administered with water or in a linctus, first in such doses as to create vomiting (1 to 4 grains according to the age), then $\frac{1}{4}$ of a grain every 2 hours; when the suffocative fits return, resort again to the former dose, which creates vomiting, and cause mercurial ointment to be rubbed on the neck, and sinapisms and vesicatories on the throat. When rattling continues, a vomit is the best remedy to clear the larynx from the formed concretions. Sulphurous remedies are likewise serviceable. Give musk when weakness and spasm increase. If, as sometimes happens, sopor and congestion to the head remain, in consequence of the long strangulation, leeches must again be applied to the neck and the temples. If all these remedies fail, a paralytic state must be supposed, then cold lotions to the head, and even affusions have yet proved useful.

Be, however, careful not to take every hoarseness, attended with a barking cough, for an incipient croup, as is now too frequently the case, and to proceed immediately to this harsh treatment. Administer the linctus emeticus. I have often seen all the symptoms of apparent or beginning croup entirely disappear after a strong vomit. Such a catarrhal state may be the beginning of croup, which I have often removed by an emetic seasonably administered. The same applies to the uncertainty, whether we have to do with croup or a spasmodic asthma. Also here an emetic is the best means, and is suitable to all cases.

MILLAR'S ASTHMA.

Asthma acutum infantile.

Diagnosis. Sudden attack of short breath, usually at night; the respiration is gasping, whistling, approaching to suffocation; attended with great anxiety; barking cough, in the tone of a large dog; no fever; after 6 or 8 hours the symptoms entirely cease; the child feels well during the day; in the next night the same accidents return with still more violence, again entirely cease, and so on. Death generally ensues by suffocation on the third day. Sometimes it finally becomes permanent. It may be easily confounded with angina membranacea; which is a dangerous mistake, for this is an inflammatory, the asthma a spasmodic disease, and each must be treated differently.

The discriminative signs are: In asthma there is a remission, even intermission of the dyspnœa; in angina it continues permanently; in asthma there is no fever, in croup inflammatory fever; in asthma pale, in croup red urine; it attacks only children from 2 up to 8 years of age.

Pathogenesis. Causes: Taking cold, damp air, and moist dwelling.

Therapeutics. The only indication is to remove most vigorously and promptly the spasm. Commence with an emetic, then give asa fœtida internally (vide No. 272) and in injections, musk in large doses, antispasmodic embrocations to the chest, abdomen and spine, sinapisms and cantharides on the chest.

HYDROCEPHALUS ACUTUS. ENCEPHALITIS EXSUDATORIA.
HYDROCEPHALUS CHRONICUS. HYDROCEPHALUS EXTERNUS.

Acute and Chronic Hydrocephalus.

SPINA BIFIDA.

Hydrocephalus Acutus.

Diagnosis. The precursors are the most important. They are: the fontanel remaining too long open, a head of disproportioned size (too large), especially the forehead; unusual vivacity and prematurity of mind; or stupidity, dullness of the mental faculties, great drowsiness; or falling asleep amid play, dilated pupil, squinting, very frequent falling down, want of strength of the feet, frequent headache, lying on the belly and forehead during sleep.

Signs of the formed disease:—It may be divided into two stages, *stadium irritativum* and *paralyticum*. In the first stage sopor and convulsions occasionally, sometimes even violent epileptic spasms, vomiting, especially in an upright position of the head, obstructio alvi, inclination to lean the head, falling of the head forward or sideways, a peculiar staring and at the same time squinting look of the eye, with trembling of the pupil. The pulse is very unequal, sometimes frequent, at other times slow.

In the second paralytic stage: deep sopor, not to be awakened, paralysis of single limbs, finally apoplectic death.

The diagnosis is sometimes difficult at the commencement. The disease admits a possibility of being confounded with worm fever and dental affections. The most important distinctive sign is vomiting and constipation of the bowels, which are not present in other affections of the head.

The disease lasts 8 to 21 days. It is met with most frequently from the 1st to the 7th year, more frequently since thirty years past than formerly.

It may be primary or secondary, as a consequence of another disease, especially of a febris acuta or of another internal inflammation.

Dissection shows accumulation of blood in the cerebral vessels and serous effusion in the cavities of the brain and spinal marrow.

Pathogenesis. The causes are: Congenital disposition, children with an unusual large head, with congenital weakness of the brain; there are families, in which all the children become affected with hydrocephalus (sometimes only those of one sex, sometimes at a certain period of life), scrofulous disposition, all that can keep up a permanent congestion to the brain or exaltation of imagination, wine, spiced diet for children, dentition. Thus every acute fever, every cerebral inflammation may pass into this disease; a stroke, a fall on the head (also the influence of the sunbeams on the bare head during the summer, the influence of rigid cold in the winter, particularly the sudden omission of warm covering of the head; likewise cutting the hair short in winter can give rise to the malady). Metastases to the brain, especially scrofulous and psoric (a rapidly suppressed scaldhead or otorrhœa, and the like). Thus the modern fashion of leaving the head bare and wearing the hair short in children, which, no doubt, has diminished the frequency of scaldhead, may have given occasion to the more frequent formation of this disease, even by preventing the scrofulous acrimony, formerly created by warm caps, to deposite on the skin as *tinea capitis*.

Therapeutics. In acute hydrocephalus an inflammatory, at least a congestive state of the brain must generally be suspected, the speedy removal of which best prevents exudation. Therefore, leeches are to be applied behind the ears and on the temples, and calomel, $\frac{1}{2}$ to 1 grain, according to the difference of age, is to be administered every 2 or 3 hours, irritant injections, particularly with an addition of vinegar, are to be given, so that three or four discharges from the bowels be produced. This discharge is indispensable, and if calomel alone is insufficient, jalap must be added; the hair must be shaved off, and cold fomentations or bladders filled with ice applied to the head; small doses of digitalis to be given, and sinapisms to the soles of the feet; in infants, the feet are to be enveloped in a cloth wetted with decoction of mustard. This often suffices for a cure, which is recognized by cessation of the sopor and convulsions.—But, should the sopor continue, as well as the redness of the face and the heat of the forehead, application of leeches and affusions of the head with cold water are the only salvatives. The leeches are to be repeated every 2 hours, the intervals shortened and the water poured down from a greater height, until the child manifests a return of sensation by crying. Then the frequency of the

applications may be gradually decreased. In obstinate sopor a vesicatory applied to the neck is of extraordinary efficacy, likewise the concomitant use of diuretics, as digitalis, oxymel scilliticum, decoction of rad. levistic., nitrous ether.

The disease is apt, especially in scrofulous individuals, to leave a disposition to recidives, for which the best preservative is a fontanel on the arms, cold washing and affusion of the head every morning and evening, and a cathartic of calomel and jalap every fortnight; the efficiency of which experience has confirmed to me in several cases.

In chronic hydrocephalus the same treatment, only less active, but continued for a longer time, must be followed. Also fomentations of the head with acetum scillæ, mercurial inunctions in the neck, artificial ulcers on the neck kept in copious suppuration, may here be of use; but above all, the remote cause, as scrofula or psora, is to be attended to.

Other organic diseases of the brain, as hypertrophia, hydatides, tubercles, indurations, suppurations, softenings, hardly admit of diagnosis, and still less of a cure. The signs distinguishing them from hydrocephalus are, that sopor is absent, or at least happens only periodically in those diseases, whilst the other symptoms resemble those of dropsy. The treatment is the same as that stated under hydrops, which is frequently associated here. *Softening of the brain* is remarkable for this, that the children are able to walk about until the last moment; it is only indicated by weakness of the extremities, weakness of memory and other intellectual faculties, sudden attacks of violent headache, sometimes also transient spasms, and a nervous apoplectic fit suddenly terminates life.

Hydrocephalus Externus.

Accumulation of water between the brain and the cerebral membranes—is generally a congenital disease. The fontanels will not close at all, but rather dilate more and more with the increasing distention and attenuation of the cranial bones and enlargement of the whole head, which may become enormous; in the fontanels an elastic distention with fluctuation is perceived. A child may live in this state to its 14th or 18th year, whilst its organic life is otherwise progressing, even growth and development are undisturbed. A cure is rarely possible, and may only succeed in the first years of life. The treatment consists in a

vigorous application of mercurials, drastic purgatives, diuretics, artificial ulcers, daily cold affusions of the head, fomentations of the head with acetum scilliticum, also a gradual and moderate compression by agglutinative plasters. Even a cautious puncture with needles occasionally performed, followed by immediate compression has sometimes proved useful.

Spina bifida, hydror-rhachitis is the same disease occupying the lower part of the spine, and exhibits an elastic tumor appearing through a cleft of the vertebral column. It is incurable; cautious acupuncture repeated from time to time combined with compression, may be tried; the issue has hitherto been fatal in most cases.

DECAY OF CHILDREN.

Atrophia mesenterica Infantum.

Diagnosis. Distended, hard abdomen, on which hard nodes are frequently perceived, and total emaciation of the extremities. It is attended with the greatest, often insatiable appetite (which gave rise to the superstition of witchcraft, in order to account for the constant eating and becoming more and more meagre), usually there is costiveness, intermediately also diarrhœa, pain in the belly; old, wrinkled, disfigured countenance; the skin is in general inactive, flaccid, and often exhibiting comedones.

Pathogenesis. The proximate cause is obstructed chyli-fication and impeded passage of the chyle into the blood by obstruction in the mesenteric glands. Remote causes: sickliness, weakness, old age, syphilis, scrofula of the progenitors. Want of mother's milk or unhealthy nurse's milk, most of all artificial nutrition by heavy pastry or sour aliments, heavy farinaceous meals, potatoes in infancy; overfeeding in general, worms, neglect of cleanliness and cultivation of the skin; closed, corrupt, damp air, tight lacing of the abdomen, spirits, opiates.

The disease is most frequent from the first to the third year; it may however befall adults as a symptom of scrophulosis.

The disease admits easily of a cure, when the necessary remedies are used in time. But, if neglected, it becomes fatal, either by total induration of all the mesenteric glands, which withholds from the system access to nutrition, or

by chronic inflammation and a gradual suppuration of the mesenteric glands.

The indication of cure is to restore the obstructed glands, to restore and strengthen the digestive system as well as the whole body. In the first year, and where want of mother's milk and bad food are the cause, usually nothing else is needed but a good wetnurse, or, when this cannot be had, fresh goat's milk or egg-water as a beverage, and tepid baths of malt, intermediately the powder for children.

In great intensity of the disease and in more advanced age, likewise egg-water, especially acorn coffee (a true specific for discussing the hard, distended belly, malt-baths, cleanliness, daily new linen, which contributes essentially towards the cure, and may be made still more effectual by fumigating it with ambergris or other balsamics), dry dwelling, residence in free salubrious air. At the same time use first magnesia, rhubarb with calomel, or æthiops mineralis, by which also worms, which frequently exist, simultaneously are removed; extract. of dandelion with Peruvian bark (vide No. 273); afterwards, ferruginous medicines, in which most reliance must be placed, since also the glandular obstructions are dependent on weakness, best alcoholized iron (æthiops martialis, flor. sal. ammon. martial.), or mild chalybeate waters, as those of Fachingen, Geilnau. Do not neglect to make at the same time inunctions into the abdomen of roborant dissolvent ointments, this promotes exceedingly the resolution. Malt baths are a principal remedy, even when a lingering fever is present, which they most efficiently remove.

Of great importance is the consideration, whether chronic inflammation of the mesenteric glands exists, and if so, to remove it promptly that it may not pass into suppuration, which renders the disease incurable. As soon as pains in the abdomen supervene, the application of 3 or 4 leeches is indispensable, and produces the most salutary effect.

LIMPING.

Claudicatio spontanea, Coxalgia infantilis.

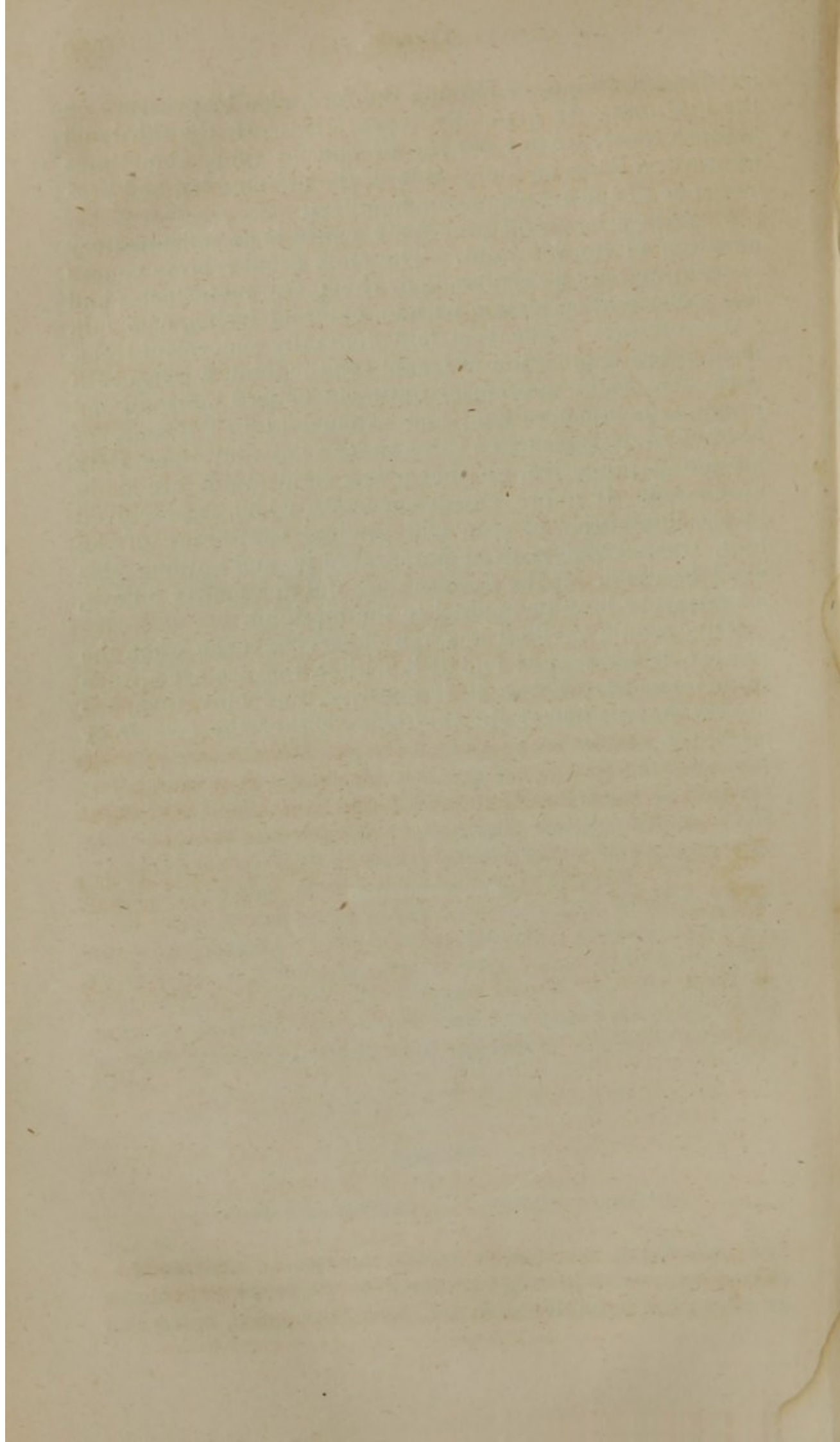
Diagnosis. Limping, which comes on gradually, and sometimes suddenly, without an external cause; no pain is felt while lying or at rest, but it is attended with pain on

ste ping, walking, or moving the foot, also by pressure on the hip-joint. It generally appears between the third and seventh year. After longer or shorter time, sometimes after a few days, an elongation of the affected leg and prominence of the trochanter is manifest.

Pathogenesis. The proximate cause is an inflammatory affection of the hip-joint. The most usual remote causes in children are: a scrofulous or rheumatic metastasis; and this cause may associate with an external lesion, as a fall.

Therapeutics. The best and generally successful treatment is the application of leeches to the joint, a warm bath with soap daily, mercurial ointment rubbed morning and evening on the hip-joint, and calomel (1 or 2 grains, according to the age) taken three times a day; intermediately a cooling purgative, so that a few fluid stools are daily evacuated. If improvement succeeds, which is perceived by the diminution of pain and gradual shortening of the foot, this method is to be persevered in, and nothing else need be done. If the disease does not abate after 8 days, a vesicatory is to be applied to the hip-joint.

This gentle method is often of service, even when the disease is advanced; and it is with it, that we are always to commence. When it is abortive, and only then, recourse may be had to the *cauterium*, either the *actuale* or *potentiale*.



FORMULAS OF PRESCRIPTIONS.

No. 1.

Potio Riveri.

℞ Potassæ carbonatis ʒij.	Take of carbon. of potassa two drachms.
Succi citr. rec. expressi q. s. ad perfect. saturat.	Recently expressed lemon juice, as much as will saturate the potassa.
Aquæ distillatæ ʒiij.	Distilled water three ounces.
Syrupi rubi idæi ʒi. M.	Raspberry syrup one ounce.
	Mix.

Two tablespoonfuls every two hours.

No. 2.

Aerated Powder.

℞ Magnesiæ carbonatis ʒi.	Take of magnesia one scruple.
*(Vel bicarbonatis gr.xv.)	(Or of bicarbonate of magnesia fifteen grains.)
Acidi tartari, sacchari, āā ʒi. M.	Tartaric acid and loaf sugar of each one scruple.

* When a brisk effervescence is wanted.—Made into a powder, and mixed in a glass of water ; the whole taken at once in a state of effervescence.

No. 3.

℞ Potassæ bitartrat. ʒss.	Take of cream of tartar half an ounce.
Coque in vase terreo cum aquæ fontanæ lbv.	Spring water 5 pints.
Adde pomum citron. concis. No. i.	Boil together in an earthen vessel, and add one lemon bruised.
Sacchari albi ʒvi.	White sugar six ounces.

Mix and strain for a drink.

ERRATA.

Beside one or two misprints of spiriti for spiritūs, and a few ablatives in place of genitives in æ, the following corrections must be made :

Recipe No. 83, add, Three powders, daily.

“ “ 90, for every two hours, read every hour.

“ “ 110, for Tincture of cinnamon 1 oz. read 1 drachm.

No. 4.

- | | |
|---------------------------------|---------------------------------------|
| ℞ Nitratis potassæ 3ij-iiij. | Take of nitre 2 to 3 drachms. |
| Antimonii tart. gr. i. | Emetic tartar 1 grain. |
| Aquæ fontanæ ʒviij. | Spring water 7 ounces. |
| Syrupi hordeati s. amygdal. ʒi. | Barley-sugar or almond syrup 1 ounce. |

Two tablespoonfuls every two hours. In irritable patients substitute a decoction of mallows for the water.

No. 5.

- | | |
|------------------------------|---------------------------|
| ℞ Potassæ nitratis ʒij. | Take of nitre 2 drachms. |
| Sodæ sulphatis ʒi. | Sulphate of soda 1 ounce. |
| Antimonii tartarisati gr. i. | Emetic tartar 1 grain. |
| Aquæ fontanæ ʒviij. | Spring water 7 ounces. |
| Syrupi rubi idæi ʒi. M. | Raspberry syrup 1 ounce. |

Two tablespoonfuls every two hours.

No. 6.

- | | |
|-------------------------------------|---------------------------------------|
| ℞ Fruct. tamarindorum, | Take of tamarinds and of |
| Mannæ elect. āā ʒss. | flake manna each $\frac{1}{2}$ ounce. |
| Sodæ sulphatis ʒi. | Sulphate of soda 1 ounce. |
| Coque cum aquæ fontanæ ʒxij.-viiij. | Spring water 12 to 8 ounces. |
| Colat. adde | Boil and add to the strained liquor |
| Syrupi rubi idæi ʒi. M. | Raspberry syrup 1 ounce. |

Two tablespoonfuls every two hours, until it produces effect.

No. 7.

- | | |
|-------------------------|---|
| ℞ Aquæ chlorin. ʒss.-i. | Take of liquid chlorine $\frac{1}{2}$ to 1 ounce. |
| “ distillatæ ʒviij. | Distilled water 7 ounces. |
| Syrupi rubi idæi ʒi. M. | Syrup of raspberries 1 oz. |

Two tablespoonfuls every two hours.

No. 8.

- | | |
|--|---|
| ℞ Radicis valerianæ contusæ ʒss. | Take of valerian in coarse powder half an ounce. |
| digere cum | Boiling water, a sufficient |
| Aqua fervida per hor. dimid. in vase clauso. Colat. ʒviiij. Adde | quantity to leave 8 ounces of clear liquor after half an hour's digestion. To which add |
| Liquoris ammonii acet. ʒvi. | Liquid acetate of ammonia 6 drachms. |
| Spiriti sulphur. ætheri. ʒi. | Sulphuric ether $\frac{1}{3}$ of a dr. |
| Syrupi communis ʒss. | Common syrup $\frac{1}{2}$ ounce. |

One tablespoonful every two hours.

No. 9.

- ℞ Radicis valerianæ con- Take of valerian, in coarse
tusæ ʒss. powder, $\frac{1}{2}$ an ounce.
" angelicæ angelica
Flor. arnicæ āā ʒij. Arnica flowers of each 2
drachms.
digere cum A sufficient quantity of boil-
Aqua fervida per hor. di- ing water to leave 8 oz.
mid. in vase clauso. Co- after boiling half an hour
lat. ʒviij. adde in a closed vessel. To
which add
Liquoris ammonii anisat. Aromatic spirit of ammonia,
Spiriti ætheris sulph. āā Sulphuric æther, of each 1
ʒi. drachm.
Syrupi communis ʒss. M. Common syrup $\frac{1}{2}$ an ounce.
Two table spoonfuls every two hours.

No. 10.

- ℞ Pulver. rad. arnicæ ʒss. Take of the powdered root
of arnica $\frac{1}{2}$ an ounce.
Coque cum aqua font. ʒx. Boil in 10 ounces of water to
ad ʒviij. Adde 8. Add to the clear liquor
Pulver. rad. serpentariæ Powdered root of serpenta-
ʒij. ria 2 drachms.
digere. Colat. adde Digest and add to the strain-
ed liquor
Liquoris anodyn Hofman- Anodyne liquor of Hofmann
ni. ʒi. M. 1 drachm.
Syrupi cort. aurant. ʒi. Syrup of orange-peel 1 oz.
Two tablespoonfuls every two hours.

No. 11.

- ℞ Olei cinnamomi gutt x. Take of oil of cinnamon 10
drops.
Essen. ambræ s. moschi Essence of amber or musk
ʒss. $\frac{1}{2}$ a drachm.
Balsami vitæ Hofm. ʒi. Hofmann's balsam of life 1
drachm.
Ætheris sulphurici ʒiss. Sulphuric ether $1\frac{1}{2}$ drachm.
Laudan. liquidi Sydenh. Liquid laudanum of Syden-
ham ʒi. ham $\frac{1}{3}$ of a drachm.
Thirty drops to be taken every two or three hours.

No. 12.

- ℞ Pulver. cort. cinchonæ ʒi. Take of Peruvian bark 1 oz.
Coque cum aqua fontana Spring water 16 ounces.
ʒxvi. ad viij. Reduce by boiling to 8 oz.

adde	Add serpentaria
Pulver. rad. serpentariæ.	Arnica root, in powder,
“ “ Arnicæ, āā 3ij.	of each 2 drachms.
digere. Colat. adde	Digest, and add to the strained liquor
Tinct. cinch. Whyttii 3iij.	Whytt's tincture of bark 3 drachms.
Aluminis crudi 3ij.	Crude alum 2 drachms.
Liquidi anody. Hofm. 3i.	Liquid laudanum of Hoffmann 1 drachm.
Syrupi cinnamomi 3i. M.	Syrup of cinnamon 1 ounce.
Two tablespoonfuls every two hours.	

No. 13.

R Antimonii tartarisati gr. ij.	Take of tartrate of antimony 2 grains.
Pulver. rad. ipecacuanhæ 3i.	Powdered ipecacuanha one scruple.
Oxymellis scillæ 3ss.	Oxymel of squills $\frac{1}{2}$ ounce.
Aquæ fontanæ 3ij. M.	Spring water 2 ounces.

One tablespoonful every quarter of an hour, until vomiting be produced.

No. 14.

R Sulphate of soda 3i.	Take of sulphate of soda 1 ounce.
Mannæ electæ	Best manna, and
Fruct. tamarindorum āā 3ss.	Tamarinds, of each $\frac{1}{2}$ ounce.
Foliorum sennæ 3ij.	Senna leaves 2 drachms.
Ebull. cum aqua font. q. s.	As much spring water as will
Colat. unc. 3vij. Adde	leave after boiling 7 oz. of strained liquor, to which
Syrupi rubi idæi 3i. M.	Add raspberry syrup 1 oz.

Two tablespoonfuls every two hours, until it produce sufficient effect.

No. 15.

R Extracti taraxaci	Take of extract of dandelion,
“ Trifol. fibrin. āā 3ij.	Tincture of trefoil, of each 2 drachms.
Elixirii visceral. Hofm.	Visceral elixir of Hoffmann.
Tinct. rhei vinosæ āā 3iij.	Vinous tinct. of rhubarb, of each 3 drachms.
Aquæ menthæ piper. 3iv. M.	Peppermint water 4 ounces.

A tablespoonful four times a day.

No. 16.

- ℞ Rasuri ligni quassiae ʒss. Take of rasped quassia $\frac{1}{2}$ oz.
 Ebulli cum aquæ font. q. s. Boil it for a quarter of an
 digere per $\frac{1}{4}$ horam, co- hour in as much spring
 lat. ʒviij. water as will leave 8 oun-
 adde ces of strained liquor; add
 Tincturæ rhei vinos ʒiij. Vinous tincture of rhubarb 3
 drachms.
 “ anodyni Hofm. Hofmann’s andoyne tincture
 ʒss. half a drachm.
 Syrupi corticis aurant. ʒi. Syrup of orange-peel 1 oz.
 M.

Two tablespoonfuls four times a day.

No. 17.

- ℞ Spiritus Mindereri ʒi. Take of spirit of Mindererus
 1 ounce.
 Vini antimonii ʒi. Antimonial wine 1 drachm.
 Aquæ florum sambuci, Elder-flower water,
 “ distillatæ, āā ʒiv. Distilled water, of each 4 oz.
 Syrupi flor. aurantii ʒi. Syrup of orange-flowers 1
 ounce.

Two tablespoonfuls every two hours.—When fever is high, add 2 drachms of nitre.

No. 18.

- ℞ Camphoræ gr. vi. Take of camphor 6 grains.
 Potassæ nitratis ʒi. Nitre 1 drachm.
 Sacchari albi ʒij. M. White sugar 2 drachms.
 Fiat pulvis dividendus in Mix, make a powder to be di-
 vi. partes æquales. vided into 6 equal parts.
 One portion to be taken every two or three hours.

No. 19.

- ℞ Extracti aconiti gr. viij. Take of extract of aconite
 8 grains.
 Vini antimonii ʒij. M. Antimonial wine 2 drachms.
 From ten to twenty drops to be taken every three hours.

No. 20.

- Pulvis Pectoralis. Pectoral Powder.**
 ℞ Flor. sulphuris ʒiss. Take of flowers of sulphur
 $1\frac{1}{2}$ ounce.
 Seminis fœniculi, Fennel seed,
 Rad. iridis Florent., Florentine iris,
 “ liquiritiæ, āā ʒi. Liquorice root, of each 1 oz.
 Foliorum sennæ ʒvi. M. Senna leaves 6 drachms.
 Fiat pulvis. Mix and make a powder.
 A teaspoonful to be taken every three or four hours.

No. 21.

Thea Pectoralis.**Pectoral Tea.**

- | | |
|--|--|
| <p>℞ Florum verbasci,
Herbæ tussilaginis,
Florum sambuci,
Radicis glycyrrhizæ,
 " althææ, āā ʒi.
Iridis Florentinæ,
Semin. fœniculi, āā ʒvi.
Conseca, contere, misce.</p> | <p>Take of mullen flowers,
Tussilage,
Elder flowers,
Liquorice root,
Mallow root, of each 1 oz.
Florentine iris,
Fennel seed, of each 6 dr.
Cut up, bruise, mix.</p> |
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No. 22.

- | | |
|---|--|
| <p>℞ Emplastri hyoscyami ʒi.

Opium ʒss.
Malax.</p> | <p>Take of hyoscyamus plaster
1 ounce.
Opium $\frac{1}{2}$ drachm.
Knead them together.</p> |
|---|--|

No. 23.

- | | |
|---|--|
| <p>℞ Corticis cinchonæ pulv. ʒi.

Dividendus in viij. partes
 æquales.
The half of one of these parts to be taken every two
hours.</p> | <p>Take of Peruvian bark pow-
der 1 ounce.
Let it be divided into 8
equal parts.</p> |
|---|--|

No. 24.

- | | |
|--|---|
| <p>℞ Corticis cinchonæ pulv. ʒi.
Syrupi cinnamomi q. s. ut
 f. electuarium.</p> | <p>Take of Peruvian bark pow-
der 1 oz.
Syrup of cinnamon, as much
as will make an electuary.</p> |
|--|---|
- A teaspoonful every two hours.

No. 25.

- | | |
|--|---|
| <p>℞ Quinini sulphatis ʒi.

Succi glycyrrhizæ q. s. ut
 fiant pilulæ, No. xx.</p> | <p>Take of sulphate quinine 20
grains.
Extract of liquorice, a suffi-
cient quantity, and let 20
pills be made.</p> |
|--|---|
- One to be taken every two or three hours.

No. 26.

- | | |
|--|---|
| <p>℞ Phosphori gr. i.
 Solve in
Olei terebinthinæ ʒi.</p> | <p>Take of phosphorus 1 grain,
and dissolve it in spirits of
turpentine 1 drachm.</p> |
|--|---|
- Ten drops to be taken four times a day.

No. 27.

- R Resinæ guaiaci 3ij. Take of resin of guaiac 2 dr.
 Mucil. gum. acaciæ q. s. Mucilage of gum arabic, as
 ut f. c. aquæ distillatæ much as will make an
 ʒv. emulsio, cui adde emulsion with five ounces
 of distilled water, to which
 add almond syrup 1 oz.
 Syrupi amygdalarum ʒi.
 A tablespoonful four times a day.

No. 28.

- R Resinæ guaiaci 3ss. Take of resin of guaiac $\frac{1}{2}$ dr.
 Extracti aconiti gr. ij. Extract of aconite 2 grains.
 Elæosacchari citri ʒi. Lemon syrup 20 grains.
 Potassæ bitartrat. ʒij. Cream of tartar 40 grains.
 M. fiat pulvis. dispens. dos. Mix, make into a powder.
 Take one third in the morning, one other at noon, the
 rest at night.

No. 29 a.

- R Resinæ guaiaci 3ij. Take of resin of guaiac 3 drs.
 Lactis sulphuris, Milk of sulphur,
 Saponis medicati āā 3i. Medicinal soap, of each 1 dr.
 Extracti dulcamaræ q. s. ut Ext. of bittersweet a suffi-
 fiant pil. gr. ij. cient quantity. Let it be
 made into pills of two gr.

No. 29 b.

- R Calcis antim. sulphureti Take of antimoniated sul-
 3ij. phuret of lime 2 drachms.
 Coque cum aquæ fontanæ Spring water 5 pints.
 lb v. ad iv.
 Serva in lagenis bene ob- Boil down to 4 pints, and
 turatis. preserve in well stopped
 bottles.

No. 30.

- R Ligni guaie rasi ʒij. Take of rasped guaiac. 2 oz.
 Stipitum dulcamaræ ʒss. Tops of bittersweet $\frac{1}{2}$ ounce.
 Coque cum aquæ font. lbij. Spring water, 2 pints.
 ad ʒiiss.
 Boil down to one pint and a
 Colaturæ adde mercurii half; add corrosive subli-
 sublimat. corros. gr. ss. mate $\frac{1}{2}$ grain,
 Syrupi althææ, ʒij. M. Syrup of mallows, 2 ounces.
 Take half a cupful every two hours, so as to drink half
 in one day.

No. 31.

- R Mercurii sublim. corros. Take of corrosive sublimate
 gr. ij. 2 grains.

Solve in aquæ distillatæ, q. s. adde	Distilled water, a sufficient quantity to dissolve the salt; add opium 2 grains.
Opii gr.ij.	
Micæ panis albi, mellis pu- rificati āā q. s. ut fiant pilulæ No. LX.	Crumb of white bread, clari- fied honey, of each enough. Let 60 pills be made.

From three to five to be taken twice a day.

No. 32.

R Resinæ guaiaci 3ss.	Take of resin of guaiac $\frac{1}{2}$ dr.
Lactis sulphuris 3ss.	Milk of sulphur 10 grains.
Potassæ bitartratis 3i.	Cream of tartar 1 drachm.
Elæosacchari citri 3i.	Lemon syrup 20 grains.
Misce, fiat pulvis.	Mix and make a powder.
Take half in the morning, and the rest at night.	

No. 33.

R Florum sulphuris	Take of flowers of sulphur,
Potassæ bitartratis āā 3ss.	Cream of tartar, of each $\frac{1}{2}$ oz.
Radicis glycyrrhizæ 3ij.	Liquorice root 2 drachms.
Elæosacchari anisi 3i.	Syrup of anis 1 drachm.
Foliorum sennæ 3ij.	Senna leaves 2 scruples.
Antimonii sulphureti (au- rat.) gr.vi.	Golden sulphuret of antimo- ny 6 grains.
Misce, fiat pulvis.	Mix. make a powder.
A teaspoonful three times a day.	

No. 34.

R Stipitum dulcamaræ 3ss.	Take of twigs of bittersweet $\frac{1}{2}$ ounce.
Coque cum aquæ font. 3x. ad vij. adde	Spring water 10 ounces, boil down to 7 ounces; and
Potassæ tartratis 3ij.	add tartrate of potassa 2 drachms.
Vini antimonii guttas LX.	Antimonial wine 60 drops.
Syrupi glycyrrhizæ 3i. M.	Syrup of liquorice 1 ounce.
Two teaspoonfuls four times a day.	

No. 35.

R Spec. pectoral 3ij.	Take of pectoral species* 2 ounces.
Marubii 3i.	Hoarhound 1 ounce.
C. M. S. pro thea cras mane sumenda.	For a tea in the morning.

* Ingredients that vary in different countries, and generally are very numerous.

No. 36.

R Extracti graminis 3ss.	Take of extract of dog grass $\frac{1}{2}$ ounce.
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Extracti marubii.	Extract of hoarhound.
Potassæ acetatis āā 3ij.	Acetate of potassa, of each 2 drachms.
Vini antimonii,	Antimonial wine,
Aquæ laurocerasi āā 3i.	Laurel water, of each 1 dr.
Aquæ fœniculi 3vi. M.	Fennel water 6 ounces.

A tablespoonful every three hours.

No. 37.

R Lichenis Islandici 3vi.	Take of Iceland moss 6 drs.
Stipitum dulcamaræ 3ij.	Twigs of bittersweet 3 dr.
Coque cum aquæ font.	Spring water, 16 ounces,
3xvi. ad viij.	boil down to 8 ounces,
Coletur. Adde	and add
Syrupi balsamici 3i. M.	Syrup of balsam 1 ounce.

Two tablespoonfuls four times a day.

No. 38.

R Hydrargyrii submuriatis	Take of calomel 2 grains.
gr.ij.	
Foliorum digitalis purpur.	Digitalis $\frac{1}{2}$ grain.
gr.ss.	
Sacchari albi 3i.	White sugar 1 drachm.
Misce, fiat pulvis. Divi-	Mix. Let a powder be made,
dendus in iv. partes	to be divided into four
æquales.	equal parts.

One to be taken every three or four hours,—for a child of two years of age.

No. 39.

R Infusionis flor. sambuci	Take of infusion of elder-
3x.	blossoms 10 ounces.
Potassæ nit. vel ammon.	Nitre or sal ammoniac $1\frac{1}{2}$
muriat. 3iss.	drachm.
Oxymellis simplicis 3ij. M.	Oxymel 2 ounces.

Mix for a gargle and injection.

No. 40.

R Oxymellis simplicis 3i.	Take of oxymel 1 ounce
Syrupi mororum 3ij. M.	Syrup of blackberries 2 oz.

A teaspoonful frequently repeated.

No. 41.

R Herbæ salviæ	Take of sage,
Florum sambuci āā 3ss.	Elder blossoms, of each $\frac{1}{2}$ oz.
ebulli cum aquæ font.	boil in 2 pints of spring
3ij. coletur. Adde	water ; add to the strained

liquor,

Essentiæ pimpinellæ ʒi.	Essence of pimpinel 1 oz.
Aluminis crudi ʒiij. M.	Crude alum 3 drachms.

To be used as a gargle and injection.

No. 42.

℞ Essentiæ pimpinellæ ʒiss.	Take of essence of pimpinel
	1½ drachm.
Syrupi althææ ʒiij. M.	Syrup of mallows 3 ounces.

A tablespoonful every half hour.

No. 43.

℞ Essentiæ pimpinellæ ʒij.	Essence of pimpinel 2 drs.
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Fifteen drops on sugar: suffered to dissolve in the mouth.

No. 44.

℞ Antimonii tartarisati gr. iij.	Take of emetic tartar 3 grs.
Potassæ nitratis ʒij.	Nitre 2 drachms.
Aquæ fontanæ ʒiv.	Spring water 4 ounces.
Syrupi althææ,	Syrup of mallows,
“ glycyrrhizæ āā ʒi. M.	“ liquorice, each 1 oz.

Two tablespoonfuls every two hours.

No. 45.

℞ Hydrargyrii submuriatis gr. vi.	Take of calomel 6 grains.
Opīi gr. ij.	Opium 2 grains.
Sacchari albi ʒij.	White sugar 2 drachms.
Misce fiat pulvis. Divi-	Mix. Let a powder be made,
dendus in vi. partes	and divided into six equal
æquales.	parts.

One every two hours.

No. 46.

℞ Radicis senegæ ʒij.	Take of senega 2 drachms.
Coque cum aquæ fontanæ ʒxiv. ad viij.	Spring water 14 ounces.
Colaturæ adde	Boil down to 8 ounces; let
Ammoniæ muriatis,	it be strained, add
Vini antimonii,	Muriate of ammonia,
Aquæ laurocerasi āā ʒi.	Antimonial wine,
Syrupi althææ,	Laurel water, of each 1 dr.
Mellis puri āā ʒi. M.	Syrup of mallows,
	Clarified honey, of each 1 oz.

Two tablespoonfuls every two hours.

No. 47.

- ℞ Olei amygdala. dulc. s. pa- Take of sweet oil of almonds
 paver. rec. express. ℥i. or fresh poppy 1 ounce.
 Aquæ fontanæ ℥viij. Spring water 8 ounces.
 Mucilaginis gum. acaciæ Mucilage of gum arabic, as
 q. s. ut fiat emulsio, adde much as will make an
 emulsion; add
 Extracti hyoscyami gr. vi. Extract of henbane 6 grains.
 Syrupi ℥ss. M. Syrup $\frac{1}{2}$ ounce.

