Essentials of the diseases of children.

Contributors

Powell, William M., 1862-
Harvey Cushing/John Hay Whitney Medical Library

Publication/Creation

Philadelphia : W. B. Saunders, 1890.

Persistent URL

https://wellcomecollection.org/works/pcd5knyk

License and attribution

Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
https://wellcomecollection.org

Saunders' Question Compends

Essentials of Diseases of Children

William M. Powell, M. D.

NOW READY.

Nan[illegible]tor,

NAN[illegible] **executed** **TION O[illegible]** **graphic**

[illegible] finely **[illegible]SSEC-** **Litho-**

No pai[illegible] haustive
yet concis[illegible] either in
this coun[illegible]

The c[illegible] Muscles,
Arteries, [illegible]pecially
drawn an[illegible] repre-
senting t[illegible] on the
11th Edit[illegible]lume of
over 400

Price, s[illegible] **[illegible]e Dis-**

POC[illegible]ON.

The l[illegible]rms yet
published[illegible]ysicians
of Philade[illegible] Author of
"Keating'[illegible]cise, com-
prehensive[illegible]le to the
student of

*****For sale by all booksellers. Mailed free on receipt of price to any post office address in the United States or Canada.**

Saunders' Question-Compends,

Arranged in the Form of Questions and Answers.

THE LATEST, CHEAPEST, AND BEST ILLUSTRATED SERIES OF COMPENDS.

Price, Cloth, $1.00; Interleaved for Taking Notes, $1.25.

For sale by all Booksellers or sent, post-paid on receipt of price, by

W. B. SAUNDERS, Medical Publisher,

913 Walnut Street, Philadelphia, Pa.

THE ADVANTAGES OF QUESTIONS AND ANSWERS.—The usefulness of arranging the subjects in the form of QUESTIONS and ANSWERS will be apparent, since the student, in reading the strandard works, often is at a loss to discover the important points to be remmbered, and is equally puzzled when he attempts to formulate ideas as to the manner in which the QUESTIONS COULD BE PUT IN THE EXAMINATION ROOM.

New York Medical Record:—

"This series of students' manuals are concise, without the ommission of any essential facts."

University Medical Magazine:—

"Best of their class that have yet appeared."

Southern California Practitioner:—

"Mr. Saunder's series of Compends are the best ever published in this country."

Manuals of this kind are in no way intended to supplant any of the text-books, but to contain as their titles declare, the essence of those facts with which the average student must be familiar.

No. 1.—Essentials of Physiology. SECOND EDITION, ILLUSTRATED, REVISED AND GREATLY ENLARGED. By H. A. HARE, M.D., Clinical Professor of Diseases of Children, University of Pennsylvania, Demonstrator of Therapeutics and Instructor in Physical Diagnosis in the Medical Department, and Instructor in Physiology in the Biological Department, of the University of Pennsylvania, etc., etc.

No. 2.—Essentials of Surgery. Containing also, *Surgical Landmarks, Minor and Operative Surgery, and a Complete Description, together with full Illustration of the Handkerchief and Roller Bandage.* SECOND EDITION, WITH NINETY ILLUSTRATIONS. By EDWARD MARTIN, M. D., Instructor in Operative Surgery and Lecturer on Minor Surgery, University of Pennsylvania; Surgeon to the Out-Patients' Department of the Children's Hospital, and Surgical Register of the Philadelphia Hospital, etc., etc.

No. 3.—Essentials of Anatomy. Including, *Visceral Anatomy*, BASED UPON THE LAST EDITION OF GRAY. SECOND EDITION. Over three hundred and fifty pages, with one hundred and seventeen Illustrations. By CHAS. B. NANCREDE, M. D., Professor of Surgery and Clinical Surgery in the University of Michigan, Ann Arbor; Corresponding Member of the Royal Academy of Medicine, Rome, Italy; Late Surgeon Jefferson Medical College, etc., etc.

No. 4.—Essentials of Medical Chemistry. Organic and Inorganic, containing also Questions on Medical Physics, Chemical Physiology, Analytical Processes, Urinalysis and Toxicology. FOURTH THOUSAND. By LAWRENCE WOLFF, M.D., Demonstrator of Chemistry, Jefferson Medical College; Visiting Physician to German Hospital of Philadelphia; Member of Philadelphia College of Pharmacy, etc., etc.

No. 5.—Essentials of Obstetrics. ILLUSTRATED. FOURTH THOUSAND. By W. EASTERLY ASHTON, M. D., Demonstrator of Clinical Obstetrics in the Jefferson Medical College, and Chief of Clinics for Diseases of Women in the Jefferson Medical Hospital, etc., etc.

No. 6.—Essentials of Pathology and Morbid Anatomy. Illustrated. By C. E. ARMAND SEMPLE, B.A., M.B. Cantab., L.S.A., M.R.C.P., Lond., Physician to the Northeastern Hospital for Children, Hackney; Professor of Vocal and Aural Physiology and Examiner in Acoustics at Trinity College, London, etc., etc.

LIST OF COMPENDS.—Continued.

No. 7.—Essentials of Materia Medica, Therapeutics and Prescription Writing. By HENRY MORRIS, M D., late Demonstrator, Jefferson Medical College; Fellow College of Physicians, Philadelphia; Co-Editor Biddle's Materia Medica; Visiting Physician to St. Joseph's Hospital, etc., etc.

Nos. 8 and 9.—Essentials of Practice of Medicine. (Double number, over five hundred pages.) By HENRY MORRIS, M.D., Author of Essentials of Materia, Medica and Therapeutics, etc., etc.

No. 10.—Essentials of Gynæcology. With numerous Illustrations. By EDWIN B. CRAIGIN, M.D., Attending Gynæcologist, Roosevelt Hospital, Outpatients' Department; Assistant Surgeon, New York Cancer Hospital, etc., etc.

No. 11.—Essentials of Diseases of the Skin. 75 Illustrations. By HENRY W. STELWAGON, M D., Clinical Lecturer on Dermatology in the Jefferson Medical College, Philadelphia; Physician to Philadelphia Dispensary for Skin Diseases; Chief of the Skin Dispensary in the Hospital of University of Pennsylvania; Physician to Skin Department of the Howard Hospital; Lecturer on Dermatology in the Women's Medical College, Philadelphia, etc., etc.

No. 12.—Essentials of Minor Surgery and Bandaging. With an Appendix on VENEREAL DISEASES. Illustrated. By EDWARD MARTIN, M.D., author of the "Essentials of Surgery," etc., etc.

No. 13.—Essentials of Legal Medicine, Toxicology and Hygiene. One hundred and thirty fine Illustrations. By C. E. ARMAND SEMPLE, M. D., Author of "Essentials of Pathology and Morbid Anatomy," etc., etc.

No. 14.—Essentials of the Refraction and Diseases of the Eye. Illustrated. By EDWARD JACKSON, A.M., M.D., Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine; Member of the American Ophthalmological Society; Fellow of the College of Physicians of Philadelphia; Fellow of the American Academy of Medicine, etc., etc.; and **Essentials of Diseases of the Nose and Throat.** Illustrated. By E. BALDWIN GLEASON, M.D., Assistant in the Nose and Throat Dispensary of the Hospital of the University of Pennsylvania; Assistant in the Nose and Throat Department of the Union Dispensary; Member of the German Medical Society, Philadelphia, Polyclinic Medical Society, etc., etc.