A tablespoonful every hour.

No. 48.

- ℞ Magnesiae carbonatis, Take equal parts of magne-
 sia,
 Potassæ sulphatis, Sulphate of potassa,
 Radicis rhei, Rhubarb,
 Elæosacchari menthæ āā Syrup of mint; mix and
 partes æquales; misce make a powder.
 fiat pulvis.

A teaspoonful for a dose.

No. 49.

- ℞ Radicis taraxaci, Take of roots of dandelion,
 " saponariæ, " saponaria,
 Florum verbasci, flowers of mullen,
 " chamomill. āā " chamo-
 mile, of each equal parts.
 C. M. S. Mix for an enema in the
 morning.

Make a decoction by boiling 2 spoonfuls with a little bran.

No. 50.

Liquor Belladonnæ cyanicus. Cyanureted Liquor of Belladonna.

- ℞ Extracti belladonnæ gr. iv. Take of extract of belladonna 4 grains, dissolve in
 solve in
 Aquæ laurocerasi ℥ss. Laurel water $\frac{1}{2}$ ounce.

Twenty to thirty drops four times a day.

No. 51.

- ℞ Herbæ digitalis 3ss. Take of digitalis $\frac{1}{2}$ drachm,
 digere cum aquæ font. digest in as much spring
 per $\frac{1}{4}$ horam, usque ℥vi. water for $\frac{1}{4}$ of an hour, as
 coletur adde will leave 6 ounces of clear
 liquor; add

Aquæ laurocerasi 3ij. Laurel water 2 drachms,
 Potassæ nitratis 3iij. M. Nitre 3 drachms.

A tablespoonful every two hours.

No. 52.

R Ext. taraxaci,	Take of extract of dandelion,
“ graminis, āā ʒss.	“ dog grass,
	each $\frac{1}{2}$ ounce.
Potassæ tartratis 3iij.	Tartrate of potassa 3 drs.
(vel potassæ carbonatis	(or carbon. of potassa 3 dr.)
3iij.) solve in	dissolve in
Aquæ menth. piperitæ,	Peppermint water,
“ distillatæ, āā ʒiij. M.	Distilled water, of each 3 oz.

A tablespoonful four times a day.

No. 53.

R Gummi ammoniaci 3iij.	Take of gum ammoniac 3
	drachms.
Saponis med. 3ij.	Soap 2 drachms.
Lactis sulphuris,	Milk of sulphur,
Pulveris radiceis rhei,	Rhubarb powder,
(vel foliorum sennæ,) āā 3i.	(or senna,) of each 1 dr.
Extracti taraxici q. s. ut	Extr. of dandelion, as much
fiant pilulæ gr.ij.	as will suffice. Let pills
	be made of 2 grains.

Ten pills, three times a day.

No. 54.

R Potassæ carbonatis,	Take of carbonate of potassa,
Ammonii muriatis, āā 3i.	Muriate of ammonia ea. 1 dr.
Solve in aquæ menthæ pip.	Peppermint water, 3 ounces.
ʒiij. adde	dissolve and add
Aloës,	Aloes,
Myrrhæ,	Myrrh,
Resinæ guaiaci,	Resin of guaiacum,
Radicis rhei āā ʒss.	Rhubarb, each $\frac{1}{2}$ drachm.
Croci ʒi.	Saffron 1 scruple,
Digere, l. a. ut. f. E.	Let it digest to make an elixir.

Forty to sixty drops three times a day.

No. 55.

R Elixirii acidi Halleri 3ij.	Take of acid elixir of Haller
	2 drachms.

Tincturæ cinchonæ Whytt's tincture of bark 6
tiii 3vi. M. drachms.
Sixty to eighty drops three times a day in a cup of water.
No. 56.

R Aluminis crudi,	Take of crude alum,
Terræ catechu,	Terra catechu,
Extracti cinchonæ, āā	Extract of bark, of each equal
partes æquales. Misce	parts. Mix. Let pills of 2
f. pil gr. ij. Consperge	grains be made, sprinkled
pulvere cinnamomi.	with cinnamon powder.
Ten night and morning.	

No. 57.

R Foliorum aurantii viridis,	Take equal parts of green
	leaves of orange,
Radici valerianæ,	Valerian root,
Caryophyllatæ,	Cloves,
Herbæ melissæ, āā partes	Melissa.
æquales.	

Infuse over night, 1 to 2 spoonfuls in 2 cups of water ;
which is to be taken cold, half every morning, the rest in
the evening.

No. 58.

R Radici columbo 3ss.	Take of columbo root $\frac{1}{2}$ oz.
Coque cum aquæ font.	Boil in 12 ounces down to
3xij. ad 3viij.	8, let it be strained, and
Coletur. Adde	add
Tincturæ ferri ætheris,	Ethereal tincture of iron,
" valerianæ,	Tincture of valerian,
" cort. aurantii,	" orange peel,
āā 3i. M.	each 1 drachm.

Two tablespoonfuls four times a day.

No. 59.

R Zinci oxidi 3ss.	Take of flowers of zinc $\frac{1}{2}$ dr.
Succi glycyrrhizæ q. s. ut	Liquorice, a sufficient quan-
fiant pilulæ No. LX.	tity ; let it be made into
	60 pills.

Take 2 morning and evening ; adding one every two days.

No. 60.

Pulvis Antipilepti-
cus.

Powder against Ep-
ilepsy.

R Zinci oxidi,	Take of flower of zinc,
Extracti hyoscyami, āā	Extract of henbane, each 1
gr. i.	grain.

Olei valerianæ ætherei, Oil of valerian 1 drop.
guttam i.

Radicis valerianæ 3ss. Root of valerian $\frac{1}{2}$ drachm.

Misce, fiat pulvis. Mix. Make a powder.

Morning and evening. In obstinate cases add $\frac{1}{2}$ grain of ammonia of copper.

No. 61.

R Radicis valerianæ 3ss. Take of valerian root $\frac{1}{2}$ dr.
Olei valerianæ æth. guttas ij. Ethereal oil of valerian 2 drops.

M. fiat pulvis. Make a powder.

Take one three times a day.

No. 62.

R Argenti nitratis gr. x. Take of nitrate of silver 10 grains.

Extracti cicutæ 3ij. Extract of cicuta 2 drachms.

Opii gr. v. Opium 5 grains.

Succi glycyrrhizæ 3i. Liquorice 1 drachm.

Misce, fiant pilulæ gr. ij. Mix. Let pills of 2 grains be made.

Two morning and evening, at first, afterwards three, gradually increasing to five.

No. 63.

R Essentiæ castorei, Take of essence of castoreum,

Liquoris anodyni Hofm. Anodyne liquor of Hofm.
āā 3i. each 1 drachm.

Olei menthæpip. guttas vi. Oil of peppermint 6 drops.

Laudani liquidi Sydenhami gr. xx. Liquid laudanum of Sydenham 20 grains.

Forty drops every two hours.

No. 64.

R Gummi ammoniaci 3ij. Take of gum ammoniac 2 drachms, as much mucilage of gum arabic, with fennel water as will make 6 ounces of emulsion, add

Aquæ ammonii anisatæ 3ss. Aromatic spirit of ammonia half a drachm.

Oxymelis scillæ, Oxymel of squills,

Syrupi glycyrrhizæ āā 3i. Liquorice, each 1 ounce.

M.

A tablespoonful every hour.

No. 65.

R Asa fœtidæ,	Take of asa fœtida,
Gummi ammoniaci,	Gum ammoniac,
Saponis med.,	Soap,
Extracti taraxaci, āā 3ij.	Extract of dandelion, each 2 drachms.
Antimonii sulphureti (aurat.) gr. xx.	Golden sulphuret of antimony 20 grains.
Misce, fiant pilulæ gr. ij.	Mix. Let pills of 2 grains be made.
Consperge semine lycopodii.	Sprinkle it with club moss seed.

Ten three times a day.

No. 66.

R Extracti qualæ 3ij.	Take of extract of elecampane 2 drachms.
Aquæ ammonii anisatæ 3iss.	Aromatic spirit of ammonia 1½ drachm.
Aquæ fœniculi 3ij. M.	Fennel water 2 ounces.

Eighty drops every two hours.

No. 67.

R Gummi ammonii,	Take of gum ammoniac,
Extracti arnicæ,	Extract of leopard's bane,
“ polygalæ,	Rattlesnake herb,
“ qualæ, āā 3ij.	Elecampane, each 2 drs.
Pulveris rad. scillæ,	Powder of squills,
Antimonii sulphureti (aur.) āā gr. xx.	Golden sulphuret of antimony, each 20 grains.
Misce, fiant pilulæ gr. ij.	Mix, make pills of 2 grains.

Eight to ten three times a day.

No. 68.

R Specierum pectoralium 3ij.	Take of pectoral species 2 oz.
Herbæ chenopodii,	Worm seed,
“ marubii, āā 3ss.	Hoarhound, each ½ ounce.
C. M. S. thea.	Infuse for a tea.

No. 69.

R Radicis qualæ,	Take of elecampane,
“ iridis,	Florentine iris root,
“ scillæ, āā 3i.	Squills, each 1 ounce.
Benzoës,	Benjamin,

Myrrhæ,	Myrrh,
Seminum anisi,	Anis,
Succi glycyrrhizæ,	Liquorice,
Gummi ammoniaci āā ʒss.	Gum ammoniac, each $\frac{1}{2}$ oz.
Croci ʒij. M.	Saffron 3 drachms.
f. c. spiritus vini rectificat.	Rectified spirits of wine, 1
libra una.	pint.
L. a. elixir.	Make an elixir.

Sixty to eighty drops several times a day.

No. 70.

℞ Extracti digitalis,	Take of extract of digitalis,
“ hyoscyami,	Henbane,
Pulv. digitalis, āā partes	Powder of digitalis, equal
æquales.	parts.
Misce, fiant pilulæ gr. i.	Mix, make pills of 1 grain.
One morning and evening.—In obstinate cases, three or four times a day.	

No. 71.

℞ Ammonii muriatis ʒij.	Take of sal ammoniac 2 dr.
Succi glycyrrhizæ ʒss.	Liquorice half an ounce.
Aquæ fœniculi,	Fennel water,
“ fontanæ, āā ʒiv.	Spring water, each 4 ounces.
Syrupi althææ ʒi.	Syrup of mallows 1 ounce.
Vini antimonii, gut. xL. M.	Antimonial wine 40 drops.

A tablespoonful every hour.

No. 72, a.

℞ Extracti dulcamaræ ʒi.	Take of extract of bitter-sweet 1 drachm.
Florum sulphuris ʒss.	Flowers of sulphur $\frac{1}{2}$ dr.
Misce, fiant pilulæ gr. i.	Mix, and make pills of 1 gr.
Four, five to eight pills four times a day.	

No. 72, b.

Elixir Anticatarrhale.

Anticatarrhal Elixir.

℞ Extr. card. benedicti ʒi.	Take of extract of blessed thistle 1 drachm.
“ dulcamaræ gr. xx.	Bittersweet 20 grains.
Aquæ fœniculi ʒi.	Fennel water 1 ounce.
“ laurocerasi ʒi.	Laurel water 1 drachm.

Sixty drops four times a day.

No. 73.

- ℞ Lichenis Islandici, Take of Iceland moss,
 Stipitum dulcamaræ, āā Twigs of bitter-sweet, each
 ʒss. $\frac{1}{2}$ ounce.
 Coque cum aquæ fontanæ Boil in 14 ounces of spring
 ʒxiv. ad viij. water down to 8. Let it
 Colaturæ adde be strained. Add
 Liquoris ammonii anisati Aromatic spirit of ammonia
 gutt. LX. 60 drops.
 Syrupi glycyrrhizæ ʒi. M. Syrup of liquorice 1 ounce.
 Two tablespoonfuls four times a day.

No. 74.

- ℞ Potassæ tartratis ʒi. Take of tartrate of potassæ
 1 drachm.
 Aquæ fœniculi ʒss. Fennel water $\frac{1}{2}$ ounce.
 Syrupi mannæ ʒi. Syrup of manna 1 ounce.
 Oxymellis scillæ ʒij. Oxymel of squills 2 drachms.
 Vini antimonii guttas xx. Antimonial wine 20 drops.
 Extracti hyoscyami gr. ij. Extract of henbane 2 grains.
 M.

A teaspoonful every two hours (for children of two to four years of age).

No. 75.

- ℞ Radicis belladonnæ gr. i. Take of nightshade root 1 gr.
 Sacchari albi ʒi. White sugar 1 drachm.
 Misce, fiat pulvis dividendus Mix. Let a powder be made,
 in viij. partes æquales. to be divided into 8 equal
 parts.

One morning and evening (for children from 2 to 4 years of age).

No. 76.

- ℞ Magnesiæ carbonatis Take of magnesia
 Florum sulphuris āā gr. iv. Flowers of sulphur each 4
 grains.
 Laudani liquidi Sydenha- Liquid laudanum of Syden-
 mi guttam 1. ham 1 drop.
 Sacchari albi ʒi. White sugar 20 grains.
 Misce, fiat pulvis. Dis- Mix. Make a powder, and
 pens. dos. iv. divide it in 4 doses.

One to be taken morning and evening.

No. 77.

- ℞ Antimonii tartarisati ʒi. Take of emetic tartar 1 dr.
 Axungiæ porc. ʒss. M. Lard $\frac{1}{2}$ ounce.

Used in friction. The size of a bean at a time.

No. 78.

- ℞ Gelatinæ lichen. Island. Take of Iceland moss jelly
 $\frac{1}{2}$ ounce.
 $\frac{3}{4}$ ss. Syrupi glycyrrhizæ $\frac{3}{4}$ i. Syrup of liquorice 1 ounce.
 A teaspoonful every two hours.

No. 79.

- ℞ Tincturæ cort. aurantii $\frac{3}{4}$ ij. Take of tincture of orange-
 peel 2 drachms.
 “ castorei, Castoreum,
 “ aloës, āā $\frac{3}{4}$ i. M. Aloes, each 1 drachm.
 Sixty drops twice a day.

No. 80.

- ℞ Potassæ carbonatis $\frac{3}{4}$ ij. Take of carbonate of potas-
 sa 2 drachms.
 Succī citri rec. expr. q. s. Lemon juice as much as will
 ad saturationem, saturate.
 Aquæ melissæ $\frac{3}{4}$ ij. Melissa water 3 ounces.
 Extracti hyoscyami gr. vi. Extract of henbane 6 grains.
 M.
 A tablespoonful every hour. (If it produce no effect,
 add 8 drops of laudanum to each dose.)

No. 81.

- ℞ Spiritus matricalis $\frac{3}{4}$ vi. Take of compound spirit of
 mastic 6 ounces.
 Bals. vitæ Hofmanni $\frac{3}{4}$ ss. Hoffmann's balsam of life $\frac{1}{2}$
 ounce.
 Tincturæ opii $\frac{3}{4}$ ij. M. Tincture of opium 2 dr.
 To be used in friction.

No. 82.

Spiritus carminativus, in flatulency.

- ℞ Spiritus matricalis, Take of spirit of mastic,
 “ serpylli, Thyme,
 “ ror. marini, Rosemary,
 “ menth. pip. āā pp. Peppermint, each alike.
 æ.

To wash the hypogastrium morning and evening.

No. 83.

- ℞ Magnesiæ carbonatis, Take equal parts of magne-
 sia,
 Potassæ sulphatis, Sulphate of potassa,
 Radicis rhei, Rhubarb,

Pulveris aromatici āā pp. Aromatic powder, mix.
M.

A teaspoonful three or four times a day.

No. 84.

℞ Emplastri de galbano croc.	Take of compound galbanum plaster 1 ounce.
3i.	
Camphoræ,	Camphor,
Ammoniæ carbonatis,	Carbonate of ammonia,
Opii, āā 3ss.	Opium, each $\frac{1}{2}$ drachm.
Olei cajeputi,	Oil of cajeput,
" menthæ pip. āā guttas	Peppermint each 20 drops.
xx.	
Malax.	Knead together.

No. 85.

℞ Pulveris cort. cinchonæ	Take of powdered bark $\frac{1}{2}$ dr.
regalis 3ss.	
Ferri sulphatis gr. i.	Green vitriol 1 grain.
Cinnamomi gr. ij.	Cinnamon 2 grains.
Misce, fiat pulvis.	Mix, make a powder.
Take one morning and evening.	

No. 86.

℞ Resinæ guaiaci 3ss.	Take of resin of guaiacum $\frac{1}{2}$ drachm.
Antimonii sulphureti(aur.)	Golden sulphuret of antimony,
Hydrargyri submuriatis,	Calomel,
Extracti aconiti, āā gr. ij.	Extract of aconite, each 2 grains.
Olei valerianæ æther. gutt. ij.	Essential oil of valerian 2 drops.
Sacchari alb. gr. xx.	White sugar 20 grains.
Misce, fiat pulvis.	Mix, make a powder.
Half to be taken in the morning, the rest at night.	

No. 87.

Pulvis errhinus.

℞ Florum lavendulæ,	Take lavender flowers,
Herbæ majoranæ āā 3iss.	Marjoram, each $1\frac{1}{2}$ drachm.
Sacchari albi 3i.	White sugar 1 drachm.
Saponis,	Soap,
Flor. convallariæ majalis,	Flowers of lily of the valley,
āā 3ss.	each $\frac{1}{2}$ drachm.
Olei caryophyllatæ guttas iv.	Oil of cloves 4 drops.
Misce, fiat pulvis.	Mix, make a powder.

No. 88.

℞ Bismuthi subnitratis gr. ij.	Take flowers of bismuth 2 grains.
Extracti hyoscyami gr. i.	Extract of henbane 1 grain.
Magnesiæ carbonatis gr. x.	Magnesia 10 grains.
Olei cajeputi guttam i.	Oil of cajeput 1 drop.
Sacchari albi gr. xx.	White sugar 20 grains.
M. f. pulvis.	Mix, make a powder.

No. 89.

Linimentum Anti-spasmodicum. Antispasmodic Liniment.

℞ Linim. volat. camphor. ℥i.	Take of camphorated volatile liniment 1 ounce.
Olei cajeputi,	
“ menthæ crisp. āā gr. x.	Oil of cajeput, Crisp. mint, each 10 grains.
Tinct. Thebaicæ ℥i. M.	Tincture of opium 1 drachm.

No. 90.

℞ Olei amygdal. dulc. ℥i.	Take of sweet oil of almonds 1 ounce.
Aquæ fontanæ ℥vii.	Spring water 7 ounces.
Mucilaginis g. acaciæ q. s.	Mucilage of gum arabic,
f. emulsio, adde	enough to make an emulsion, add
Mannæ electæ ℥i.	Chosen manna 1 ounce.
Potassæ tartratis ℥iij-iv.	Tartrate of potassa 3 to 4 drachms.
Syrupi emulsivi ℥ss.	Syrup ½ ounce.
Extracti hyoscyami gr. vi.	Extract of henbane 6 grains.
M.	

Two tablespoonfuls every two hours.

No. 91.

℞ Florum sulphuris,	Take of flowers of sulphur,
Magnesiæ carbonatis āā ℥ij.	Magnesia, each 2 drachms.
Opii,	Opium,
Rad. ipecacuanhæ āā gr. iij.	Ipecacuanha, each 3 grains.
Misce, fiat pulvis dividendus in xij. partes æquales.	Mix. Let a powder be made and divided into 12 equal parts.

No. 92.

Pilulæ Resolventes. Discussient Pills.

- ℞ Gummi ammoniaci 3ij. Take of gum ammoniac 3 drachms.
 Saponis 3ij. Soap 2 drachms.
 Pulv. radicis rhei 3i. Rhubarb 1 drachm.
 Extracti taraxaci q. s. ut. Extr. of dandelion, enough.
 fiant pilulæ gr. ij. Let pills of 2 grains be made.
 Ten to fifteen, take three times a day.

No. 93.

- ℞ Fellis tauri inspissati, Take of dry ox gall,
 Extracti rutæ, Extract of rue,
 Saponis, Soap,
 Lactis sulphuris, āā 3ij. Milk of sulphur, each 2 dr.
 Misce, fiant pilulæ gr. ij. Mix. Let pills of 2 grains be made.

Ten morning and evening, with infusion of melissa, chamomile, millefoil, arnica.

No. 94.

- ℞ Foliorum sennæ 3ij. Take of senna leaves 2 dr.
 Soda sulphatis 3i. Sulphate of soda 1 ounce.
 Coque cum aquæ fontanæ Boil in as much water as will
 q. s. colat. 3vij. leave 7 ounces of strained
 Adde liquor. Add
 Antimonii tartarisata gr. ij. Emetic tartar 2 grains.
 Syrupi mannæ 3i. M. Syrup of manna 1 ounce.

One or two tablespoonfuls every hour.

No. 95.

- ℞ Pulv. rad. valerianæ 3ss. Take of powdered valerian
 root $\frac{1}{2}$ ounce.
 Florum arnicæ 3ij. Flowers of arnica 2 drachms.
 Digere cum aquæ fervente Digest $\frac{1}{4}$ of an hour in as
 q. s. per horam $\frac{1}{4}$, colen- much boiling water as will
 tur. 3vij. Adde leave 7 ounces of clear li-
 Sodæ sulphatis 3ss. quor. Add
 Liquoris cornu cervi suc- Glauber salts $\frac{1}{2}$ ounce.
 cinati, Succinated spirits of harts-
 " anody. Hoffm. āā horn,
 guttas XL. Anodyne liquor of Hoffman,
 Syrupi cort. aurantii 3ss. each 40 drops.
 Syrup of orange bark $\frac{1}{2}$ oz.

A tablespoonful every hour.

No. 96.

- | | |
|-------------------------|--|
| ℞ Resinæ guaiaci 3ss. | Take of resin of guaiacum
$\frac{1}{2}$ drachm. |
| Potassæ bitartratis 3i. | Cream of tartar 1 drachm. |
| Sacchari albi 3ss. | White sugar $\frac{1}{2}$ drachm. |
| M. f. pulv. | Mix, make a powder. |
- Half in the morning, the rest in the evening. (To be continued several days.)

No. 97.

- | | |
|---|---|
| ℞ Antimonii tart. gr. xv. in
aqua solut. | Take of emetic tartar 15 gr.
dissolved in water. |
| Galbani, | Galbanum, |
| Gummi ammoniaci, | Gum ammonia, |
| Extracti arnicæ, āā 3i. | Extract of arnica, each 1 dr. |
| Castor. 3ss. | Castor oil $\frac{1}{2}$ dr. |
| M. f. pil. gr. i. | Mix, make pills of 1 grain. |
- Eight 4 times a day, continually augmenting the number until nausea supervene.

No. 98.

- | | |
|---|---|
| ℞ Olei cajeputi gr. xx. | Take of oil of cajeput 20 grs. |
| Liquoris anod. Hofm. | Anodyne liquor of Hofm., |
| “ cornu cervi succin-
cinati āā 3i. M. | Succinated spt. of hartshorn,
each 1 drachm. |
- Thirty drops every three hours.

No. 99.

- | | |
|---------------------------------------|---|
| ℞ Florum arnicæ gr. xx. | Take of flowers of arnica 20
grains. |
| Olei valerianæ ætheris gut-
tam i. | Essential oil of valerian 1
drop. |
| Sacchari albi gr. x. | White sugar ten grains, |
| M. f. pulvis. | Mix, make a powder. |
- One to be taken every three hours.

No. 100.

- | | |
|--|---------------------------------------|
| ℞ Extracti nucis vomicæ
spirituosi. | Alcoholic extract of nux vo-
mica. |
| f. pilulæ gr. i. | Made into 1 grain pills. |
- One three times a day; gradually augmenting to two or three.

No. 101.

℞ Spiritus matricialis,	Take of compound spirit of mastic,
“ serpylli,	Thyme,
“ formicarum, āā	Ants, each 2 ounces.
“ 3ij.	
“ camphorati 3i.	Camphorated spirit 1 ounce:
Balsam vitæ Hofm.,	Hofmann's balsam of life,
Linimenti volat. āā 3ss.	Volatile liniment, each half an ounce.
Olei cajeputi 3i. M.	Oil of cajeput 1 drachm.

Used as a lotion.

No. 102.

℞ Olei cajeputi 3i.	Take of oil of cajeput 1 dr.
Linim. volat. cum oleo	Camphorated volatile lini-
camph. 3i.	ment 1 ounce.
Bals. vitæ Hofm. 3ss. M.	Hofmann's balsam of life
	half an ounce.

To be used in friction.

No. 103.

℞ Phosphori gr. v.	Take of phosphorus 5 gr.
Olei animalis Dippelii 3ij.	Animal oil of Dippel 2 dr.
“ papaveris 3ss.	Oil of poppies half an ounce.

To be used in frictions.

No. 104.

Æther Mercurialis. Mercurial Æther.

℞ Hydrargyri chloridi corros. gr. ij.	Take of corrosive sublimate 2 grains.
Ætheris sulphurici 3ij.	Sulphuric ether 2 drachms.
Solve.	Dissolve.

Ten to thirty drops, three times a day.

No. 105.

℞ Barytæ muriatis 3i.	Take of muriate of baryta 1 drachm.
Aquæ distillatæ 3ij.	Distilled water 2 ounces.
Extracti cicutæ 3i. M.	Extract of cicuta 1 drachm.
	M.

Thirty to forty drops four times a day, with decoction of bittersweet.

No. 106.

Chalybeate Wine.

R Ligni quassiæ,	Take of quassia,
Trifolii, āā 3vi.	Trifolium, each 6 drachms.
Radicis zedoariæ,	Zedoary,
“ galangæ, āā 3ij.	Galanga, each 2 drachms.
“ gentianæ,	Gentian,
Corticis aurantii, āā 3ss.	Orange bark, each $\frac{1}{2}$ ounce.
“ cinchonæ 3ij.	Peruvian bark 2 ounces.
Limat. ferri 3vi.	Iron filings 6 drachms.
Infunde vini Rhen. opt. s.	Rhenish or Tokay wine 8
Tokay. ℞viiij.	pints.
Stent in digestionem in loco calido.	Digest in a warm place.

A wine glass full three or four times a day.

No. 107.

R Elixir. visceral. Hofm. 3i.	Take of Hofmann's visceral elixir 1 ounce.
Tincturæ cort. aurantii 3i.	Tincture of orange peel 1 drachm.
Extracti columbo gr. xx.	Extract of columbo 20 grs.
Eighty drops morning and evening.	

No. 108.

R Tincturæ absinthii,	Take of tincture of worm-wood,
Elixir. aurantii comp. (Ph. Borus.) āā pp. æquales.	Compound elixir of orange (Prussian pharmacopœia), of each equal parts.
Eighty drops morning and evening.	

No. 109.

R Extracti lupuli 3i.	Take of extract of hops 1 drachm.
Aquæ menth. pip. 3i.	Peppermint water 1 ounce.
“ cinnamomi 3ss. M.	Cinnamon half an ounce.
Sixty drops three times a day.	

No. 110.

R Pulver. rad. columbo 3ss.	Take of powdered root of columbo half an ounce.
Coque cum aquæ font. 3x. ad vi.	Boil in 10 ounces of spring water to 6.
Coletur, adde	Let it be strained, add
Spiritus sulph. æth. martialis 3ij.	Martial sulphuric ether 2 drachms.

Tincturæ cinnamomi 3i. Tincture of cinnamon 1 oz.
 Syrupi cort. aurantii 3i. Syrup of orange peel 1 oz.
 A tablespoonful every three hours.

No. 111.

R Extracti quassiae 3ss. Take of extract of quassia
 half a drachm.
 Elix. viscer. Hoffm., Hoffmann's viscer. elixir,
 Tinct. cinchonæ Whyttii, Whytt's tincture of bark,
 āā 3ss. each half an ounce.
 Spiritus æth. sulph. mart. Martial sulph. ether 2 dr.
 3ij. M.

Eighty drops three times a day.

No. 112.

R Extracti quassiae 3ss. Take of extract of quassia
 half an ounce.
 Ferri sulphatis gr. xx. Green vitriol 20 grains.
 Pulver. cinnamomi 3ss. Cinnamon powder $\frac{1}{2}$ drachm.
 Misce, fiant pilulæ gr. ij. Mix. Let two grain pills be
 made.

Ten pills two or three times a day.

No. 113.

R Spiritus Formicarum 3ij. Take of spirit of ants 2 oz.
 Liquoris anodyn. Hoffm., Hoffmann's liquid anodyne,
 Bals. vitæ Hoffm. āā 3ss. " balsam of life,
 each $\frac{1}{2}$ ounce.
 Aquæ menthæ pip., Peppermint water,
 " serpylli, āā 3ij. M. Thyme, each 3 ounces.
 As a lotion to the sacrum and genitals.

No. 114.

R Resinæ guaiaci 3ss. Take of resin of guaiacum $\frac{1}{2}$
 drachm.
 Hydrargyri submuriatis, Calomel,
 Antimonii sulph. (aur.) āā Golden sulphur. ant. each 2
 gr. ij. grains.
 Sacchari albi gr. xx. White sugar 20 grains.
 M. f. pulvis. Mix, make a powder.

Half, evening and morning.

No. 115.

R Olei amygdal. dulc. 3i. Take of sweet oil of almonds
 1 drachm.
 " camphorati gr. x. Camphorated oil 10 grains.

Fellis tauri 3ss. Ox gall $\frac{1}{2}$ drachm.
 Olei cajeputi guttas ij. M. Oil of cajeput 2 drops.
 To put into the ears; applied on cotton wool.

No. 116.

R Fol. digitalis purp. gr. i. Take of red foxglove 1 gr.
 Potassæ nitratis, Nitre,
 Pulveris gummosi, āā gr. Gum powder, each 20 gr.
 xx.
 Misce, f. pulvis. Mix, make a powder.
 To be taken morning and evening.

No. 117.

R Calcii chloridi 3i. Take of chloride of lime 1
 drachm.
 Aquæ laurocerasi 3ij. Laurel water 2 drachms.
 " distillatæ 3ss. M. Distilled water 4 drachms.
 Forty or fifty drops four times a day.

No. 118.

R Plumbi acetatis gr. i. Take of acetate of lead 1 gr.
 Extr. opii. aquosi gr. ss. Watery extract of opium $\frac{1}{2}$
 grain.
 Sacchari albi gr. xx. White sugar 20 grains.
 M. f. pulv. Mix, make a powder.
 Take one morning and evening.

No. 119.

R Myrrhæ 3ss. Take of myrrh $\frac{1}{2}$ drachm.
 Sacchari albi 3i. White sugar 1 ounce.
 M. f. pulv. Mix, make a powder.
 A teaspoonful several times a day.

No. 120.

R Cretæ præparatæ 3ij. Take of prepared chalk 2
 drachms.
 Succī citri q. s. ad satu- Lemon juice, enough to sa-
 randum. Adde turate. Add
 Aqua florum tiliæ 3vi. Linden blossom water 6 oz.
 Syrupi glycyrrhizæ 3i. Syrup of liquorice 1 ounce.
 Misce. Mix.

Two tablespoonfuls every two hours.

No. 121.

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|--------------------------|--------------------------------------|
| R Zinci sulphatis gr. x. | Take of white vitriol 10 grs. |
| Extracti catechu 3ss. | Extract of catechu $\frac{1}{2}$ dr. |
| Syrupi althææ ʒi. M. | Syrup of mallows 1 ounce. |

No. 122.

- | | |
|--------------------------------------|-----------------------------------|
| R Gelatin. lichenis Isl. ʒi. | Take Iceland moss jelly 1 ounce. |
| Extracti dulcamaræ gr. x. | Extract of bittersweet 10 grains. |
| Syrupi glycyrrhizæ ʒi. | Syrup of liquorice 1 ounce. |
| Liquor. ammon. anisati guttas xx. M. | Aromatic spirit of amm. 20 drops. |

Take it daily by teaspoonfuls.

No. 123.

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|------------------------------------|---|
| R Extracti myrrhæ aquosi ʒj. | Take of watery extract of myrrh 1 drachm. |
| Liquoris potassæ tartarisi ʒij. M. | Solution of tartrate of potassa 2 ounces. |

Forty drops every three hours.

No. 124.

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|---|--|
| R Pulveris corticis cinchonæ Rad. ratanh. āā ʒss. | Take of Peruvian bark, Ratanhy root, each $\frac{1}{2}$ ounce. |
| Coque cum aquæ fontanæ ʒxij. ad viij. | Boil in 12 ounces of water down to 8. |
| Coletur. Adde | Let it be strained; and add |
| Aluminis crudi 3ss. | Crude alum $\frac{1}{2}$ drachm. |
| Syrupi althææ ʒiss. M. | Syrup of mallows $1\frac{1}{2}$ ounce. |

Two spoonfuls every two hours.

No. 125.

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|------------------------------|---|
| R Calcii chloridi 3ss. | Take chloride of lime $\frac{1}{2}$ dr. |
| Extracti hyoscyami gr. viij. | Extract of henbane 8 grains. |
| Aquæ laurocerasi ʒi. M. | Laurel water 1 ounce. |

Twenty drops three times a day.

No. 126.

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|----------------------------|---------------------------------------|
| R Sacchari lactis ʒi. | Take of sugar of milk 1 oz. |
| Extracti myrrhæ aquosi ʒi. | Watery extract of myrrh 1 drachm. |
| Florum sulphuris 3iss. | Flowers of sulphur $1\frac{1}{2}$ dr. |
| Extracti hyoscyami gr. xx. | Extract of henbane 20 grs. |

Misce, f. pulvis.

Mix, make a powder.

A teaspoonful morning and evening.

No. 127.

℞ Radicis arnicæ ʒiij.	Take of arnica root 3 drs.
Coque cum aquæ font. ʒx.	Boil in 10 ounces of spring
ad vi.	water to 6.
Coletur. Adde	Strain, and add
Extracti chamomillæ,	Extract of chamomile,
“ rutæ, āā ʒiss.	Rue, each 1½ drachm.
Ferri tartaris. ʒi.	Tartrate of iron 1 drachm.
Aquæ menthæ pip. ʒij.	Peppermint water 2 ounces.
Syrupi cort. aurantii ʒi.	Syrup of orange peel 1 oz.
M.	

Two tablespoonfuls three or four times a day.

No. 128.

℞ Gummi galbani,	Take galbanum,
Extracti arnicæ,	Extract of arnica,
“ chamomillæ,	“ chamomile,
Florum salis ammoniaci	Flowers of sal ammoniac, of
mart. āā pp. æq., fac pil-	each equal parts. Make
ulas gr. ij.	pills of 2 grains.

Ten, three times a day.

No. 129.

℞ Sodæ boracis ʒss.	Take of borate of soda half
	a drachm.
Croci gr. viij.	Saffron 8 grains.
Flor. sulphuris,	Flowers of sulphur,
Elæosacchari menth. āā	Mint-sugar, each 20 grains.
gr. xx.	
M. f. pulvis.	Mix, make a powder.

One-third, morning, noon, and evening.

No. 130.

℞ Myrrhæ,	Take of myrrh,
Galbani,	Galbanum,
Extracti hellebori nigri,	Extract of black hellebore,
āā ʒi.	each 1 drachm.
Aloës gr. x.	Aloes 10 grains.
Castorei gr. xx.	Castoreum 20 grains.
Misce, f. pil. gr. ij.	Mix, make two grain pills.

Ten, two or three times a day.

No. 131.

- ℞ *Florum chamomillæ*, Take of chamomile,
Herbæ melissæ, Melissa,
 “ *menthæ crispæ*, āā Crisp mint, each 2 drachms.
 ʒij.
 “ *sabinæ* ʒi. Savin 1 drachm.

C. M. S. Infused in two cups of boiling water. Half to be taken morning and evening.

No. 132.

- ℞ *Magnesiae carbonatis* gr. Take of magnesia 20 grains.
 xx.
Acidi tartarici gr. xvi. Tartaric acid 16 grains.
Herbæ sabinæ, Savin,
Sacchari albi, āā gr. xx. White sugar, each 20 grains.
Misce, fiat pulvis. Mix, let a powder be made.

To be taken three times during the day, in a cup of water.

No. 133.

- ℞ *Elix. acidi Halleri* ʒij. Take of acid elixir of Haller
 2 drachms.
Tr. cinchonæ Whyttii ʒi. Whytt's tincture of bark 1
 ounce.
 “ *cort. aurantii* ʒi. M. Tincture of orange peel 1
 drachm.

Eighty drops three times a day in a cup of water.

No. 134.

- ℞ *Pulveris cort. cinchonæ* Take of powdered bark 1
 ʒi. ounce.
 “ *aurantii* ʒij. Orange peel 2 drachms.
Coque in aqua font. ʒxij. Boil in 12 ounces of water
ad viij. down to 8.
Coletur. Adde Let it be strained; add
Elix. acidi Halleri ʒss. Haller's acid elixir $\frac{1}{2}$ dr.
Tincturæ cinnamomi ʒij. Tincture of cinnamon 2 dr.
Syrupi cort. aurantii ʒi. Syrup of orange peel 1 oz.

Mix two tablespoonfuls every three hours.

No. 135.

- ℞ *Lactis vaccini* Biss. Take of cow's milk $1\frac{1}{2}$ pint.
Coque cum aluminis ʒij. Boil with two drachms of
 alum.

Fiat serum. Adde Make whey. Add
 Syrupi cinnamomi $\mathfrak{z}$ i. Syrup of cinnamon 1 ounce
 Half a cup full every hour or two hours.

No. 136.

R Extracti cinchonæ,	Take of extract of bark,
" ratanhæ,	Ratany,
" salviæ,	Sage,
" catechu, $\bar{a}\bar{a}$ $\mathfrak{z}$ ij.	Catechu, each 2 drachms.
Ferri sulphatis $\mathfrak{c}$ ij.	Green vitriol 40 grains.
Misce. Fiant pilulæ gr. ij.	Mix. Let pills of 2 grains be made.

Ten to fifteen, three times a day.

No. 137.

R Cinnamomi gr. x.	Take of cinnamon 10 grains.
Ferri sulphatis gr. i.	Sulphate of iron 1 grain.
Sacchari albi gr. xx.	White sugar 20 grains.
M. f. pulvis.	Mix. Make a powder.
One powder to be taken every two hours, or oftener.	

No. 138.

R Potassæ bitartratis $\mathfrak{z}$ i,	Take of cream of tartar 1 oz.
" nitratis,	Nitre,
Sacchari albi, $\bar{a}\bar{a}$ $\mathfrak{z}$ ij.	White sugar, each 2 dr.
M. f. pulvis.	Mix. Make a powder.

A teaspoonful two to three times a day, in a glass of sweetened water.

No. 139.