No. 15.—Essentials of Diseases of Children. Illustrated. By WILLIAM M. POWELL, M.D., Physician to the Clinic for the Diseases of Children in the Hospital of the University of Pennsylvania; Examining Physician to the Children's Seashore House for Invalid Children at Atlantic City, N. J.; formerly Instructor in Physical Diagnosis in the Medical Department of the University of Pennsylvania, and Chief of the Medical Clinic of the Philadelphia Polyclinic.

No. 16.—Essentials of Examination of Urine, COLORED "VOGEL SCALE," and numerous Illustrations. By LAWRENCE WOLFF, M.D., Author of "Essentials of Chemistry," etc., etc.; price, 75 cents.

No. 17. Essentials of Diagnosis. By DAVID D. STEWART, M.D., Lecturer on Diseases of the Nervous System at the Jefferson Medical College; Late Chief of the Medical Clinic Jefferson Medical College Hospital; Physician to St. Mary's and St. Christopher's Hospitals; Fellow of the College of Physicians of Philadelphia, etc., etc. (in press).

At the present time, when the student is forced by the rapid progress of medical science to imbibe an account of knowledge which is far too great to permit of any attempt on his part to master it, a book which contains the "essentials" of a science in a concise yet readable form must of necessity be of value.

Intended to assist Students to put together the knowledge they have already acquired by attending lectures.

Specially prepared for the use of Students of any Medical College.

NOW READY.

ADDITIONS TO THE SERIES OF

SAUNDERS' QUESTION-COMPENDS,

SINCE LAST SEASON (1889-90.)

Nos. 8 and 9.—Essentials of Practice of Medicine. (Double number, over five hundred pages.) By HENRY MORRIS, M.D., Author of Essentials of Materia, Medica and Therapeutics, etc., etc.

No. 10.—Essentials of Gynæcology. With numerous illustrations. By EDWIN B. CRAIGIN, M.D., Attending Gynæcologist, Roosevelt Hospital, Outpatients Department; Assistant Surgeon New York Cancer Hospital, etc., etc.

No. 11.—Essentials of Diseases of the Skin. 75 illustrations. By HENRY W. STELWAGON, M. D., Clinical Lecturer on Dermatology in the Jefferson Medical College, Philadelphia; Physician to Philadelphia Dispensary for Skin Diseases; Chief of the Skin Dispensary in the Hospital of University of Pennsylvania; Physician to Skin Department of the Howard Hospital; Lecturer on Dermatology in the Women's Medical College, Philadelphia, etc., etc.

No. 12.—Essentials of Minor Surgery and Bandaging. With an Appendix on VENEREAL DISEASES. Illustrated. By EDWARD MARTIN, M. D., author of the "Essentials of Surgery," etc., etc.

No. 13.—Essentials of Legal Medicine, Toxicology and Hygiene. One hundred and thirty fine Illustrations. By C. E. ARMAND SEMPLE, M.D., Author of "Essentials of Pathology and Morbid Anatomy," etc., etc.

No. 14.—Essentials of the Refraction and Diseases of the Eye. Illustrated. By EDWARD JACKSON, A.M., M.D., Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine; Member of the American Ophthalmological Society; Fellow of the College of Physicians of Philadelphia; Fellow of the American Academy of Medicine, etc., etc., and **Essentials of Diseases of the Nose and Throat.** Illustrated. By E. BALDWIN GLEASON, M. D., Assistant in the Nose and Throat Dispensary of the Hospital of the University of Pennsylvania; Assistant in the Nose and Throat Department of the Union Dispensary; Member of the German Medical Society, Philadelphia, Polyclinic Society, etc., etc.

No. 15.—Essentials of Diseases of Children. Illustrated. By WILLIAM M. POWELL, M. D., Physician to the Clinic for the Diseases of Children in the Hospital of the University of Pennsylvania; Examining Physician to the Children's Seashore House for Invalid Children, at Atlantic City, N. J.; formerly Instructor in Physical Diagnosis in the Medical Department of the University of Pennsylvania, and Chief of the Medical Clinic of the Philadelphia Polyclinic.

No. 16.—Essentials of Examination of Urine. COLORED "VOGEL SCALE," and numerous Illustrations. By LAWRENCE WOLFF, M.D., author of "Essentials of Chemistry," etc,, etc.; price, 75 cents.

No. 17.—Essentials of Diagnosis. By DAVID D. STEWART, M. D. Lecturer on Diseases of the Nervous System at the Jefferson Medical College; Late Chief of the Medical Clinic Jefferson Medical College Hospital; Physician to St. Mary's and St. Christopher's Hospitals; Fellow of the College of Physicians of Philadelphia, etc., etc.

No. 18.—Essentials of the Practice of Pharmacy. By L. E. SAYRE, Professor of Pharmacy and Materia Medica in the University of Kansas.

For Sale by all booksellers.

PRICE: CLOTH, $1.00; INTERLEAVED FOR TAKING NOTES, $1.25.

SAUNDERS' QUESTION-COMPENDS, No. 15.

ESSENTIALS OF THE DISEASES OF CHILDREN,

ARRANGED IN THE FORM OF

QUESTIONS AND ANSWERS

PREPARED ESPECIALLY FOR

STUDENTS OF MEDICINE.

BY

WILLIAM M. POWELL, M.D.,

PHYSICIAN TO THE CLINIC FOR THE DISEASES OF CHILDREN IN THE HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA; EXAMINING PHYSICIAN TO THE CHILDREN'S SEASHORE HOUSE FOR INVALID CHILDREN, AT ATLANTIC CITY, N. J.; FORMERLY INSTRUCTOR IN PHYSICAL DIAGNOSIS IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF PENNSYLVANIA, AND CHIEF OF THE MEDICAL CLINIC OF THE PHILADELPHIA POLYCLINIC.

PHILADELPHIA:
W. B. SAUNDERS,
913 WALNUT STREET.
1890.

COLLINS PRINTING HOUSE,
705 JAYNE STREET.

TO

LOUIS STARR, M.D.,

OF PHILADELPHIA,

AS A SINCERE TRIBUTE OF ADMIRATION AND REGARD

This Book

IS DEDICATED BY HIS ASSISTANT,

THE AUTHOR.

PREFACE.

In presenting The Essentials of the Diseases of Children the author wishes to state that the substance-matter has been chiefly drawn from the works of Eustace Smith of London; J. Lewis Smith of New York; Edward Ellis of New Zealand; J. E. Goodhart's American Edition, by Louis Starr of Philadelphia; Diseases of the Digestive Organs by Louis Starr, and Meigs and Pepper's Diseases of Children.

Being a work of necessarily limited scope, the subject has been discussed mainly from its symptomatic and therapeutical standpoints, the questions of diet, general hygiene, and nursing, while receiving their place, being less fully considered than in the various books devoted to these important branches. In covering the provinces of symptomatology and therapeutics an effort has been made to bring the book thoroughly abreast of the times.

W. M. POWELL.

2205 Pine St., Philadelphia.
September 1, 1890.

CONTENTS.

ESSENTIALS OF DISEASES OF CHILDREN.

Introduction.

Medical Examination.

When is the best time to examine a child?

While it is sleeping.

Why?

In order that the pulse may be counted, the breathing, state of the skin, and general posture noted.

What other points should be noticed before arousing it?

The attitude, the posture, if natural; the color of the face, whether flushed or pale; the lips, if pale or tinted; the skin, if dry or moist; the general expression, if natural or painful; the presence or absence of moaning, starting, grinding of the teeth; the movements of the nostrils, if quiet or working strongly; the eyes if closed, partly closed, or staring should be carefully observed. The respirations should be counted; the condition of the fontanelle must be carefully examined, if closed or open, if pulsating greatly, if distended or retracted; the pulse should be taken, the size and shape of the head should be noted, if large, and whether the veins are full.

What should be noticed after the child is aroused?

The expression of the face; whether it is fretful or languid; excited or quiet; if it has dark circles under the eyes; the color and shape of the face, and the presence or absence of snuffling.

How long should a perfectly healthy infant sleep?

At least eighteen out of the twenty-four hours. It is useful in fixing the period of the commencement of an illness to inquire when the child was first sleepless.

What next should be done?

The child should be stripped near the fire and out of the way of any draught.

How should the healthy skin appear?

It should be mottled, not flabby; the limbs should move freely.

What other important points should be noted?

The joints should be carefully examined, whether large, small, or swollen. Eruptions should be looked for about the anus, and the penis carefully examined for adhesions or phimosis, etc.

What is the number of respirations in a healthy child?

They range as follows:—

From two months to two years the average is 35 per minute.

Under one year the respirations vary from 40 to 50 per minute. From the second to the twelfth year about 18 per minute.

When is the best time to look at the tongue?

While the child is crying, if the child is quiet the under lip may be gently pressed by the physician's finger and it will protrude it.

How shall we examine the throat?

By placing the child on the nurse's lap with its head resting against her breast and gently depressing the tongue with a small spoon or tongue depressor, at times force may have to be used, but if the child is old enough to understand, a little coaxing and kindness will generally suffice.

How should the gums be examined?

By placing the child's head between your knees and allowing its body to remain in the nurse's lap, thus you have perfect control over the child's head should lancing be required.

How and when should auscultation be practised?

Always before percussion, as the latter usually excites the child. The back of the chest is the most important part to auscultate in a child. If it is found free from the physical signs of pneumonia, bronchitis, etc., we may presume that the front of the chest is the same, although if the child be quiet it is best to auscultate both posteriorly and anteriorly.

How should percussion be practised?

By a light tap with one or two fingers of the right hand upon a finger of the left placed flat upon the chest.

How should the abdomen be examined?

By palpation with the warmed hand. In this way enlargements of the spleen or liver are detected and other abdominal tumors.

In what position should the child be placed during the palpation?

Upon its back, if possible, with its knees flexed so as to relax the abdominal muscles, but this is often impossible, then the next plan is to have the child placed on the nurse's lap in a sitting posture and slip the warmed hand beneath the clothes.

Describe the expression of countenance indicative of disease.

The upper part of the face is chiefly affected in diseases of the brain, causing the brow to knit, the forehead to contract, and the eyes to roll.

What diseases affect the middle portion of the face?

Cardiac and lung affections, the nostrils are sharp or distended, the lips are pale or even bluish in color, and dark rings are under the eyes.

What diseases affect the lower portion of the face?

Abdominal troubles, the cheeks are changed in color, even sunken, the mouth is drawn, the lips livid or pale.

What other important signs should be noticed?

Redness or pallor, ptosis, unequal dilatation of the pupils, etc.

What gestures usually point to disease of the brain?

Hands constantly to the head, pulling at the hair, rolling or burying head in the pillow.

What gestures signify abdominal disease?

The legs are drawn up, the face is anxious and sunken, the child picks at the bed-clothes.

What gestures point to dyspnœa?

Child tears at its throat or puts its hand in its mouth, especially in diphtheria and croup, when false membranes are forming.

What is the character of the cry in pneumonia and capillary bronchitis?

Labored, as if half suffocated.

In croup?

Brassy and metallic, with crowing inspirations.

In cerebral disease?

Sharp, shrill, and solitary, *i. e.*, the so-called "*cri hydrocéphalique.*"

In marasmus and tubercular meningitis?

Moaning and wailing are usually present.

What does obstinate and long-continued crying usually denote?

Either earache or hunger.

When are the tears and saliva usually secreted?

About the third or fourth month.

What does squinting of the eyes in acute illness denote?

Either reflex irritation, paralysis or convulsions.

What do small pupils usually denote?

They occur in active congestion, opium poisoning, and in sleep.

Give the chief indications obtained from observation of the tongue.

A furred tongue with spots of curd over its surface indicates dyspepsia and intestinal irritation.

A red, hot, and dry tongue would point to an inflammation of the mouth, stomach, etc.

A pale flabby tongue, marked at the edges with the teeth, denotes great debility.

A heavy white fur is usually indicative of fever. Yellow fur, of liver and stomach trouble. Brown fur, a low typhoid condition. Strawberry tongue, scarlatina.

Fecal Evacuations.

Describe the stools of a healthy infant.

They vary in color from a light to a greenish-yellow, and are of the consistency of mixed mustard. The reaction is acid, odor sour.

How many stools should a healthy child have in the twenty-four hours?

For the first few weeks three; from then on to the second year two.

What does the presence of curds denote in the stools?

Indigestion.

Describe the stools in intestinal catarrh.

They are scanty, lumpy, dark in color, and mixed with mucus.

What do clay-colored movements denote?

An inactive liver.

What does a stool composed of blood, clots, and shreds of mucous membrane indicate?

Intestinal inflammation, typhoid fever, dysentery, and tubercular disease.

What is the Spinach stool?

It is a green evacuation commonly found in acute and subacute diarrhœa in infants. M. Hayem believes the green color is produced by a particular bacillus which he considers contagious.

What is the oily matter found in stools due to?

Probably to defective action of the liver, pancreas, and intestinal glands. The fatty matters of the food are not properly emulsified, and, therefore, not absorbed.

What does the presence of mucus indicate?

Acute diarrhœa or mucous disease.

Vomiting.

How may vomiting be classified?

Into three groups:—

The vomiting of nurslings,
The vomiting of older children,
Reflex vomiting.

Describe the vomiting of nurslings.

It is caused by the shape of the stomach being less curved than in the adult. It is not a sign of disease, and it is especially found in children that have been nursed by an abundant breast. This vomiting is easily distinguished from that depending upon disease, as milk alone is ejected, although it may be slightly curdled.

Describe the vomiting of older children.

This is commonly due to indigestion. Sudden vomiting in a child of previously good health would point to the onset of

some acute disease, particularly scarlet fever. Occasionally in girls it is the development of symptoms well known in young adult females as the outcome of hysteria.

Describe reflex vomiting.

It may be due to meningitis, or tumor of the brain, chronic disease of the lungs, pertussis, dentition, or worms.

The Pulse.

What is the pulse beat of a healthy infant?

It ranges from 90 to 140 beats per minute. It is quicker in the female than in the male after the seventh year. It is much slower during sleep.

The following valuable table of the pulse is given by Müller.

At birth	130–140
1st year	115–130
2d "	100–115
3d "	90–100
7th "	85–90
14th "	80–85

The Temperature.

What is the normal temperature of a healthy infant?