R Aquæ fontanæ $\mathfrak{z}$ vij.	Take of spring water 7 oz.
Spiritūs cochleariæ $\mathfrak{z}$ iss.	Spirit of cochlearia $1\frac{1}{2}$ oz.
Aquæ laurocerasi,	Laurel water,
Potassæ nitratis, $\bar{a}\bar{a}$ $\mathfrak{z}$ i.	Nitre, each 1 drachm.
Extracti hyoscyami gr. x.	Extract of henbane 10 grs.
M.	As a gargle.

No. 140.

R Potassæ carbonatis $\mathfrak{z}$ ij.	Take of carbonate of potassa 2 drachms.
Succi citri q. s. ad satur- andum	Lemon juice as much as will saturate.
Aquæ melissæ $\mathfrak{z}$ iiij.	Melissa water 3 ounces.
Extr. hyoscyami gr. iv. M.	Extract of henbane 4 grains.
Two tablespoonfuls every two or three hours.	

Extracti digitalis gr. i.-ij. Extract of digitalis 1 to 2 gr.
 Syrupi althææ ꝑiss. M. Syrup of mallows 1½ ounce.

Two tablespoonfuls, at first every half hour, afterwards every hour, at last every two hours.

No. 146.

℞ Radicis ipecacuanhæ gr. i. Take ipecacuanha 1 grain.
 Sacchari albi ꝑij. White sugar two drachms.
 Misce. Fiat pulvis dividendus in viij. partes æquales. Make a powder, to be divided into 8 equal parts.

One every quarter of an hour.

No. 147.

℞ Acidi tartari. gr. xx. Take of tartaric acid 20 grs.
 Extracti hyoscyami gr. viij. Extract of henbane 8 grains.
 Aquæ fontanæ ꝑiv. Spring water 4 ounces.
 Syrupi althææ ꝑiss. M. Syrup of mallows 1½ ounce.
 A tablespoonful every half hour.

No. 148.

℞ Elix. acidi Halleri gutt. lx. Take of Haller's acid elixir 40 drops.
 Laudani liquidi Sydenh. gutt. xx. Laudanum of Sydenham 20 drops.
 Aquæ fontanæ ꝑiv. Spring water 4 ounces.
 Syrupi papaveris rhæad. ꝑij. M. Red poppy syrup 2 ounces.

Two table spoonfuls every half hour.

No. 149.

℞ Foliorum digitalis purp. 3ss. Take of leaves of digitalis ½ drachm.
 Ebulli cum aqua font. q. s. Colat. ꝑvij. adde Boil in enough spring water to leave strained 7 ounces.
 Acidi muriatic. oxygenat. 3ij. Add strong muriatic acid 2 drachms.
 Aquæ laurocerasi 3i. M. Laurel water 1 drachm. M.
 A tablespoonful every two hours.

No. 150.

℞ Olei amygdalar. dulc. 3i. Take of almond oil 1 ounce.
 Aquæ fontanæ 3xvi. Spring water 16 ounces.
 Gummi acaciæ ꝑiss. Gum arabic 1½ ounce.
 F. emulsio. Adde Let an emulsion be made.
 Syrupi 3i. M. Add syrup 1 ounce.

Half a cup full every hour.

Diuretic Infusion.

No. 151.

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|------------------------|--------------------------------------|
| ℞ Radicis levistici, | Take of lovage root, |
| “ ononis spinosæ, | Rest-harrow,— each $\frac{1}{2}$ oz. |
| āā ʒss. | |
| Baccarum juniperi ʒij. | Juniper berries 2 ounces. |
| Rad. glycyrrhizæ ʒss. | Liquorice root $\frac{1}{2}$ ounce. |

No. 152.

- | | |
|----------------------------|---------------------------------|
| ℞ Pulveris rad. scillæ, | Take powder of squills, |
| “ herbæ digitalis, | Digitalis, each 20 grains. |
| āā gr. xx. | |
| Corticis cinnamomi ʒiss. | Cinnamon $1\frac{1}{2}$ drachm. |
| Extracti qualæ q. s. ut f. | Extract of elecampane as |
| pil. No. LX. | much as is sufficient. Let |
| | 60 pills be made. |

Two or three, three times a day, increasing to six and more, with diuretic infusion.

No. 153.

- | | |
|--|--|
| ℞ Olei juniperi ʒss. | Take of oil of juniper $\frac{1}{2}$ dr. |
| Tincturæ digitalis ʒi. | Tincture of digitalis 1 dr. |
| Ætheris nitrosi ʒij. | Nitrous ether 2 drachms. |
| Thirty to sixty drops three times a day. | |

No. 154.

- | | |
|-------------------------------------|-------------------------------|
| ℞ Succī spissati juniperi ʒiss. | Take of inspissated juice of |
| | juniper $1\frac{1}{2}$ ounce. |
| Potassæ tartratis ʒij. | Tartrate of potassa 2 dr. |
| Aquæ petroselini ʒvij. | Water of petroselinum 7 oz. |
| Ætheris nitrosi ʒij. | Nitrous ether 2 drachms. |
| Oxymellis scillæ ʒi. M. | Oxymel of squills 1 ounce. |
| Two tablespoonfuls every two hours. | |

No. 155.

- | | |
|----------------------------|--------------------------------|
| ℞ Olei terebinthinæ, | Spirit of turpentine, |
| Aceti scillæ, āā ʒij. | Vinegar of squills, each 2 oz. |
| Spiritus serpylli ʒiij. M. | Spirit of thyme 3 ounces. M. |
| Lotion for the abdomen. | |

No. 156.

- | | |
|----------------------------|---------------------------|
| ℞ Gambogiæ, | Take of gamboge, |
| Pulver. scillæ, | Squills, |
| Digitalis, | Digitalis, |
| Antimonii sulphuret (aur.) | Golden sulphuret of anti- |
| | mony. |

Extr. pimpinellæ, āā pp. Extract of pimpinella equal
æq. parts. Let pills of 2
Misce. Fiant pilulæ gr. ij. grains be made.

One every two or three hours, gradually increasing the number until effect be produced.

No. 157.

R. Radicis bryoniæ albæ ʒi. Take of white bryony root
1 ounce.

Infunde vino Rhenan. ℞ij. Rhenish wine 2 pints.

Digere leni calore per Digest for two days, at a
duos dies. Colentur. moderate temperature.

One or two spoonfuls every morning ; increasing to half, even to a whole cup full, according to the effect.

No. 158.

R Potassæ carbonatis ʒi. Take of carbonate of potassa
1 ounce.

Aceti scillæ q. s. ad sa- As much vinegar of squills
turand. as will saturate.

Extracti fumariæ, Extract of fumitory,

“ centaurii min., Centaury,

“ gentianæ, Gentian,

“ trifolii, āā ʒss. Trefoil, each $\frac{1}{2}$ ounce.

Infus. baccarum juniperi Infusion of juniper berries
℞iv. 4 pints.

Tincturæ martialis aperit. Laxative tincture of mars.,

“ antimonii Jacobi Antimonial tinct. of James,
āā ʒi. M. each 1 ounce.

A tablespoonful every two hours.

No. 159.

R Elaterii gr. i. Take of elaterium 1 grain.

Aquæ petroselini ʒvi. Water of petroselinum 6 oz.

Ætheris nitrosi ʒij. Nitrous ether 2 drachms.

Oxymellis scillæ, Oxymel of squills,

Syrupi de spina cervina, Syrup of cathartic buck-
āā ʒi. thorn, each 1 ounce.

Tincturæ aromaticæ ʒij. Aromatic tincture 2 drs.

M.

A tablespoonful every two or three hours, according to the effect.

No. 160.

- ℞ Syrupi de spina cervi, Take equal parts of syrup of
 buckthorn,
 Succī spissati juniperi, Inspissated juice of juniper,
 " sambuci, āā Elder flowers.
 pp. æq.

A spoonful every three hours.

No. 161.

- ℞ Scammonii 3i. Take of scammony 1 dr.
 Antimonii crudi, Crude antimony,
 Croci martial. aperit. āā. Aperitive martial crocus,
 3 ss. M. each $\frac{1}{2}$ drachm.

Twenty grains in pills for a dose.

No. 162.

- ℞ Resinæ guaiaci 3i. Take of resin of guaiacum 1
 drachm.
 Gambogiæ gr. xx. Gamboge 20 grains.
 Rad. scillæ gr. xij. Squills 12 grains.
 Hydrargyri nitratis gr. ij. Nitrate of mercury 2 grains.
 Extr. levistici 3i. Extract of levisticum 1 dr.
 Misce. Fiant pilulæ No. Mix. Let 60 pills be made.
 LX.

Five, three times a day, taken in diuretic infusion.

No. 163.

- ℞ Hydrargyrii nitratis gr. vi. Take nitrate of mercury 6
 in aquæ q. s. solutus. grains. Dissolved in a suf-
 ficiency of water.
 Extracti levistici, Extract of levisticum,
 " pimpinellæ, āā 3i. Pimpinella, each 1 drachm.
 Olei juniperi guttas xxx. Oil of juniper 30 drops.
 Pulv. rad. althææ q. s. ut Powdered mallow root,
 enough.
 Fiant pilulæ No. LX. Let sixty pills be made.

One every two hours.

No. 164.

- ℞ Olei menthæ pip. guttas x. Take of oil of peppermint 10
 drops.
 Solve in Dissolve in
 Liquoris anodyni Hof. 3i. Anodyne liquor of Hofmann
 1 drachm.
 " ammoniæ anisati, Aromatic spirit of ammonia,

Tincturæ valerianæ āā Tincture of valerian, each
 3iss. M. 1½ drachm.

Thirty to forty drops in infusion of cumin.

No. 165.

R Essentiæ menthæ pip.,	Take of essence of pepper-
	mint,
“ castorei,	Castoreum,
Liquoris anodynī Hof. āā	Anodyne liquor of Hof. each
3i.	1 drachm.
Laudani liquidi Sydenh.	Liquid laudanum of Sydenh.
3ss. M.	half a drachm.

Thirty drops for a dose.

No. 166.

R Tincturæ absinthii,	Take tincture of absinth,
Elixir aurantii co. āā 3ss.	Compound elixir of orange-
	peel, each half an ounce.
Essentiæ menthæ pip. ij.	Essence of peppermint 2
drachms. M.	drachms.

Sixty drops three times a day.

No. 167.

R Asæ fœtidæ,	Take of asa fœtida,
Fellis tauri inspissati,	Dry ox-gall,
Extracti absinthii,	Extract of absinth,
“ quassia,	Quassia,
“ cort. aurantii āā	Orange-peel, each 1 drachm.
3i.	
Olei cajeputi gr. x.	Oil cajeput 10 gr.
Misce. Fiant pilulæ gr. ii.	Mix. Let pills of 2 grains
	be made.

Ten to fifteen morning and evening.

No. 168.

R Extracti graminis,	Take of extract of dog-grass,
“ taraxaci,	Dandelion,
Potassæ tartratis, āā 3ss.	Tartrate of potassa, each ½
	ounce.
Aquæ distillatæ,	Distilled water,
“ menthæ pip. āā 3iij.	Peppermint, each 3 ounces.
M.	

A tablespoonful four times a day.

No. 169.

- | | |
|---------------------------|---|
| ℞ Potassæ bitartratis ʒi. | Take of cream of tartar 1 oz. |
| Florum sulphuris ʒss. | Flowers of sulphur $\frac{1}{2}$ ounce. |
| Misce. Fiat pulvis. | Mix. Let a powder be made. |

A teaspoonful once or twice a day, for a few days, so as to produce one or two loose stools.

No. 170.

- | | |
|----------------------------|-------------------------------|
| ℞ Lactis sulphuris, | Take of milk of sulphur, |
| Magnesiae carbonatis, | Magnesia, |
| Acidi tartari, | Tartaric acid, |
| Elæosacchari citri, āā gr. | Citron sugar, each 20 grains. |
| xx. | |
| Misce. Fiat pulvis. | Mix. Let a powder be made. |

A powder in a cup of water every evening.

No. 171.

**Pilulæ Balsamicæ
Hofmanni.**

- ℞ G. Myrrhæ,
Aloës,
Ext. hellebori nigri āā
3v.
“ cardi benedicti,
“ absinthii,
“ fumarie,
“ centaurii,
“ millefolii, āā ʒi.
Terebinthinæ,
Benzoës,
Resinæ juniperi,
“ hederæ, āā ʒss.
Crocī orientalis, ʒi.
Misce. Coque in balnea
mar. ad consistatē
massulæ pilulæ. Dosis
gr. iv. ad xij.

**Balsamic Pills of
Hofmann.**

- Take of myrrh,
Aloes,
Extract of black hellebore,
each 5 drachms.
Cardus benedictus,
Absinth,
Fumitory,
Centaury,
Millefoil, each 1 ounce.
Turpentine,
Gum benjamin,
Resin of juniper,
Ivy, each $\frac{1}{2}$ ounce.
Saffron 1 drachm.
Mix. Boil in a water bath
to the consistence of pill-
mass. Dose from 4 to 12
grains.

No. 172.

Pulvis Aërophorus.

- ℞ Sodæ bicarbonatis ʒi.

Aerated Powder.

- | |
|---|
| Take of carbonate of soda
20 grains. |
| Tartaric acid 6 grains. |
- To be taken two or three times a day.

No. 173.

- R Elix. acid Halleri $\mathfrak{z}$ ss. Take of Haller's acid elixir $\frac{1}{2}$ ounce.
 Tincturæ cinchonæ Whyttii $\mathfrak{z}$ iss. Whytt's tincture of bark $1\frac{1}{2}$ ounce.

Fifty to eighty drops in a cup of water three times a day.

No. 174.

- R Pulv. radicis columbo $\mathfrak{z}$ ss. Take of columbo $\frac{1}{2}$ ounce.
 Coque in aqua fontana $\mathfrak{z}$ x. Boil in 10 ounces of water
 ad vi. to 6.
 Colaturæ adde To the strained liquor, add
 Tincturæ cort. aurantii $\mathfrak{z}$ ij Tincture of orange peel 2 dr.
 Syrupi " " $\mathfrak{z}$ i. M. Syrup of " " 1 oz.

A tablespoonful every three hours.

No. 175.

- R Extracti catechu, Take of extract of catechu,
 Aluminis crudi, Crude alum,
 Corticis cinchonæ, Bark,
 Extracti quassiæ, $\bar{a}\bar{a}$ $\mathfrak{z}$ i. Ext. quassiæ, each 1 dr.
 Ferri sulphatis gr. x. Green vitriol 10 grains.
 Misce. Fiant pilulæ gr. ij. Mix. Let pills of 2 grains
 be made.

Ten every morning and evening, increasing.

No. 176.

Liquor Anterethicus. Anterethic Liquor.

- R Aquæ laurocerasi, Take of laurel water,
 Liquoris plumbi subacetatis $\bar{a}\bar{a}$ $\mathfrak{z}$ ij. Goulard's water, each 2 oz.
 Aquæ rosarum $\mathfrak{z}$ iv. M. Rose water 4 ounces.

For an external application.

No. 177.

- R Furfuræ triticæ $\mathfrak{z}$ ij. Take wheaten bran 2 ounces.
 Camphoræ $\mathfrak{z}$ ij. M. Camphor 2 drachms.

No. 178.

- R Tincturæ rhei aquosæ $\mathfrak{z}$ i. Take of aqueous tincture of
 rhubarb 1 ounce.
 Aquæ menthæ pip. $\mathfrak{z}$ ij. Peppermint water 2 ounces.
 " distillatæ $\mathfrak{z}$ iv. Distilled " 4 ounces.
 Ammoniaë muriatis $\mathfrak{z}$ i. Muriate of ammonia 1 dr.
 Syrupi althææ $\mathfrak{z}$ i. M. Syrup of mallows 1 ounce.

Two tablespoonfuls every three hours.

No. 179.

R Olei amygdal. dulc. ℥i.	Take of oil of almonds 1 oz.
Ammonii muriatis ʒij.	Sal ammoniac 2 drachms.
Mucilaginis gum. acaciæ ℥ss.	Mucilage of gum arabic $\frac{1}{2}$ oz.
Aquæ fontanæ ℥vi.	Spring water 6 ounces,
Extracti hyoscyami gr. vi.	Extract of henbane 6 grains.
Syrupi amygdal. ℥i. M.	Syrup 1 ounce.

Two tablespoonfuls every two hours.

No. 180.

R Radicis rhei gr. ij.	Take of rhubarb 2 grains.
“ ipecacuanhæ gr. $\frac{1}{4}$.	Ipecacuanha $\frac{1}{4}$ grain.
Cretæ præparatæ gr. 10.	Prepared chalk 10 grains.
Misce fiat pulv. Dispens. viij. doses.	Make a powder of it. Give 8 doses.

One dose every half hour.

No. 181.

R Bol. Armenian. gr. x.	Take of Armenian bole 10 grains.
Nucis moschat. gr. iij. M.	Nutmeg 3 grains, mix it into
Misce fiat pulveris dispens. dos. vi.	powder. Give 6 doses.

One dose to be taken every three hours.

No. 182.

R Extracti cascarillæ ʒi.	Take of extract of cascarilla 1 drachm.
Aquæ menthæ,	Peppermint water,
“ chamomillæ āā ʒij.	Chamomile water each 2 oz.
Mucilaginis gum. acaciæ ℥ss. M.	Mucilage of gum-arabic $\frac{1}{2}$ oz.

A tablespoonful every two hours.

No. 183.

R Radicis rhei gr. ij.	Take of rhubarb 2 grains.
Cretæ præparatæ,	Prepared chalk,
Pulveris gummosi āā gr. xx.	Gum-powder, each 20 grs.
Laudani liquidi Syd. gtt. ij.	Liquid laudanum of Sydenh. 2 drops.
Nucis moschatæ gr. iij.	Nutmeg 3 grains.
Misce, fiat pulvis.	Mix. Let a powder be made.

To be taken two or three times a day.

No. 193, b.

R Colocynthis pulpæ ʒvi.	Take of pulp of colocynth 6 ounces.
Aloës spicatae extracti ʒxii.	Extract of aloes 12 ounces.
Scammonii ʒiv.	Scammony 4 ounces.
Cardamomi seminum ʒi.	Cardamom seed 1 ounce.
Saponis ʒiij.	Hard soap 3 ounces.
Spirit. tenuioris congium.	Weak spirits 1 gallon.
Macera colocynthis pul- pam in spiritu, leni ca- lore, per quadriduum. Liquorem cola, eique adjice aloën, scammo- nium et saponem; dein spiritum consume, do- nec idoneam cessitudi- nem habeat et, sub fi- nem, cardamomi semina admisce.	Digest the colocynth in the spirit, for four days, at a moderate heat, add to it the aloes, scammony, and soap, evaporate to a pro- per consistence, and add the cardamoms.

No. 194.

R Pulv. foliorum sennæ ʒij.	Take of powder of senna 2 drachms.
Extracti taraxici q. s. ut fiant pilulæ No. LX.	Extract of dandelion a suffi- ciency. Let sixty pills be made.

Five to ten a day.

No. 195.

**Species Thea St.
Germani.**

**Ingredients for the
Tea of St. Germain.**

R Foliorum sennæ ʒiv.	Take of senna leaves 4 ounces.
Digere cum spiritu vini rectif. per horas xxiv. Post digestionem ex- sicca sine calore. Adde	Digest in proof spirits for 24 hours. After the di- gestion, dry without heat. Add
Florum sambuci ʒiiss.	Flowers of elder 2½ ounces.
Seminum fœniculi,	Fennel seed,
“ anisi, āā ʒi.	Anis seed, each 1 ounce.
Potassæ bitartratis ʒvi.	Cream of tartar 6 drachms.
M. C. M.	Mix.

No. 196.

- | | |
|--------------------------------|------------------------------|
| R Mannæ electæ, | Take of best manna, |
| Fructūs tamarindorum, | Tamarinds, |
| Magnesiæ sulphatis, āā ʒi. | Epsom salt, each 1 ounce. |
| Coque cum aqua font. | Boil in 12 ounces of water |
| ʒxij. ad viij. sub finem | to 8. At the end of the |
| coctionis, adde | boiling add |
| Foliorum sennæ ʒij. | Senna leaves 2 drachms. |
| Liquori colato. adde | To the strained liquor add |
| Extracti hyoseyami gr. | Extract of henbane 8 grains. |
| vij. | |
| Syrupi papaveris ʒi. M. | Poppy syrup 1 ounce. |
| Two tablespoonfuls every hour. | |

No. 197.

- | | |
|---|-----------------------------|
| R Olei amygdalarum, | Take of almond oil, |
| Magnesiæ sulphatis, āā ʒi. | Epsom salt, each 1 ounce. |
| Extr. aloës aquosi gr. x. | Aqueous extract of aloes 10 |
| | grains. |
| “ hyoseyami gr. xx. | Henbane 20 grains. |
| Aquæ fontanæ ʒviij. M. | Water 8 ounces. |
| Two tablespoonfuls every two hours. Shake the mixture | |
| each time. | |

No. 198.

- | | |
|-----------------------------------|------------------------------|
| R Nicotianæ ʒij. | Take of tobacco 3 drachms. |
| Coque cum aqua ʒix. ad | Boil in 9 ounces of water to |
| vij. | 7. |
| Colentur. | Let it be strained. |
| Half a cup full every hour. [?] | |

No. 199.

- | | |
|-------------------------------|------------------------------|
| R Succī spissati juniperi ʒi. | Take of inspissated juice of |
| | juniper 1 ounce. |
| Aquæ petroselini ʒiv. | Water of petroselinum 4 |
| | ounces. |
| Acidi muriatici diluti ʒij. | Dilute muriatic acid 2 drs. |
| M. | |

A tablespoonful every two hours.

No. 200.

- | | |
|---|----------------------------|
| R Pulv. cantharidum gr. i. | Take of cantharides 1 gr. |
| Camphoræ gr. vi. | Camphor 6 grains. |
| Mucilaginis g. acaciæ q. | Mucilage as much as neces- |
| s. ut. | sary. |
| F. pilulæ No. iv. | Make 4 pills. |
| One, morning, noon, and night with gruel. | |

No. 201.

Pulvis Antidyscrasicus S. Purificans.

R Resinæ guaiaci gr. xx. ad
xxx.
Sulphureti antim. (aur),
Hydrargyrii submuriatis,
āā gr. ij.
Magnesiæ carbonatis,
Elæosacchari fœniculi, āā
gr. xx. M.

Purifying or Antidyscrasic Powder.

Take of resin of guaiacum
20 to 30 grains.
Golden sulphuret of anti-
mony,
Calomel, each 2 grains.
Magnesia,
Fennel candy, each 20 grs.
M.

For infants and delicate persons, let black sulphuret of mercury or antimony be substituted for the calomel, in the proportion of one grain for each year of age, and of a scruple for adults. Make a powder, half night and morning.

No. 202.

R Radicis sarsaparillæ,
" bardanæ,
" saponariæ,
Ligni guaiaci,
Rad. glycyrrhizæ,
Stipitum dulcamaræ āā
pp. æq.
C. M.

Take of sarsaparilla,
Burdock,
Soapwort,
Guaiacum,
Liquorice roots,
Tops of bittersweet, equal
parts.

An ounce or an ounce and a half every day, in decoction.

No. 203.

Decoctum Pollini.**Decoction of Pollini.**

R Rad. sarsaparillæ ʒi.
Stipit. dulcamaræ ʒss.
Pulver. antimonii crud. ʒi.
C. coque cum aqua font.
℞ij. ad ℞iss. Adde
Foliorum sennæ ʒss.—i.
Colaturæ adde
Syrupi fumarizæ ʒi. M.

Take of sarsaparilla 1 ounce.
Twigs of bittersweet $\frac{1}{2}$ oz.
Crude antimony in powder
1 drachm.
Boil in 2 pints of water to
 $1\frac{1}{2}$ pint. Add
Senna $\frac{1}{2}$ to 1 drachm.
To the strained liquor add
Syrup of fumitory 1 ounce.

All to be taken in one day.

No. 204, (1.)

Decoctum Zittmanni Fortius.

℞ Rad. sarsaparilla ℥xij.
 Infunde
 Aquæ communis mensuras
 xxiv.
 Et digere per horas xxiv.
 Tum additis
 Sacchari aluminati ℥iss.
 Hydrarg. submuriatis ℥ss.
 Cinnabaris 3i.
 Sacculo linteo inclusis, co-
 que ad remanentiam
 mensurarum octo, sub
 finem coctionis addendo
 Seminum anisi,
 " fœniculi singu-
 lorum contusorum ℥ss.
 Foliorum sennæ ℥iij.
 Radicis glycyrrhizæ ℥iss.
 Cola et exprime. Liquor-
 em obtentum decantha.

Zittmann's Strong Decoction.

Take of sarsaparilla 12 oz.
 Pour over it
 Common water 24 pints,
 And digest for 24 hours.
 Then add
 Alumniated sugar 1½ ounce.
 Calomel ½ ounce.
 Vermilion 1 drachm.
 Enclosed in a linen bag, and
 boil down to 8 pints; to-
 wards the last of the boil-
 ing there being added of
 separately bruised
 Anis seed,
 Fennel seed, each ½ ounce.
 Senna 3 ounces.
 Liquorice root 1½ ounce.
 Strain and press the liquor
 out.

No. 205, (2.)

Decoct. Zittman. Mitius.

℞ Rad. sarsaparillæ ℥vi.
 Cum speciebus a decocto
 fortiori mensurarum,
 octo residuis mixtas
 coque cum aqua com.
 mensuris xxiv. ad re-
 manentiam mensura-
 rum octo, sub finem coc-
 tionis addendo
 Corticis citri,
 Cassiæ cinnamomi,
 Cardamomi minoris,
 Rad. glycyrrhizæ singulo-
 rum contusorum et con-
 cisorum 3iij.
 Cola et exprime liquorem,
 obtentum decantha.

Weaker Decoct. of Zittmann.

Take of sarsaparilla 6 oz.
 Boil with the residue of the
 preceding decoction, and
 reduce to 8 pints, adding
 towards the end
 Citron peel,
 Cassia cinnamon
 Lesser cardamoms
 Liquorice root, each bruised
 and cut up.
 Strain and express.

Take a gill of the strong decoction (1.) while yet in bed, quite early in the morning. Remain there until the perspiration be over, change linen, after this take two cups of coffee. In the course of the forenoon take a cup of broth; at noon a dish of soup, roast meat (fowl is preferable), and vegetables, abstaining from fruit, wine, beer and pastry; from all kinds of ices; acids, salted or fat meats. After dinner, take again coffee, and half a pint of the strong decoction, cold. In the evening gruel. Before going to bed take half a pint of the weak decoction (2).

The medicine ought to be kept in the cellar; keeping only two bottles for immediate use, which must be well shaken before using.

No. 205.

℞ Limat. ferri gr. x.	Take of iron filings 10 grs.
Radiciſ rhei,	Rhubarb,
Cinnamomi āā gr. ij.	Cinnamon, each 2 grains.
Sacchari albi gr. xx.	White sugar 20 grains.
Misce. F. pulvis.	Mix. Let a powder be made.

To be taken morning and evening.

No. 206.

℞ Florum ammoniacal. martial. vel ferri tartaris 3i.	Take of martial flowers of sal ammoniac or tartrate of iron 1 drachm.
Extracti gentianæ 3ij.	Extract of gentian 2 dr.
Corticis aurantii 3i.	Orange peel 1 drachm.
Aquæ melissæ 3ij.	Melissa water 3 oz.
“ cinnamomi 3ij.	Cinnamon water 2 oz.
Syrupi cort. aurantii 3i. M.	Syrup of orange peel 1 oz.
	Mix.

A tablespoonful four times a day.

No. 207.

℞ Extracti taraxici	Take of extract of dandelion,
“ chelidonii āā 3ij.	“ chelidonium,
	each 3 drachms.
Acidi tartaris 3ss.	Tartaric acid, $\frac{1}{2}$ oz.
Tincturæ rhei aquosæ 3i.	Watery tincture of rhubarb
	1 oz.
Aquæ menthæ pip. 3ij.	Peppermint water 2 oz.
“ distillatæ 3iv.	Distilled water 4 oz.
Syrupi menthæ 3i. M.	Syrup of mint 1 oz.

A spoonful every two hours.

No. 208.

℞ Pulveris rad. rhei,	Take of rhubarb,
Extracti taraxici,	Extract of dandelion,
“ chelidonii,	“ chelidonium,
Saponis,	Soap,
Gummii ammoniaci āā 3i.	Gum ammoniac, each 1 dr.
Aloës gr. xx.	Aloes 20 gr.
Misce. Fiant pilulæ gr. ii.	Mix. Let 2 grain pills be
consperge seminibus ly-	made, sprinkled with ly-
copodii.	copodium.

Twelve morning, noon and night.

No. 209.

℞ Radicis belladonnæ gr. i.	Take of nightshade root 1
“ rhei gr. v.	grain.
Sacchari albi g. xx.	Rhubarb 5 gr.
M. F. pulvis.	White sugar 20 gr.
	Mix. Make a powder.

To be taken morning and evening.

No. 210.

℞ Æthiopis mineralis gr. i.	Take of Æthiops mineral 1
ad iij.	to 3 grains.
Pulveris puerorum gr. xx.	Pulvis puerorum 20 to 30
ad xxx.	grains.
Misce. F. pulvis.	Mix. Let a powder be made.

Half in the morning and the rest at bed-time.

No. 211.

℞ Antimonii sulphuret. (aur.)	Take of golden sulphuret of
	antimony,
Hydrargyrii submuriatis,	Calomel, each 1 gr.
āā gr. i.	
Pulveris puerorum 3ss.	Pulvis puerorum $\frac{1}{2}$ drachm.
M. F. pulvis.	Mix. Let a powder be made.

Half in the morning and the rest in the evening (for children of five years and upwards.)

No. 212.

℞ Antimonii sulphur. (aur.)	Take of golden sulphuret of
	antimony,
Hydrargyrii submuriatis,	Calomel,
Ext. cicutæ āā gr. i.	Extract of cicutæ, each 1 gr.
Resinæ guaiaci gr. x.	Resin of guaiacum 10 gr.

Elæosacchari fæniculi gr. Fennel candy 20 gr.

xx.

Misce. Fiat pulvis. Mix. Let a powder be made.

Half in the morning the rest in the evening.

No. 213.

R Barytæ muriatis 3ss. Take of muriate of barytes
 $\frac{1}{2}$ drachm.

Aquæ distillatæ 3i. Distilled water 1 oz.

Ten to thirty drops, three times a day.

No. 214.

R Ligni sassafragæ 3iv. Take of sassafras 4 oz.
Radicis rubiæ tincturi Madder,
" glycyrrhizæ āā 3i. Liquorice root, each 1 oz.

C. M.

A tablespoonful in infusion, as a tea, daily.

No. 215.

R Resinæ guaiaci Take of resin of guaiacum,
Extracti dulcamaræ āā 3ij. Extract of bittersweet, each
2 drachms.

" cicutæ gr. xx. Extract of cicutæ 20 gr.

Florum sulphuris Flowers of sulphur,

Hydrargyrii submuriat. āā Calomel, each 10 gr.

gr. x.

Misce. Fiant pilulæ gr. ij. Mix. Let 2 grain pills be
made.

Ten, twice a day.

No. 216.

R Radicis saponariæ Take of root of saponaria

" taraxici " dandelion

" bardanæ " bardana

" sassafragæ āā 3ij. " sassafras, each
2 oz.

" rubiæ tinctori 3ij. " madder 3 oz.

" glycyrrhizæ 3i.M. " liquorice 1 oz.

C. M. Boil one ounce in a quart of water, and reduce
to two-thirds. The whole to be taken in one day.

No. 217.

R Calcii chloridi 3ss. Take of chloride of lime,
 $\frac{1}{2}$ oz.

Solve in aqua distillata Distilled water 1 pint.

℞i. Externally.

No. 218.

- | | |
|-----------------------------------|---|
| R Potassæ hydriodatis 3ss. | Take of hydriodate of potassa $\frac{1}{2}$ drachm. |
| Adeps suillæ $\mathfrak{z}$ i. M. | Hog's lard 1 oz. |

No. 219.

Unguentum Ophthalmicum.**Ophthalmic Ointment.**

- | | |
|-----------------------------------|---|
| R Hydrargyrii oxidi rubri gr. ij. | Take of red precipitate 2 gr. |
| Tuttæ gr. vi | Tutty 6 gr. |
| Unguenti simplicis 3i. | Simple ointment 1 drachm. |
| Extracti opii aquos. gr. ss. M. | Aqueous extract of opium, $\frac{1}{2}$ gr. |

No. 220.

- | | |
|----------------------------------|--------------------------------------|
| R Boracis sodæ 3iss. | Take of borax $1\frac{1}{2}$ drachm. |
| Solve in aqua $\mathfrak{z}$ iv. | Dissolve in water 4 oz. |
| Aquæ laurocerasi 3iij. M. | Laurel water 3 drachms. |

No. 221.

- | | |
|------------------------------|--|
| R Spongiæ tostæ 3ss. | Take of burnt sponge $\frac{1}{2}$ dr. |
| Cretæ præparatæ | Prepared chalk, |
| Elæosacchari citri āā g. xx. | Citron candy, each 20 gr. |
| Æthiopsis mineralis gr. x. | Æthiops mineral 10 gr. |
| Misce. F. pulvis. | Mix. Let a powder be made. |

Half in the morning the rest at night.

No. 222.

- | | |
|---|--|
| R Spongiæ tostæ $\mathfrak{z}$ ss. | Take of burnt sponge $\frac{1}{2}$ oz. |
| Coque cum aqua $\mathfrak{z}$ xij. ad v. | Boil in 12 oz. of water to 5. |
| Colaturæ adde | To the strained liquor add |
| Aquæ cinnamomi, | Cinnamon water, |
| Syrupi corticis aurantii āā $\mathfrak{z}$ i. | Syrup of orange peel, each 1 oz. |

A tablespoonful four times a day.

No. 223.

- | | |
|------------------------------------|--|
| R Potassæ bi-carbonatis 3i. | Take of bi-carbonate of soda 1 drachm. |
| Aquæ cinnamomi | Cinnamon water |
| Syrupi althææ āā $\mathfrak{z}$ i. | Syrup of mallows, each 1 oz. |
| Aqua fontana $\mathfrak{z}$ vi. M. | Spring water 6 oz. |

Two tablespoonfuls four times a day.

No. 224.

R Sacchari albi gr. xx.	Take of white sugar 20 gr.
Cretæ præparatæ gr. x.	Prepared chalk 10 gr.
Ferri alcoholisati gr. i—ij.	Iron filings 1 to 2 gr.
Cinnamomi gr. i. M.	Cinnamon 1 gr.
M. pulvis.	Mix. Make a powder.

Take morning and evening.

No. 225, a.

R Resinæ guaiaci,	Take of guaiacum
Gummi acaciæ āā 3ij.	Gum arabic, each 2 dr.
Aquæ distillatæ ʒvi.	Distilled water 6 oz.
Fiat emulsio; adde	Let an emulsion be made; add
Potassæ nitratis 3i.	Nitre 1 drachm.
Syrupi ʒi.	Syrup 1 oz.
Vini antimonii 3i. M.	Antimonial wine 1 drachm.

A tablespoonful every two hours.

No. 225, b.

R Tincturæ guaiaci volatil.	Take of volatile tincture of
ʒi.	guaiacum 1 oz.
Mucilaginis gum. acaciæ	Mucilage of gum arabic 2
3ij.	drachms.
Syrupi amygdalarum,	Syrup of almonds,
" cort. aurantii, āā	" orange peel 1½ oz.
ʒiss. M.	

Half a spoonful three times a day.

No. 226.

R Soda carbonatis 3i.	Take of carbonate of soda
	1 drachm.
Extracti absinthii 3ij.	Extract of absinth 2 dr.
Aquæ menthii pip. ʒiv.	Peppermint water 4 ounces.
Syrupi corticis aurant. ʒi.	Syrup of orange peel 1 oz.
Tincturæ " " ʒiss.	Tincture of " " 1½ dr.
M.	

A tablespoonful four times a day.

No. 227.

R Calcis antimonii sulphu-	Take of calx of antimony 2
rati 3ij.	drachms.
Coque cum aqua fontana	Boil in 5 pints of water to 4.
℔v. ad iv.	

Half, or a whole cup, every two hours.

No. 228.

- | | |
|----------------------------------|-------------------------------|
| R Olei sabinæ guttas ij. | Take of oil of savin 2 drops. |
| Extracti aconiti gr. i. | Extract of aconite 1 grain. |
| Sacchari albi gr. xx. | White sugar 20 grains. |
| Misce, f. pulvis. | Mix, make a powder. |
| To be taken morning and evening. | |

No. 229.

- | | |
|--|-------------------------------|
| R Olei sabinæ guttas iv. | Take of oil of savin 4 drops. |
| Calcis sulphureti gr. vi. | Sulphuret of lime 6 grains. |
| Extracti aconiti gr. ii. | Extract of aconite 2 grains. |
| Sacchari albi 3i. | White sugar 1 drachm. |
| M. f. pulvis. | Mix, make a powder. |
| To be taken in three times during the day. | |

No. 230.

- | | |
|-----------------------------|---------------------------------------|
| R Resinæ guaiaci 3ss. | Take of guaicum $\frac{1}{2}$ drachm. |
| Lactis sulphuris gr. x. | Milk of sulphur 10 grains. |
| Antimonii sulphureti | Golden sulphuret of antim. |
| (aur.) gr. ij. | 2 grains. |
| Elæosacchari citri 3ss. | Citron candy $\frac{1}{2}$ drachm. |
| Misce. Fiat pulvis. | Mix. Let a powder be made. |
| To be taken in three times. | |

No. 231.

- | | |
|--|-----------------------------|
| R Hydrargyrii bi-chloridi | Take of corrosive sublimate |
| gr. ij. | 2 gr. |
| Solve in aqua distillata q.s. | Dissolve in distilled water |
| Opii gr. ij. | Opium 2 gr. |
| Mellis gr. xx. | Honey 20 gr. |
| Micæ panis, q. s. ut fiant | Crumb of bread as much as |
| pilulæ No. xl. | will do. Make 40 pills. |
| Six, ten, even twelve morning and evening. | |

No. 232.

- | | |
|--|-------------------------------|
| R Hydrargyrii oxidi rubri | Take of red precipitate 1 gr. |
| gr. i. | |
| Antimonii crud. gr. xl. | Crude antimony 40 gr. |
| Extracti glycyrrhizæ q. s. | Extract of liquorice enough. |
| ut fiant pilulæ No. LXXX. | Let 80 pills be made. |
| Ten at bed-time, and in the course of time that number twice in obstinate cases. | |

No. 233.

- | | |
|---------------------------|------------------------------|
| R Potassæ hydriodatis 3i. | Take of hydriodate of potass |
| | 1 drachm. |

Iodini gr. i.	Iodine 1 drachm.
Aquæ distillatæ ℥v.	Distilled water 5 ounces.
Syrupi papaveris ℥i. M.	Syrup of poppies 1 ounces.
A spoonful three times a day.	

No. 234.

℞ Hydrargyrii vivi ℔i.	Take of quicksilver 1 pound.
Coque in vase terreo sæpe	Water 4 pints.
agitando cum spatula	Boil in an earthen vessel,
lignea cum aqua fonta-	stirring often with a wood-
na ℔iv. per aliquot ho-	en spatula for a few hours.
ras.	

Used as a drink.

No. 235.

℞ Extracti tanaceti,	Take of extract of tansy,
“ quassiae, āā ℥ii.	Quassia, each 2 drachms.
Olei tanaceti guttas x.	Oil of tansy 10 drops.
Misce, fiant pilulæ pon-	Mix. Make pills of 2 grs.
deræ gr. ij.	

Ten morning and evening.

No. 236.

℞ Pulvis seminum santonici	Take of santonicum seed 1½
℥ss.	oz.
Rad. valerianæ 3iss.	Powder of valerian 1½ dr.
“ jalapa 3i.	Jalap 1 drachm.
Acid tartari 3ij.	Tartaric acid 2 drachms.
Oxymel scillæ 3iij.	Oxymel of squills 3 drachms.
Syrupi rubi idæi q. s. ut	Raspberry syrup, as much as
fiat electuaria.	will make an electuary.

Three or four teaspoonfuls a day.

No. 237.

℞ Seminum santonici 3i.	Take of santonicum seed 1
	drachm.
Radici jalapa gr. x.	Powdered jalap 10 grains.
Hydrargyrii submur. gr. ij.	Calomel 2 grains.
Misce, f. pulvis.	Mix, make a powder.

Half morning and night (for a child 6 years old, continued for three days).

No. 238.

℞ Fuci helminthochortonis	Take of Corsican worm seed
3iij.	3 drachms.
Coque cum aqua ℥viiij. ad	Boil in 8 ounces down to 4.
iv.	
Colentur.	Let it be strained.

A tablespoonful every two hours.

No. 239.

- ℞ Radicis spigeliæ 3ij. Take of pink root 2 drachms.
 Ebullitor cum aqua fontana ℞i. Colentur. Let it be boiled in 1 pint of water, and strained.
 Half a cupful every two hours.

No. 240.

- ℞ Ferri sulphatis gr. ij. Take of green vitriol 2 grs.
 Pulv. jalapæ, Jalap,
 Semin. santonici āā gr. xx. Santonicum, each 20 grains.
 Misce, fiat pulvis. Mix, make a powder.
 One morning and evening.

No. 241.

- ℞ Pulv. corticis granati ʒiss. Take of pomegranate 1½ oz.
 Coque cum aquæ ʒxij. ad Boil in 12 ounces of water
 viij. to 8.
 Colentur. Let it be strained.
 Two tablespoonfuls every half hour, in the morning, fasting.

No. 242.

- ℞ Saponis ʒss. Take of soap half an ounce.
 Gummi ammoniaci, Gum ammoniac,
 Extracti absinthii, āā ʒij. Extract of absinth, each 2 oz.
 Misce, f. pil. gr. ij. Mix, make pills of two grs.
 Ten, three times a day.

No. 243.

- ℞ Sodæ carbonatis ʒss. Take of carbonate of soda ¼ drachm.
 Acidi tartari, Tartaric acid,
 Sacchari albi, āā gr. xx. White sugar, each 20 grains.
 M. f. pulvis. Mix, make a powder.
 Three times a day.

No. 244.

- ℞ Olei terebinthinæ ʒss. Take of spirit of turpentine half an ounce.
 Ætheris sulphurici 3ii. Sulphuric ether 2 drachms.
 Thirty to sixty drops three times a day.

No. 245, a.

- ℞ Potassæ tartarisati ʒiss-ij. Take of tartrate of potassa 1½ to 3 drachms,
 (according to the age). (according to the age).
 Aquæ distillatæ ʒij. Distilled water 2 ounces.
 Syrupi mannæ ʒi. Syrup of manna 1 ounce.
 Vini antimonii gut. xx. M. Antimonial wine 20 drops.
 A teaspoonful every two hours.

No. 245, *b*.

℞ Vini antimonii guttas xxx. Take of antimonial wine 30 drops.

Potassæ tartarissati 3iss. Tartrate of potassa 1½ dr.

Aquæ flor. sambuci ʒij. Elder-flower water 2 oz.

Syrupi althææ ʒi. M. Syrup of mallows 1 ounce.

A teaspoonful every two hours (for a child of 3 years of age).

No. 246.

℞ Olei amygdalarum ʒi. Take of olive oil 1 drachm.

Aquæ fontanæ ʒij. Spring water 2 ounces.

Mucilaginis g. arabici q. s. Mucilage of gum arabic,
ut. f. emulsio, adde enough to make an emul-
sion, add

Extracti hyoscyami gr. ij. Extract of henbane 2 grs.

Syrupi amygdal. ʒi. Syrup 1 ounce.

A teaspoonful, frequently repeated in violent coughs.

No. 247, *a*.

℞ Acidi sulphurici diluti gt. Take of dilute sulphuric acid
x. 10 drops.

Syrupi mororum ʒij. Syrup of black berries 2 oz.

Swallow a spoonful slowly and often.

No. 247, *b*.

℞ Radicis levistici, Take of levisticum,

Baccar. juniperi, āā ʒi. Juniper berries, each 1 oz.

Specieri pectoralis ʒij. Pectoral ingredients 2 oz.

C. M. Cut up and mix.

No. 248.

℞ Extracti dulcamaræ, Take equal parts of

Pulvis antimonii crud. āā Extract of dulcamara, and

pp. æq. Crude antimony.

Misce, f. pil. gr. ij. Mix. Make 2 grain pills.

Five to ten three times a day.

No. 249.

℞ Furfuris amygdalarum ʒij. Take of bran of almonds, 2 drachms.

Aquæ rosarum, Rose water,

“ florum naphæ āā ʒvij. Orange water, each 7 oz.

Ut fiat emulsio, adde Let an emulsion be made ;
adde

Tincturæ Benzoës, Tincture of Benjamin,

Boracis sodæ āā ʒi. Borax, each 1 drachm.

As a lotion at bed time. When the skin is irritable, the
orax must be omitted.

No. 257.

- | | |
|-------------------------|-------------------------------|
| ℞ Magnesiae carbonatis, | Take of magnesia, |
| Cretæ ppt., | Prepared chalk, |
| Cornu cervi rasuri, | Rasped hartshorn, |
| Visci quircini, | Mistletoe, |
| Radix valerianæ, āā pp. | Valerian, of each equal parts |
| æquales. | |
| Misce. Fiat pulvis. | Mix. Make a powder. |
| Like the preceding. | |

No. 258.

- | | |
|--|---|
| ℞ Antimonii tartarisi gr. i. | Take of emetic tartar 1 gr. |
| Solve in aqua ʒi. | Dissolve in water 1 ounce. |
| Oxymellis scillæ, | Oxymel of squills, |
| Syrupi simplicis, āā ʒss. | Simple syrup, each $\frac{1}{2}$ ounce. |
| Pulv. rad. ipecacuanhæ gr. xx. | Powdered ipecacuanha 20 grains. |
| Misce. Fiat pulvis. | Mix. Make a powder. |
| A teaspoonful every quarter of an hour until vomiting occur. | |

No. 259.

- | | |
|--|---|
| ℞ Syrupi de cichorico cum rheo, | Take equal parts of syrup of chicory, |
| Aquæ fœniculi, āā ʒss. | Fennel water, each $\frac{1}{2}$ ounce. |
| A teaspoonful three or four times a day. | |

No. 260.

- | | |
|-------------------------|--|
| ℞ Syrupi mororum ʒi. | Take of syrup of blackberries 1 ounce. |
| Mellis rosarum ʒss. | Honey of roses $\frac{1}{2}$ ounce. |
| Sodæ boracis gr. xx. M. | Borax 20 grains. |

No. 261.

- | | |
|------------------------------------|---|
| ℞ Oxidi zinci gr. viij. | Take of flowers of zinc 8 gr. |
| Moschi orientalis gr. iv. | Oriental musk 4 grains. |
| Laudani liquidi Sydenh. guttas vi. | Liquid laudanum of Sydenham 6 drops. |
| Sacchari albi ʒij. | White sugar 2 drachms. |
| Misce, f. pulvis in viij. pp. æq. | Mix. Let a powder be made and divided into 8 equal parts. |

One every hour.

No. 262.

- | | |
|---|--|
| ℞ Spiritus cornuæ cervi succin. gutt. xl. | Take of succinated spirit of hartshorn 40 drops. |
| Aquæ fœniculi, | Fennel water, |
| Syrupi rhei, āā ʒi. | Syrup of rhubarb, each 1 oz. |
| Cretæ ppt. gr. xx. | Prepared chalk 20 grains. |

Extracti hyoscyami gr. ij. Extract of henbane 2 grains.
 Moschi orientalis gr. iv. Oriental musk 4 grains.
 Cum saccharo triturat. Triturated with sugar.
 Croci orientalis gr. iij. M. Saffron 3 grains.

A teaspoonful every two hours.

No. 263.

R Olei hyoscyami, Take of oil of henbane,
 " camphoræ, āā ʒss. Camphor, each $\frac{1}{2}$ ounce.
 Tincturæ thebaici ʒi. M. Tincture of opium 1 dr. M.
 Applied in frictions every two hours.

No. 264.

R Cretæ ppt. ʒss. Take of prepared chalk $\frac{1}{2}$ dr.
 Aquæ fœniculi, Fennel water,
 Syrupi rhei, āā ʒi. Syrup of rhubarb, each 1 oz.
 A teaspoonful every hour;—shake up the medicine first.

No. 265.

R Magnesiae carbonatis ʒiij. Take of magnesia 3 dr.
 Semen fœniculi, Fennel seed,
 Corticis aurantii, Orange peel,
 Sacchari albi, āā ʒss. White sugar, each $\frac{1}{2}$ drachm.
 M. f. pulvis. Mix. Let a powder be made.
 A teaspoonful morning and evening.

No. 266.

R Cretæ ppt., Take prepared chalk,
 Elæosacchari fœniculi, Fennel candy,
 Radicis althææ, āā gr. xx. Mallow root, each 20 grains.
 Laudani liquidi Sydenh. Liquid laudanum 1 drop.
 gutt. i.
 M. f. pulvis. Divid. in Mix. Divide into four equal
 quaturæ partes. powders.

No. 267.

R Unguenti de althææ, Take of mallow ointment,
 Balsami nucistæ āā ʒss. Balsam of nutmeg, each $\frac{1}{2}$ oz.
 Olei menthæ crisp. gut. vi. Oil of mint 6 drops.
 Laudani liquidi Sydenh. Liquid laudanum of Syd. 20
 gutt. xx. M. drops.

No. 268.

R Extract icascarillæ gr. xv. Take of extract of cascarilla
 15 grains.
 Aquæ fœniculi ʒij. Fennel water 2 ounces.
 Mucilaginis rad. salep, Mucilage of salep,
 Syrupi althææ, āā ʒss. M. Syrup of mallows, each half
 an ounce.

A spoonful every two hours.

No. 269.

- | | |
|------------------------------------|---|
| ℞ Potassæ tartarisati 3ss. | Take of tartrate of potassa
half a drachm. |
| Aquæ fœniculi ʒiiss. | Fennel water 1½ ounce. |
| Syrupi mannæ & rhei, āā
ʒss. M. | Syrup of manna and rhubarb
each half an ounce. |

A teaspoonful every two hours.

No. 270.

- | | |
|----------------------------|--|
| ℞ Potassæ tartarisati 3ss. | Take of tartrate of potassa
½ drachm. |
| Vini antimonii guttas xx. | Antimonial wine 20 drops. |
| Aquæ flor. sambuci ʒiiss. | Elder-flower water 1½ oz. |
| Syrupi mannæ, | Syrup of manna, |
| “ althææ, āā ʒss. | Mallows, each ½ ounce. |

A teaspoonful every two hours. Strong and robust children will require the addition of 20 grains of nitre.

No. 271.

- | | |
|-------------------------|-----------------------------|
| ℞ Ligni sassafragæ ʒij. | Take of sassafras 2 ounces. |
| Rad. glycyrrhizæ ʒss. | Liquorice root ½ ounce. |
| C. M. | |

A teaspoonful every day.

No. 272.

- | | |
|-----------------------------|---|
| ℞ Asa fœtidæ ʒij. | Take of asa fœtida 2 drs. |
| Spiritus Mindereri ʒiij. | Spirit of Mindererus 3 drs. |
| Mucilaginis g. acaciæ q. s. | Mucilage of g. arabic as |
| ut f. cum aqua melissa | much as will make an |
| ʒiij. emulsio. | emulsion with 3 ounces of
melissa water. |

A teaspoonful every hour.

No. 273.

- | | |
|-----------------------------|--|
| ℞ Extracti cinchonæ gr. xx. | Take of extract of Peruvian
bark 20 grains. |
| “ taraxici ʒi. | Dandelion 1 drachm. |
| Potassæ acetatis 3ss. | Acetate of potassa ½ drachm. |
| Aquæ fœniculi, | Fennel water and rhubarb, |
| Syrupi rhei, āā ʒi. M. | each 1 ounce. |

A teaspoonful four times a day.

INDEX.

A.

- Abdominal cough, 230.
 Abdominal dropsy, 312.
 Abortus, how to be prevented, 514.
 Abscessus lumbaris, 167, 181, 300
 " renalis, 165.
 Achores, 425.
 Acidity of the stomach, 188.
 Acrimony of the stomach, 188.
 Acrimonia hæmorrhoidalis, 335.
 Acrimony, cutaneous, 550.
 Acute fevers, see Febres acutæ.
 Adiposis, 480.
 Affections of the mind and nerves, 61.
 Age, 27.
 Agrypnia, 62, 218.
 Ague-cakes, 123.
 Agustia, 278.
 Air, accumulations of, 318.
 " and water, 310.
 Alopecia, 433.
 Amaurosis, 276.
 Amblyopia, 276.
 Amentia, 195.
 Amnesia of language, 272.
 Anæsthesia, 278.
 Anaphrodisia, 279.
 Anasarca, 317.
 Angina, 143.
 biliosa, 144.
 catarrhalis, 144.
 chronica, 146.
 gangrænosa, 145.
 gastrica, 144.
 habitualis, 146.
 laryngea, 143.
 membranacea, 551.
 parotidea, 145.
 pectoris, 146, 225.
 pharyngea, 143.
 polyposa, 551.
 putrida, 145.
 rheumatica, 144.
 serosa, 144.
 Angina tonsillaris, 144.
 uvularis, 144.
 Anxiety, 65.
 Anidrosis, 378.
 Anomalies of motion and sensation, 210.
 Anorexia, 279.
 Anosmia, 278.
 Anthrax, 111, 115.
 Anuria, 375.
 Apepsia, 273.
 Aphonia, 51, 250, 271.
 completa, 271.
 paralytica, 272.
 Aphthæ, 296, 415.
 infantum, 417, 539.
 Apoplexia, 67, 253.
 adynamica, 255.
 biliosa, 257.
 completa, 253.
 metastatica, 258.
 nervosa, 257.
 pulmonum, 259.
 sanguinea, 255.
 serosa, 255.
 spastica, 255.
 Appetite, excessive (bulimia) or (polyphagia) 250.
 for unusual food (pica) 274.
 want of (apepsia) 273.
 Apyrexia, 117.
 Arachnoiditis, 138.
 Architectura apoplectica, 255.
 phthisica, 285.
 Arthritis, 453.
 acuta, 453.
 anomala, 454.
 atonica, 455, 461.
 chronica, 454, 459.
 disorganisans, 454.
 destructoria, 454.
 fixa, 454.
 interna, 454.
 irregularis, 454.

- Arthritis larvata, 454.
 manifesta, 453.
 nodosa, 454, 459.
 occulta, 454.
 regularis, 453.
 retrograda, 455.
 spuria, 457.
 vaga, 454.
- Ascarides, 489.
 lumbricoides, 486,
 489.
 vermiculares, 486.
- Ascites, 312.
 urinosus, 375.
- Asphyxia, 259, 261.
 neonatorum, 537.
- Asthma, 222.
 abdominale, 223, 224.
 acutum infantile, 222,
 227, 553.
 adynamicum, 223, 224.
 aereum, 223, 227.
 arsenicale, 223, 225.
 arthriticum, 223.
 atonicum, 223.
 calculosum, 223, 225.
 cardiacum, 223.
 consensuale, 222.
 continuum, 222.
 convulsivum, 222.
 emphysematicum,
 223, 227.
 flatulentum, 223, 319.
 gibbosum, 223, 225.
 humidum, 222, 223, 226.
 hydropicum, 223.
 hypochondriacum,
 222.
 hystericum, 222, 224.
 idiopathicum, 222,
 223, 225.
 mechanicum, 223,
 225.
 mercuriale, 223, 225.
 metallicum, 222, 223.
 metastaticum, 222, 224.
 millari, 227, 553.
 mucosum, 222, 226.
 nervosum, 222, 224.
 nocturnum, 224.
 organicum, 223.
 pannicum, 223, 225.
 periodicum, 222, 224.
- Asthma, pneumaticum, 227.
 psoricum, 223.
 pulmonale, 223, 225.
 pulverulentum, 223,
 225.
 rheumaticum, 223.
 saburrale, 223.
 sanguineum, 222, 224,
 225.
 saturninum, 223, 225.
 scrophulosum, 223.
 scorbuticum, 224.
 senile, 223, 227.
 serosum, 223.
 siccum, 222.
 spasticum, 222, 224.
 strumosum, 223, 225.
 syncopicum, 223, 225.
 thymicum, 227, 541.
 tuberculosum, 225.
 urinosum, 223.
 venereum, 223.
- Atony of the lungs, 282.
- Atrophia, 280, 306.
 abdominalis, 306.
 hepatica, 306.
 lienalis, 306.
 localis externa, 307.
 mesenterica infan-
 tum, 306, 557.
 pancreatica, 307.
 pulmonalis, 307.
 stomachica, 307.
 verminosa, 306.
- B.
- Balbuties, 272.
- Bald head, 433.
- Barrenness of women, 526.
- Bile or boil, 427.
 in infants, 550.
- Bilious accumulation, 187, 251.
- Bladder, inflammation of the, 165.
- Bleeder families, 345.
- Blennorrhœa, 346, 470.
- Blennorrhœa intestini recti, 358.
 pulmonum, 183,
 301, 347.
 syphilitica, 470.
 vaginæ uteri, 347.
- Blepharophthalmia neonato-
 rum, 539.
- Blindness, nervous, 276.

- Blood, 52, evacuations—spitting of, 61.
micturation of, 343.
vomiting of, 331.
- Brain, droosy of the, 317.
fever of the, 138. 547.
inflammation, 138.
fever of children, 547.
- Bronchitis, 148
- Bronchocele, 452.
- Bubones, pestilential, 111.
venereal, 473.
- Bulimia, see polyphagia, (excessive appetite), 250.
- C.
- Calculus biliary, 496.
cysticus, 493.
urinarius, 493.
- Callositas cutis, 430.
intestinorum, 160.
- Calor ad sensum, 64.
ad thermometrum, 64.
chemicus, 65.
mordax, 65.
vivus, 65.
- Cancer scrophulosus, 445.
- Carbunculus contagiosus, 115.
malignus, 427.
- Cardialgia, 244.
- Carditis, 157.
- Caries 434.
- Carriage, 67.
- Catalepsy, 215.
- Catamenia, 499.
- Catarrhosis, 184.
- Catarrhal fever of children, 547.
- Catarrhus, 181,—aurium, 182.
intestinorum, 182.
intestini crassi, 182.
malignus, 93.
oculorum, 182.
pulmonum, 182.
suffocativus, 259.
vaginæ et uteri, 182.
vesicæ, 182, 352.
- Causæ occasionales, 32, 71.
- Causes of disease exciting, 71.
predisposing, 71.
remote, 71.
proximate, 71.
- Cephalalgia, 241.
- Cephalæa, 241.
- Cephalæa gastrica, 242.
hypochondriaca, 242.
hysterica, 242.
metastatica, 242.
nervosa, 242.
organica, 242.
sanguinea, 242.
vomitoria hysterica, 237.
- Cessation of the menses, 508.
- Chancres, 465, 472.
- Chest, dropsy of the, 315.
pressure, straining, sounds in the, 49.
- Childbed, 516.
- Children, diseases of, 529.
- Chills, 64.
- Chiragra, 454.
- Chlorosis, 438.
- Cholera, 367.
biliosa, 368.
orientalis, 112.
sicca, 368.
- Chordee, 471.
- Chorea, 214.
- Chronic fevers, 116.
- Clap, 353, 465.
- Claudicatio spontanea, 180, 453, 558.
- Clavus, 241, 430.
- Climate, 30, 31.
- Cognition of the object of cure, [24.
disease, 30.
patient, 25.
- Colic, inflammatory, 159.
varieties of, 245, etc.
- Collapsus vasorum, 88.
- Coma somnolentum, 62.
vigil, 62.
- Comedones, 429.
- Complexion, 67. 68.
- Condylomata, 473.
- Congestions, sanguineous, 125, 135, etc.
- Constipation, 371.
- Consumption, see Phthisis, 280.
- Contagium, 108.
- Contagious fevers, see Febres contag. 107.
- Constitution of the patient, 25.
diseases, 31.
- Convulsions of infants, 545.

- pregnant women, 515.
 Cophosis, 277.
 Corium, 52.
 Coryza, 105.
 Costiveness, 371.
 Cough 49, 228, 230. See Tussis.
 Cow pox, 396.
 Coxagra, 180, 460.
 Coxalgia, 244, 558.
 Crisis, 21, 30.
 Croup, 551.
 Crusta lactea, 423, 550.
 Crusta pleuritica, 52.
 Crusta serpigiosa, 423.
 Cure causal, 72.
 radical, 72.
 palliative, 72.
 Cutaneous diseases, 380.
 Cyanosis, 439.
 Cystitis, 165.
 Cystorrhœa, 182, 352.
- D.
- Deafness, 277.
 Debility of the nerves, 204.
 Decay of children, 557.
 Dentitio difficilis, 548.
 Delirium actvum s. furibund.
 61.
 blandum, 62.
 somnolentum, 62.
 tremens, 140, 141, 199.
 typhosum, 62.
 Diabetes, 60, 350.
 insipidus, 350.
 mellitus, 350.
 spurius, 350.
 verus, 350.
 Diagnostics, 24.
 for children, 531.
 Diaphragmitis, 163.
 Digestion, 53.
 Diarrhœa, 182, 359, 542.
 adynamic, 362.
 chronic, 361.
 colliquative, 363.
 infantilis, 363, 542.
 purulenta, 363.
 putrida, 363.
 rheumatica, 361.
 tormiosa, 359.
 Diplopia, 63, 250, 319.
- Disorganizations, 481.
 Disposition, 32.
 Dropsy, vide Hydrops.
 Dumbness, 271.
 Dyscrasies, 434.
 Dyscropsia, 371.
 Dysenteria, 182, 363, 367.
 Dyslogia, 271.
 Dyspepsia, 250, 273.
 Dysphagia, 270.
 Dysphonia, 271.
 Dysuria, 375.
- E.
- Ears, inflammation of the, 168.
 Ear-ache, 244.
 Ecchymoses, 413.
 Eclampsia, 545.
 Elephantiasis, 423.
 Emaciations, 280.
 Emphysema, 322.
 pulmonale, 223.
 Emprosthotonus, 219.
 Enæorema, 59.
 Encephalitis, 138.
 adynamica, 141.
 biliosa, 141.
 exsudatoria infantum, 554.
 gastrica, 141.
 inflammatoria, 140.
 nervosa, 141.
 verminosa, 141.
 Endurcissement du tissu cellulaire, 430.
 Enteritis, 159.
 Enuresis, 348.
 Ephelis, 429.
 Ephemera, 84.
 Ephialtes, 217.
 Epidrosis, 347.
 localis, 348.
 Epilepsy, 210.
 Epistaxis, 326.
 Erethismus nervosus, 128, 190.
 Erotomia, 251.
 Eruptions, see Zona.
 Erysipelas, 169.
 bullosum, 169, 170.
 chronic or habitual, 171.
 neonatorum, 540.
 phlegmonodes, 169.

Erysipelas pustulosum, 170.
 Erysipelas of children, 540.
 Erythema, 424.
 Essera, 409.
 Evacuations of blood, 61.
 from the intestines, 55.
 Exacerbation, 80.
 Exanthemata, 380.
 accidentalia, 381.
 acuta, 381.
 chronica, 382.
 essentialia, 381.
 Exanthemata primaria, 381.
 secundaria, 381.
 Exanthematic fevers, 548.
 Excoriationes neonatorum, 538.
 Excrescentiæ, 430.
 Excretions, 56.
 Expectoration, 60.
 Extravasata, 324.
 Eyes, 63, inflammation of the,
 168.

F.

Fainting, 67, 259.
 Falling sickness, 210.
 Fatuitas, 195.
 Favus, 425.
 Febres acriticæ, 91.
 acutæ, 79.
 contagiosæ, 107.
 atactæ, 91.
 Febris biliosa, 100.
 bullosa, 414.
 catarrhalis, 105, 547.
 maligna, 107.
 Febres chronicæ, 116, 123.
 Febris continens, 80.
 Febres continuæ, 79.
 Febris duplicata, 117.
 gastrica, 100, 546.
 saburralis, 101.
 hectica, 124.
 inflammatoria, 85, 547.
 Febres intermittentes, 116.
 intermittens maligna s.
 perniciosa, 122.
 intestinales, 100.
 lenta, 116, 123, 302.
 nervosa, 124, 302.
 symptomata, 125.
 mesenterica, 100.
 mucosa, 100.

Febris nervosa, 90.
 gravis, 95.
 mitis, 94.
 nullius generis, 84.
 petechialis, 413.
 phthisica, 124.
 puerperalis, 519.
 putrida, 99.
 remittens, 80.
 rheumatica, 105.
 simplex, 84.
 from teething, 547.
 verminosa, 101.
 Feeling, activity of the, 61.
 Fevers, see Febres and Typhus.
 Flatulence, 55.
 Flatulency, 319.
 Fluxus coeliacus, 358.
 hepaticus, 358.
 Flux of milk, 522.
 Fluor albus, 182, 465, 524.
 Freckles, 429.
 Furor uterinus, 251.
 Furunculus, 427.

G.

Galactorrhoea, 522.
 Gall stone, 496.
 Gangræna critica, 91.
 Gastric disease, 184.
 Gastric fever, 100.
 in children, 546.
 Gastritis, 158.
 Gastroses, 484.
 Gastrosis chronica, 185.
 Gastrodynia, 244.
 Genius loci, 31.
 Giddiness, 62, 263.
 Glands, inflammations of, 145.
 scrofulous, 444.
 Gleet, 471.
 Glossitis, 147.
 Goitre, 452.
 Gonagra, 454.
 Gonorrhœa, 353.
 chronica, 462.
 secundaria, 353, 462.
 syphilitica, 470.
 Gout, 453, see Arthritis, 453.
 atonic, 461.
 chronic, 459.
 retroceded, 460.
 Gravedo, 181.

- Groaning, 51.
 Gutta rosacea, 426.
- H.
- Habit, 29.
 Habitual crises and diseases, 30.
 Hæmatemesis, 331.
 Hæmatosis, 345.
 hereditaria, 345.
 Hæmaturia, 340.
 renalis, 343.
 vesicalis, 343.
 Hæmoptysis, 327.
 Hæmorrhagiæ, 324.
 pulmonum, 327.
 Hæmorrhoids, 332.
 ani cæcæ, 338.
 anomalæ, 340.
 dolentes, 338.
 external, 338.
 fluentes, 339.
 furentes, 338.
 incongruæ, 333.
 internæ, 338.
 mucosæ, 341.
 pulmonum, 340.
 retrogressæ, 333.
 saccatæ, 339.
 scirrhusæ, 338.
 urethræ, 344.
 ventriculi, 340.
 vesicæ, 340.
 Hair plaited, 430.
 Head, dropsy of the, 317.
 Headache, 65, 241.
 of pregnant women,
 513.
 Hearing, 63.
 Heart, inflammation of the 157.
 palpitation of the, 43, 319
 Heat, 64.
 Hectic fevers, 123.
 Hectica, 280, 309.
 Helminthiasis, 486.
 Hemicrania, 240.
 Hemiplegia, 253.
 Hemitritæus, 121.
 Hemorrhages, 324.
 Hepatitis, 161.
 Hereditariness, 26.
 Herpes, 172, 420.
 Heuristic, 73.
 Hiccough, 53, 239.
 Hips, 180.
 Hoarseness, 50, 272.
 Hooping cough, 232.
 Horripilatio, 64.
 Hunger, 54.
 Hydrencephalon, 317.
 Hydrocephalus, 317.
 acutus, 554.
 chronic. infant.
 556.
 externus, 317,
 556.
 internus, 317.
 Hydropes, 310.
 Hydrops ascites, 312.
 cerebri acutus infan-
 tum, 554.
 pericardii, 316.
 saccatus, 312.
 Hydrophobia, 113, 249.
 Hydrorrhachitis, 557.
 Hydrothorax, 315.
 Hypochondria, 203.
 Hysteria, 203.
 Hysterismus of the stomach,
 186, 236.
- I.
- Iatrogenic, 24.
 Jaundice, 441.
 Icterus, 441.
 neonatorum, 538.
 niger, 443.
 Idiosyncrasy, 29.
 Ileus, 372.
 chronicus, 374.
 inflammatorius, 159.
 Impotency, 274.
 Impotentia imperfecta, 275.
 perfecta, 275.
 Incontinentia urinae, 348.
 Incubus, 217.
 Indigestion, 187.
 Induratio telæ cellulosa neonatorum, 540.
 Infancy, characteristics of, 529.
 Infarctus, 184, 189.
 Infection, venereal, 465.
 primary, 465, 468.
 secondary, 465, 473.
 ulcerous, 465, 472.
 Inflammationes, 125.
 activa, 130.

- Inflammat.** antagonistica, 129.
 atonica, 130, 131.
 catarrhalis, 133.
 chronica, 130, 134.
 consensualis, 129,
 136, 133.
 erethica, 129.
 erysipelatos, 134.
 exsudatoria, 127,
 133.
 gangraenosa, 130,
 133.
 idiopathica, 129,
 138.
 maligna, 130.
 metastatica, 134.
 nervosa, 129.
 occulta, 125.
 passiva, 130.
 periodical, 130, 134.
 phlegmonous, 133.
 phlogistic, 133.
 putrida, 130, 133.
 rheumatic, 133.
 specific, 134.
 sicca, 129.
 sympathica, 129.
 topica, 125.
- Inflammation, of** abdomen, 158.
 brain, 133.
 bladder, 165.
 bronchitis, 148.
 caul, 164.
 chest and lungs, 147.
 dorsal vertebræ, 142.
 ears, 163.
 eyes, 168.
 heart, 157.
 intestines, 159.
 kidneys, 164.
 liver, 161.
 mesentery, 163.
 midriff, 163.
 mouth, 146.
 ovaria, 166.
 pancreas, 164.
 peritoneum, 164.
 psoas muscle, 167.
 spinal marrow, 142.
 spleen, 163.
 stomach, 153.
 throat, 143. *see* Ang.
 womb, 166.
- Insania, or Insanity,** 195.
Inunction, mercurial, 476.
Intermittent fever, 116.
Interpretatio Naturæ, 32.
Intertrigo, 429.
Intestines, evacuations from the,
 55
 accumulations of, 189.
Intonatio intestinalis, 319.
Irascibility, 198.
Irritatio cerebialis inflammato-
ria, 139.
Ischias 180, 240, 460.
 nervosa cotunni, 180.
Ischidrosis, 378.
Ischuria, 375.
Itch, 417.
Itching of the genitals, 241.
- K.**
- Kidneys, inflammation of the,**
 164.
 stone in the, 493.
- L.**
- Lactation,** 521.
Land-scurvy, 440.
Laryngitis, 143.
 exsudatoria, 551.
Laughing, 51.
Lentigo, 429.
Leprosy, 423.
Lethargy, 263.
Leucorrhœa, 352, 524.
Lientery, 357.
Limping, 558.
Lipothymia, 67, 259.
Lithiasis, 492.
Liver, inflammation of the, 161.
Lues venerea, 462.
 inveterata, 476.
 universalis, 473.
Lumbago, 181, 240.
Lumbrici, 486, 489.
Lungs, consumption of the, see
 Phthisis, 230, 303.
Lupus, 420.
- M.**
- Malacia,** 274.
Madness, or Mania, 195.
Marasmus senilis, 300, 305.
Materia rheumatica, 177.

Measles, 400.
 Melaena 341.
 Melancholia, 195.
 Meningitis, 138.
 Menostasia, 379, 503.
 Menstruation, 345, 499.
 difficult. 507.
 obstructed, 500.
 profuse, 505.
 suppressed, 503.
 cessation of, 508.
 regimen during,
 503.
 Mental diseases, 195.
 Mesenteritis, 163.
 Meteorismus, 55.
 Metritis, 166.
 Metrorrhagia, 345, 505.
 Miasma, 108.
 Mictus cruentus, 343.
 Midriff, inflammation of the, 163.
 Miliaria alba et rubra, 410.
 chronica, 412.
 Mind, action of the, 61.
 Miscarriage, how to prevent, 514.
 Miserere, 372.
 Mode of living, 29.
 Mole, 432.
 Molimina hæmorrhoidalia, 333.
 menstrua, 501.
 Morbilli, 400.
 Morbus hæmorrhag. mac. Werl-
 hofii, 345.
 Morbus niger, 341.
 Morbus verrucosus universalis,
 431.
 Moria, 195.
 Motion, musculosis, 66.
 Mouth, inflammation of, 146.
 Mucosity of the stomach, 188.
 Murmuratio intestinalis, 319.
 Muscular motion, 66.
 Myelitis, 142, 305.
 chronica, 305.

N.

Nævus, 432.
 Nature and Art, 19.
 Nausea, 54.
 Nephritis, 164.
 Nephritic stone, 493.
 Neuralgia, 240.
 Neuroses, 190.

Nervous fever, 90.
 blindness, 276, 526.
 consumption, 302.
 diseases, 190, 545.
 Nightmare, 217.
 Noma, 434.
 Nostalgia, 303.
 Notalgia, 240.
 Nubecula (in the urine) 59.
 Nymphomania, 251.

O.

Obstructio alvi, 371.
 Occupation, 29.
 Odontalgia, 243.
 Oedema, capitis, 317.
 pulmonum, 223.
 Omentitis, 164.
 Onania, 354.
 Onanismus, 251.
 Oophoritis, 166.
 Ophthalmia humida, 182.
 scrophulosa, 451.
 neonatorum, 539.
 Ophthalmitis, 168.
 Opisthotonus, 219.
 Orchitis, 473.
 Order of rational mode of treat-
 ment, 73.
 Otalgia, 169, 244.
 Otitis, 168.
 Otorrhœa, 169, 182, 356.

P.

Pædarthrocæ, 445.
 Pain, 65.
 Palpitation of the heart, 43, 227.
 Pancreatitis, 164.
 Paracusis, 250.
 Paralysis, 66, 481, atrabilaria,
 269.
 of the brain, 253.
 dorsalis, 269.
 localis, 264.
 medullaris, 269.
 metastatica, 267.
 of the lungs, 259.
 rheumatica, 173.
 sanguinea, 265.
 syphilitica, 267.
 Paralytic diseases, 252, 272.
 Paraphimosis, 471.
 Paraplegia, 253.

- Parasites, 481.
 Parotitis, 145.
 Paroxysmus, 117.
 Parturition, 516.
 Pathogenesis, 31.
 Pellagra, 424.
 Pemphigus, 414.
 Period of life, 27.
 Peripneumonia, 147.
 Peritonitis, 164.
 puerperalis, 519.
 Perspiration, 56.
 Perspirabile retentum, 172.
 Pestis bubonica, 111.
 Petechiæ, 413.
 Petechianosis, 345.
 Pharyngitis, 143.
 Phenomena of disease, 30.
 Phimosis, 471.
 Phlebitis universalis, 85.
 Phlegmasia exsudatoria abdomi-
 nalis, 519.
 alba dolens puerpe-
 ralis, 523.
 Phlyctænæ, 424.
 Phrenitis, 138, 141.
 Phthisiosis, 288.
 Phthisis, 280, 303.
 abdominalis, 300.
 accidentalis, 288.
 constitutionalis, 288.
 consumata, 284.
 fiens, 282.
 florida, 288, 298.
 formata, 290.
 hectica, 309.
 hepatica, 299.
 incipiens, 282.
 intestinalis, 300.
 laryngea, 298.
 manifesta, 284, 290.
 mesenterica, 299, 300.
 pituitosa, 281, 301.
 pulmonalis, 281.
 purulenta,
 281, 291.
 purulenta, 297.
 renalis, 299.
 scrophulosa 307.
 sicca, 307.
 tabes pulmonalis, 301.
 trachealis, 298.
 tuberculosa, 281, 307.
 Phthisis uterina, 300.
 vesicalis, 299, 300.
 vomica clausa, 297, 300
 Physiatrix, 19.
 Physometra, 323.
 Pica, 250, 274.
 Piles, see Hæmorrhoids, 332.
 Plague, Levantine, 111.
 cold, 112.
 Plaited hair, 431.
 Pleuritis, 147.
 chronica, 154.
 rheumatica, 153.
 Pleuro-peripneumonia, 147.
 Plica polonica, 431.
 Pneumatoses, 310.
 Pneumonia, 147.
 gangrænosa, 154.
 notha, 154.
 putrida, 154.
 rheumatica, 153.
 Pneumonites, 147.
 Podagra, 454.
 retropulsa, 455.
 Pollutio, 305, 354.
 Polydipsia, 249.
 Polyphagia, 250.
 Polysarca, 480.
 Porcupine skin, 431.
 Priapismus, 219, 251.
 Profluvia, 323.
 Pregnancy, 510.
 Prophylaxis phthisica, 289.
 Prosopalgia, 242.
 Pruritus, 240.
 vulvæ, 241.
 Pseudacusis, 250.
 Pseudæsthesiæ, 210.
 Pseudo-erysipelas, 169.
 Pseudopia, 250.
 Pseudo-organisations, 481.
 Psoitis, 167.
 Psychical treatment of insane,
 201.
 Ptyalismus, 347.
 Puberty, 500.
 Pulse, 33.
 art of feeling the, 44.
 varieties of it, 39.
 Pulsatio abdominalis, 227.
 Purpura, 410.
 Pustula nigra, 427.
 Pyrosis, 245.

Q.

Quartan fever, 117, 121.
Quinsy, 143.
Quotidian fever, 117.

R.