At twenty-four hours after birth the average temperature is 100.4° Fahr., at forty-eight hours after about 98.6° Fahr. After this it fluctuates between 98° Fahr. and 99.5° Fahr.

How should the temperature be taken?

Never trust to your hand, but always use a fever thermometer. In young infants it is best taken in the rectum or groin; in older children the mouth or axilla may be used.

What is the weight of a new-born child?

Seven pounds; the extremes are from four to eleven pounds.

What is the average length of a new-born child?

Nineteen inches and a fraction over; the extremes are from sixteen to twenty-two inches.

What are the chief anatomical peculiarities of the new-born child?

It has a small stomach; its intestinal action is more rapid; its power of generating heat is small; its heart, brain, and liver are large.

How should the dosage be proportioned for children?

The proportionate dose for any age under adult life is represented by the number of the following birthday, divided by twenty-four, *i. e.*, for one year $\frac{2}{24} = \frac{1}{12}$, for two years $\frac{3}{24} = \frac{1}{8}$ and so on.

PART I.

Dentition.

State the number of milk teeth.

Twenty.

Name them.

Two lower and four upper central incisors, two lower lateral incisors, four anterior molars, four canines, and four posterior molars.

In what order are they cut?

The two lower central incisors from the fourth to the seventh month; the four upper incisors from the eighth to the tenth month; the two lower lateral incisors and the four anterior molars from the twelfth to the fifteenth month; the four canines from the eighteenth to the twenty-fourth month, and the posterior molars from the twentieth to the thirtieth month.

What is the infant's condition during dentition?

It is usually the cause of many ailments, such as fever, vomiting, diarrhœa, indigestion, convulsions, etc.

How should they be treated?

The child's general health should be most carefully looked into, the bowels regulated, the diet cautiously looked after, and the gums lanced over the advancing teeth when hot and swollen. The diarrhœa of teething is natural, and without it is very excessive it should not be treated. If it causes griping and is offensive the best remedy is a teaspoonful of castor oil, which will clear away any undigested food. Never use astringents in these cases. The fever should be treated with one-half drop doses of tr. aconite, any suspicious twitching must be controlled with bromide of potassium.

State the number of permanent teeth.

Thirty-two.

Name them.

Four central incisors of upper and lower jaw; four lateral incisors, four first bicuspids, four canines, four second bicuspids, four first molars, four second molars, and the four third molars.

In what order are they cut?

The two central incisors of the lower jaw from the sixth to the eighth year.

The two central incisors of the upper jaw from the seventh to the eighth year.

The four lateral incisors from the eighth to the ninth year.

The four first bicuspids from the ninth to the tenth year.

The four canines from the tenth to the eleventh year.

The four second bicuspids from the twelfth to the thirteenth year.

These replace the temporary teeth; those which are developed *de novo* appear thus:—

The four first molars from the sixth to the seventh year.

The four second molars from the twelfth to the thirteenth year.

The four third molars from the seventeenth to the twenty-first year.

How is the general health during second dentition?

Not quite up to par, although the child may apparently look well he will complain of feeling tired. Dr. Louis Starr has frequently seen cervical adenitis due to the eruption of the fifth year molars, which quickly subsided when the swollen gums were lanced.

How should the child be treated?

By a careful diet, plenty of fresh air and out-door exercise, and if appetite be poor the following tonic may be given:—

℞. Tr. Nucis Vomicæ ♏xxiv–xxxvi.
Elix. Calicayæ q. s. ad f℥ij.—M.

Sig. Teaspoonful in water three times a day after eating. (For a child from 6 to 8 years of age.)

The gums should be examined frequently, and if found swollen and tense be lanced freely.

PART II.

Diseases of the Mouth and Throat.

Stomatitis.

Name the several forms of stomatitis.

Catarrhal stomatitis.
Aphthous stomatitis.
Ulcerative stomatitis.
Parasitic stomatitis.
Gangrenous stomatitis.

Describe catarrhal stomatitis.

It consists of a simple hyperæmia of the mucous membrane of the mouth, accompanied by redness and swelling. The inflammation varies in extent and degree. It may be limited to small, circumscribed points of the membrane, or extend over large patches involving the entire surface. In severe cases the mucous glands of the lips and cheeks are involved, and become enlarged.

The disease may be primary or secondary.

What are the causes of the primary form?

Any food or liquid that is irritating; teething, improper care of the child's mouth; exposure to cold and wet; bad hygiene, and the administration of certain drugs, as mercury, iodine, and arsenic.

What are the causes of the secondary form?

The secondary form usually occurs during the course of one of the eruptive fevers, and any disordered conditions of the stomach, especially those attended by acid eructations.

At what age does it usually occur?

Although not limited to any particular age the disease usually occurs during dentition.

What are the symptoms?

The lips are unusually full and red, the skin at the angles of the mouth is excoriated from dribbling saliva. The mucous membrane of the mouth shows either a punctated, patchy, or diffuse redness, and is much swollen and tender to the touch. The mouth at first is dry, but soon the salivary flow is increased, which becomes acid in reaction, and at times viscid and flocculent. The mucous glands of the cheeks and lips project as pearly white nodules. The tongue is either red and smooth with enlarged fungiform papillæ, or covered with a white frosting through which the papillæ project in red points. Sucking and eating are painful. The child is restless, the skin hot, anorexia depending upon the local tenderness, and constipation are the general symptoms of the primary form.

The symptoms of the secondary form depend upon the originating disease; the local symptoms remain the same.

What is the duration of the disease?

The course of the disease rarely lasts longer than a week.

What is the treatment?

After removing the exciting cause, the mouth at first should be carefully washed with pure water; the gums should be lanced if hot and swollen. The mouth should be washed with one of the following solutions and the bowels kept freely opened by appropriate drugs:—

℞. Potass. Chlorat. gr. x.
Listerine ℥ij.
Aquæ q. s. ad f ℥j.—M.

Sig. Mouth-wash.

℞. Potass. Iodid. gr. iij.
Glycerinæ ℥ij.
Aquæ Rosæ q. s. ad ℥j.—M.

Sig. Use locally.

Salicylic acid, one part (dissolved in alcohol) to 250 parts of water is said to ease the pain.

Aphthous Stomatitis.

Describe this form.

In this disease a number of small ulcers appear upon the inflamed and swollen mucous membrane of the lips, tongue, gums, and cheeks. They are round or oval, slightly depressed. Their color in the centre is a yellowish-white surrounded by a band of deep redness. They may run together and form large ulcers. The disease may occur at any age.

What are the causes?

Insufficient or improper food; ill-ventilated houses; chronic disease of the digestive tract, scrofula, etc.

What are the symptoms?

The previous day the child is restless and fretful, the mouth is hot and tender, the tongue heavily coated, the salivary flow is greatly increased, and the ulcers form.

What is the course of the disease?

The ulcers last from three to twelve days in mild cases; in severe cases the pharynx, hard and soft palate may be involved.

What is the treatment?

First, regulate the diet and give a moderate dose of calomel, which may be followed by a course of pepsin, with dilute muriatic acid, if there be much gastric trouble. Locally a wash of chlorate of potash or borax may be used (gr. x to f ℥j) every hour or two. Should the ulcers be obstinate in healing they may be touched once daily with a strong solution of nitrate of silver, or even with a point of lunar caustic.

Ulcerative Stomatitis.

Describe this form.

It is usually seen in children between the ages of three and eight years, and never before the commencement of dentition.

Unlike the other forms just mentioned, the ulceration is a rapidly-spreading one. The lower jaw is said to be more frequently affected than the upper. The mucous membrane becomes red and swollen; the gums are tender and bleed on the slightest touch; the edges of the gums in contact with the teeth turn a dirty yellowish gray, soften, and break down; the teeth are loosened, and sometimes the periosteum is destroyed and necrosis takes place.

What are the causes?

Insufficient or bad food; cold, damp, or badly-ventilated houses. It may follow any of the eruptive fevers, dysentery, and scrofula. The presence of decaying teeth, and the careless administration of drugs—such as mercury, lead, and phosphorus—often excite it.

What are the symptoms?

The mouth is hot and dry, tongue coated, and the breath very offensive; the saliva becomes streaked with blood, and is very profuse; mastication is the cause of much pain; the submaxillary and lymphatic glands of the neck are generally swollen, and the face may be œdematous. The child is much debilitated, fretful, and sleepless. The ulceration usually appears on the external surface of the lower gum, at first spreading to the upper gum, the edges of the tongue, and lastly on the cheeks. The ulcers are of a dirty gray color, depressed with red, swollen edges.

What is the diagnosis?

The general appearance of the gums before ulceration commences, the character of the ulcers, the odor of the breath, distinguish this disease from any others of the mouth.

What is the prognosis?

It is usually good. Should necrosis of the jaw occur the duration is much prolonged, but recovery is generally the rule;

intercurrent noma, however, often leads to the death of the child.

What is the treatment?

First improve the sanitary surroundings; secure cleanliness, fresh air, and sunlight; a diet of animal broths and milk may be given. Chlorate of potash, either alone or with dilute muriatic acid, should be administered.

℞. Potass. Chlorat. gr. xlviij.
Acid. Muriat. dil. f℥j.
Syrupi f℥ss.
Aquæ q. s. ad f℥iij.—M.
Sig. Teaspoonful diluted every two hours for a child three years old. (*Starr.*)

The following wash is recommended by the same author:—

℞. Potass. Chlorat. gr. lxxx.
Acid. Carbol. gr. ij.
Glycerinæ f℥j.
Aquæ q. s. ad f℥viij.—M.
Sig. Thoroughly apply to ulcers twice daily, and use as mouth-wash.

When the ulceration covers much surface it should be swabbed by the physician with a saturated solution of permanganate of potassium daily; half a teaspoonful of Condy's fluid to a pint of water should also be used as a mouth-wash. Loose teeth ought not be disturbed without they retard the healing of the sores. After the ulcers have healed the local treatment may be discontinued, and the child put on tonics, stimulants, etc.

Thrush (Parasitic Stomatitis.)

Describe the condition of the mouth.

The mucous membrane of the mouth is covered with small white flakes, resembling minute pieces of curd. They are most abundant in the buccal mucous membrane, the tongue and

fauces; occasionally they extend to other parts of the digestive tract, namely, the œsophagus, stomach, and intestines. These spots are due to the development of a vegetable parasite, the *oïdium albicans*.

What are the causes?

Improper food, bad hygiene, dirty nursing-bottles, tips, etc. It never attacks infants nursed at the breast.

What is the pathological anatomy?

Before the flakes appear the mucous membrane of the mouth is purplish-red in color, the secretion is acid in reaction; the latter shows under the microscope many spores, oval in shape, sharply outlined, and hanging together in twos and threes; some white points appear on the buccal mucous membrane, which rapidly increase in extent and number; about the third day these coalesce and form white flakes; during the first few days they adhere firmly to the mucous membrane, afterwards they become loose and can easily be wiped off. The fungus grows only upon squamous epithelium.

What are the symptoms?

The mucous membrane of the mouth is dry, tender, slightly swollen, and red; the child is fretful and restless, the stools are usually loose and yellow in color. In twenty-four hours the thrush patches appear, first on the buccal mucous membrane, finally reaching the lips, tongue, and palate. When the patches appear there is increased fretfulness, much pain on sucking, occasional vomiting, and the passage of greenish stools. In from six to twelve days from the beginning of the disease the patches become loose and are removed by suitable applications and the act of sucking; the mucous membrane is left red and free from ulceration, and soon returns to its normal condition. In the secondary form a previous history of some gastro-intestinal trouble is usually obtained. The preliminary catarrh of the mouth is very marked, the mucous

membrane being intensely red and shining; the patches are much thicker, and adhere more firmly than in the primary form; when they are removed or fall off they are quickly replaced by others up to the termination of the case in death. There may be either occasional or constant vomiting, obstinate diarrhœa, the stools being acid, and green in color; distended abdomen, colic, etc.; the skin becomes pale and flabby, the anterior fontanelle sinks, and the child has scarcely enough strength to cry, and death from atrophy soon follows.

What is the diagnosis?

When the curd is wiped away the mucous membrane is found in its normal condition, a characteristic distinction of this disease. Aphthous stomatitis slightly resembles thrush, but the differentiation is made by noting that the yellowish-white spots of the former are depressed below the surface of the mucous membrane and are bounded by dark-red borders. Microscopic examination is always a positive test, and the presence or absence of the parasite decides the question.

What is the prognosis?

The primary form usually ends in recovery. The secondary form is unfavorable.

What is the treatment?

Wash out the child's mouth after each meal. See that the nursing-bottles, tips, etc., are kept absolutely clean. The diet should be carefully regulated as regards quantity and quality of the food, and the intervals of feeding, etc.

The local treatment consists of keeping the mouth perfectly clean by washing it every hour with warm water, using a soft rag wrapped around the finger, after which one of the following washes may be applied either with a camel's-hair brush or clean piece of rag, which should be destroyed after using.

℞. Glycer. Boracis ℥j.
Sig. Use locally.

℞. Potass. Chlorat. ʒss.
Glycerinæ,
Listerine, āā ℥ss.
Aquæ q. s. ad f℥ij.—M.

Sig. Use locally.

℞. Sodii Salicylat,
Sodii Borat., āā gr. x.
Acid. Carbol. gr. j.
Glycerinæ ʒij.
Aquæ Rosæ q. s. ad f℥j.—M.

Sig. Use locally. (*Starr.*)

In secondary thrush the same treatment is applicable. Appropriate drugs should be employed to check the vomiting and diarrhœa, maintain the strength, and improve the digestive powers.

Gangrenous Stomatitis or Noma.

Describe this disease.

The affection usually commences with fetor of the breath followed by a free flow of saliva, which is very offensive. On examination a hard red, shining swelling is seen upon one cheek, not painful, but very tense. Inside the mouth at a point corresponding to the swelling a large excavated and ragged ulcer is seen covered with a brown slough, from which a putrid discharge oozes. This ulcer is phagedænic in character, it involves the gums, teeth, and destroys tissues. Necrosis of the jaw and perforation of the cheek may occur; deglutition is not generally interfered with.

What are the causes?

It is always secondary, following severe maladies, such as small-pox, scarlet fever, measles, whooping-cough, ulcerative stomatitis, and tuberculosis. It occurs between the ages of two and twelve years. Girls are said to be more susceptible than boys. It is not contagious.