Rabies, 113.
Rachitis, 452.
Raphania, 218.
Rational method of curing, 72.
Raucitas vocis, 272.
Recidives, 121.
Regimen menstruale, 503.
 for infants, 535.
Remissio, 80.
Respiration, 45.
 varieties of anomalous, 46.
Restlessness, 62, 218.
Rhagades, 428.
 ani, perinæi, genital. 339.
Rheumatalgia, 173.
Rheumatic affection of the mucous membrane, 181.
 fever, 105.
Rheumatismus, 173.
 acutus, 174.
 arthriticus, 174.
 chronicus, 174, 177.
 fixus, 174.
 frigidus, 173.
 intestinorum, 366.
 intestini crassi, 364.
 vagus, 174.
 verus, 174.
 universalis, 106.
Rheumatoses, 172, 179.
Rickets, 452.
Rigor, 64.
Risus sardonicus, 52.
Rubeolæ, 409.
Ructuositas, 319.
Ruminatio humana, 238, 270.

S.

Saburra, 185.
Saburral accumulation, 187, 189.
Salivation, 347.
Satyriasis, 251.
Scabies, 417.
Scald-head, 425.
Scald-head of infants, 550.

Scarlet fever, 405, 548.

Sciatica, 180.

Scorbutus, 440.

Scotomia, 250.

Scrolula, 444.

Scurvy, 440.

Sediment in the urine, 59.

Secretions, 56.

 of urine, 57.

 salivary, 60.

Sea-sickness, 239.

Sea-scurvy, 440.

Selection of remedies, 73.

Seminal weakness, 354.

Senses, action of the, 61.

Serpigo, 339.

Sex, 27.

Sexual diseases of females, 498.

Sexual instinct, disorders of, 251.

Sight, 63, 250.

Singultus, 66, 239.

Skin, dropsy in the, 317.

Sleep, 62.

Sleeplessness, 62, 218.

Small pox, 386.

Smelling, 63.

Sneezing, 51.

Soda, see Pyrosis,

Sopor, 62.

Somnambulism, 195, 216.

Sordes primarum viarum, 184.

Softening of the brain, 556.

 stomach, 544.

Specific method, 72.

Specifics, 73.

Speech, 50.

 faults of, 271.

 loss of, 51.

Spasmodic diseases, 210.

Spasms, 66.

 of children, 545.

 of the stomach, 244.

 menstrual, 507.

 clonici, 210.

 tonici, 210.

Spina bifida 554.

 ventosa, 434, 445.

Splenitis, 163.

Spondilitis, 142.

Sputa, 61.

 cocta, 61.

Sputa subacta, 61.

Sputum cruentum, 327, 330.

- Sputum sanguineum, 61.
 Squinting, 63.
 St. Anthony's fire, 169.
 St. Vitus' dance, 214.
 Stammering, 272.
 Steatoma, 480.
 Stenocardia, 223.
 Sterilitas, 276, 526.
 Stillicidium uteri,
 Stomach, acidity of the, 188.
 ache, 244.
 acrimony of the, 188.
 inflammation of the,
 153, 188.
 Stomacace, } 146.
 Stomaitis, }
 Stone of the bladder, 493.
 kidneys, 493.
 Strabismus, 63.
 Stranguria, 375.
 Strangulatio hysterica, 224.
 Structure, 67.
 apoplectic, 26, 255.
 phthisical, 26, 255.
 Struma, 452.
 Stuttering, 272.
 Stymatosis, 344.
 Suckling, 521.
 Sudor anglicus, 343.
 ani, perinæi et genita-
 lium, 339.
 Suffocatio hysterica, 224.
 Suffocative catarrh, 259.
 Suggillationes, 324.
 Suppressiones, 369.
 Suppression of the itch, 419,
 piles, 340, 379.
 menses, 503.
 syphilis, 467.
 Susurrus aurium, 250.
 Sweat, 56, 347.
 Sycosis menti, 422.
 Symptomatology, 32.
 Symptomata, 71.
 Symptomatic method, 72.
 fevers, 123.
 Synocha, 85.
 Syncope, 67, 259.
 Syphilis, 462.
 localis s. primaria, 462.
 secundaria s. universa-
 lis, 463, 473.
 inveterata, 476.
 Syphilis larvata, 478.
 of infants, 541.

T.

 Tabes, 280, 300.
 dorsalis, 304.
 medullaris, 304.
 nervosa, 302.
 pulmonalis, 301.
 Tænia, 486, 490.
 Tapeworm, 490.
 Taste, 63.
 Teething, difficult, 548.
 fever from, 547.
 Temperaments, 28.
 Tenesmus, 56.
 Tenuitas serosa sanguinis, 52.
 Tertian fever, 117.
 Tetanus, 219.
 of children, 540.
 linguæ, 219.
 localis, 219.
 neonatorum, 220.
 penis, 219.
 traumaticus, 221.
 universalis, 219.
 Therapeutics, 70.
 for children, 532.
 Thirst, 54, 249.
 Throat, 143, see Angina.
 Thrush, 415, 539.
 Tic douloureux, 242.
 Tinea capitis, 425.
 Tongue, inflammation of the, 147.
 Toothache, 243.
 of pregnant women,
 513.
 Tracheitis, 143.
 Transpiratio insensibilis, 56.
 Trembling, 66, 219.
 Tremor, 66, 219.
 Trichocephalus, 486.
 Trichoma, 431.
 Trichuris, 486.
 Trismus, 219, 221.
 of children, 540.
 Tussis, 228.
 varieties of, 229-234.
 Tympanites, 321.
 abdominalis, 321.
 intestinalis, 321.
 thoracis, 223.
 of the uterus, 323.

- Typhus, 81, 90, 95.
 Typhus abdominalis, 98.
 contagiosus, 110.
 enteriticus, 98.
 erethicus, 96.
 gastricus, 98.
 gravior, 90.
 icterodes, 112.
 irritativus, 96.
 mitior, 94.
 nervosus, 90.
 putridus, 99.
 versatilis, 96.
- U.
- Ulcers, 434.
 Ulcus syphiliticum, 472.
 Uterus crepitans, 323.
 Urethritis exsudatoria, 462.
 Urine, 57.
 varieties of, 58-60.
 Urinary calculus, 493.
 Urticaria, 410.
- V.
- Vaccination, 396.
 Vaccinella, 396.
 Vari, 426.
 Varicella, 395.
 Variolæ, 386.
 varieties of, 388.
 Variola spuria, 395.
 Varioloides, 398.
 Venereal disease, 462-479.
 Vermes, 486.
 intestinales 486.
 superficiales, 486, 492.
 Verrucæ, 430.
- Vertigo, 62, 263.
 caduca, 263.
 tenebricosa, 263.
 Vesania, varieties of, 199.
 Vibices, 413.
 Vision, double, 250, 319.
 Vitiligo, 423.
 Voice, 50.
 Vomica, 296.
 closed, 297, 300.
 Vomit, black, 112.
 Vomiting, 54.
 chronic, 235.
 varieties, 236.
 of blood, 331.
 of children, 544.
 Vomiting, of pregnant women,
 513.
 Vox balbutiens, 51.
 rauca, 50.
- W.
- Warts, 430.
 Weak part, 29.
 Weeping, 51.
 Whites, 524.
 Whooping cough, 232.
 Womb, inflammation of the, 166.
 Worms, 486.
 Worm-fever, 547, in children.
- Y.
- Yawning, 51.
 Yellows, 441.
 Yellow fever, 112.
- Z.
- Zona, zoster, 172.

ERRATA.

Besides a few bad spellings of Latin words and a few errors of punctuation, the following corrections are to be mentioned.

Wherever "SUBLIMATE" is used in the translation, MERCURIUS SUBLIMATUS CORROSIVUS is meant by this term.

In the article "Diabetes mellitus" not 50-100 POUNDS (as in the original) of urine, but as many FLUID OUNCES are understood to be discharged.

Instead of VAGINA CREPITANS (page 323) read UTERUS CREPITANS.

THE
THREE CARDINAL MEANS
OF THE
ART OF HEALING.

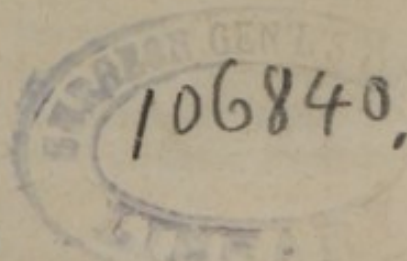
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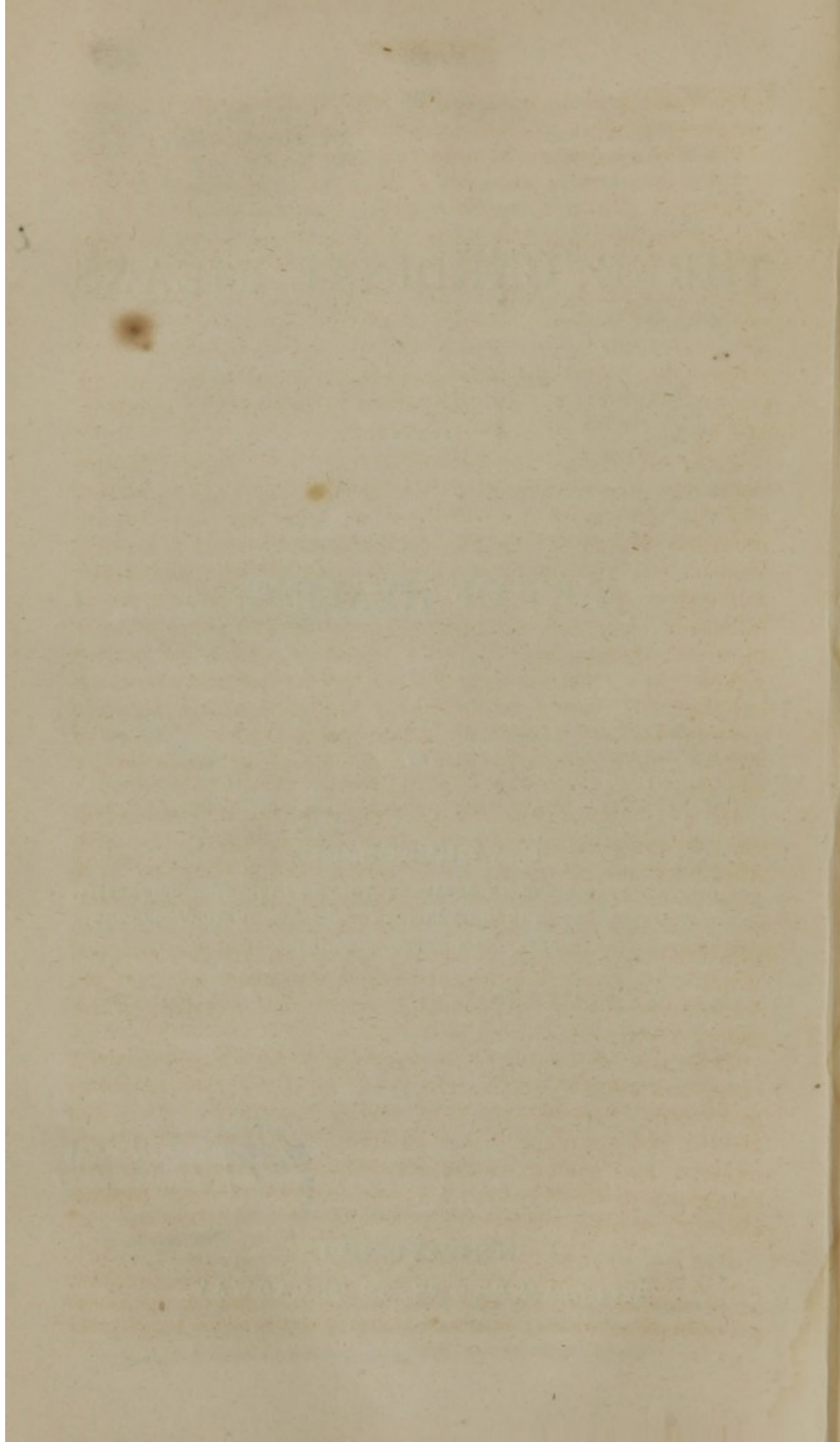
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THE THREE CARDINAL MEANS OF THE ART OF HEALING.

THE art of medicine possesses three great means, which are pre-eminent over all others : they are bleeding, emetics, and opium.

They represent, as it were, the three fundamental methods of the healing art : the antiphlogistic, the gastric, and the exciting ; and at the same time the three fundamental systems of the human economy :—that is to say, venesection for the irritable ; emetics for the nutritive ; and opium for the sensitive systems. They have a direct influence over life, and are the most decisive and prompt remedial agents known, true heroes, capable of giving either life or death ; they decide the struggle at the critical moment ; on their judicious use particularly depends the success and reputation of the practitioner. They are unique, each is one by itself, and cannot be replaced by any thing else.

He who knows how to use them rightly, is a master in our art, and may be recognized as such by the ability with which he wields them. But often, like a virtuoso, it is only to one instrument he is attached. Many a physician has paid particular attention to the emetic, and performs admirably on this instrument ; but does not understand bloodletting, and is ignorant of its appropriate application. Another is skilled in bleeding, but is incompetent in the use of emetics and opium.

Even whole periods have occurred in which this was the case, and where one or the other of these remedies has prevailed. Strictly speaking, one or the other of them has always had supremacy in medicine ; one alone has always reigned, and we can in the annals of medicine as in political history, clearly see the successions of these monarchies alternately ruling the profession.*

* In this remark I do not mean to accuse the physician of a fondness of fashion. The reason for these changes is undoubtedly founded on the changes which take place in nature, in the change of the prevailing constitution. But there is also joined to this a predilection

Fifty years ago venesection governed almost absolutely. It was succeeded by the reign of emetics for a long space of time; then opium took its turn as sovereign. Now venesection begins again to predominate.

These three remedies, however, differ totally in nature. Each is fitted to its own peculiar cases. One cannot be substituted for another, without endangering the life of the patient.

It seems to me, therefore, worthy of the labor, to submit these heroes of our art to an accurate examination, to define their power as well as their limits, and to assign to each its place, but particularly to point out the cases wherein they are likely to be misapplied, abused, or neglected; and the cases wherein their use is not yet so generally acknowledged.

I.

Venesection.

"The life of man is in his blood."

MOSES.

Venesection undoubtedly ranks first among all remedies, being the only one, by which we abstract a part of life itself, and may diminish the amount of vitality in its very source. For, nobody now doubts the truth of what I pronounced 25 years ago, and what so many then contradicted: that blood itself imparts life to the body, not only as a stimulant, but a constituent part of life itself, a vital fluid organ.

Yes, I believe what the holy writ says: "The life of man is in his blood." Blood is the mother, from which every living thing proceeds—the seat of the ever active creative power. Without fluid there is no life; every living thing proceeds from fluid, is maintained by fluid. Life is nothing else than a ceaseless repetition of the act of creation.

for certain remedies, amounting to an abuse, which arises from want of observation and reflection, and from want of an independent exercise of the practitioner's own judgment. I may here refer to what I have already said in my work on "Military Plague;" and to the excellent treatise of Sydenham, "*De novæ febris ingressu*;" in which this great man describes how he himself was compelled by nature, and by the altered character of disease, to abandon the method of treatment he had hitherto followed, and to adopt a new one.

Without blood the nerves and the brain are lifeless; but the heart and the blood live without nerves.

Weakening of life is, consequently, the primary and principal effect of the abstraction of blood. On that account venesection is the greatest remedy in all disorders marked by an abundant development of life in the blood; such are the inflammatory diseases. This disposition may, in the commencement of a febrile malady, be completely vanquished by a venesection made in season; and general or local inflammation already existing, may be removed by one or repeated venesections, and life saved.

Venesection produces a no less important secondary effect: *relaxation of the fibre*; and *resolution of spasm and contractility*. By this property it is also a great remedy in those diseases which are not properly inflammations, but in which there exists only an inflammatory disposition: in nervous diseases, spasms and convulsions, nervous fevers, in cases of suppressed evacuations of spasmodic reaction; it is useful even for promoting the crisis, as the eruption in cutaneous diseases.—The depression of life, and relaxation of fibre is altogether dependent on the proper quantity discharged, and the velocity with which it is effected.

The third effect of bleeding is, the *diminution of the quantity of blood*. This must be considered separately from the former. As plethora is not an imaginary but a really morbid state, and as a mere abundance of blood may be the cause of numerous diseases, the mere diminution of the quantity may prove a great curative, even when no inflammation is present. In this case neither the part of the body whence the evacuation is made, nor the time of doing so is so much to be considered as the proper quantity.

Finally, there is a fourth effect, it is *derivation*. This is most important in local congestions and affections. Here the place of abstraction deserves particular attention. This opinion, it is known, has recently been doubted. But the incredulous need only to be reminded of the effect of venesection in pleuritis. Why is a venesection on the foot without avail, why one on the opposite arm of little benefit or even of detriment, and why does a discharge from the arm of the affected side only give immediate relief?—Farther, it is an observation which I have found repeatedly confirmed, that a venesection on the arm may remove the menstrual flux and disposition to abortion, whereas a venesection on the foot may increase and promote both.

Every one will again comprehend that bleeding is the principal remedy in inflammations and other diseases of an

inflammatory tendency, and there is no need to dwell further on the subject. But that which is less understood is, that where no inflammation exists, in plethora and in chronic diseases, that it acts as a derivative and particularly as a great preventive of some diseases. To demonstrate and lead the attention to this is the chief object of this paper.

We have omitted bleeding in a great many cases, in which our predecessors used it regularly, and with signal benefit, founded on experience;—we now omit it, certainly to the prejudice of mankind.

If only as an assertion, I may be permitted to hazard an hypothesis. It strikes me as very probable that the diseases of the heart, which have become so very frequent within these last 20 years, are chiefly due, exclusive of political events affecting the heart, to the omission of venesection, the result of a false system predominant in these times. All the other physical and moral causes also existed formerly, and with equal violence and continuance, as during the thirty years and the seven years war; nevertheless, diseases of the heart did not prevail to an equal extent then. The cause adduced by me is novel, and is well calculated to produce the effects assigned. Formerly it was a fashion and a rule, to perform a prophylactic venesection after every violent commotion of the body as well as of the mind; such as violent passions, overheating, plethora, general and local, in short whenever an excitement of the blood and a rush to the heart happened, in order to avert the evil consequences likely to follow, and to derivate the blood from the heart. In the last twenty years this has been neglected. Seduced by a false theory, physicians did not bleed in all these cases; they in general rejected preservative bleeding, and, led by a false notion of debility, they substituted wine, rum, and stimulant medicines, after violent mental and corporeal emotions. Must it not follow as a consequence of this sin of omission, that the rush of blood being neither diminished in its quantity nor in its force, but suffered for a length of time, that it would finally produce distention and enlargement and other disorganizations of the heart?

I will especially advert to the following cases in which many years' experience have taught me, how beneficial and indispensable it is to make a venesection; and on the contrary how dangerous it is to omit it, many sad instances of which I have learned, and of which practitioners do not yet seem to be convinced.

1. Pregnancy.

It was an inviolable rule with our predecessors, when pregnant women suffered accidents during the first months, to open a vein in the arm, and during the last months previous to confinement in the foot; and by this practice females were benefitted. The nervous, and after it the asthenic period of science appeared, obedient to which physicians dared not bleed; the good old habit ceased to be in fashion and at last was forgotten; even this principle was brought forth: every pregnant woman was to be regarded as inclined to astheny, under this state abstraction of blood was hazardous, both for her and the fœtus. I, on the contrary, sustain the very opposite principle. It has always guided me, and afforded me success in my practice: *Every pregnant woman must be regarded as a bivivid being, with increased sanguification and nutrition, and her habitual discharge of blood suppressed; therefore, she is rather more inclined to a plethoric and sthenitic state than to one of debility.*

There are two periods of pregnancy, when venesection is the only means, and is indispensable for preventing great danger.

The first, is in the second, third, and fourth month, when violent accidents set in; such as violent toothache and headache, vomiting, vertigo, fits of fainting, cough, oppression of the chest, precursors of abortion, bellyache, pain in the back, weakness of the lower extremities, pressure on the uterus and vesical region. Here the habitual menstrual discharge is impeded, while the consumption of the fœtus is still trifling; these causes always produce a certain degree of plethora. In all these cases, unless a signal and decided weakness and exhaustion is present, I always bleed in the arm, for a venesection on the foot might be promotive of abortion. All those complaints are surest removed and abortion prevented by it. How often have I not removed by this means alone the most violent vomiting—vomittings which had resisted all other remedies.

The second period for bleeding is in the last month, shortly before confinement; at which time every pregnant woman shows a plethoric constitution; or a better rule is: when there are no evident proofs of weakness and want of blood. A double advantage is obtained by this venesection, which must be made on the foot previous to delivery. In the first place it will be rendered easier. How often,

even during labor, when the throes had vainly tortured the laboring woman for a length of time, have I not effected an abatement of the cramplike pains and an easy delivery ! In the second place a multitude of bad consequences and dangerous accidents after delivery are thus avoided. I particularly allude to the sudden apoplectic death during or immediately after labor ; to immoderate hæmorrhages ; and to puerperal fever. Nobody will deny that parturition has a great resemblance to a violent lesion. Pain, separation of organic parts, loss of blood, mental emotion, occur united here as there ; also the result is the same—fever. Now it is a rule with all good surgeons, to institute a venesection previous to every operation, when the condition of the individual will admit of it, since it guards greatly against violent inflammation and other bad consequences. Even in the operation of amaurosis this truth has been recently strikingly confirmed.—Why should we not apply the same principle to labor—a perfectly analogous state ?

It is one of the most fearful and affecting events, when healthy and blooming parturient women, suddenly die by an apoplectic fit with or without convulsions, sometimes without any hæmorrhage, at other times with and after hæmorrhage, in the very act of delivery or shortly after it terminated. I have observed this accident much more in young plethoric, than in aged and feeble persons ; also in cases wherein venesection had been omitted previous to confinement. All this tends to prove that such an apoplectic fit is produced not by a deficiency of strength, but by the sanguineous congestion to the brain, brought on in the full vessels by the forced exertions of labor. I consider venesection, shortly before delivery, as the only preservative against such an emergency, and never have I observed these accidents to happen, when it had been previously performed.

2. Cessation of the Catamenia.

This is another period in which great evils may be prevented by venesection, but in which it is frequently neglected. This cessation is by no means, as some believe, always a consequence of weakness brought on by advanced age and a decrease of sanguification ; it is simply due to a cessation of sexual life and the functions of the genital organs ; while the rest of the organism and sanguification may remain active and vigorous ; so much so, that at this

time the body increases in size and strength by the very cessation of the monthly flux ; and many women are seen to become strong, full, and blooming at this period. However, this very vigor which follows the monthly suppression frequently produces the worst accidents, and the time which intervenes between the restoration of the balance is rightly styled the critical period of female life. This equilibrium does not consist in the mere restoration of a proper proportion between nutrition and secretion, nor in a new distribution of humors ; but also in a new distribution of the powers even of productivity, which, being now deprived of its normal formative organ, is thrown into a false—a pathological direction. Hence arise the many accidents which endanger life, and which can be traced to two sources. They are either sanguineous congestions to the head, the chest, the stomach, and other abdominal viscera, extravasations of blood, metrorrhagia, hæmatemesis, hæmoptysis, hæmorrhoidal complaints and nervous attacks ; or they are disorders of secretion and consequences of a degenerating productivity, as the formation of scirrhi, or their transition into cancer, cutaneous diseases, ulcers, gout, dropsy.

The treatment solely applicable to this period, and which may prevent all these accidents, consists in a restoration of the balance, in diminishing plethora, derivating the blood from noble parts, and supplying new secretions for those which have ceased to exist.

The safest means to fulfil these indications, unless forbid by great debility, is a moderate venesection performed every six months, even every three months in the case of plethoric women, and such as were subject to copious menstruation.

When there are local congestions and affections, let ten to sixteen cups be applied every two months, a kind of derivation which I have found very useful in this period, in order to free the capillary system, which is so frequently the seat of disease. The diet must not be too nutritive ; daily exercise and a cooling cathartic must be taken for four or six days every month. The best kind of laxative is a glass of six or ten ounces of Seidlitz water every morning. When important and obstinate affections and congestions, as vertigo, an apoplectic disposition, oppression of the chest, cutaneous diseases, arthritic affections set in, fontanels are required.

These abstractions of blood are to be performed more and more seldom, as the period of cessation advances and

plenitude decreases, so that no more be made after one, in others after two or three years. There are persons, however, of so plethoric a constitution, that one abstraction yearly must be persevered in from this period onward to advanced age.

I do not hesitate to assert, that following these precepts, and especially the occasional venesection, will often prevent the worst accidents of this period, even cancer, at least scirrhus from passing into cancer, which is then so frequent.

3. Phthisical Disposition.

There are two modifications of the phthisical disposition, the atonic and the florid or inflammatory. In the first, relaxation of the lungs and atony of the whole system is perceived; it is distinguished by cough and a mucous expectoration becoming more frequent and copious. To prevent it from passing into real consumption, strengthening is required, which may be effected by a continuous use of Iceland moss, Peruvian bark, and similar tonics. Abstraction of blood would be injurious in such a case, and accelerate that transition which we desire to prevent. In the florid phthisical disposition, on the contrary, a phlogistic state of the lungs inclined to inflammation, irritated, frequently tuberculous, exists, with an augmented irritability of the whole vascular system. The cheeks are red, as if painted; they and the hands are often hot, a constantly irritated pulse, frequent stitches or pains in the chest, with short dry cough and oppression, disposition to hæmoptysis and febrile motions, are characteristic of it. Here the only means to save life and to prevent the transition into real consumption, consist in an antiphlogistic diet and small venesections repeated from time to time. I have enabled persons so constituted to pass safely through that perilous period, the age from the sixteenth to the twenty-fifth year, by the following treatment: a moderate venesection of six or eight ounces every two, three, or four months, fontanels, or, still better, mezereum on the arms, internally nothing but whey and milk diet, the expressed juices of mellagines, of tussilage, carvil, borragé, grass-root, cucumber-juice, small doses of digitalis. The best proof of the importance of abstractions of blood in these cases is exhibited by Nature herself in the female sex; for every one knows that the continuance of menstruation is the surest remedy to

prevent phthisis for a long time, even where there is a great disposition to it. It is only when the menstrual flux ceases that phthisis manifests itself to its full extent, and then the patient is lost.

4. The Apoplectic Disposition.

In men, who have a short stout body, short thick neck, and unusually large head (which is therefore called *architectura apoplectica*) a natural disposition to apoplexy exists, and when such individuals get farther advanced in age, up to forty or fifty years, the precursors of it, vertigo, feeling of fulness in the head, tingling and buzzing at the ears, unusual sleepiness and forgetfulness set in. In the absence of such a structure this disposition is produced at a certain age by other diseases, especially by gout and hæmorrhoidal complaints. Even old age alone may generate it in plethoric persons, by straitening or even ossification of the external vessels, by which a stronger rush of blood inwardly and to the brain (*plethora ad spatium*) is brought on. In all these cases, when the above-mentioned forerunners set in, and indications of plethora associate with it, I know of no greater remedy to prevent apoplexy and preserve life, than a frequent use of cooling cathartics,* fontanels, and occasionally a venesection alternately on the arm or foot. The most appropriate seasons, indicated by Nature, for such prophylactic venesections are the time of the first snow in November, when the contraction of the peripheric vessels, combined with the pressure of the atmosphere, is likely to produce congestions to the head, and the time of the first summer heat, in May or June (the season of blooming, as the ancients called it), when the first influence of

* I cannot too strongly recommend a remedy against vertigo, first brought into notice by Kæmpf, which innumerable cases have confirmed to me. It is the following:

R. Gum guaiac,
Cremor tartar,
of each half a drachm,
M. F. P.

S. To be taken, for several days, in the evening, before retiring.

I have found this remedy of excellent use, not only against vertigo, but in general as a preservative against apoplectic fits in persons of advanced age, when atonic gout is likely to be mixed with it.

It may be repeated every month, for several days. When hæmorrhoidal congestions are connected with it, I add ten to fifteen grains of lac sulphuris.

warmth creates an unusual distention of the blood (*plethora ad volumen*), and thereby congestion to the brain.

I know a number of persons, who have prolonged their life up to eighty years by such annual venesections. That very old age is often the sole indication for bleeding, even in individuals who were not in need of it formerly; and I cannot omit to recommend this point to particular attention. Old age ought not to lead us to suppose weakness alone, as many practitioners do, and suggest the use of tonics. In persons of a sanguine constitution and good digestion, very active sanguification persists up to great age, and the plenitude of blood now becomes dangerous, since its equal distribution is impeded by the straitening of the vessels and the decreased motive power in the smaller and capillary ones, and local congestion of blood, especially to the brain, is caused. Therefore, there are persons who attain their fiftieth or sixtieth year of age without need of bleeding, but who, from this period onward require annual venesection. Be careful in this, as in the fit of apoplexy itself, not to be deceived by the external appearance of weakness and deficiency of blood, pale countenance and leanness. Such individuals are often internally most rich in blood; of which a full, strong, and hard pulse is a sure indication. I have abstracted from a man of seventy-two years of age, of pale, meagre constitution, who had had a fit of apoplexy, and laid speechless and consciousness, with pale face, but with a full, hard pulse, first one pound of blood, and this being of no use, and the vein yielding no more, immediately fourteen ounces of blood from a second vein of the other arm, and it was not until he had lost twenty-six ounces of blood, that speech, consciousness, and ability to swallow returned, and the attack of apoplexy passed by happily.

5. Hæmorrhages.

Here also venesection has been too much forgotten and neglected, owing to the erroneous idea that hæmorrhage is always caused by debility, and is a substitute for abstraction of blood. Practitioners seem to have forgotten that hæmorrhages might arise from plethora and from increased vascular action; that loss of blood by venesection has a quite different effect from that by hæmorrhage; and finally, that it is better that a superabundance of blood be discharged from a vein of the arm, than from the lungs.

Bleeding from the lungs deserves particular attention. This most plethoric organ of our body, one so apt to lesions which are so irremediable, requires venesection, according to my opinion, at every eruption of blood, though it be trifling, except the single case, where a putrid dissolution or an ulcer in the lungs is evidently the cause. In all other cases it will be prudent to commence by a moderate venesection, which often is alone sufficient to stop bleeding, at least prepares the system for the application of other remedies ; and which is essential for preventing dangerous consequences,—inflammation of the bleeding part.

It is likewise often the only remedy, or, at least, an indispensable accessory in metrorrhagia, particularly those cases which happen in plethoric subjects, and at the period of the menstrual cessation, when a venesection in the arm occasionally repeated is often the only means of relief.

Bleeding is less necessary in hæmorrhoidal hæmorrhages, hæmaturia, and hæmatemesis. But even in these cases it may be salutary when plethora exists, or a previous hæmorrhage has been suppressed.

6. Commotion.

I must now mention the important case of a violent mechanical concussion, a fall or a blow. The consequence is always a local debilitation of one or several internal viscera, distention of the vessels injured, and a congestion or a real extravasation of blood, either into the cellular tissue or poured out externally (hæmoptysis, hæmaturia, metrorrhagia). Thus violent concussions are apt to give rise to inflammation of the brain, of the lungs, of the kidneys, &c., which have the further peculiarity of being of a compound character, active and passive ; that is to say, consisting in a considerable accumulation and stagnation of blood in a debilitated vascular system, in which irritation, development of warmth and inflammation is increased by the existing local plethora. This state is liable to be mistaken in its intrinsic character, and has indeed been frequently mistaken. When the asthenic theory reigned, the consequences of all commotion, even inflammatory phenomena were regarded as mere weaknesses, treated with stimulants, and abstraction of blood was abstained from ; in consequence of which, if the patient did not immediately die, he fell into a chronic disease of the viscera, frequently terminating in consumption.

The only correct treatment of such inflammations (*a com-*

motione) is to unite both methods, for both states of disease are united here,—that is to say, the evacuant and tonic method.

The first thing to be done is a venesection, in order to promptly remove the local accumulation of blood. As soon as this has been sufficiently done, have recourse to the topical application of cold, and internally to antiphlogistics, as long as inflammability is evident; if these means be not at hand, an infusion of *arnica montana* (leopard's bane) is the specific, to effect a prompt absorption of the stagnations and extravasations which follow commotions; a property which is implied in the (German) popular name of this plant, which is *Fall-Kraut*, falling herb.

The commotion may not be followed by inflammation, but by a chronic affection of the part injured. In such a case, a stagnation of the humors within or without the capillary vessels (an extravasation into the cellular tissue, parenchyma of the part) must be suspected. The doctrine of extravasations and stagnations of blood in the substance of the viscera merits attention, and needs farther investigation. We see externally, after violent contusions, ecchymoses, which last for weeks, months, even for a longer time, spreading from one part to another, as from the shoulder to the ends of the fingers, and which are often followed by disorganizations, indurations, suppurations: the same also happens to the internal viscera. A protracted pressing or pains in single viscera, as in the lungs, liver, spleen have often been observed, have lasted many months without yielding to any remedy, and finally have disappeared by spontaneous discharges of blood from the lungs, stomach, or intestinal canal. But it more frequently happens, that such local accumulations and stagnations gradually form into incurable obstructions, indurations, suppurations, or other pathological metamorphoses.

All these evils, acute as well as chronic, are most surely prevented by a venesection made in season; that is, immediately after the accident.

7. Plethora at Spatium, by faults of structure or proportion.

By this, I understand a state of the body, in which, while sanguification continues perfect, there exist mechanical obstructions, which impede and deprive the blood of room to circulate.

This is the case in all humpbacked persons ; for the spinal distortion diminishes the space between the pelvis and the chest, and gives a new curvature to the aorta, by which the circulation of the blood will be necessarily obstructed, and forced to accumulate in the large vessels near the heart. When these deformities are great, we always find the subject of them troubled with hæmorrhoidal congestions, or congestions in the chest and head ; for which there is no other cause than this. The only means of alleviating the complaints of such deformed persons, and to prevent the dangers of congestion, is to practise moderate venesections occasionally.

We meet with something of the same kind also in those cases where there is considerable congenital disproportion between the limbs and the body. A person who has very short legs will always be more subject to sanguineous congestions to the head and chest, than a long legged one. In general the apoplectic disposition is owing to the shortness of the neck, the large size of the head, and the compressed form of the rest of the body. In little children it is likewise the proportional size of the head which renders them particularly so liable to sanguineous congestions. There may be a disproportion even in the vessels ; the constant disposition to internal sanguineous accumulations is often due to disproportional smallness of the external venous vessels.

We must also mention those cases, where a great part of the room designed for the motion of the blood has been taken away by amputations of large limbs, or the tying and adhesion of large blood vessels (in aneurisms). In all these cases the faulty structure is an indication for the abstraction of blood when cases require it ; venesections in these cases are important preservatives.

II.

O p i u m .

Sacra vitæ anchora, circumspecte agentibus, est opium ; cymba Charontis in manu imperiti.

WEDEL.

We will now speak of the second heroic remedy—opium. A great, a mysterious, an extraordinary remedy, still incomprehensible in its effects ; and on which Nature has appropriately placed a crown at the completion of its

vegetative life (in the capsules). We are perfectly right to style it a hero ; for it unites all the virtues of one. It is a remedy whose power affects the very source of life, whose effect is decisive of life or death ; and used in the critical moment may save, as surely as it will destroy if wrongly applied ; which is unique in its operations, and cannot be replaced by any other one ; finally, it has often reigned king, even despot over the whole medical world, and spread benefits as well as ruin over humanity.

What Wolfgang Wedel has said of it in his *Opiologia*, will remain for ever true : "*Sacra vitæ anchora, circumspecte agentibus, est opium ; cymba vero Charontis in manu imperiti.*"—It is a double edged sword, a divine gift from heaven in the hand of the master ; the most deadly poison in the hand of the ignoramus. O that it were possible to commit it only into the hands of a master, and to withdraw it from the profane hands of the demi-physician.

The history of opium is the history of medicine. It has inseparably accompanied the art of healing through all its various phases ; alternately been raised up to the skies, and, as it were, revered ; again dreaded and banished ; but always again sought for as indispensable. The greatest masters of the art,—Galen, Sydenham, Hoffmann, Werlhof, paid respect and veneration to it, and believed that one could not be a physician without it. And how far back is the date when every disease was thought to be curable by opium, and that almost every physician carried the opium-vial in his pocket ? Did it not defeat all other medicines, and maintain the battle-field alone ? Can we deny that at that time, opium really controlled medicine, even that it had the most decisive influence on the theory of medicine ? It was its frequent use and its extraordinary effect that most contributed to start the opinion, which considered the original character of all diseases to be astheny.

But as it is in general the lot of men to pass from one extreme to the other, so has it also happened with opium. To a predilection for this remedy, and its abuse, which only a few lustres ago perpetrated so much mischief, and to an ignorance of its real merit, succeeded an exaggerated horror of its use among physicians, and thereby was medicine deprived of one of its most excellent remedies, and many a patient of the relief which it alone could afford.

It is time to seek a reasonable medium, and to instate this venerable drug in its true rights. This is the object of the present treatise : to appreciate the virtues of opium, to reduce them to fixed principles, and to give a proper

rule to physicians, especially to young practitioners; whereby to avoid abuse, and to apply it in its proper place. All—even life and death—depends on a correct knowledge of its primitive effects, on a right appreciation of the indications, and an accurate discrimination of the case. The first and most important thing is undoubtedly a knowledge of the primitive effect, the essential character of a remedy. As every disease has its peculiar character developed in the organism, so is the effect of every remedy nothing less than a disease created by art, and possessed of a character of its own. In order to understand the primary effect of a remedy, we must have a knowledge of the alteration which it produces in general in the living economy, what are the alterations it produces in the various systems, what is the system it attacks in preference, carefully discriminating the proximate from the remote effects. For this purpose it is not sufficient to know the names of the diseases in which opium has proved beneficial. This can at most impart an empirical knowledge. Nor is a chemical analysis sufficient, however accurate it be; it will always remain subordinate to autonomy and autocracy of life. But least of all are we to respect a *deductio a priori*, which will ever change obedient to the wind of every system. The primitive effect can only be determined on by observing the effects of its operation on the living organism, as far as they strike the senses. It is only the proximate, essential, constant effects that come into consideration,—not every phenomenon which follows its use, as Homœopathy pretends to; for a multitude of accidental causes, dependent on individuality, and on temporary external and internal conditions, co-operate and modify those effects. The task therefore is to inquire from experience, and to separate the proximate, essential, and constant effects of opium from the secondary and accidental ones.

Large is the field and difficult the task. One might feel inclined to believe, from the immense crowd of observations and trials, which have been accumulated, and are before us since more than ten centuries, it might be easily done. But this is not so. For now we have to distinguish which of its effects belong to the individual's constitution, to the idiosyncrasy of the person; what is to be attributed to the reaction which is altered by disease, what must be ascribed to the various epidemical and endemical constitutions which so greatly modify all living beings; how much is owing to habit, as in the east; finally, how much is attributable to the observer, and the spectacles through which

he sees the subject, and by which even facts may present quite a different appearance, and by which so many false and single-eyed observations have been brought before the public. I shall endeavor, according to these considerations, to lay down and fix the most essential out of this vast mass of observations and trials, and my own longæval experience. In this respect Brownianism was particularly prolific. It may very properly be considered the greatest and most universal experiment, which has ever been instituted on mankind.

Constant Phenomena.