What are the symptoms?

At the onset there are few constitutional symptoms, and the child rarely complains of pain. As the ulcer spreads constitutional depression sets in. The face becomes pale, the pulse frequent, 120 to 150 beats to the minute; the mouth is held partly open, the tongue and teeth are covered with sordes; the breath is fetid, and there is a large flow of offensive saliva of a brownish color streaked with blood. The appetite usually remains good and the bowels are inclined to be loose. Perforation of the cheek may occur at any time between the third and tenth day. The gangrene may invade the lips, the ala of the nose on the affected side, and the cheeks as far as the lower eyelids. The gums and periosteum of the jaws are destroyed, and necrosis of the jaw, and looseness of the teeth occur.

What is the diagnosis?

In cases of noma, where the ulceration precedes the gangrene, it may be mistaken for ulcerative stomatitis although in the former, around the ulcer where the gangrene commences, the tissues are very much thickened and indurated; while the latter begins with a submucous deposit of fibrin attended with little thickening and induration. In ulcerative stomatitis the skin over the affected part is normal in appearance, in noma it is tense and shining.

It may be mistaken for malignant pustule although this disease is rarely found in children. The pustule always begins on the skin, while noma is primarily a disease of the mucous membrane.

What is the prognosis?

Very unfavorable—75 per cent. of the cases die. Death may occur at any time between the third and fourteenth day. If recovery takes place the patient is disfigured by scars, loss of teeth, and probably portions of the maxillary bone.

What is the treatment?

Have the sick room thoroughly ventilated, keep up the general health with nourishing food, stimulants, tonics, etc. Early cauterization should be employed with the hot iron, nitric, sulphuric or muriatic acid. All sloughs should be carefully removed. The gangrenous point should be swabbed with a solution of permanganate or chlorate of potash, carbolic acid or chlorinated lime. Druitt strongly advocates minute doses of chlorate of potassium. The interior of the cheek may be smeared with an ointment of vaseline and iodoform, or oil of eucalyptus. If the child cannot swallow he must be fed through a flexible catheter introduced into the stomach through a nostril or by nutrient enema.

Acute Pharyngitis.

What is the definition?

An acute inflammation of the mucous membrane covering the tonsils, pharynx, and soft palate. It may be primary or secondary.

What are the causes?

The cause of the primary form is usually due to exposure of cold, impaired health, insufficient clothing, bad food, etc. The disease is not contagious.

The secondary form accompanies the eruptive fevers, bronchitis, and pneumonia.

What are the symptoms?

Fever, thirst, loss of appetite. The temperature may rise to 102° or 104° F.; the pulse runs from 130 to 140 beats to the minute; the throat is dry and voice husky, accompanied by pain on swallowing. On examination the tonsils, uvula, and pharynx are found to be red, and may be partially covered with a whitish mucus. The lymphatic glands at the angles of

the jaw are slightly enlarged and tender; the breath is foul, and the tongue heavily coated with a white fur.

What is the diagnosis?

Inspection reveals the presence of inflammation. Care should be taken not to confound the patches of mucus with diphtheritic membrane. The former can be easily wiped away.

What is the treatment?

Mild cases require little treatment. By the use of camphorated oil, externally, and a laxative the inflammation soon subsides. Tincture of aconite may be given for the fever, or the solution of the citrate of potassium; after the fever has subsided the following may be used:—

℞. Tr. Ferri Chlor. ♏xxiv.
Potass. Chlorat. gr. xxiv.
Syr. Zingiber f℥j.
Aquæ q. s. ad f℥iij.—M.

Sig. Teaspoonful every two hours for a child of two years.

The throat should be wrapped with flannel, moistened with equal parts of turpentine and olive oil, and may be painted with a weak solution of nitrate of silver (gr. v to f℥j). If the child be old enough it is well to let him gargle his throat with a weak solution of the chlorate of potassium (x–xv gr. to f℥j). The diet should consist of milk for the first day, and after the fever subsides animal broths, such as beef tea, mutton or chicken broth. When convalescence begins a stronger diet may be allowed and a suitable tonic administered, such as Huxham's tincture, elixir of calisaya, and tincture of nux vomica.

Acute Tonsillitis.

What is the definition?

An acute inflammation of the tonsils, not of frequent occurrence in infancy, rarely occurring before the age of five years.

What are the symptoms?

First, those of a cold with rigors, fever, flushed face, husky voice; the child complains of headache, pain on swallowing; the temperature rises quickly to 100° or even 103° F.; the tongue is furred, the tonsils are swollen and red, and may be covered with small, yellow patches, resembling diphtheritic membrane; the uvula and pharynx are generally swollen, and often œdematous, difficulty of swallowing increases, and there is expectoration of thick mucus; pain is complained of along the course of the Eustachian tube to the ear during the act of swallowing. The inflammation in children usually terminates in resolution or hypertrophy of the tonsils, rather than in actual suppuration as in adults.

What is the diagnosis?

Acute tonsillitis is most likely to be mistaken for diphtheria and scarlatinous angina. From the former it may be told by the more acute and sthenic character of the symptoms; by the slightness of the swelling of the glands at the angles of the jaw, and by the absence of pseudo-membranous exudation. From the latter it may be distinguished by the lower temperature, less frequent pulse, and the absence of the eruption.

What is the treatment?

It is often possible to abort an attack by painting the tonsils with a strong solution of nitrate of silver and administering a brisk purgative. If the child is able to swallow, quinine should be administered; if not, suppositories of the same should be used. The fever may be diminished with the tincture of aconite in drop doses. The throat should be treated with one of the following prescriptions:—

℞. Potass. Chlorat. gr. xxiv.
Tr. Ferri Chlor. ♏xxiv.
Syr. Zingiber. f ℥j.
Aquæ q. s. ad f ℥iij.—M.

Sig. Teaspoonful every two hours for a child of two years.

If the child be old enough to allow local applications to the tonsils, the following will be found very useful :—

℞. Tr. Ferri Chlor. f℥iss.
Glycerinæ f℥j.—M.
Sig. Use locally every two or three hours.

Or,

R. Argent. Nitrat. gr. v.
Aquæ Rosæ f℥j.—M.
Sig. Touch tonsils once or twice daily.

A gargle of chlorate of potassium may be used with advantage, provided the child is able to perform the act properly. Flaxseed poultices must be applied to the neck to encourage suppuration ; the bowels should be kept open. When the abscess has broken, the mouth should be frequently washed with some weak antiseptic solution ; the general health of the patient should be carefully looked after ; the diet consisting of milk guarded with limewater, animal broths free from fat, and stimulants.

Hypertrophy of the Tonsils.

Describe this disease.

It is slow in its development. The disease is rarely recognized before the third or fourth year, although its commencement in early infancy is quite possible.

What are the causes?

Constant attacks of tonsillitis, and the irritation attending dentition.

What are the symptoms?

Loud snoring during sleep, a thick voice, and constant snuffling. On inspection the tonsils are found to be very much enlarged and project. The mucous membrane covering them is usually pale. The follicular orifices are found to be open

and very distinct, and may show the yellowish-white points of retained secretion. In some cases the glands are so large that they meet and obstruct the throat, causing a constant hacking cough with labored breathing, difficulty of hearing due to pressure upon the orifices of the Eustachian tubes.

What is the treatment?

Moderate enlargement will usually disappear when puberty is passed. The syrup of the iodide of iron must be employed in combination with cod-liver oil; the tonsils should be painted once daily with one of the following lotions:—

℞. Tr. Ferri Chlor. f℥j.
Glycerinæ f℥ss.—M.

Sig.

℞. Ammon. Iodid. gr. x–℥ss.
Glycerinæ f℥j.—M.

Sig. Apply every night with brush. (*Waring.*)

℞. Liq. Ferri Perchlorid. f℥ss–℥j.
Glycerinæ f℥j.—M.

Sig. Paint over tonsils once or twice daily. (*Mackenzie.*)

℞. Liq. Iodine Comp. f℥ij.
Glycerinæ q. s. ad f℥j.—M.

Sig. Paint once daily. (*Starr.*)

In marked hypertrophy Dr. Starr employs with good results the solid nitrate of silver every other day. In making this application the caustic should be pointed and passed into the follicles of each gland, and then applied over the whole mucous surface. Should the above method fail excision must be resorted to.

Retro-pharyngeal Abscess.

What is the definition?

A collection of pus formed in the cellular tissue between the posterior wall of the pharynx and the vertebral column.

What are the causes?

Direct injury; disease of the cervical vertebræ; severe chilling of the body; scarlatina, and it very frequently arises idiopathically.

What are the symptoms?

Difficulty of swallowing and breathing; stiffness of the neck; difficult articulation. The dyspnœa is often alarming when the patient is lying down, which is readily eased by rising to a sitting posture. On inspection the swelling can usually be seen occupying the middle of the pharynx pressing forward the uvula and soft palate.

What is the diagnosis?

The presence of the tumor at the back part of the throat, difficulty of breathing and swallowing, stiffness of the neck and fulness at the angles of the jaw.

What is the prognosis?

Usually favorable if early recognized and not complicated with cervical caries.

What is the treatment?

When the seat of the abscess is high up it should be opened with a bistoury, the blade being guarded with adhesive plaster allowing only an eighth or quarter of an inch of the point to protrude. If the abscess is low down it is safer to use a trocar and canula. Light pressure must be made on the tumor with the finger for a few days to aid the evacuation of the pus. The general health should be maintained by suitable tonics and nutritious food.

PART III.

Diseases of the Stomach and Intestines.

Acute Gastric Catarrh.

What is the definition?

An acute catarrhal inflammation of the mucous membrane of the stomach rarely seen in breast-fed infants.

What are the causes?

Dentition, exposure, badly ventilated houses, improper or too much food, and general feebleness of constitution. It may also follow the administration of certain drugs in emetic doses, as antimony, ipecacuanha and sulphate of copper.

What are the symptoms?

The attack comes on in infants usually after a change of diet. In older children after an indigestible meal. The child has a hot dry skin, loss of appetite, sleeplessness, great thirst, if old enough complains of headache and a slight pain in the abdominal region. These symptoms are followed by vomiting of curdled milk or whatever food remaining in the stomach that is imperfectly digested. Should repeated emesis occur, as it frequently does, there may be painful retching and a little bile stained mucus expelled; the breath has a disagreeable, sour odor. The tongue is heavily coated with a yellowish-white fur; there is fever ranging from 100° to 102° F., and the pulse beats from 110 to 120 to the minute. There may be tenderness on pressure in the epigastric region, and the bowels are usually confined. These symptoms may continue from one to two days.

The attack may suddenly terminate with several loose stools, the fever gradually subsiding, the tongue clearing and the appetite returning.

What is the diagnosis?

The history of the causation, the general character and odor of the vomit, the condition of the tongue, slight fever, course of the attack, and epigastric tenderness.

What is the treatment?

The child should be kept perfectly quiet. Relieve thirst by administering small pieces of cracked ice. Do not give any food until the stomach is settled. Should the vomiting be obstinate, apply a weak mustard plaster to the epigastrium just long enough to redden the skin, and give iced limewater every ten or fifteen minutes or the following mixture:—

℞. Liq. Calcis,
Aquæ Cinnamomi āā f℥iss.—M.

Sig. One or two teaspoonfuls, according to the age, every 15 or 20 minutes, as necessary. (*Starr.*)

The subcarbonate of bismuth may be used either in powders or in mixture with a few drops of brandy.

In exceptional cases in older children where there is headache, fever, abdominal pain, and nausea without vomiting, emesis should be induced by draughts of warm water or the syrup of ipecacuanha. When vomiting has entirely disappeared food must be given, at first, in very small quantities, that is, not more than one ounce of milk with a half ounce of lime or barley water. After the stomach is able to tolerate this, weak broths may be given. The bowels should be freely opened by a mercurial, followed by a saline laxative. The diet should be watched carefully for three or four days, and pepsin and bicarbonate of soda powders administered after each meal.

Chronic Gastric Catarrh.

What is the definition?

A chronic catarrhal inflammation of the stomach occurring between the third and seventh month. Breast-fed infants are rarely affected.

What are the causes?

Unsuitable food, over-crowding, filth, too early weaning, insufficient clothing, bad ventilation, unclean milk-cans, foul nursing-bottles and rubber tips, allowing the infant to eat ordinary table food.

What are the symptoms?

Vomiting of curdled milk stained by bile, occurring at irregular intervals. The character of the vomit soon changes and a clear watery fluid with fragments of food is ejected. There may be eructations of sour fetid gas. The temperature is normal, the skin is harsh, and the trunk and arms may be covered with an eruption of strophulus. The lips are red and dry, and the tongue is coated with a heavy fur. The mouth is dry, and the thirst is increased. The bowels are constipated, and the evacuations are accompanied by great straining consisting of small hard lumps, occasionally covered with mucus. At times moderate diarrhœa is present. The abdomen is distended and tender, the child loses flesh, the anterior fontanelle becomes sunken, the face is pinched, and the eyes sunken. The child may remain in this condition for several months with periods of slight improvement. The vomiting now becomes more constant, the milk instead of being curdled is in the same state as swallowed. The body wastes rapidly, and the skin hangs in loose folds about the limbs. The child is fretful and the abdomen becomes retracted. The pulse becomes weak and frequent, and the temperature falls below normal. The breath has a sour odor, the saliva, perspiration, and urine are acid in reaction. The patient lies utterly exhausted in a half conscious condition.

What is the diagnosis?

The long course of the disease, the obstinate vomiting of sour liquid, and the emaciated condition of the body.

What is the prognosis?

Very unfavorable under the best circumstances. The attack may last from two to six months.

What is the treatment?

The first step is a careful regulation of the diet. Milk should be given cold guarded with lime or barley water in teaspoonful doses to be gradually increased as the stomach becomes more retentive. If the child has been weaned it is well to try a return to the breast.

The clothing and hygiene should next be attended to. The patient should wear a flannel binder, and woollen garments next to the skin, extra heavy worsted stockings should be worn to keep the feet warm. The child must be kept in a room of a temperature of 68° or 70° F., and napkins or bedclothing containing vomited matter should be immediately removed. A spice plaster or hot flaxseed poultice should be worn over the abdomen to relieve pain, or the part may be rubbed with turpentine and olive oil, and if the feet become cold they should be well rubbed with the latter and hot bottles kept in contact with them. At the beginning, should the child's strength warrant it, an emetic of ipecacuanha should be given to clear the stomach of its acid contents. To check the vomiting Fowler's solution (Liq. Potass. arsenit.), should be administered one-half drop three times a day for a child three months old. Should this fail, the wine of ipecacuanha, one drop every two or three hours, or the tincture of nux vomica in half drop doses may be given three times a day, or minute doses of calomel.