When we bring opium in conflict with the living organism, be it by the internal or external surface, the following symptoms appear as constant :

1. *The pulse is raised, becomes full and vigorous.* This effect is immediate and constant. Acceleration is only relative, and depends on the variability of the vital state. In a healthy state, a moderate acceleration is observed, even when the vital power is increased. If, on the contrary, a frequency of pulse exists, excited by weakness, opium moderates it and makes the pulse slower and more regular. Large doses also render the pulse slow and like that of an apoplectic person.

2. *Turgor (expansion) of blood.* It is manifest in the fullness of the pulse, in the swelling of all the vessels, in the sanguineous congestions that happen. It tends first to the head, the lungs, or to any other predisposed organ, and is apt to create hæmorrhages, even inflammations.

This vital turgescence, exhibited in the expansion of blood, must be considered as a peculiar effect of opium, and deserves particular attention. It was known under the name of *rarefactio sanguinis* by gray antiquity, and regarded as the primitive effect of opium. And it is indeed one of the most constant phenomena, and is perceptible at all times. The pulse becomes full and large even in debilitated persons, and such as are poor in blood ; an artificial plenitude, a true *plethora ad volumen* is the consequence. Therein particularly, resides the danger of sanguineous congestion to the head after the use of opium ; and on this circumstance depends the dissolution of the blood, the decomposition of the living mixture which sometimes happens.

3. *Increase of vital warmth.* It is an inseparable companion, a co-effect of the augmented vital turgescence,

and of the increased circulation, and is one of the most constant effects of opium.

4. *The nervous system*, especially the sensorium, is directly and mightily *affected*; sensibility is diminished, for it produces stupefaction, sleepiness, coma; when applied locally, numbness, insensibility of the part, cessation of pains and spasms. Sometimes, it is true, its internal use produces increased gaiety, exaltation of the sensorium, of psychical life, even delirium, which may reach unto fury. But these are excitements which very soon pass away, and are followed by a contrary state. They are relative, and depend partly on the dose, partly on individual varieties. They belong in part to the affection of the nervous system, which, before yielding to the narcotic power of the remedy, resists the attacking agent for a while; partly also to an afflux of blood to the brain, on which opium acts as a powerful stimulant, and exalts its action, as is seen in any other sanguineous or inflammatory state of the brain.*

The immediate operation of an agent on the human economy is most accurately and best ascertained by its local effect, and this in opium is always a diminution of sensibility. When applied to the intestinal canal, the action of the latter ceases; applied on an external part, it removes pain and spasm, provided that the epidermis is whole; for otherwise the soreness of the part would of course render that, as every other application of a foreign substance, especially of a resinous one, painful.

5. *Constipation of the bowels, and dryness of the throat*, owing to a local paralysis of the intestinal canal and its absorbent vessels, created by its internal application. This is a stupor, a sleep of the intestines.

6. *Increased secretion of the skin, sweat*. The product of the exciting power, of the augmented arterial action, the

* The pure effect of opium can be known only in persons unaccustomed to its use. Therefore, the effect of it amongst the Turks and other oriental nations, as well as amongst us in persons accustomed to it, does not prove any thing to the contrary. Habit produces a perfectly new relation between the opium and an organism already accustomed to its excess, blunted and pathologically altered. The mad courage of the Turks, created by opium, is a double product, created by the double, positive and negative effect of opium; on one part it is negative: disregard, forgetfulness of danger and of themselves, by the depotentiating power of opium; on the other part exaltation of energy and courage, by the increased tendency of blood to the brain and heart.—We also see persons in our own climate, by long and abundant use of this remedy in large doses, suffer no other perceptible effect than a forgetfulness of themselves, of their pains, of their whole morbid condition, whence results their mirth and contentment.

motus periphericus, combined with the sedative, the solution of the cutaneous spasm, the relaxation of the orifices of the vessels. Hence it promotes suppuration, and is apt to create pimples, petechiæ and aphthæ in fever.

7. Besides these, the *effect on the genitals and urinary organs* may be adduced as almost a constant effect; it excites their action. The first are most excited; amorous dreams, erections and emissions generally follow its use. As to the urinary apparatus, the discharge of urine is increased in quantity and in frequency; but this depends on circumstances, and is yet a question to be settled, whether it be a real increase of the urinary secretion, or only increased urgency to make water.

8. Too abundant and too long continued use brings on *dissolution of the blood, decomposition of the vital combination and mixture, putrescency, gangrene, rapid transition into complete putrescency after death*. Although this is a secondary, it is still one of the most constant effects of opium, after a concentrated use of it (opium poisoning), or after a protracted use. All acute fevers may be changed by the abuse of opium into putrid typhus; all inflammations into gangrene. Also in chronic diseases this inclination to dissolution and hæmorrhages is manifest after its long continued use. Even among the Turks its abundant use brings on a gradual mortification, and the most profuse hæmorrhages. Equally constant is the rapid transition of such dead bodies into putrescency, and the effect of opium is perfectly similar to the effect of lightning.

Primitive Effect.

We see thus in opium a most wonderful and unique combination of excitement with stupefaction; of an animating with a destructive power; and it is these effects which are distinctive of the remedy, and which give to it so high and exclusive a value for practice. *Depression, even complete annihilation of sensibility, of nervous life, and awakening and raising of the irritability of the heart and the whole vascular system; that is to say, of the organic, vegetative, primitive life, along with augmentation and acceleration of the vital process unto fatal hyperanimalization, destruction of all plasticity and incipient chemical dissolution,—this is the essential character, the primitive effect of this extraordinary remedy.* Hence the instantaneous excitement and filling of the pulse, which was reduced by weakness; mo-

deration of the pulse accelerated by weakness ; the conversion of violent, sanguineous congestions into inflammation ; hence the rapid transition into gangrene, colliquation, hypercarbonization, putrescency and putrefaction.

Opium is therefore a great, even the greatest excitant and cardiacum, in the strictest sense, which we possess. And this is, indeed, a positive primary effect, not a mediated one, the effect of secondary or antagonistic reaction. The best evidence of this is furnished by trials on persons who are almost in an exhausted state. I must remark here, as a general observation, that in order to ascertain its effects on the living body, it is most necessary to consult pathology, and its pathological effects ; not only the trials on healthy persons. One ought to have seen himself the wonderful momentaneous effects which a dose of opium produces in the most prostrated and exhausted state of the vital power, as in typhus fevers and in malignant small-pox ; how the scarcely perceptible, quick, trembling, intermittent pulse changes into a full, equal, vigorous one, how the skin acquires an uniform warmth, an universal, vital turgescence spreads a new sensation of life ; vigor, courage, and comfort pervade the patient, and the internal curative process, the crisis, which hitherto could not be effected, all of a sudden receives the most vigorous impulse, and from that moment all the salutary productions and secretions of Nature go into operation.

In this Brown was perfectly right, though it was known and in usage a long time before. He only forgot the other side ;—that this remedy acted also as a sedative on the nervous system, and that even its exciting impulse is so powerful, and affects life so deeply, that the excitement passes rapidly into the greatest prostration and paralysis ; hence, we cannot attribute to it a really and lastingly roborative virtue.

But the idea of irritation and excitement does by no means exhaust the effect of opium, no more than the idea of over-irritation does that of its secondary effect. For its operation extends deeper ; the excitation attacks the primitive process of life, the chemico-vital mixture, and the over-irritation becomes an over-living, a vital process increased above the normal measure. This is made evident by the rapid transition of the bodies of those who have suffered from it, into putrefaction, gangrene and dissolution. Therefore, the sedative effect ought no less than the ex-

citement to be considered a fundamental operation of opium.

Nor is this sedative effect, as is generally supposed, a secondary one, created by over-irritation; but, like excitement, it is a primitive action, exerted immediately on the nerves, and which strikingly shows the power of opium, locally applied, in arresting pain, spasm, and even every species of activity.

It is, therefore, with a full conviction that I maintain: *There is no remedy, in our whole stock of medicines, which operates so directly and powerfully, and at the same time so variously on life, on the fundamental principle of vitality, as opium.* He who uses it, has life and death in his hands, bordering very near on each other. So true is what the great Sydenham says: "Without opium all medicine would be imperfect and insufficient."

Mode of Operation.

Every inquirer will naturally ask: How are we to explain the surprising and, to a certain degree, contrary effects, and such as no other remedy produces? This task has occupied and exercised the sagacity of the physicians since thousands of years. It is one of the most difficult riddles put by Nature to the inquiring mind; and nothing is more instructive, and at the same time more discouraging, than an exposition of the various opinions put forward on this account. It is, so to say, a history of the human mind and the variable states of science; and as this mysterious remedy affects the innermost relations of organic life, its history furnishes an exhibition of the fundamental ideas which prevailed from time to time of Nature, and of the actions of life. The first we meet with is the theory of vital spirits, which, according to the opinions of the ancient physicians, are fascinated and enchanted by opium in some wonderful way.* After this came the Galenian view of temperature, according to which opium was of a cold nature, and therefore required the assistance of aromatics. Afterwards the opinion of Sylvius, who endeavored to explain all in a chemical way; supposed that opium was possessed of a peculiar principium sulphureo-volatile, which was productive of all its effects. Helmont asserted, that opium operates on his "archæus," and by this he

* The great Bacon thought that the effect of opium was to drive the spirits from the surface, and to concentrate them at the centre. *Hist. Vitæ et Mortis.* Art. xii.

accounted for the phenomena. The more mechanical school supposed the effect of opium to be due to an obstruction of the finest vessels. Then the opinion, that opium operated merely by expanding the blood, spread universally and prevailed for a long time; an opinion to which even the great F. Hoffmann assented to a great extent.—Then appeared the more accurate knowledge of the nervous system, and its influence on the organic functions, the great discovery of Haller, that of the difference between sensibility and irritability, which altered the views in physiology and pathology, and thereby also the view heretofore entertained of the operation of opium. It was now particularly referred to the nerves, exclusively so by Cullen. In more recent times, two other remarkable explanations were given. The one most ingeniously excogitated by the subtle Lewis Hoffmann.* He founds it on the principle, that the small vessels and their terminations, having a weaker degree of irritability than the large ones, and the heart, consequently lose it before the latter under the irritating operation of opium. Hence results a state of relative weakness, a want of action and obstructed circulation of the humors in the smaller vessels, and by this resistance, by this disturbed equilibrium, an increased and strengthened reaction of the heart.—The second explanation comes from the famous Brown. According to him, opium is the strongest and most diffusible stimulant for the whole system. It consequently arouses a violent reaction in the whole economy, but by the very same cause is consequently followed by the greatest exhaustion; which is indirect debility. The most recent opinion is that appertaining to the system of polarity prevailing in natural philosophy, and which approaches to the chemical view.

The plurality of physicians hold now to the opinion, that opium operates by irritating the whole system; and that the narcotic effect is a consequence of over-irritation, of indirect debility. I oppose to this two questions: In the first place,—why do not other equally volatile remedies, which excessively irritate the vascular system, such as musk, ammonia, castoreum, likewise create narcotic ef-

* Who lived half a century later than Frederick Hoffmann, for whom young physicians often mistake him.

† Even such was the opinion of Brachet in his *Traité sur l'Opium*: Paris, 1828.

fects? And in the second place,—do we not see narcotics which produce most violent narcotic effects without the least irritation of the vascular system, without alteration of the pulse and warmth, even by retardation of the pulse, and consequently diminished action of the heart? Hence, I deem it clearly evident, that the narcotic matter is something peculiar, which, independently of the irritative power of the heart and vascular system, operates directly and specifically to the brain and nervous system, and is capable of depressing and affecting it directly, and without the medium of an over-irritation. This narcotic principle is manifestly present in opium. The proofs are as follows: the peculiar smell of opium, which is very similar to that which we perceive in hyoscyamus, stramonium, and other narcotic plants, and which always betrays the existence of narcotic matter. Farther, the local sedative effect of opium; it operates also when externally applied, relieving spasm, and soothing, without any affection or excitation of the vascular system; it may even (as I have experienced myself, when on a hot day I held a large piece of opium in my hand for a length of time) by a strong and long continued external application, affect the sensorium and create narcotic accidents* without any excitement of the blood, merely through a nervous consensus. The mere application to the temples causes sleep.† The topical application to the stomach, when taking it as a medicine, immediately stops the local sensibility and nervous action of this organ (appetite, digestive power, and peristaltic motion); its application to the intestinal canal by injections arrests the peristaltic action of the intestinal canal. Farther, we see that the mere vapor, which is the purest element of narcotic matter, produces stupor. The aqua opiatice, which does not contain any thing chemically recognizable, consequently only the exhalation, the most volatile part, has also a sedative effect in ophthalmias. Finally, experience teaches that the watery extract operates antispasmodically and soothingly, without exciting the vascular system (similar to other pure narcotics, as hyoscyamus, stramonium),

* Has the strongest alcohol ever done so? I ask of those who consider the effect of opium identical to that of wine.

† It is one of my usual remedies in sleeplessness of nervous patients, this so frequently tedious complaint, to apply on both temples every evening the following plaster:

R. Empl. de hyoseyamo half an ounce.
Opii 20 grains.
Malax.

but which the resinous preparation would produce,—evidently proving the existence of narcotine, which is active, without any excitement of blood and vessels intervening. We may, by the admixture of nitre and other antiphlogistics, deprive opium of its heating property, and still the sedative remains.

We must, therefore, distinguish the sedative from the exciting operation of opium. The only true and satisfactory explanation of its mode of operation is, according to my opinion, the following: a peculiar and intricate union of a narcotic with an excitant principle; the first tending to the nervous system, the other to the vascular. The mere aspect of one of the important narcotics shows that this difference exists, and that the narcotic effect is by no means in equal proportion to the exciting, which, however, would be the case if both were one and the same, or the effect of one and the same stimulus. Stramonium is perhaps the strongest narcotic we are acquainted with after opium; it does not in the least excite the pulse nor the vascular system, according to experiments made on animals; digitalis, on the contrary, operates depressingly, belladonna, on the other hand, excitingly. Prussic acid is capable of totally annihilating sensibility, without producing the least excitement of the heart and vascular system. These remarkable varieties in the effects of narcotic remedies, seem to me to furnish the strongest proofs of difference between sensibility and irritability as primitive organic powers.

Let us now resort to chemistry, that art which resolves all things, and ask: To what principles can opium be reduced? Perhaps it will throw some light on the various powers which this drug possesses, and it may give to us the key of the mystery.

Ancient chemistry was contented with dissolving it in water, wine and alcohol, to separate the parts which were soluble in water from those not soluble, and it was found, that the watery solution (*extractum aquosum* s. *gummosum*) possessed the narcotic virtues, though in a lower degree, but not the hot properties, and that the latter pertained, consequently, to the resinous part; wherefore this was prescribed by the physicians, when sanguineous excitement and phlogosis rendered the use of opium hazardous.

Modern chemistry, which has made such great discoveries, and has discovered entirely new modes of penetrating

into the interior of nature, has directed her attention also to this important object, and submitted opium to the most accurate and manifold examinations. It has discovered as primitive substances, oxygen, carbon and hydrogen. The result is, that opium may be divided into four ingredients, morphium, meconium, and narcotine, to which the extractive matter* must be added. But opinions differ very much regarding the properties and effects. Thus much is certain, that morphium alone is of little efficacy. It must be combined with an acid in order to operate, and then it has effects pretty much resembling those of opium unto fatal poisoning. But narcotine (Derosne's principle) remains, which is very efficacious according to some, indifferent according to others. Equally wanting of confirmation is the opinion, that the latter produces the exciting, the first the sedative effects. Besides, we have yet to consider the extractive matter, which the Swedish chemist Lindbergson maintains is the most efficacious one in opium.

What results from all these investigations for the physician? Neither morphium alone is opium, nor meconium, nor the narcotine, nor the extractive matter; but, what even the great chemist Orfila owns: *the effect of opium proceeds from the combination of all these ingredients*, and I add, *from the peculiar mode of combination and existence, which, however, is destroyed by chemical analysis*. The lesson for practice is: *he who wants to use opium, let opium be the article*. In this he is sure to have all the ingredients that it contains, and in that very peculiar organic combination, which probably in all bodies is the principle and foundation of their essence.

Of far greater importance to the physician is a knowledge of the spirituous and the watery solution of opium, *tinctura opii*, and *extractum opii aquosum*. The first produces narcosis, with sanguineous congestion and increased action of the heart; the latter narcosis with less, or at least with much less heating power. This is confirmed by experience, and is of great practical importance for the various cases of its application when we wish to have the sedative united with the exciting power, or the sedative alone.

* But that very extractive matter seems to me by no means unimportant, and chemistry may allow me the question, whether it did not treat the same too much as a trifle in general as well as in particular. For what is it but an ingredient, which we do not yet know? And would it not be better to call it, instead of using the non-significant word extractive, rather *problematic matter*, as an incentive for future investigations?

But this distinction is also important in a chemical point of view, for it shows in its most simple form that the ingredients of opium which are soluble in water possess a more purely narcotic power than those soluble in spirit, the resinous; it also shows that the narcotic and exciting properties are also contained in the alcoholic extract, which must be distinguished from the former. The first are the meconic-acid, morphia and the extractive matter; the latter the pure opium and the narcotine.

I may here be permitted to subjoin my own opinion on the examination.

Irritability is different from sensibility not only in name but in reality; it is independent, and its action resides in itself, is not secondarily dependent on the nerves, though influenced and modified by them. In this respect Haller was perfectly right; and it needs nothing but a look to the heart and its nerves, so insignificant when compared to its power, and to the first "punctum saliens," which distends and contracts without nerves, in order to become convinced of this truth.* Now to conceive the idea of irritability and an irritable system, the subject must be taken in its totality; I therefore prefer to call it the sanguineous life, the sanguineous system. For the blood is its element, and the heart and circulation exists for the blood's sake, not the blood for the heart's sake (one of the usual views), in order to put it in motion. The blood, not the nerve, is the source and supporter of life; the nerve needs the blood. Fluids exist before the solids; all life springs from fluid, not alone in its origin and formation, but continually during its whole existence. The blood and the vascular system are consequently the base of the proper organic, the vegetative plastic life; the blood is the factor, the nerve the regulator of life.

Susceptibility to external impressions, therefore, by no means relates solely to the nervous system, nor is it de-

* I will recall to mind only two additional proofs of the peculiarity and independence of irritability, as a peculiar original organic power. In the first place, the contraction and oscillation of the muscular fibre, even after the nerves have been cut; when not only chemical, but even mechanical irritation is applied. In the second place, the absence of fatigue in incessant labor and contraction, as we perceive in the heart; whereas all action dependent on the nerves is subject to the law of fatigue. This shows, I believe, absolutely, a self-acting power, innate in the organ, not replaceable by any thing, in short, a peculiar power.

pendent and solely due to it and only secondarily to sanguineous life, but external influences operate as well immediately and directly on the blood (its mixture and life) as on the nerves. I will only call in mind the effect of venesection. It evidently operates directly on the mixture of the blood. The same is true in regard to warmth (the life); it directly creates an increased turgescence of the blood, and increases sanguineous life without a previous assistance of the nervous system.

In like manner opium operates simultaneously and directly on the nerves and blood, and produces in the latter a momentary increase of its vitality, which is clear and manifest by the temporary and apparent distention (turgescence), by the augmented action of the heart, and by the increased vitality of the products directly dependent on the blood, as suppuration; and finally by the acceleration of the whole vital process, and the aptness to decomposition and putrescency which follows. We must attribute to the idea of vitality a higher and more extended sense than is generally admitted. Do we not perceive in the plants, which are likewise living organic beings, clear proofs of vitality, and even a certain degree of irritability, though they are destitute of nerves? Do we not see some substances increase, others lower, even destroy their vitality, though they have no nerves, as frequently repeated experiments sufficiently prove? And can we deny that the internal animal life has such a vegetative life for its foundation?

In order to say all in one word, opium is one of those remedies, whose mode of acting cannot be confined, like that of others, to the ideas of stimulus, irritation, excitement, but which, like the superior agents of Nature, warmth, light, electricity, operates directly on vitality itself, and on all points causes modifications and phenomena, penetrates and fills this vitality, with this peculiarity, that it increases the organic vegetative sphere of life, the fundamental, plastic, vital process, but on the contrary, depresses the sensitive sphere.

Indication.

The principal indication for the use of opium may rightly be derived from its primitive effect, as before stated. It is as follows.

Spasm, nervousness, i. e. anomalous or increased sensibili-

ty, but (which is well worthy of notice) *in depressed vital energy of the vascular system and the whole sanguineous life.* This applies to the whole system as well as to parts, and to the acute as well as to the chronic state of disease.

The more the erethismus of the nervous system increases, the more the energy of the heart and vascular system, consequently that of the fundamental system is prostrated; that is to say, the more that real vital debility is present: the more proper and greater is the indication for opium; and this is, indeed, its highest merit, when the most imminent danger of life is brought about by this disproportion, as is the case in malignant small pox, gangrene and typhus.

On that account opium is the more beneficial, the more the economy is debilitated by previous losses of humours or artificial abstractions of blood and gastric evacuations.

Therefore, soothing the excited nervous system, normalization of its anomalous action (where also the disorders of secretion are to be classed), resolution of the spasm, especially of the painful spasms, and increasing the energy of the heart and the whole organic life—must be the principal ideas, which determine its use and guide us in its application.

It is especially and particularly indicated in pain, in a necessity to create perspiration generally, when it is requisite to produce a strong impulse from the centre to the periphery, in debilitating stools.

Hence naturally result the counter-indications. The first is *plethora* and an *inflammatory diathesis*. As long as an abstraction of blood is indicated, opium will be a most dreadful poison, since it forcibly augments sanguineous congestions, especially to the brain, and increases local irritation. This observation applies also to every incipient fever, which is known to be always inflammatory in its onset (genesis). By such an unseasonable use of opium, every fever may be converted into a typhus, as we have often enough had occasion to see at the time of the Brownian period, as I have shown in my treatise on artificially made nervous fevers.

The second contra-indications are, gastric accumulations in the stomach, in which opium never does good, but even proves injurious by retaining them.

The third is, a state of blood inclined to dissolution and putrescency, which is likewise increased by opium.

Application.

It is beyond my task, to show the use of this great remedy in all special cases and diseases. To accomplish this end, I would have to go through the whole of pathology. For there is indeed no disease, in which opium has not been used, and with good reason, under certain conditions. I shall only here state the cases in which it is most valuable, in which no other can replace it ; and such where its use is doubtful, and needs accurate discrimination, and those, in which it is yet too little known and used.

Local Inflammations.

I commence with its virtue in local inflammations. This will make many a phlegmonist of now-a-days shake his head. But so it is, and I consider the proper use of opium in inflammation as a superiority of modern practice and the master stroke of a practitioner. The case is this : it happens sometimes, and not unfrequently, that the symptoms of local inflammation, after a proper application of general and topical bleeding, do not entirely cease ; or, after they have abated, return with increased violence ; as in pleuritic affection, pain in the side, cough, short respiration, the pulse is quick and feverish, but so small, that we dare not venture on another venesection. In such a case, antiphlogistics have, it is true, removed the share which the blood and vascular system had in the inflammation ; but the irritation of the nervous system of the inflamed part, the increased sensibility, or spasm, as it is called, in the inflamed part is left, is even increased by the debility which follows too copious venesections ; if more blood be now abstracted, the more will pain and the local symptoms increase, and must increase. Here opium is the only, a most divine remedy ; it can, as by a charm, remove the remainder of the inflammation within 24 hours ; for it unites both powers which are needed here, in a degree nowhere else to be found ; partly to remove the abundance of increased sensibility, the spasmodic state from the inflamed part, partly to arouse the too much debilitated and inactive vessels, and to give them that degree of activity which is requisite for the absorption of the stagnant or effused blood, and for completing the necessary local as well as general crisis, both of which must be aggravated by continuing the antiphlogistics.

This applies particularly to pleurisies or painful pneumonies. The judicious use of opium may in such cases save much blood, even the life of the patient. Here, however, the glance of a master is needed. For, alas! used unseasonably, it may cause the greatest injury; we have seen too much of this during the Brownonian period, when the practitioner administered opium immediately from the commencement, and without having previously made an abstraction of blood. The pain abated, but oppression remained, the inflammation was not discussed, and the consequence was a transition into gangrene, and a fatal issue, or induration and suppuration; the patient had his life saved, and apparently recovered; the salutary power of opium was praised, but he had the germ of future death lingering in him, which sooner or later would be developed, and manifested in phthisis. This is the dangerous side of opium;—it is capable of temporarily assuaging pains and morbid sensation, and bring the physician as well as the patient into the most hazardous illusion; by which the favorable days for using effectual curatives are neglected.

Opium has its place only when the lancinating pains in the chest do not yield to bleeding and antiphlogistics; or when having ceased they return, even with more force, and that even a vesicatory proves unavailing, the pulse continuing small and tender, and does not admit of any further abstraction of blood, then—usually the 5th or 6th day—is the seasonable time for the use of opium; one grain, in the form of Dover's powder, taken in the evening, works wonders, takes away, as it were by charm, the remains of inflammation within one night, and completes the general as well as local crisis. But use the combination with mercury,* which I have used in numerous such qualified cases with the best success, for mercury operates simultaneously on the lymphatic portion of the inflammation, dissolving and absorbing the lymphatic coagulum or extravasation which perchance may have remained.

Frequently, nothing more will be needed for completing the cure but this remedy continued for 24 or 48 hours, with warm expectorative beverage. The pain disappears, perspiration becomes free, expectoration comes on, a critical sweat appears, and the feverish pulse is soothed.

* R Calomel gr.vj.

Opii gr.ij.

Sacchari albi dr.ii.

M. f. P. Divide it in six equal parts.

D. S. One powder every 2 or three hours.

At the commencement of inflammatory rheumatic pleurisies it is often sufficient for the whole cure, to make a copious venesection in the arm, and to give immediately after a Dover's powder.

I know even of a case of carditis, where, after bleeding as copiously as could be, the most fearful palpitation with the most violent anguish of death persisted; it was in vain to give aqua laurocerasi. Opium removed these remains promptly and perfectly.

In all inflammatory maladies, careful attention must be paid to the pulse, which is the chief criterion, by which we judge whether this remedy is proper or not. The use of opium is not only inadmissible while the pulse is strong and hard; but even during its use we must accurately observe its effect; for if the pulse becomes again hard and accelerated, it is a proof, that a remnant of inflammation is still in the blood, and which the opium has roused, that it is still too early to resort to it. Set it aside and have recourse to other narcotics, as hyoscyamus, aqua laurocerasi, digitalis.

The same thing happens in all other local inflammations, we must therefore proceed according to the same principles. It applies to inflammations of all the abdominal viscera, of the spleen, the stomach; especially to that of the stomach, which, on account of the great sensibility and nervous sympathy of this part, may be so intense that the patient may be said to die not by the inflammation, but of the nervous spasm which it has created: in such a case opium is the only salvative.

The same holds good in regard to cholera acutissima, the true treatment of which ought in general to be the same as for the most intense gastritis, which is after due abstraction of blood, to give opium with calomel and mucilaginous beverages as the only curative means. In enteritis, in ileus inflammatorius, when the spasmodic constriction of the intestines, the constipation persists, as an effect of the nervous state which follows the inflammation which venesection has not been able to cure, there is nothing so capable of affording alvine evacuations as calomel and opium combined, and warm baths.

This applies even to purgatives, to which we are often obliged to recur. They operate only when combined with opium. Lately in an obstinate case of ileus even the strongest drastic, oleum crotonis, was inefficacious, until opium was added. The same is true in respect to ischuria inflammatoria. When abstractions of blood have been made

in vain, when the catheter and diuretics refuse their service, opium enables the urine to flow.

Particular regard is due to inflammation of the throat, and especially to croup. It is one of the most important rules of practice in all these diseases, especially in the latter, that a period may arrive when, by a proper antiphlogistic treatment the irritation has been removed, a nervous inflammation, i. e. a spasmodic state in the organs of deglutition or respiration still remains, keeping up the difficulty of swallowing in the first case, and in the latter that of breathing; as strong as if inflammation still existed, and which may even terminate in death. Here the antiphlogistic method is of no farther use, for the case is now one of spasm left by inflammation; opium or a similar active antispasmodic remedy, a vesicatory to the neck and antispasmodic emollient cataplasms are alone able to bring relief.

I consider myself obliged to insist upon this point, in the case of croup, for I have observed, that practitioners often have only the idea of the presence of inflammation and antiphlogosis; so that on this account the patient is not cured, whereas the use of opium or musk at this period takes away the complaint as it were by charm, and proves a salvative of life in the strictest sense. In this way we can explain the contradiction among physicians, some of whom look upon the disease as inflammatory, others as spasmodic; both supported in their views by the effect of their remedies. Both are right to a certain extent. For although the disease is naturally and originally inflammatory, and often may be cured by antiphlogistics alone, yet the inflammatory stage may rapidly pass into a spasmodic, a nervous one, in which change spasmodics alone are of avail.

Cerebral inflammation must be treated according to the same principles. Opium here finds its place as a specific sensorial remedy, in a double point of view, as soon as, after due bleeding, application of cold and antiphlogistic purgatives, stupefaction and delirium will not yield, and the pulse no more admits of abstractions of blood. In this case inflammation has passed into a nervous state of the brain, or a serous effusion is already present; opium will often suffice alone to take away the whole remainder of the disease, to which, however, on account of the extravasation, calomel may be added. I saw the good effects of opium against delirium tremens with pleasure; it brought back many physicians to the use of this remedy which

had been entirely laid aside, obedient to notions of antiphlogosis: but my surprise was not slight when I saw these effects looked upon as a new phenomenon; for the best practitioners since a long time have appreciated opium in cerebral affections, or in such as put on a nervous character at the end of inflammation.

Nervous Fever and Typhus.

This leads me to speak of the use of opium in nervous fever or typhus.

I am far from believing that these fevers are always due to cerebral inflammation; but thus much is certain, there always exists a morbid affection of the brain and nervous system; and the brain is here the centre of action, as the heart is in inflammatory fevers.—A sanguineous congestion is very apt to associate with it, as with every local irritation; but there is a vast difference between congestion and inflammation, and the share performed by the vascular system is always accessory, not essential. This state however makes a great, a decisive difference regarding the use of opium. However much opium may seem indicated for the nervous affection of the brain and nervous system, it will nevertheless operate very injuriously when sanguineous congestion or inflammation of the brain is connected with it. Here opium will surely serve to accelerate the transition into stupor and apoplexy. This subject needs no farther discussion, since the sad experience of opium afforded by the Brownonians.

But it is therefore the more necessary to look again on the other side, which had been lost sight of, and to do justice to opium also in this respect.

There are four cases, in which the use of opium in nervous fevers is exceedingly beneficial, even indispensable.

1. When the nervous fever is from its very onset purely nervous, that is a fever of debility, created by excessive exertion, excesses in venery and masturbation, liquor and the like; or has attacked a nervous individual; when no sign of inflammation is perceptible. Here, after a few evacuants, we may at once proceed to the use of opium; and often, nothing else is wanted to accomplish the cure.—Here also must be mentioned, the lately so much praised use of opium in the delirium potatorum. Besides these, there is a kind of nervous fever, which chiefly occurs in delicate, nervous, and young persons. The pulse is irritated, there is great prostration, on local symptoms, but only a

slight delirium, the pulse exhibits no signs of inflammation; or sanguineous congestion to the head; antiphlogistics alleviate, but the fevers and delirium continue for 8 to 14 days. In such cases, both the fever and delirium will cease by a small addition of *tinctura opii* to the antiphlogistic potion.

2. When after the accessory abstractions of blood and the application of cold and cathartics, though the signs of congestion cease, yet the delirium persists, even passes into fury. In this case the fever is of a purely nervous nature, and opium, to which it is better to add calomel, according to the mixture before mentioned, is all that need be employed.

I shall never forget the joy which opium gave me in the treatment of one of my most worthy colleagues. He lay in the seventh day of a very intense typhus; with small, scarcely perceptible pulse, sopor, delirium, subsultus tendinum; abstractions of blood, cold, cathartics and calomel had been profusely used. The above mentioned powders (of calomel and opium) were administered to him, and after 6 doses the pulse became slow and raised; the spasmodic symptoms disappeared, the head became free and the crisis was effected; amelioration followed from that day, and was completed. How many similar cases could I not cite.

3. When typhus is accompanied from the commencement with diarrhœa, dysentery or cholera, a derivation from the brain is effected; but great danger of exhaustion *ab exinanitione* is brought on. In such a case opium is the only remedy that will arrest this profusion, soothe the over-irritation of the intestinal canal, and thereby save life. We must however be sure that the first ways have been cleansed. Thus, opium was the only remedy in the years 1806 and 1807, at the time of the army plague in Prussia, when diarrhœa was essentially connected with the typhus.

4. When the period of complete prostration, when the *indicatio vitalis* appears, and the most vigorous nervines and excitants are incapable of raising the small quick pulse. Here I know of no greater remedy than an addition of laudanum to the other excitants, given in frequently repeated small doses.

To be able to give due praise to this beneficent gift of heaven, one must have witnessed in these cases how opium is able to change in one night the small quick pulse into a quiet, full and vigorous one; to appease the delirium, to restore consciousness, to stop the debilitating evacuations,

and to produce a really wonderful transmutation. But we must not forget the warning in nervous fevers, to resort to opium only, after purgatives and remedies derivative from the head have been properly used ; and not to use it too early.

Intermittent Fever.

The effect of opium is most apparent in fever and ague ; most so in pernicious intermittent fever. It is evidently the only remedy to save life in these cases, and it is only since we learned this virtue from L. Hofmann that we can boast of being masters of this disease. Pernicious intermittent fever is one in which every paroxysm is combined with a symptom that endangers life : as apoplexy, sopor and the like ; and in general the second or third paroxysm proves fatal. In such cases opium may save life in a double way. In the first place, during the attack of such an apoplexy, he who believes that venesection will do good is greatly mistaken ; for the fit is nothing but spasm, and it is only opium that can solve it and remove the apoplectic state. The apoplectic state is a paroxysm of intermittent fever, and all depends on preventing or suppressing the paroxysm as quickly as possible. This cannot be done in a surer way than by administering to the patient during the apyrexia one ounce of fresh and finely alcoholized Peruvian bark, and adding to the last dose immediately previous to the paroxysm, 1 grain of opium. In general we may consider this as the surest method of suppressing the intermittent fevers.

Spasms.

It is generally known that opium is the surest remedy in spasmodic diseases. Even every quack is reminded by the word spasm of the word—but only of the word—opium ; and this very circumstance is ominous ; for what a vast difference is there not between those spasms where opium is serviceable, and those in which it is injurious, causes even irreparable, fatal injury ! And how few know what this difference is, and observe it ! I shall now endeavor to designate those cases.

Three points are carefully to be distinguished before we resort to opium. We must find out, whether spasm is combined with plethora, congestion to the head, or even with an inflammatory diathesis, or engendered by one of these ; or whether it is exempt from that complication,

and is of a purely nervous nature. In the first case, especially in youthful persons and in infants during dentition, opium will augment the spasm, and likely increase it unto fatal apoplexy. Here it is absolutely necessary to previously remove the congestion by abstractions of blood, antiphlogistics and derivatives; and this often suffices to banish the spasms. It is only when the spasms persist that opium is allowed and serviceable. It will, however, be better to use antispasmodics at first, such as hyoscyamus, aqua laurocerasi, zinc; and if these fail, opium. In the second case likewise opium will be not only not useful, but obnoxious. The stomach and intestinal canal must previously be cleansed by emetics and cathartics, which alone often suffice for removing the spasms; should spasms continue after their application, give opium.

The third is the only case in which opium is proper and serviceable, and it will be more useful in proportion as the spasmodic state is founded on real debility; or that the debility has been caused by abstractions of blood and by purgatives; in short, as the pulse is smaller, softer and emptier. I must, however, here remark, that hysterical persons commonly have a peculiar idiosyncrasy against opium; therefore it will always be advisable in the case of such individuals, to combine it with a corrector, as hyoscyamus, castoreum. Sydenham's composition is applicable to such cases, as also are the various combinations of opium with aromatic and balsamic substances, in the form of theriac and mithridate, as formerly found necessary by medical practitioners. An important observation, and one which has been confirmed to me in many instances, is, that opium used in injections is by far more generally efficacious in violent spasms of a nervous character, especially those of the abdomen, and in such as are located in the spinal marrow and intercostal nerves, than when taken by the mouth.

Traumatic Nervous Affections.

Traumatic irritation deserves particular notice. When after severe wounds and great loss of blood the patient lies spasmodic, stiff, half lifeless, or when in such cases the pains become exceedingly violent, as generally happens on the second or third day, when the pulse and the whole aspect announce spasm, the inflammation has lost its lively color, the suppuration becomes more ichorous than purulent, then opium is the only remedy that can save the pa-

tient, and rapidly change the scene into a more favorable aspect; for it simultaneously appeases the pain, resolves the spasm, raises the vital power, and is capable of ameliorating the inflammatory and suppurative process by its peculiar influence on the vascular system and the plasticity of the blood.

It is only recently that I was again convinced of this, in a case of a Cesarean section. The operation had been performed five days before by the master hand of Graefe, thirty-six hours after rupture of the membranes, and was completed in five minutes. She was a weakly woman, and had been bled twice previously and once after the operation. She had hitherto taken *potio Riveri* alternately with extract of *hyoscyamus* and *aqua laurocerasi*, which mitigated the pains. On the fifth day the pains became extremely violent and resembled labor pains, forcing the patient to cry out. The pulse increased to 135 beats, was small; the hands grew cold, viscous sweat set in, and the inflammation of the wound was languid. One drop of *laudanum* and two drops of *liquor anodyn.* were given to her every hour. After a few hours the pains abated, the pulse rose, decreased 20 beats; the edges of the wounds became more vividly inflamed, the suppuration less ichorous, and from this moment the curative process went on normally and terminated favorably.

That opium is the only salvative remaining in trismus and tetanus traumaticus, I need scarcely mention. The whole medical world is persuaded of it. Its virtue as a resolvent of the nervous spasm is here strikingly illustrated. In this disease the sensibility of the nerves is so obstructed that even the narcotic effect of opium is not felt. We may give it unto the most enormous dose without detriment. But as soon as it has resolved the spasm, the normal perception and reaction of the system against it takes place. Given also by injections in large doses, from half an ounce to even an ounce of *laudanum* at a single dose is often of far greater efficacy, even frequently the only mode of application possible when the mouth is entirely shut up.

Insanity.

The effect of opium in mental diseases depends on many circumstances: it is sometimes extremely rapid and decisively beneficial, in other and more numerous cases it is inefficacious, and not rarely is very pernicious. It is there-

fore most necessary to distinguish the cases with the utmost care. The principal rule is this : The more the mental derangement is of a purely nervous nature, the more it is combined with or derived from real weakness, so will opium prove more beneficial ; as this is seen in the insanity owing to excesses in drinking and venery (*delirium tremens, nervosum*), in the cases of hysterical persons, that which remains after inflammatory affections, and those cases which are purely psychical. But where a plethoric state, or a disposition to an active phlogistic excitement of the brain exists, or where the evil does not originate in the brain or nervous system but in the abdomen ; in accumulations, obstructions in the præcordial viscera, which is especially the case in the melancholic, opium will be injurious. It may, however, be useful at the end of the disease after the material cause has been removed ; when nothing but a nervous state continues. Here, also, it is important to remark that opium given by injections produces by far more effect in *delirium nervosum*, than when taken by the mouth.

Cough and Complaints of the Chest.

Cough and pectoral complaints are likewise important objects for the use of opium. It cannot be denied, that some kinds of cough, even of consumption, may be cured by opium. But it is equally certain, that by far a greater number are aggravated, even true inflammation of the lungs and its transition into true phthisis may be brought on thereby. All depends upon the different nature of the pectoral complaints, which the art of the physician must discriminate. When the cough is of an inflammatory character, the effect of an inflammation or sanguineous congestion of the lungs, or at least complicated with it, opium will always injure. The same applies to the catarrhal cough as long as it remains complicated with inflammatory irritation ; likewise to gastric cough, which nothing but an emetic can remove, but which will be rendered worse by opium. When the cough is purely nervous or spasmodic, then opium is superlative. A single dose of Dover's powder, taken in the evening, is capable of removing it entirely. Also in convulsive cough it is one of the principal remedies in the second nervous stage. There is even a kind of phthisis, which is purely nervous in its origin, and in its first stage is the product of the increased sensitive-

ness of the lungs and the whole nervous system. Here it is most important, to diminish the increased nervous irritability of the lungs as well as of the whole system ; and in such a case, besides the use of asses milk, of jellies of Iceland moss and salep, of tepid baths, of woollen clothing, the intermediate use of opium may be of excellent service for diminishing the cough and curing the morbid condition.*

Dysentery.

The use of opium in dysentery merits our particular attention.—Here also the cases must be well distinguished. He, who would give opium in a bilious or inflammatory dysentery, would kill his patient. On the contrary it is the only salvative in a purely rheumatic dysentery. That dreadful rheumatic dysentery engendered by damp and cold, which killed so many thousands of the Prussian army in the campaign of 1792, as long as it was treated with rhubarb, at that time in usage, only became controllable, and was annihilated, when opium was universally used against it. But I advise an emetic of ipecac to be given before resorting to the use of opium ; and to use it not in a full dose at once, but in small frequently repeated doses mixed with a mucilage or an emulsion ; since a suppression of dysentery may be caused which is always injurious ; while the intention must be only to gradually diminish the increased secretion of mucus, the escape of blood, and to resolve the spasm, which locks up the foecal matter, all which is best attained by the latter method.

Diabetes.

A similar state takes place in diabetes.† For the proximate cause lies in a morbid erethism of the kidneys, which may increase to convulsiveness, and is complicated in the diabetes “mellitus” with a peculiar alienation of productivity (chemico-organic secretive process), so that, instead of the usual urinary salts, saccharine matter is generated. Against this proximate cause opium is surely the chief remedy, though the multifarious, even entirely opposite

* See my treatise on prevention and cure of pulmonary consumption, in the collection of my minor writings, Vol. IV., I. of the new series.

† An analogy implied by the very German name : Harn-Ruhr (Dysentery, Ruhr).

remote causes may sometimes require very different previous remedies and methods which may be sufficient for a cure. But when we cannot discover any of these remote causes, such as plethora, congestion, metastases, abdominal obstructions, or when the disease continues after their removal, and we have to do only with diabetes as diabetes, with that specific nephritic erethismus and secretive disorder, then opium most completely fulfills the only remaining indications, which are to remove the local nervous erethismus and to create a vigorous peripheric impulsions; to promote diaphoresis as a derivative and anti-stimulant; and opium in large doses and continued for a long time, together with animal food, are the principal means to attain this end; and of this I have been convinced by my own experience, conformable to the statements of Warren and Rollo, and lately to that of the worthy Blane, who in the Repository gives us two remarkable instances. Also Baron de Stosch in his recent valuable essay on diabetes, gives opium the praise it deserves.

Poisons. Miasmata.

The most remarkable effects of opium are its anti-miasmatic and anti-venomous powers.

It was a fact universally admitted in antiquity, that opium resisted poisons and infection. It is known, that the mithridate, a mixture of opium and spices similar to theriaca, received its name from Mithridates, king of Pontus, who took it daily, in order to resist the influence of poisons. The emperor Marcus Aurelius used theriaca for a like purpose.

It is undeniable, that a certain degree of insensibility and blunting of the nerves may also diminish the operation of poisons and miasmata on the organism, since this operation depends on the susceptibility derived from the nerves. This is also confirmed by the curious fact, that hypochondriacal and hysterical individuals, in whom the susceptibility of external impressions is impaired by the peculiar direction and concentration of their sensibility to the interior—to their physical part,—are less liable to contagious and epidemical maladies.

But we must here carefully distinguish the animate from the inanimate miasmata.

As regards the first, opium may be useful in a double manner; in the first place by blunting the nerves against

the influence of the poison and impairing the nervous reaction; in the second place by its diaphoretic influence, volatilizing and expelling the power of the poison. But the ancients did not sufficiently regard the property which opium has of increasing the circulation, heating and inflaming; hence arose the sad abuse made of it in acute fevers; for physicians thought that there was always a miasma at the bottom which required to be expelled; they transmitted nearly all fevers into malignant putrid ones, complicated with pimples and petechiæ.

In acute miasmata, therefore, its use will be always pernicious, except in the first moment of infection, when a dose of Dover's powder, attended with subsequent sweating, has often removed within 24 hours the first vestiges of the disease.

It is of greater importance in chronic miasmata, in which its great power of exciting the blood, of volatilizing and throwing to the periphery, can be highly beneficial and make up what the organism is wanting of in reaction.

Let us first of all take the example of syphilitic infection. It is confirmed by numerous facts that opium is the best remedy against some remnants of syphilis, which are beyond the reach of mercury. There was even a time (in the years 1780-85) when in England they believed they were able to cure syphilis by opium alone, without the aid of mercury, and a multitude of instances to prove this were laid before the public. Nor could it be denied, that the symptoms of syphilitic infection were removed by opium alone; also Bennard's Arcanum anti-syphiliticum, composed of opium and alkali possessed the same virtues. My experience and that of others have convinced me, that the specific virtue which mercury has of annihilating the syphilitic virus cannot be replaced by opium, but the disease created by this virus in the organism—its reaction, the critical elaboration and secretion of the virus—may be highly promoted and regulated by this remedy. In the second stage of infection, after the inflammatory state had been passed away, I saw the effect of mercury evidently increased and accelerated by an addition of opium. In inveterate syphilis, particularly when it has degenerated by an improper use of mercury, opium combined with corrosive sublimate has done better than when I gave corrosive sublimate alone. I consider it as indispensable to the use of corrosive sublimate. It is not alone a "corrigens," as it is commonly supposed, but a mighty "adjuvans" of mercury. Not only the troublesome, often dangerous ac-

cessory effects of this corrosive metal, as burning in the stomach, spasm of the stomach, nausea, colicky pains and diarrhœa are prevented, but even the mercurial power and effect on the virus, its volatilization and evacuation, are exceedingly augmented; and the reproductiveness of the virus, which is the principal object of cure, is thereby annihilated. We cannot too much prize an impulsion towards the skin and whole periphery, which opium imparts and mercury is destitute of. It may produce salutary sweats and critical secretions, especially in weak torpid subjects.

In order to give an explanation and a correct knowledge of the effect and application of opium, I am obliged to say one word on the innermost peculiarity of this obscure and complicated morbid state, which is comprised under the name of inveterate, modified, degenerated or larved syphilis, also called "*morbus secundarius syphiliticus*," or "*sequela*" now, alas! of so frequent occurrence, and embittering the life of so many men. It is however not always the same condition, but varies very much.

In the first we have to distinguish the virus, and the productiveness of the virus. The virus may be destroyed, but not the reproductiveness of it in the organism. This is the most common case in the imperfect and insufficiently long continued mercurial cures, when the physician or patient is content with the disappearance of the symptoms.

This reproductiveness is peculiar to the nerves, as is all that is specific, even in the normal, the secretive and the individual states. It is evident, that the greatest nervine, opium, must be particularly efficacious, and the most proper adjuvant to quicksilver.

Now, the virus may be in a latent, dormant state; experience has sufficiently shown that its action may be suspended though not cease to exist; and the analogy afforded by other agents, as caloric, which may lie concealed in a body in its free as well as in its latent condition, even the analogy of other miasmata as the hydrophobic, which may exist for months even for years in a latent state, is confirmatory of the latent possibility of syphilis. What remedy could be more apt than opium, to revive and arouse the dormant germ, by its volatile, all penetrative, irritative power, and to make it an object of critical elaboration; or when it is fixed by a chronic spasmodic incarceration, as sometimes really appears, to dissipate the spasm and set the poison at liberty.

Farther, the virus by length of time may have penetrated

deeply into the economy, and become assimilated with it. What remedy is more capable of penetrating deep into the system, and of exciting a new and general reaction in the most remote and subtile folds of the system than opium?

And finally, the case, now of frequent occurrence, in which the virus ceases to be venereal, but by its long continuance in the system, and the frequent but imperfect use of mercury, which has divested it of its specificity, but has not destroyed it, a new pathological product, an entirely peculiar dyscrasy, for which we have no name—it might perhaps be called *deutero-syphilitic*—has been generated, not extinguishable by mercury alone, or when the patient is really infected with a mercurial poisoning by excessive or irregular use of mercury. In all these cases opium, by its excitative, penetrative power, creating critical motions, especially cutaneous crises perfectly answers the indication.

I avow that it is often difficult, even impossible, to distinguish these different states from one another; hence they are usually confounded under the general name of "*sequela luis venereæ*" or "*lues degenerata*." But I can declare, that I have seen perfect cures effected by corrosive sublimate combined with opium, even after inunction and salivation had failed.

When it is a genuine mercurial disease, mercury of course will not cure it, and it may be recognized by this very circumstance. Sulphur is the only remedy in this state; opium however is the best adjuvant.

This leads me to the second point of this subject, the antidotal power of opium in physical poisoning, especially the metallic, such as the mercurial, saturnine, and arsenical. Opium acts a principal part in the cure of all secondary poisoning, that is to say, when the virus has passed into the second ways, or penetrated the whole system. It is a known fact, that in poisoning with lead, after the first ways have been properly evacuated, opium is the principal remedy. The same is true of chronic mercurial and arsenical poisonings, when it is to be combined with sulphur, the great chemical neutralizer of metallic poisons. It is undoubtedly in a great measure on this that the remarkable antisialagogic virtue of opium depends, and which renders it one of the most efficacious remedies against salivation during the use of mercury, even to cure salivation; though this effect of opium may partly be attributed to its periphereic and diaphoretic virtue, which is consequently a derivative and sedative effect, of which we are now going to speak.

In the bite of the viper and similar animal poisonings, the virtue of opium is chiefly owing to its salutary and prompt excitation of perspirative crisis.

Crisis, Vivification of the Skin.

I am now going to treat of the extraordinary and peculiar power which opium has of operating on and vivifying the cutaneous system, and altering its pathological secretions. This is strikingly manifested in two cases.

The first is that of small pox. When in malignant small pox the suppuration ceases about the 5th or 6th day after the eruption, and degenerates into an ichory secretion, when the pustules do not fill, or when they assume a livid appearance, approaching gangrene, with great prostration and violent typhus fever, then I know of no remedy, which so vigorously promotes the suppuration of the pox, brings about the perfect crisis, and thereby salvation to the patient, as opium. This I have often had occasion to see in my early practice, especially in the malignant variolous epidemic at Weimar, in 1786. Here its double virtue affords relief; the soothing virtue removes the horribly painful cutaneous irritation, to which the patient is subject; and its exciting property arouses a vigorous critical impulsion in the half dead surface.

The second case is gangrene, especially that kind of mortification, which appears in old people locally on external parts, without previous inflammation. The cause of this is a deficiency of plastic vitality; for which opium is, according to all experience, the only remedy.

Opium has a particular power to promote the suppurative process, and to make good pus, of which an advantageous use may be made in all cases, where this is of importance.

It is known that opium has not only the power to excite perspiration, but also frequently to produce eruptions of no determined character, more like miliaria than any other. I have seen these eruptions, especially in persons tainted with arthritis,—and in many cases it has a critical effect. This is of great importance and value, in a multitude of chronic diseases, especially in nervous maladies, which are more frequently material than is commonly believed; that is, that they are the product of a morbid matter thrown on the nerves, and disturbing their normal action. One instance may serve for all. A middle-aged man labored for years under coxalgia, which caused him to go lame. He had an attack of dysentery, which obliged him to use

opium. The consequence was a very profuse sweat and a general cutaneous eruption ; after which his hip was cured, and he has since had the full and free use of limbs. Here the hip complaint was probably nothing but a metastasis of rheumatic matter to the part. This was made mobile by the opium, and secreted by the cutaneous crisis in the shape of an exanthema.

Pseudo-organizations.

Opium exerts a very remarkable and salutary effect on some external morbid productions, especially on some kinds of polypus of the vagina, the nose, the meatus auditorius, etc., where its long continued use produced a gradual wasting, and finally a perfect cure. This local sanative virtue certainly deserves to be profited of more frequently, and in more species of organic disorders.

Palliation.

I will speak, in conclusion, of the palliative virtue and effect of opium, which is generally considered insignificant, but is often most important and surpasses every other narcotic. It consists in alleviating sufferings and pains, soothing, raising the mind and easing the act of dying. Is it not a great deal in this poor terrestrial life, which is so often filled with misery, and which it is too frequently difficult to leave without more suffering before reposing in death ? And what remedy is there able of imparting this consolation to life in an equal degree with opium ? If it had no other power, it would on that account alone be considered, like its brother sleep, the highest gift of God.

No other remedy can alleviate pain and anxiety equally with opium, even act like a charm, removing it for a time. Not a hundred, but a thousand times I have seen my patients quite changed in physiognomy, speech, and whole external expression in the morning, after taking opium the preceding evening. The effect lasts usually for 24 hours.

I will only mention the disconsolate situation of the incurable consumptive, who gradually fades away under anguish and loss of breath ; of the cancerous patient, who, without any prospect of cure is tortured by most violent pains ; and of the protracted agony of one, who labors under pectoral dropsy.—Who would be physician without opium ? How many sick has it not saved from despair ! For one of the great properties of this great drug is, that

it soothes not only corporeal pains and complaints, but affords also to the mind a peculiar energy, elevation and tranquillity.

This soothing virtue manifests itself in the most splendid manner, in relieving death in severe cases, to effect the "euthanasia," which is a sacred duty and the highest triumph of the physician, when it is not in his power to retain the ties of life. Here, it is not only capable of taking away the pangs of death, but it imparts even courage and energy for dying; it promotes in a physical way even that disposition of mind, which elevates it to heavenly regions.

An instance, which I but lately witnessed, may find a place here instead of many others which I could relate. A man, who had labored for a long time under complaints of the chest and vomicas, finally approached death. The most dreadful anguish of death, with a constant danger of suffocation, seized him; he got in real despair, and his state was an insupportable torment even for the persons around him. He now took $\frac{1}{2}$ grain of opium every hour; after 3 hours, he became quiet, and after he had taken 2 grains, he fell asleep; slept quietly for several hours, awoke quite cheerful, free from pain and anxiety, and at the same time so much strengthened and appeased in his mind, that he bade farewell with the greatest composure and satisfaction to his relatives; and after he had given to them his blessings and many a good admonition, fell again asleep and ceased to live while sleeping.

Detriments and Dangers.

One word more on the injuries and dangers, to which opium may give rise. They are, alas! very great, and it might be difficult to decide, whether opium has not done as much injury as good. The same, however, applies to venesection, gun-powder, and all the grand powers and agents of nature, not excepted fire. The greater the power of doing good, the greater also the power of doing mischief, and who would dispense with such an instrument on account of its being able to do injury by abuse?

The first, and certainly the greatest danger lies not in its fatal but in its illusory effect. It appeases, it soothes pains, inquietude, spasms, and other tormenting sensations, which are but the cries of suffering nature calling for relief; it influences even the mental disposition and imagination, and is capable of inspiring so much courage and hope, that the patient as well as the physician may be deceived re-

garding the real condition of things; the concealed danger which induced both to indulge in dreams of carelessness and hope, at a time when the most active assistance is required and may possibly be still attended with success.

The second danger is that of an apoplectic cerebral affection. It is greatest in infants in the first year, at a time I cannot too earnestly warn against the use of opium, and when one single drop of laudanum may be a large, a too large dose. Resort to it only in imminent necessity and danger, as in an exhausting diarrhœa which endangers life, and in this case in the form of injections one drop triturated with sugar, divided into four parts ($\frac{1}{4}$ of a drop for one dose) is to be given internally.

The third, in active inflammations: increasing inflammation and accelerating it to pass into suppuration and gangrene.

The fourth: incarceration of gastric impurities and abdominal obstructions, increase of sanguineous congestion in the portal system.

The fifth: increase of colliquation and putrescency in the blood, of colliquative sweats, generation of pimples, petechiæ, aphthæ. It is to be dreaded in all fevers when given unseasonably or in copious doses or a too protracted use, most so in gastric fevers.

Finally, the last: bad habit. One may get into the habit of taking opium, so much so that it becomes a daily want, even after the malady has ceased. The patient now takes it to raise himself to that point of comfort, vivacity of physical and mental usefulness, just as the drinker of brandy gets accustomed to brandy, and it becomes to him at last as indispensable as an article of use. The same result follows, a need of larger doses, analogous to drunkenness and its effects, which are to increase nervous debility, trembling, destruction of the digestive and reproductive powers, finally delirium tremens, blunting of the senses and mind, hæmorrhages, dissolution of the blood, tabes.

III.

Vomits.

Si quid movendum est, move.

HIPPOCRATES.

In speaking of vomits, I speak of one of the curative means employed by nature herself. Vomiting is one of the most common phenomena, by which nature announces the existence of an internal morbid state. It is one of the most important operations of nature, an act by which she often rids herself of disease at its birth or in its course.

Vomiting is, however, one of the most tumultuous acts of the organism, even one of the most contrary to nature, a complete inversion of the order of things, an evacuation by that passage whose office is the reverse, a sort of organic convulsion, comparable to the volcanic explosions of inorganic nature.

In the secret depths of the organism, at the centre of all the sympathies, at the focus of nutrition, in the first and most important organ through which foreign matter is introduced into the economy, in that one where all that is to form part of our future existence receives the first imprint of our nature, a revolution bursts out, agitating the diaphragm and the respiratory organs with violent convulsions, shaking even the heart—the centre of organic life, penetrating through the nervous system to its extremities, filling the soul with a new sensation—unique and painful but more oppressive than painful, that feeling which is comparable to hunger in an inverse order, and to which we give the name of disgust or nausea; provoking in irritable persons intense nervous symptoms—syncopy, cold sweats, spasms, convulsions; finally, not only expelling the contents of the stomach and of matters seated farther in the interior, but also producing an activity in all the secretions—that of the liver, the skin, the intestinal canal, the bronchia, and the kidneys.

It is no wonder that such an act has attracted the attention of physicians from the earliest times. From the remotest ages vomiting, whether natural or provoked by art, has been regarded as one of the most important means of art.

The ancients were content to base the curative operation of vomits on the idea of humorism and mechanism. Towards the middle of the last century, physicians (Cullen, Tissot, Schæffer, Stoll) began to see the utility of vomits in a dynamic light, and to employ them as a means of appeasing spasm, of modifying sensibility, of arresting febrile irritability, and of correcting the biliary secretion. These views have unfortunately been carried too far—to an abuse of emetics. This was during the reign of gastricism.

Brown and his disciples appeared next. The use of vomits was stamped with the seal of proscription; or at most, was permitted in cases of gastric accumulation of crudities. Vomits they considered as pure debilitants.

Is there not reason to deplore the unhappy blindness of a theory, which robs art of one of its most precious instruments; of the spirit of sectarianism, and especially the contempt of experience! Is it not wonderful that a school which declared war against the idea of material humorism, was precisely that school which placed vomits in a class of means, which belonged to a purely humoral theory; that is to say—among evacuants; so that, while attempting to elevate its views it limited the extent of its horizon?

Under the expression—gastricism, the very idea of an emetic was considered as one of disgrace and unworthy of a philosophical physician, regardless that Stoll did not consider the gastric method of treatment as one of mere evacuation, and that all his reasonable partisans thought more of the dynamic power of the remedy than of the evacuation it produced, and certainly they gave a wider and a better interpretation to nature than the disciples of excitability, who, nevertheless, looked upon them with an eye of pitiable contempt.

Truth at last triumphed. Physicians returned to the use of vomits and bleeding. But, now they fall into another extreme: it is the dynamic virtue of the remedy, and the discharge of noxious matter that is seen; in one word, the effects are looked upon as purely nervous, and under this impression a new abuse springs up.

To-day, we stand between two schools; that of Broussais, which sees inflammation everywhere and thirsts for blood; that of Hahnemann, which is content with temporization and rejects all heroic means. Both are hostile to vomits, which they consider as incapable of aught but trouble and danger.

The practice of medicine is at present in a strange position. Some employ vomits only empirically and too often

in excess ; others totally abstain from them, believing them to be useless as a remedy and otherwise dangerous.*

O, holy nature ! show us the true path ; with your own hand unfold to us our art ; and preserve us against the errors of schools !

The fault was, as it yet is, to look upon the action of vomits in a partial light. Even now, some see no other effect from them than evacuation ; others nothing but excitement or irritation ; in one case nothing but a material discharge, in another nothing but a dynamic power. But here, as elsewhere, if we would explain the nature of diseases or the action of medicines, both theories must be united. This is a law which I ever imposed upon myself and proclaimed to others. It is only by this union that a complete and a satisfactory explanation can be had.

We shall now declare what is the mode in which vomits act, not according to speculative notions, but under the dictation of experience ; next point out the indications for their use, again without the assistance of theory but obedient to practice ; that is to say, relating the symptoms which call for them ; after this, pass in review those cases in which they are useful, necessary, sometimes the only thing which can save the patient, and also those cases in which they are hurtful and are even a mortal poison ; finally, we shall give rules whereby their complete effect may be attained, and the art of exciting emesis, the importance of which is great.

Mode of Action.

Vomits have two effects, general and local.

1. Local Effects.

These are generally two, accordingly as evacuation or stimulation ensues, a modification of nervous activity.

As regards evacuation, vomits not only discharge the contents of the stomach, but those of contiguous viscera—the duodenum. The evacuation reaches even to the

* Even not long ago an estimable writer said that vomits should never be given, except when poisons have been taken into the stomach. I cannot help reproducing here a passage that I wrote thirty-five years ago, and which unfortunately is still applicable. "It is painful to see young and unexperienced practitioners expunge with a dash of the pen, the best established results of the experience of past ages, and thus deprive mankind of a powerful remedy, at least

gall-bladder, the biliary ducts, the whole liver, whenever the bile is driven into the stomach, both by the irritation excited and by the mechanical pressure exerted. Here, then, occurs a phenomenon which a purgative can never produce, and to which the great utility of vomits in bilious fevers is specially due. This evacuating power acts even on the lungs and air passages; and it cannot be denied that the shock given to the whole economy—the contraction of the diaphragm and of the intercostal muscles which accompanies vomiting—is not capable of mechanically expelling the mucus, pus, concretions, and lymphatic accumulations contained in the air passages; of freeing the lungs from them, giving great relief to the patient, whose life often depends on clearing the bronchia from engorgement of mucus, as in the cases of children—pertussis and croup. It is not only gross matters, crudities, bile, mucosities that are thus expelled; for vomiting appears to carry along with it more subtle bodies; for example, contagious principles, as is proved by the efficacy of vomits in the commencement of infectious diseases.

The local nervous affection is as important as is the evacuation. By this, vomits can totally change the enervation of the stomach, of the liver and neighboring parts, in a word of the whole solar plexus, of which we have the proof as much by a cessation of the spasmodic state of these organs, as by a modification in their secretion, which recovers its normal character. It is this nervous effect which, at the same time that mucosities, bile, and sabura are expelled, destroys that morbid state, whose presence caused the production of the saburas, and consequently it dries up the source.

2. *General Effects.*

These are due to sympathies dependent on the gastric nerves. The connexion of these nerves with all other parts of the body gives great importance to these general effects, and is the medium through which vomits affect every sys-

for a time, by their influence on some persons; it is therefore the duty of one who loves truth not to remain silent, but to proclaim with a loud voice and regardless of theory, that which nature has taught us during a long series of years. Though we may allow, in science as in politics, that revolutions are sometimes necessary to change the current of ideas, even when a slow course seems more sure and conformable to reason, we ought no less to save from wreck those truths which have become the legitimate property of mankind, that they be not lost and require to be again discovered."

tem of the economy. They are distinguished into those which excite or stimulate, those which translate by antagonism (antispasmodics), and those which excite secretion and absorption.

The excitant effect is made apparent, principally by increased activity of the lungs and heart, organs which first feel the influence. Hence it is, that emetics are employed with advantage to recall life to the asphyxiated, the paralytic, the apoplectic, and in cases of hooping cough (cerebral and pulmonary paralysis).

Revulsive and antispasmodic effects are often called forth, and play a great part; for in this case the counter-irritation acts on the most essential part next to the brain, that is, on the ganglionic system, which sympathizes with all parts of the economy. Therefore, this effect may reach to the remotest points. It is in this way that vomits become a most powerful means for calming all kinds of spasms. They have even been successfully employed against epilepsy, intermittent fevers, spasms, asthma, and convulsive cough. They are particularly useful in moral affections of the brain—in mental alienation. Even when employed in small doses, they produce great effects by their counter-irritating and calming power.

The secretive effects of vomits are seen most strongly marked on the skin. On this account they are salutary in rheumatism and in the exanthemata. They also augment that by the kidneys, the intestinal canal, and the salivary glands. They equally activate absorption by the lymphatic system, as is seen when administered in dropsies, even that of the joints and scrotum, and the resolution of stagnations and local tumefactions.

Indications, and Counter-Indications.

This is the principal indication: *Vomitus vomitu sanatur*. Hippocrates gives it thus: *Si quid movendum est, move*. In other words,—when nature herself calls for the evacuation of something noxious, tends to or has attempted vomiting, it becomes an imperious duty to favor the discharge, which injunction is never disobeyed with impunity.

However, we must be sure that this effort of nature is due to a gastric accumulation, that is to say, to gastric turgescence. Its existence is known by symptoms of gastric sabura. And it is from this that the rule comes, to

give no vomit unless there be signs of sabura in the stomach.

For vomiting may depend on a multitude of other causes. It may be due to inflammation of the stomach, which exasperates the irritability of this organ to a term which causes its contraction. It may result from exalted sensibility of the viscus. And, what is more common, may be due simply to a sympathetic affection of the stomach, dependent on some distant irritation; such is the vomiting proceeding from the liver, from the spleen, pancreas, kidneys (especially in calculary cases), from the brain (in hydrocephalus, and concussion of the brain).

In all these cases, a vomit would be useless, injurious, sometimes even fatal; for example, in gastritis.

But independently of this general indication, vomits may be prescribed on account of their energetic influence on the nerves; to excite, translate, and activate secretion and absorption. This is what happens in mania, spasms, rheumatisms, etc., when not counter-indicated.

The *counter*-indications for vomits are:

1. Inflammation, and that of the stomach before all others; for in such a case an emetic might act as a real poison, and cause immediate death. They are equally counter-indicated in all other internal inflammations, for they would exasperate the phlegmasia and render it more dangerous. But, I wish it to be particularly observed that I mean a real inflammation; for an irritation resembling an inflammation, is not subject to the same interdiction. I must, here, raise my voice against a modern error, and take the part of vomits, of which this error has pronounced the exclusion. Every spasm has been called inflammation; while I assert that a host of spasms, even the most painful ones, have instantly yielded to a vomit in my practice, when they depended on the presence of a gastric matter. Nor should erysipelatous inflammations be considered as counter-indications; far from it, for vomits are the best means to combat them.

The empirical rule is then: to abstain from vomits whenever there is violent fever, red and dry tongue, intense thirst, violent burning pain in the stomach, and impossibility to retain in it any thing, for these are the symptoms of inflammation of this viscus.

2. Vomits are also forbid in constipation; for they not only act more violently at such a time, excite spasms, and may determine dangerous congestions to the brain and chest; but they may also render the constipation itself

more obstinate, give rise to a permanent antiperistaltic motion, and produce ileus. In such cases, the bowels ought first to be emptied before the administration of a vomit.

It is also customary to consider hernias, pregnancy, and the presence of the catamenia as counter-indications to vomits. I admit that in these cases it is preferable to abstain from vomits, and to seek the same relief by purgatives; but when life is at stake, the imminence of danger silences the lesser fears, and removes every hesitation. Persons affected with hernia may guard against the proce-dentia of the intestines by a proper bandage, and by supporting the tumor at each rejection.

Finally, I must add, that emetics ought never to be given immediately after a fit of passion (*colère*), whatever be their efficacy to provoke a biliary discharge; for they might cause dangerous accidents. In such case, let anodynes be first administered, and when the lively nervous excitement is appeased, a vomit may be given.

The Art of Exciting Vomiting.

No remedy requires so much art as an emetic to produce the desired effect. It is from not knowing this, that emetics are accused of inefficacy, of too great violence, and that they have lost credit with a great many practitioners.

One of the principal causes of the unfavorable operation of vomits, formerly was, and is still, the usage of giving them at a single dose. No physician is capable of deciding beforehand, what is the extent of the gastric irritability and of its turgescence, on which the effect of the remedy depends; so that the same dose, which is enormously great under one circumstance, will be inefficacious in another.

The first rule then is: never to give a vomit at a single dose, but always in divided doses. This method affords two advantages: first, the first doses act as digestives, and dispose the contents of the stomach to be more easily discharged; by the next, we are capable of exactly calculating the effect, that it may be neither too strong nor too weak. Therefore, let a fourth of the whole dose be given every fifteen minutes until vomiting occurs; and then wait half an hour, during which period should the patient not have vomited three times, we give half as much as the whole quantity of the medicine already taken. Nor are the liquids which the patient takes without importance. Too much drinking may dilute the remedy and weaken its

action; or by distending the stomach render the evacuation difficult and increase the distress. It is better then, not to drink after the first doses, and not until nausea has commenced; now a cup full of chamomile tea may be taken, and repeated after each discharge from the stomach. When vomiting becomes painful, we may employ warm water containing a little butter with success.

Vomiting ought to be repeated at least three times, in order to clear the stomach effectually; in a word, it ought to be continued until bile comes up; the only sign that the stomach is completely cleansed.

There are only three cases in which we ought to prefer administering the vomit in a single dose: in extreme insensibility of the stomach (as in certain typhus fevers); in mental alienation, mucous sabura; in cases of poisoning which require prompt action; and finally in diarrhœa, for here, small doses might pass the pylorus and aggravate the intestinal irritation.

After settling what is the dose, the next thing is the selection of the kind of vomit, each substance being possessed of accessory properties which deserve respect. Emetic tartar enjoys very energetic powers, and like all other vomits it shakes the whole frame, and acts on the bowels. It consequently is applicable in sluggish patients, when there are tenacious mucosities in the stomach, and a tendency to costiveness. But it ought to be avoided in the case of delicate and irritable persons, or when diarrhœa is present. Ipecacuanha is more antispasmodic, less acrid, and more constipative; hence it is fitter for irritable persons, inclined to spasms, and affected with diarrhœa. Oxy-mel of squills is excellent in mucosities, it acts gently, and is particularly indicated in cases of mucous accumulations in the primæ viæ. I have, therefore, found that it is best to unite all these three substances, when an antispasmodic and an incisive effect are needed, in this way correcting one by the other. I generally make use of the formula No. 258.

One more point remains to be examined, which is the preparation of the patient, and the precautions which concomitant circumstances call for. This is the most important of all, for by its neglect the remedy may not act, or acting, produce injurious even dangerous effects. The following cases must be distinguished:

1. Immobility of sabura. It may be too viscous, too fixed, too enveloped in adhesive mucosities. Such a state of things is known by a foul tongue, the coating of which

is dry and firm, by the absence of nausea while there is a desire to vomit. If we hurry a vomit in such a case we fatigue the patient uselessly, produce violent retching without effect, for the vitiated matter remains behind. Digestives, then, must first be given, either sal ammoniac (when there is a tendency to diarrhœa, or one already exists), or tartrate of potassa (when there is a tendency to costiveness). The result will be that the gastric symptoms will disappear spontaneously along with mild alvine evacuations, dispensing with the vomit; or, when symptoms of gastric turgescency appear more and more, and the accumulation becomes more mobile, we give a gentle vomit which will now operate with ease and efficacy.

2. Mobility of sabura. In this case there is strong turgescency, made evident by a thick fur, humid and soft tongue, tendency to vomit, or vomiting already commenced. In such a case an emetic ought to be given forthwith, but with care lest it act excessively. Consequently emetic tartar is to be avoided, and ipecacuanha given, of which 5 grains with oxymel of squills repeated every 15 minutes, until a sufficient effect be produced.

3. Plethora—known by a full strong pulse, acute fever, inflammatory disposition. An emetic given in such a case without preparation, might occasion much mischief, produce violent congestion to the head and chest, bring on rupture of vessels and hæmorrhages. We ought then first to combat the plethora by moderate venesections, which will prevent the anticipated accidents.

4. A spasmodic state. The patient is excessively irritable, and is subject to spasms, syncope, feels much pain at the præcordia and anxiety. In this case, a vomit might provoke violent spasms, even undue vomiting, if the anomalous state of the nervous system is not previously or simultaneously removed. To do this we commence by making antispasmodic frictions, and applying narcotic cataplasms on the epigastric region; and internally administer anodynes, and to the emetic we add a few grains of hyoscyamus or castoreum.

5. The patient has diarrhœa, and at the same time all the symptoms of gastric turgescence are present. In this case it is to be feared that a vomit, especially emetic tartar, may escape downward, and augment the diarrhœa. Therefore, we first give sal ammoniac in mucilage, after which a full dose of ipecacuanha.

This occurrence is common enough in typhus gravior, complicated with inertness of the stomach; life is in great

danger; and this is one of the most difficult problems in practice. The patient, overcome with weakness, in the eighth or ninth day of fever, is affected with stupor and other nervous symptoms; his tongue is highly charged (evacuations have most likely been neglected); there is retching and attempts to vomit, anxiety, a continual aqueous diarrhœa, which is often colliquative. Here, a vomit is indispensable; it is even the only remedy to save life; but we have to fear that it may pass the pylorus, increase the colliquative diarrhœa, which would place the life of the patient in great danger. It is important first to arrest the diarrhœa, and to rouse the natural excitability of the stomach. This is attained by giving first a dose of opium with ipecacuanha, applying vinous and aromatic fomentations on the epigastrium, giving enemata of starch containing opium, after which a scruple of ipecacuanha at one dose. More than once by this means I have attained the object I sought, and brought about the commencement of convalescence. A vesicatory on the epigastrium will also contribute to rouse the languishing excitability of the stomach. I saw a patient who had taken a vomit, and four hours had elapsed without effect, spontaneously vomit after a vesicatory had commenced to draw.

I have here one more remark to add. Many imagine that nothing more is needed after the emetic. But it is not so; in order that the effect of the vomit be complete, the patient ought to have several stools; for the vomit always drives a part of the sabura into the duodenum, or the liver pours out a larger quantity of bile, and these substances must be evacuated downwards; without this the relief and use of a vomit is incomplete. Therefore, if dejections do not spontaneously take place, we must never neglect to prescribe a gentle laxative after every vomit.

I shall terminate by making a few remarks on excessive vomiting. It is generally due to a neglect of properly preparing the patient, or to too strong a dose of the emetic. The vomiting continues, either because inflammation or hæmatemesis has been produced, or because the forces have been excessively reduced. Happily, we possess certain means for the relief of such a case. The first is to give abundantly of mucilaginous drinks, after which the potio Riveri (but not effervescing, which almost always adds to the existing irritation), under the following form:

R. Carbonatis potassæ ʒij.
Syrupi citri q. s.
Aquæ melissæ ʒiij.

Syrupi florum aurantii ʒi.

A tablespoonful to be taken every half hour.

At the same time we apply a vesicatory to the epigastrium, and mint boiled in wine.

Use of Vomits in Particular Cases.

Let us now examine, in conformity with the principles which we have just established, those diseases in which vomits are particularly appropriate; also those in which they are too often neglected, or not justly appreciated, and let us add to this review such remarks as are afforded by our own experience.

Acute Fevers.

In all fevers, the præcordial ganglia and the great sympathetic appear to be the point first irritated, as it were the focus whence proceeds the febrile irritation. Proof is furnished by the sensations, which the first appearance of a fever produces, the loss of appetite and digestive powers, which take place at once, the chills which emanate from this region. This particular nervous affection has not yet met with an explanation. There is no means so powerful as emetics to combat it, and to act on that part of the nervous system in which it is seated. Hence it is, that vomits are looked upon as the most general antifebriles, as well as the best means for conquering fever itself, to destroy febrile irritation in the bud, even when given in such small doses as are insufficient to excite vomiting; and experience has established the efficacy of James's powder, which, as is well known, is an oxide of antimony.

But there are cases of fever in which this affection of the stomach and intestinal canal attain a high degree, not only of morbid irritation, but also of alteration in the secretions and humors, and continues to be the source of the disease while it lasts. It imparts its own character to the disease, hence the latter are called gastric. The fact is that there are fevers in which gastric symptoms and a perversion of the humors are the salient points; and in which there are no other means of relief, or when very intense, of saving life, than the use of vomits and purgatives.

The fundamental indication in such cases is to listen to the voice of nature, and to favor the tendency she manifests. *Vomitus vomitu curatur.* Called to a patient labor-

ing under fever, from the commencement of which nausea and vomiting, bad taste, foul tongue with a yellow or brown crust exist, the physician who hesitates to prescribe a vomit commits a grave fault, and the patient will cruelly expiate the error ; for it is important to seize the moment in which nature calls for an evacuation, or is disposed for one, and it is particularly here that Hippocrates had reason to say : *Quid movendum est, move.* It is even often impossible to repair the evils following the omission of a vomit. Given in time, it may stifle the disease at its birth ; as its omission may leave it of long duration, hard to cure, incurable. With this truth young practitioners cannot be too deeply imbued. Let it not be thought that a purgative can supply the place of a vomit. A purgative can never expel what a vomit draws forth. I have seen the remains of indigested food remain in the stomach fifteen days in spite of continual purgation, and finally come away by force of a vomit. It must also be borne in mind, that the shortest road of discharge is the best one, through which putrid sabura can be discharged in cases of fever ; for, by following the whole course of the intestinal canal, and consequently making a longer sojourn in the body, the offensive matter would injure the body more by irritation, debility, and absorption. But, what is still more important, purgatives never provoke that salutary revolution in the whole nervous and secretory systems, the stomach and liver ; that which overcomes the faulty action, and dries up the source of sabura.

A single vomiting is often insufficient. It needs to be repeated two or three times. In a word, it must be administered as often as nature calls for it by a gastric turgescence.

The various forms and complications of gastric fevers are to be respected. As regards matter, fevers are distinguished into sabural, bilious, mucous, verminous ; and as regards form, into inflammatory, nervous, and putrid-gastric.

Local as well as general inflammation may accompany every kind of gastric fever, and requires to be taken into consideration before any thing else. It must be checked by adequate sanguineous evacuations before proceeding to the vomit.

In the nervous or putrid complication, the vital forces must be supported by a simultaneous administration of nervines, excitants, tonics and antiseptics.

Simple sabural fever, that which is caused by indigestible matter, requires, in general, nothing but vomits and purgatives.

Bilious fever requires prudence, on account of the inflammation which often complicates it, especially in the hepatic system; and on account of the acrimony which the bile sometimes acquires; on this last account we must abstain from violent emetics, especially full doses, and order abundance of dilution.

Mucose fever is always accompanied with great sluggishness of the digestive organs. It is, therefore, the species of fever in which vomits are particularly indicated; but requires at the same times energetic incisives and solvents.

Vomits may also be useful in worm fevers, as much to dislodge worms that sometimes nestle in the stomach, as to get rid of certain sympathetic symptoms. Thus, a vomit will instantly relieve the violent pain in the side, apparently pleuritic, which is so commonly met with in this fever.

Generally, all those sympathies which are seated above the diaphragm (chest, neck, and head), in cases of gastric fever, announce a turgescence upward, and indicate the use of vomits.

Intermittent Fever.

I feel persuaded by all the essential symptoms of the disease, that its seat is in the præcordial ganglia and great sympathetic nerve; and my conviction is fortified by the excellent effects of vomits. Often have we seen a vomit taken before the access prevent it. Ordinary intermittents, especially those of the spring, are frequently curable by vomits alone, in the intervals of which sal ammoniac is given. In those which are more severe, which even require bark, we must commence by a vomit; it will render the action of cinchona more supportable, and the fever of more easy cure. I have often seen cinchona, or quinine, which sits easier, ineffectual, even augment the disease, and even disturbing the period of apyrexia: if it be suspended, and an emetic given, the case suddenly changes, bark will operate well, the fever cease, and cure speedily follow.

I have again lately had occasion to be convinced of the extraordinary powers of vomits. A man of a certain age who was attacked the preceding year with jaundice again took ill; the chief symptoms were sleeplessness, loss of appetite, anxiety, oppressed respiration, intermittent pulse, irregular stools, frequent febrile flushes, but without regular type, and a yellow tint of the eyes. This state lasted

three weeks, followed by alarming emaciation and great prostration. Until now the patient had taken solvents, sal ammoniac. As the fever grew more marked every night, growing more regular, and as intermittent fever then prevailed epidemically, he took quinine, at first in 6 grain, then in 8 grain doses every day. But as the fever increased in intensity with each dose of this medicine, it could no longer be used. This circumstance suggested the propriety of a vomit. Two grains of emetic tartar afforded four evacuations and several stools, which brought away a great quantity of bile and mucosities. From this moment every trace of fever disappeared, the anxiety ceased, as well as the dyspnœa and cough; appetite and sleep returned, and the complexion brightened; in a word the patient became convalescent, and this regularly progressed to a cure. It is evident that the mere discharge of the bile was sufficient, with the regulation of the hepatic action.

I must mention a fact regarding emetics of which I have often profited. It is not uncommon for intermittent fever to be irregular, without decided intermissions, destitute of type, and resembling a continued fever. Let a vomit be given now, and the disease will become a regular intermittent fever with well marked apyrexia, which bark will quickly cure.

Contagious Fevers.

The præcordial and great sympathetic nerves are no doubt the point on which the action of febrile miasms first settle; often the road through which they enter the economy. Vomiting and other gastric symptoms are ordinarily the first symptoms. This is seen in small pox, in measles, and particularly in contagious typhus. We have no other indications for the use of vomits in this stage. By this means we may expect to expel a part of the contagious principle, to destroy its action, and prevent its regeneration. I have, indeed, often seen these remedies when administered in the commencement of fever diminish its violence. They are capable of preventing the influence of contagious typhus.

On the contrary, later in the disease, when the contagious principle has penetrated into the system and commenced to act, when nature already makes critical efforts to throw it off by the skin, in a word, it is an exanthematic fever, I advise great circumspection. If the eruptive period has commenced, if the exanthema appears, the revolution and

counter-irritation producible by a vomit is not only injurious but dangerous to the cutaneous crisis, as I have sometimes seen. It is, therefore, only in a pressing necessity, and when the gastric symptoms render its use indispensable, that a vomit may be employed.

But, in the diseases which follow these contagious eruptive fevers, an epoch arrives when vomits can be employed with advantage. This is a point to which I am bound to call attention, because it is precisely that one which is the least thought of. Measles in particular, and the cough which it so commonly leaves behind,—a cough which is only the sign of a remnant of a psoric irritation in the lungs, and which, as we know, is so apt to degenerate into tubercles, are particularly benefited by an emetic. Of this I had a striking example in the following case. A little girl, twelve years of age, went well through the measles; had reached the fourteenth day of the disease, her state was satisfactory; since several days the fever had ceased, and even appetite commenced to return: but of a sudden this last ceased, the cough became violent, respiration embarrassed, debility increased, sleep was disturbed, she had headache and constipation, and purgatives had only little effect: I gave a vomit; it operated six times, and brought away much mucosity and bile; from this moment a spontaneous diarrhœa came on, a true crisis, affording five or six stools a day; the cough disappeared, appetite returned, and health was soon re-established.

Angina, Croup.

In every inflammation of the throat, according to my experience, emetics are one of the most active and generally useful means. The irritation which they excite on the nerves of the mucous membrane of the pharynx appears to have a salutary influence, often a decisive one, over the inflammatory stasis, and are productive of prompt relief. Difficulty of swallowing is no objection to their use, for the patient vomits easier than he swallows. The only exception is pure inflammatory angina of a high degree, that state which calls for sanguineous evacuations.

Vomits are particularly useful in the following cases, in which we cannot too strongly recommend them.

1. In true gastric angina; that is to say, when symptoms of a gastric state accompany the inflammation from its commencement; they are: loaded tongue, bad taste, nausea, attempts to vomit. In this case angina is only a

sympathy of gastro-sis, with turgescency upward, for the cure of which a vomit will suffice, often banishing at once all symptoms of inflammation in the throat.

2. In croup. Vomits have a powerful action over this disease, and particularly at two epochs.

They are proper at the commencement. If there be a means to arrest the development of croup, to arrest it when developed, it is surely an emetic. Of this I have had proof in numerous instances; among which I shall cite only one.

A child three years of age, vigorous, plethoric, and in health, was chilled by a north-east wind; felt feverish for three days, and had cough; every night about 3 o'clock a spasmodic cough supervened with such violent symptoms of suffocation, and barking cough, that it was taken for the asthma of Millar, and for which musk was prescribed with calomel in the intervals. I saw this patient for the first time on the fourth day: the pulse was full and frequent; a constant cough; respiration alternately oppressed; the head was free from trouble, in other respects the child was gay and had some appetite, but the tongue was charged. Here I saw the commencement of croup, which, as is sometimes seen, was accompanied with periodical spasms in the respiratory organs; forthwith I prescribed the following emetic: 1 grain of emetic tartar, 20 of ipecacuanha, oxymel of squills, and raspberry syrup each half an ounce, and one ounce of water: to be taken by teaspoonfuls every quarter hour until vomiting occur. When the patient had vomited three times a great quantity of mucus, the cough ceased, and the child slept for fourteen hours calmly in an abundant perspiration. The next morning, both cough and dyspnoea having completely disappeared, the crisis was finished, and the birth of croup aborted.

Vomits are also useful at the last of the disease, when the false membranes detach but cannot escape, whence is heard a rattling respiration and augmentation of suffocation. A vomit aids the expulsion of the gluey mass of membrane and clears the trachea. Here is an example:

A child two years of age, of good health, with the exception of frequent coryzas, was attacked with violent croup. Called in on the evening of the second day, I found it laboring under attacks of imminent suffocation, with barking cough and wheezing respiration; a continual tendency to raise the head and stretch forth the neck, pulse 120. Eight leeches were applied to the neck, calomel every hour, and injections of vinegar. After the operation of the leeches, and the taking of eight grains of calomel, which

procured several stools, it was evidently relieved. At 12 o'clock the pulse was reduced to 90; but the voice was rough and the respiration still rattling. I applied two more leeches, and prescribed every quarter hour the emetic already mentioned. It was followed by immediate amelioration. The treatment was terminated by a potion, containing 1 scruple of carbonate of potassa, 1 ounce of water, $\frac{1}{2}$ ounce of syrup of manna, and 20 drops of antimonial wine, of which the patient took a teaspoonful every two hours.

3. In parotitis, a disease which is generally epidemical. At first it is seated in the parotid and sublingual glands; but as it increases it also attacks the internal glands of the mucous membrane of the throat; hence it may cause imminent suffocation, and even cause complete trismus. In such a case, and at the last extremity, the principal remedy is a vomit, it is even the only one that can save life. When the disease is light and without danger, and belongs more particularly to the class of inflammations, which attack the mucous membranes, it requires nothing more than diaphoretic and antiphlogistic remedies. But this is no more the case when the disease has acquired intensity; even emissions of blood, calomel and vesicatories fail, and nothing but emetics can place the patient out of danger. This may be judged of by the following fact:

A woman, 26 years of age, was attacked with parotitis of a most severe character, affecting not only the parotid glands, but also the submaxillary and sublingual glands; the tonsils were so swollen that the patient could swallow only with great difficulty, and was scarcely able to breathe; the jaws were so fixed as almost to close the teeth; real trismus existed; the case had reached the ninth day. Venesections, leeches, vesicatories, mercurials, cataplasms, and frictions had all failed. A vomit was the only remaining resource, but there was hesitation on account of the closure of the pharynx and jaws through which the contents of the stomach might be arrested, and cause suffocation. However, no alternative was left, and the effect was surprising. Those organs which refused passage to the entry of substances, readily permitted their exit; immediately after the trismus ceased, the glandular swelling diminished, deglutition became possible, and in a few days recovery was complete.

I cannot too strongly recommend vomits in this disease. At a time when it prevailed epidemically, and did not spare even children at the breast, a vomit given at the onset,

promptly arrested the disease and brought about a rapid cure.

4. In angina gangrænosa. In this dangerous disease, but fortunately a rare one, being met with in this country only as an accompaniment to scarlatina maligna, in which a gangrenous disposition is seen from the commencement of the inflammatory symptoms, vomits are the means most to be relied upon, especially at the outset.

5. In the stomatitis. I regard vomits as a great specific against this affection, and as one which acts with the greatest promptitude. In cases where every means had been exhausted, I have seen a single vomit cure this painful and disgusting malady.

In a word, I repeat it—a vomit is the only hope in all inflammations of the throat, in which antiphlogistics and antispasmodics have failed, and in which there is a threatening suffocation.

Pneumonia.

There is a species of pneumonia in which venesections, nitre, opium, and vesicatories, indeed, in which every means fail excepting a vomit. This is one of the great triumphs of this remedy. I remember the time when the only treatment in pneumonias was bleeding; again when we had recourse only to opium and stimulants; lastly when nothing but leeches and calomel were in vogue; but at all these periods I have repeatedly seen this great truth made evident—that there are cases wherein every treatment fails except that by vomits. What is even the method of Peschier, of late celebrity, if it is not the same as that which Schröder, Tissot, Stoll, and Richter recommended forty years ago, and which consisted in the employment of tartar emetic in pneumonia, to produce at first vomiting, after which gentle purgation?

These pneumonias are called gastric, or false. They depend immediately on the gastric system, and are pure consensual irritations, or pulmonary inflammations provoked by such an irritation, and are consequently analogous to erysipelas of the surface, which have the same origin, and which vomits cure.

They are distinguished from purely inflammatory pneumonias by the absence of hardness in the pulse, that it is not so strong, nor so difficult to compress, and is sometimes even soft and small; by gastric symptoms from the beginning, such as furred tongue, yellow or brown, bad

taste, particularly a bitter one, repugnance for food, nausea, and even vomiting, weight in the region of the stomach, cephalalgia in the forehead, sometimes even delirium, yellow tint about the mouth, in the wrinkles of the face and the white of the eyes; finally, by extraordinary prostration and curving up of the body at the very onset. The stitch in the side which is a chief symptom in these maladies is often so painful as to cause a short breathing, as happens in the most inflammatory and intense pleurisies.

When, on approaching the patient, we find him laboring under such a violent state of the chest, with all the signs of gastric turgescence, there is no other course than to administer an emetic forthwith; for the violence of the affection in the thorax is due to the extreme mobility of the gastric sabura. A bilious or sabural vomiting will soon follow, and we shall be surprised to find the pain in the side, the oppression and anxiety disappear suddenly, as if by enchantment.

But sometimes this gastric character is associated with true inflammation; that is to say, there is a gastric pneumonia. The pulse is full and hard; great thirst, high colored urine, considerable heat. In such a case, the inflammatory character is to be first subdued by bleeding and an antiphlogistic regimen; after which we have recourse to the antigastric method.

Thus, when we meet with a hard and full pulse, with signs of gastric turgescence; that the patient is young, and of a plethoric constitution, we ought to bleed from the arm, after this give a vomit. Sometimes the real character of the disease does not present the usual appearance; in this case the vomit must be given first.

As an example I shall now cite a case taken from my practice. A woman, 35 years of age, attacked with violent fever and painful stitches in the side. Besides she had a short dry cough, short and oppressed respiration, violent headache, gastric symptoms, hard and full pulse. I ordered a large bleeding from the right arm; and as she was costive, a mixture of Glauber's salt, antimonial wine and electuary of senna. The pain lessened for a few hours after the bleeding, but again reappeared with increased violence; the next day the pulse was fuller and more frequent, but had lost its hardness; the headache was violent, the dry cough had augmented; the seat of the pain, about the edge of the ribs and the hepatic region was tumid and painful to touch, proving that the liver participated in the inflammation; besides there was nausea, and the tongue

was covered with a moist brown coat. On account of these manifest signs of inflammation as well as of the gastric affection, I again ordered the patient to lose blood to the extent of 16 ounces ; which, on coagulating presented no buff. The pains did not diminish much and the nausea increased. I now gave emetic tartar and ipecacuanha in divided doses. The patient vomited three times a great deal of bile and mucosities ; followed by an immediate diminution of the pain and fever ; the pulse fell from 110 to 90 pulsations. From this moment convalescence progressed each day under the use of purgatives, which were persisted in for some time.

However, the signs of a gastric character are not always so strongly marked ; and there are latent pneumonies which require great attention on the part of the practitioner ; for, though the state of the patient is the same, the symptoms are not so clearly marked. The diagnosis is doubtful, and in the beginning we are guided by negative indications. There is violent pain in the side and great oppression, but the pulse is not inflammatory, and the other signs of synochus are absent. Bearing now in mind the antecedents of the case, such as grief, contradictions, disturbed digestion, and taking into consideration the feeling of weight and tension in the præcordial region, the aspect of the tongue, or even the yellow tint of the face, there is no longer cause for hesitation. I particularly name anxiety as a symptom of a hidden gastric state. In this case it may attain great height, and we must be careful not to confound it with inflammation. It is a pressing indication for a vomit, which is the only remedy capable of removing it. Finally, in very doubtful cases, we may try a small bleeding ; and if the case is really an inflammatory one, a few ounces of blood lost will give some relief ; if the case is purely a gastric one, the pains will increase rather than diminish, and now we will close the vein at once, for we have to deal with a gastric not with an inflammatory disease. It sometimes happens during the bleeding, or immediately after, that a gastric turgescence becomes apparent, and a spontaneous vomiting occurs. If a vomit be now given it will produce the best effects. We must here notice the circumstances under which the true nature of the case has been mistaken from the commencement, where we have already had recourse to bleeding several times, always without benefit, without diminishing the pain in the side ; finally, where the patient still has fever, pains in the chest, difficult respiration, a gastric state, the pulse inter-

dicts further bleeding; here a vomit may, even late in the disease, procure complete relief, and is the only means to banish danger.

These cases in which emetics have been neglected, and are required at a later period in pneumonies, are very remarkable, and prove how powerful even indispensable they are. They have often occurred in my practice, and are again becoming frequent now that an exaggerated view of inflammation exists, and that bleeding method leads to a negligence of the gastric character.—Out of a vast number of cases, I shall relate only one for instruction.

A woman of 30 years was seized with all symptoms of pneumonia. Her physician used venesection, leeches, purgatives, and the whole internal antiphlogistic method; the most violent symptoms were diminished, it is true, but the chief affection continued. I found her in the 8th day of disease, in a violent fever, having a constant irritative cough, difficult breathing, and particularly a constant tormenting anxiety, alternating with fits of fainting, the utmost weakness, dizziness, delirium, quick pulse, small and soft, urine jumentous, tongue covered with a yellow-brown coating, and suffering at the same time from an extremely prostrating watery diarrhœa. Resolution and decisive action were here necessary, no time was to be lost, life was at stake. That anxiety, cough, and difficulties of respiration did not arise from genuine pneumony, was made evident by the pulse, the jumentous urine, and especially by the possibility of inspiration without coughing. The most urgent symptoms to be attended were the prostration of the vital powers (menstruation had moreover set in), and the profuse exhausting diarrhœa. Therefore small doses of Dover's powder and mucilaginous injections were ordered. A repose of 6 hours ensued, after which appeared anxiety, stitches in the side, nausea, pulse extremely small, quick and intermittent, fits of fainting, vertigo, unconscious discharge from the intestines. The unavailing use of sedatives, the continuing even increasing difficulties of the chest, above all the anxiety and nausea, showed that a material irritative was still present in the præcordia, and ought to be considered as the principal cause of the persistence of the pectoral and nervous affections and of the fever; and that an emetic was here indicated, and this alone could procure relief and salvation in this state really endangering life. It was, however, very hazardous and uncertain in this extreme prostration and the continuance of the diarrhœa. Should the emetic act on the bowels it

might carry the debility to a fatal extent. A small dose of Dover's powder was therefore given a few hours before, in order to guard against this downward tendency, and then 6 grains of ipecacuanha administered every 10 minutes; after 4 doses three copious discharges of bilious phlegm ensued. After this the patient enjoyed a quiet sleep of a few hours, and when she awoke her respiration was natural, and the anxiety and stitches had disappeared. The following day the fever was but trifling, the chest and head entirely free, and there remained only weakness and a disposition to diarrhœa. In short, she was cured, her dangerous state was removed within a few hours by a single emetic, and convalescence followed in a short time and without any further difficulty.

I shall yet mention two cases of this kind, if only to direct the attention of young practitioners to this subject and to the value of emetics; for, in either case a single emetic not only saved the life of the patient—the principal object of course—but also laid the foundation of the physician's future reputation and his subsequent prosperity.

One of my academical friends left the university for the great capital of a foreign country, in order to make his fortune. Not long after his arrival, he was sent for by one of the principal men of the city, who had already labored for 10 days under an acute pectoral fever. He was attended by the first physicians of the place, and was despaired of by them. Another trial yet remained to be made, and that by the recently arrived foreign physician. Venesections, vesicatories, antiphlogistics, pectoral remedies, all had been tried in vain. The patient lay in a soporose state, rattling in the throat with great oppression of the chest, violent fever, in short he seemed to be in agony. The young physician came from Göttingen, out of Richter's school, and had there been made acquainted with gastric pneumonias. Finding amid all the bad symptoms that there were also frequent eructations and nausea, that the tongue was covered with a thick loose brown coat, the præcordia distended, and the patient carrying his hands often to this part: all signs of the existence of a gastric accumulation. Determined by this, he prescribed an emetic. The patient threw up an enormous quantity of bilious impurities and was saved. The natural consequence was to give him the reputation of a great adept; his fame resounded through the city, and he became within a short time the most popular and most noted practitioner.

The second case was that of a distinguished universally

venerated princess. She lay in the 11th day of a pulmonary inflammation, accompanied with a miliary eruption. Her physicians had used all the remedies that were proper to the case, without success. Danger had reached the highest pitch, and her recovery was doubted. A foreign physician, who had been sent for, ventured, in spite of the apparently fatal weakness, to order an emetic. She vomited, and this was the signal of her recovery. This single emetic made him her physician in ordinary.

But I go farther, maintaining, as I have been convinced by many facts, that in all pneumonies, with or without pains in the chest, when the degree of inflammation is not so violent as to require a venesection, there is no more secure, prompt, and more effectual remedy than tartar emetic—(for here the virtue of antimony seems to be essential), $\frac{1}{2}$ a grain given every hour. The first doses produce vomiting, the following gentle purging, sweat and expectoration—all do what is necessary—and perform in this way a cure.

This applies not alone to the gastric, but also to that which is not less frequent—catarrhal and rheumatic pneumonia; in which it is not the matter discharged, but the antistimulus at the præcordia, which here has specific tendency to the pectoral organs and creates the good effect.

How much is gained for the integrity and safety of the organic fabric if the use of calomel, now too much in vogue, be superseded.

Erysipelas of the Face.

In all kinds of erysipelas emetics and cathartics are the principal means of cure; but especially in erysipelas faciei, in which they really deserve the name of a specific. It is known to what an alarming height, even endangering life, this disease may attain in the third stage. Violent fever, anxiety, delirium, even furor torment the patient; every thing announces a translation to the brain. Even in this case an emetic is the only salvative. I have several times seen, when abstractions of blood, as usual, had been made to no purpose, the promptest and most decisive relief procured by an emetic. Do not hesitate to give it, and be not deterred even by apparent congestion; and if one is not sufficient, give boldly a second.

Aphthæ.

Thrush is particularly one of those diseases, in which emetics are indicated. It is an anomalous production of

the mucous membrane, always connected with an abnormal secretion of the stomach, and therefore likely to be propagated to this organ. In infants gentle gastric remedies are generally sufficient, but, as soon as the malady becomes obstinate, the best and promptest remedy is an emetic. The same is true of the aphthous affections of adults.

Cough.

There is a species of cough, which we rightly call gastric cough, distinguished by signs of a gastric disorder and accumulation, a furred tongue, loss of appetite, nausea, etc. In such cases gastric remedies, dissolvents, purgatives, but chiefly emetics are most curative of the cough. Such a cough may have been treated for months with the usual catarrhal remedies without success; a single emetic removes it.

Tussis Convulsiva.

Whooping cough is not an inflammatory nor therefore a gastric disease; but as I have already proved 40 years ago,* that a contagious convulsive nervous disease of the præcordial and pulmonary nerves existed, which, it is true, may in the beginning be combined with a febrile inflammatory affection, but then it always passes into its true character, the spasmodic nervous, and which is always connected with a peculiar influence over secretion of these organs, which it increases and thickens. Here an emetic is still the principal remedy on two accounts; in the first place, as the most active contrastimulus, capable of soothing a spasmodic state; in the second place, as a most beneficial evacuation of the accumulated viscous phlegm and alterative of the mucous secretion. This is fully confirmed by experience. An emetic always procures alleviation and amelioration of the attacks for a few days. And I have always found it exceedingly easy in its operation and accelerative of the cure of the disease. Besides, along with the use of proper anti-spasmodics and anti-irritatives of the skin, an emetic ought to be administered intermediately.

Pulmonary Consumption.

Emetics are in general not curatives of pulmonary consumption, though the Englishman Reid extols their use.

* Hufeland's remarks on small pox and diseases of children, Jena 1797.

In the inflammatory kind and stage of consumption, where there is a disposition to hæmoptysis, they can become very injurious. But they may be of use in two cases. The first is the purulent; when, whilst inflammatory signs are absent, expectoration is difficult, and fever and anxiety is thereby increased; here an emetic occasionally administered, can procure great relief. The second is the pituitous, which originates in the abdomen, in disorders and accumulations of the digestive system; as well as the gastric cough, mentioned before, which may even change into a pituitous consumption. In such cases I have seen the most striking curative effects produced by emetics frequently repeated; and I refer to my treatise* on this subject.

Dyspnœa, Choking Rheum.

Asthma is known to belong to the most difficult and often most dangerous diseases. Also here emetics maintain a high rank among palliatives. In the moist or pituitous (*asthma humidum*) the same, occasionally given, bring if not a perfect cure, at least a great relief. In the dry spasmodic (*asthma spasmodicum*, *asthma convulsivum*) it is the greatest of all known alleviating means: even in that kind which sets in periodically, as a real paroxysm, and puts the patient in danger of life, it is often the only means of salvation. Here experience has taught, that an emetic has effected a perfect resolution of the spasm and restoration, after musk and opium had been used in vain.

The same applies to choking rheum (*catarrhus suffocativus*) or paralysis of the lungs, that fit which is so like apoplexy, with only this difference, that in the first case the cerebral nerves, in the latter the pulmonary nerves are in a paralytic state. When the patient is in the most imminent danger of suffocation, has a rattling breath, the brain and consciousness being generally free. Also here, after a venesection has been previously made, the emetic is the greatest, even the only salvative left.

Dysentery and Cholera.

In dysentery an emetic of ipecacuanha given in the onset is a chief means of cure. In numerous cases I did not want any thing else to cure this disease but an emetic given at

* Prevention and cure of consumption, founded on experience. Hufeland's miscellaneous writings, vol. 4.

the commencement, and then emulsions of gum arabic with small doses of opium. I have always observed, that the emetic first administered had a most favorable influence on the whole cure, and shortened it; for when it had been neglected, the best remedies had by far a less sure and prompt effect. Ipecacuanha is always preferable to tartar emetic in this disease; for, the first, by its very nature operates more permanently, even in small doses.

In cholera morbus, cases may occur, where an emetic is indispensable. The immoderate discharges are, as it is known, generally acted on by soothing remedies, but then sometimes a state of nausea, dyspepsy, and bilious-gastric indication remains, a proof, that there is left a remnant of bilious accumulation which acts anew, and here I have several times observed, that nothing removed this state so quickly and perfectly as a moderate emetic.

Rheumatisms.

I have myself had but little experience regarding the effect of emetics in rheumatisms, because other remedies proved sufficient in my hands, so that I have spared this exertion and debilitation to the stomach and digestive function. But I have been persuaded by the experience of others, that an emetic is indeed a very efficacious remedy in rheumatism, though I still hold to the opinion, that it is preferable to try first other remedies, and only when they prove abortive, to have recourse to this method of treatment, which, at any rate, affects the important digestive system.

Insanity.

Among all physical means against insanity I consider, besides the cold affusions, emetics the most efficacious. An emetic is a most powerful antistimulant against the morbid action of the brain; and the more decided this is, that extreme inactivity and insensibility of the præcordial and abdominal nerves (connected with all these psychical cerebral affections, especially the melancholic), the more certain it is that this disturbed equilibrium is one of the most important causes in these diseases; therefore, a forcible excitation and arousing of these organs is here more proper and of greater efficacy, to restore the balance and to regulate the cerebral action. To this one circumstance may be added, one to which too little attention seems to

be paid, the importance of the stomachical sense, the peculiar property of the stomach, exhibited in hunger, still more in appetite, most in nausea. This feeling of hunger is one of the strongest and most forcible, pervading the whole organism, affecting even the mind unto insanity and despair, as the effect of hunger sufficiently proves, and so it must be, since the preservation of mankind, all life and the working of the world, depends on this sense and the sexual instinct. For that very reason it is one of the most efficacious means, to bring man, when he is lost in insanity, to consciousness, and to set him again in a normal relation with himself and with the world. It is undoubtedly in this that resides the great benefit of fasting cures. Nausea and inclination to vomit operates on the same sense, only in a reverse way; and how many unfortunate persons have there not been restored in this way since Mutzel's time?

My experience has fully confirmed it. Emetics proved exceedingly efficacious not only in melancholics, but even in cases of most violent rage, and in the delirium potatorum. I have still particularly to notice *melancholia suicida*, in which I have several times observed, that the thought of self-destruction disappeared after the administration of an emetic, and the cure perfectly succeeded after gratiola and neutral salts had been used intermediately.

Apoplexy, Paralysis.

As much as emetics must be avoided in an apoplectic state, while a full pulse, red face, in short, while indication of venesection is present, they are equally recommendable, where this is not the case, and now they are certainly the most vigorous irritatives and excitants; and frequently they are the only ones, which procure relief.

But as the unseasonable use of them will produce the greatest injury and accelerate death, I shall point out those cases of apoplexy, in which they are proper.

1. When apoplexy is of a purely gastric origin, as after a meal, overloading of the stomach, or is attended with nausea, spontaneous vomiting, furred tongue; an emetic is the real radical and causal remedy; in plethoric persons, however, and where the pulse is full, a venesection is to be made previously to its administration.

2. In sanguine apoplexy, when after proper abstraction of blood and diminished pulse, the sopor and an apoplectic state will not cease.

3. In nervous or serous apoplexy, when the pulse is in

the beginning small and weak, the face not red and bloated, but pale and shrivelled, the treatment must commence with an emetic.

What has just been said of apoplexy, is true of all kinds of paralysis. Emetics have often been the most vigorous animatives.

*Asphyxia,
Especially of Newborn Infants.*

The emetic is, in my opinion and experience, one of the most important remedies to arouse the life of a newborn child, or to bring the weak and suppressed life into operation. Here it is a most momentous means to move for the first time the action of the respiratory function and the smaller circulation. Which irritative tends so directly, even mechanically to arouse the midriff, the pectoral muscles, the heart and lungs, as the stimulus and action of vomiting? Besides, in many cases, the inactivity of these organs and of the suffocation resulting therefrom is principally owing to overfilling with phlegm, which the weak newborn child is not able to throw off. The so called asphyxia is often nothing else than a true suffocation. And here, indeed, no other means is left to us, but the removal and expulsion of the phlegm, which fills the air-passages possibly effectuated by vomiting. I am really astonished, to see this great auxiliary disregarded among the resuscitatives; and I take this occasion to recommend it most earnestly to general attention.

In confirmation of it, I will communicate a case, which has strikingly convinced me of it. A lady had the misfortune, twice to give birth to children, which in other respects were strong and well built, but came to light almost lifeless. They did not utter a sound, at best a very hoarse tone, and no respiration could be perceived; after a short time they died away. The skilful practitioner had used all imaginable animatives; baths, inhalation of air, frictions, aspersions, injections, etc., without success. At the third confinement my assistance was called for. I here recognized that the case proceeded from a stoppage of respiration, and resolved to administer an emetic, which I kept ready for the purpose. The child was easily and happily delivered, but the former phenomena presented themselves. No crying, no respiration, only a weak, hoarse sound at its first appearance. I ordered the child to be placed immediately in a warm bath, and made it swallow a teaspoonful

of oxymel scilliticum with 1 grain of ipecacuanha and a little chamomile tea; after 6 minutes a second dose, and then an active vomiting ensued and much evacuation of phlegm, immediately afterwards it cried lustily; respiration went into operation, and the child was saved. All went on excellently, and this child is now a healthy, robust man.

Also in the asphyxia of adults, this great remedy ought to be more used, than is done at the present time. Led by the reasons just adduced, in order to arouse the heart and the respiratory organs by a mighty stimulus in their neighborhood, and to rid the lungs of material accumulations, an emetic of emetic tartar ought to be infused, as soon as there is a possibility of swallowing, or when swallowing is not practicable, be injected into the veins.

Diseases of Children.

Emetics, according to my opinion, take the lead of all other remedies in the treatment of children. The morbid matter in infants is most frequently located in the præcordia. In children the system of the præcordial nerves is of particular pathogenetic and sympathetic and therefore of therapeutic influence; and every operation on it has a by far more general and decisive effect on the whole economy. Finally, in children the operation of vomiting proceeds much easier than in adults. All this has been proved to me by experience in numerous cases, so that I could fill whole volumes on this subject. I have removed in innumerable cases immediately and perfectly the most violent fevers of children by an emetic, given at the onset of the disease; so I have done away with pectoral and tracheal affections, appeased the most violent cough, which would not yield to any remedy, cured vomiting, diarrhœas, dysenteric attacks, even spasms, when they originated in the præcordial nerves. The result of my experience at the end of my long practical career is this: "When a child—especially in the first years of life—is attacked by fever, attended with want of appetite and furred tongue, still more, when it vomits spontaneously, or has eructations and an inclination to vomit, never neglect to administer an emetic." It is of indefinable use, frequently alone performs a cure, and its omission is hardly compensated subsequently by other remedies, even by emetics. Nor ought we to avoid using emetics, when the cough and difficulty of respiration are present at the same time; it often perfectly removes them.

I except only one case: when a child is attacked by a fever with soporous symptoms. Here congestion in the brain, even perhaps incipient inflammatory hydrocephalus is always to be presumed, and an emetic might do mischief.

We need not fear the violence of the exertions in vomiting, or the congestion to the head likely to appear—which may perchance be a contra-indication in adults, but cannot deter us from prescribing emetics to children. Children vomit much easier than adults, the younger they are the easier they throw up.

Vomiting, however, must not be excited more than three or four times; and an easy, simultaneously phlegm-dissolvent, rather antispasmodic emetic ought to be selected. A great deal depends on the selection of the substances which are used. In infants, and where there is a spontaneous disposition to vomit, oxymel of squills, 1 teaspoonful every quarter of an hour, along with chamomile tea is perfectly sufficient; in more grown persons a mixture of oxymel scillæ (which is a dissolvent of phlegm and always exceedingly facilitates vomiting) and ipecacuanha; in still more advanced in age, a small addition of tartar emetic solely to sharpen the irritation a little, except in those cases, where there is a great disposition to diarrhœa, which the emetic tartar would likely increase. I would advise the following formula for children:

R. Pulv. rad. ipecac. ʒi.
Oxymel. scillæ
Syrup. rubi idæi
Aquæ fontanæ āā ʒss.

One teaspoonfull to be taken every $\frac{1}{4}$ hour, until vomiting commences, and then wait for the effect which may be repeated in half an hour, if no further vomiting occur. This mixture is the best in children in their first year; for older ones $\frac{1}{4}$ of a grain of emetic tartar may be added.

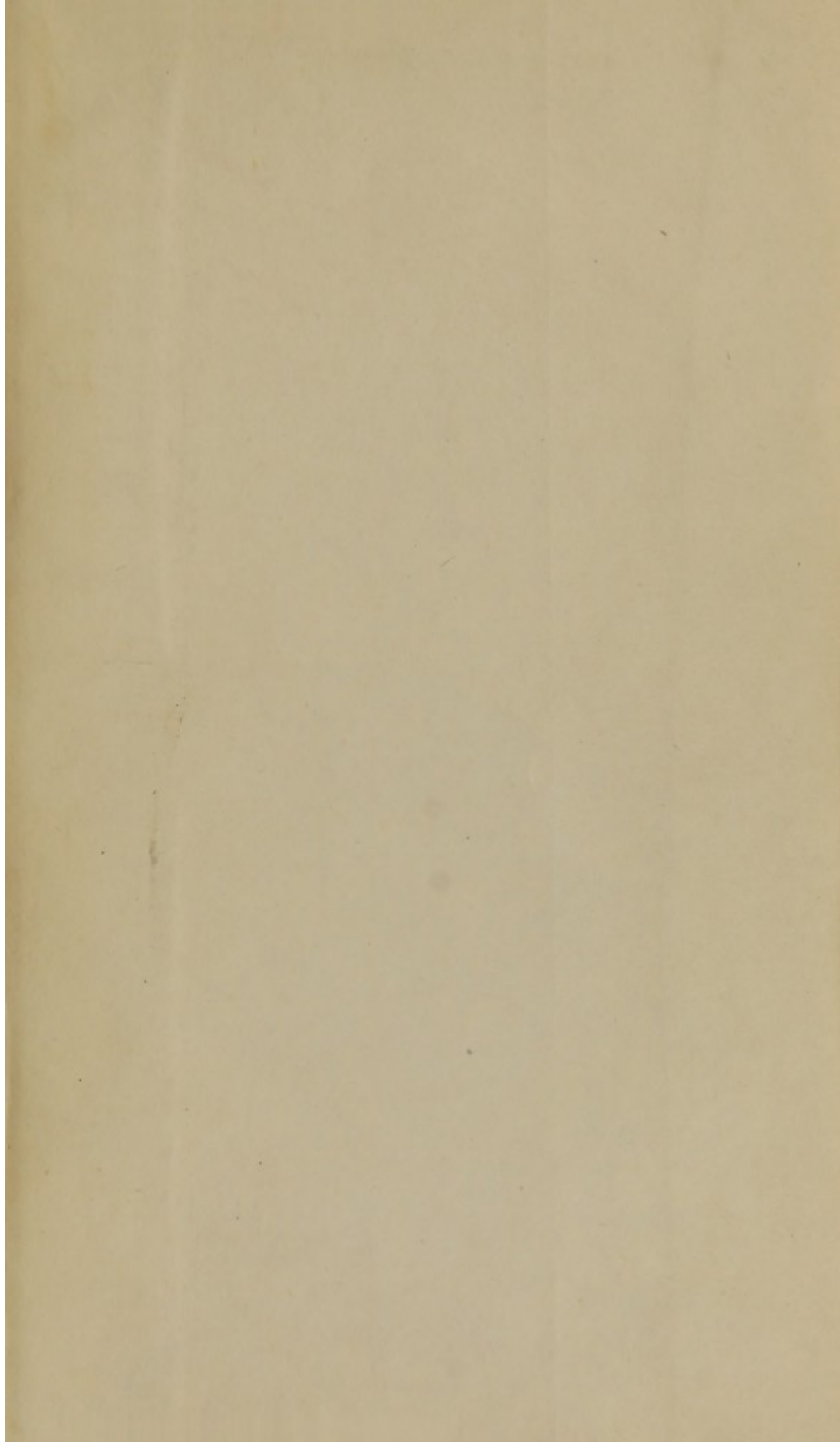
Poisons.

The most natural thought, which strikes us first, is to discharge the poison from the stomach, by the same road it was introduced, as the shortest, even in imitation of nature. It is a rule without exception to excite vomiting when we are called for in time. We do so, presuming that the poison is still in the stomach. We must, however, be careful to distinguish these two cases. Sometimes after taking acrid and caustic poisons, they cause such violent and forced vomiting, that we need do nothing more, but to

promote and sustain it by copious drinks of milk and oil. But sometimes vomiting does not take place; or it is only an imperfect vomituration; this is particularly the case after narcotic poisons having been swallowed. Here an emetic, the best is tartar emetic, is to be given. Sometimes the insensibility of the stomach caused by the narcotic is so great, that this does not take effect, and recourse must be had to stronger emetics, as sulphate of zinc.—How far the stomach pump may be able to replace the emetic, time and continued use will teach. It seems to me, that poisons, which stick to the membranes and folds of the stomach, are more perfectly evacuated by the self-active contraction of the stomach, than by mere mechanical pumping.







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