For the prostration stimulants must be given. Whiskey should be administered every two or three hours in ten or fifteen drop doses.

During convalescence bitter tonics may be employed, such as tincture of nux vomica, elixir of calisaya, etc.

Ulcer of the Stomach.

What is the definition?

An ulcer involving the mucous membrane of the stomach, occasionally occurring in new-born infants, but rarely seen afterward. It may occur either as a single ulcer, with a tendency to perforation as in adults, or as small erosions which cover the surface of the mucous membrane and assume the appearance of lacerated follicles.

What are the causes?

In older children the same as in adults, namely, privation, fatigue, disease of the lung, heart, kidneys or liver and the irritation of food. In new-born infants the circulatory disturbances which ensue somewhat suddenly at birth, the sudden arrest of the placental stream, the slow development of the pulmonary circulation, often associated with partial atelectasis which predisposes to venous congestion in the abdominal viscera and gives much ground to the belief that congestion and probably ecchymosis are at the root of the ulceration.

What are the symptoms?

Vomiting of blood is the most important symptom. Should a healthy child vomit blood within a few hours after birth it may have a gastric ulcer. In older children the symptoms are the same as in adults—pain in the epigastrium, vomiting, etc.

What is the treatment?

In infants the bleeding often proves fatal before any treatment is available. The child may be given cold alum whey and some castor oil, which by opening the bowels may relieve any local plethora that might be present.

In older children the treatment is the same as for adults, and the reader is referred to works on general practice.

Vomiting.

How may vomiting be divided?

Into three classes, namely, the vomiting of nurslings, the vomiting of older children, and reflex vomiting.

Describe the vomiting of nurslings.

It is perfectly physiological, showing that the stomach is full. It usually occurs immediately after nursing, and the milk is unchanged. Should it continue, however, the little patient must be carefully watched, as it may become increasingly frequent, the vomit being more copious and the intervals of ejection shorter, till finally no food is retained.

What is the treatment?

If it be due to undigested food an emetic should be given, consisting of a teaspoonful of the wine of ipecacuanha; the bowels should be opened by the use of calomel (gr. $\frac{1}{2}$), or castor oil, one teaspoonful; a mixture of equal parts lime and cinnamon water may be used; bismuth, bicarbonate of sodium, calomel, etc., will be found useful. The diet should be carefully looked into, as this trouble is usually found in artificially-fed infants.

Describe the vomiting in older children.

This is usually due to indigestion. Sudden vomiting in a child of previous good health should suggest the possibility of an onset of some acute disease—as scarlet fever.

Describe reflex vomiting.

It may be due to meningitis, tumor of the brain, pertussis, chronic lung disease, dentition, and worms.

Describe the vomiting of brain disease.

It is erratic in its occurrence. The tongue is perfectly clean, and there are no gastro-intestinal symptoms; the usual evidences of cerebral disease are present—such as headache,

impaired muscular power, diminished acuteness of vision, and intermittent action of the pulse.

What is the treatment?

Same as for simple vomiting, and treating symptoms as they arise.

Flatulence and Colic.

Describe these disorders.

They are among the most frequent digestive troubles in infancy.

What are the symptoms?

Soon after food is taken the child becomes restless, kicks its legs about and cries; the stomach is rigid, the face pale, and the vomiting of curds may occur. As the meal is digested the pain ceases.

What is the treatment?

Should it be due to indigestible food, the milk must be diluted with an alkali—such as limewater, or bicarbonate of sodium, or by the addition of properly-made barley water. Of the drugs, any of the aromatic waters may be employed. Soda mint in hot water is usually successful in relieving the flatulence. When the pain is very severe twenty or more drops of brandy may be given in hot water, and a linseed meal poultice applied to the abdomen. If the bowels are confined a teaspoonful of castor oil should be administered.

Constipation.

How may constipation be divided?

Into two classes, namely, constipation of infancy, and constipation in older children.

What are the causes of the former class?

Feebleness in the muscular expulsive power of the intestines,

in the material it contains, or both; malformations about the anus—as fissure. It is more frequent among hand-fed babies than those nursed at the breast. It is commonly due to the use of cows' milk containing a large percentage of casein, starchy foods, etc.

What is the treatment?

If the child be nursed at the breast it may be treated through the mother's milk; but this plan is rarely satisfactory. For the child castor oil is an old-time remedy, and really quite efficient for temporary constipation. Should the constipation become chronic small doses of fluid magnesia may be given three or four times daily, or sulphate of magnesium in five grain doses, the bitter taste being properly disguised in a suitable syrup. Manna is a useful drug, and is best administered by dissolving a bit the size of a pea in the nursing-bottle, or it may be given in the following way:—

℞. Mannæ Opt. ʒj.
Syr. Simp. f ʒss.
Aquæ Cinnam. q. s. ad f ʒj.

Sig. Teaspoonful three times a day.

Or,

℞. Tr. Aloes et Myrrh ʒj.

Sig. One to three drops in sweetened water two or three times daily, according to age.

Or,

℞. Mannæ Opt.,
Magnessii Carb. āā ʒj.
Ex. Sennæ fl. f ʒiij.
Syr. Zingiberis f ʒj.
Aquæ q. s. ad f ʒiij.

Sig. One or two teaspoonfuls three times a day for a child of two years. (*Goodhart and Starr.*)

The diet should be carefully regulated, and the lower bowel be encouraged to expel its contents by enema, or suppository

of soap or glycerine. Oat-meal water may be used to dilute the milk instead of the plain at least twice during the day, and friction should be applied to the abdomen night and morning, rubbing in a teaspoonful of warm olive oil.

An enema may be given every morning, or even twice a day if necessary, consisting of soap and water. Glycerine enema is highly recommended, one-half teaspoonful with two teaspoonfuls of water should be given to a child of six months.

At times the constipation is associated with much flatulence and pain, then a teaspoonful of fluid magnesia may be administered with a little sweet spirits of nitre and sulphate of magnesium. If associated with heartburn, which causes the child to cry with pain or make faces and have hiccoughs, the following is used by Dr. Eustace Smith :—

℞. Sodii Bicarb. ʒj.
Tr. Nucis Vomicæ ♏vj.
Tr. Cardamomi Comp.,
Syr. Simp. āā fʒij.
Aquæ Chloroform (Br. P.) fʒss.
Aquæ q. s. ad fʒij.
Sig. One teaspoonful every six hours.

Aloes powdered and dissolved in milk is recommended, also drop doses of fluid extract of cascara sagrada or tincture of podophyllin.

What are the causes of constipation in older children?

Indigestion, improper food, diseases of the stomach and liver, syphilis, malaria, etc. More common in girls than in boys.

What are the symptoms?

The little patients are found to be rather fretful without any definite symptoms of disease; their appetites are capricious, the breath generally very offensive. The abdomen is large and tumid, the distention being marked.

What is the treatment?

Regular habits must be insisted upon. The child should be taken to the closet a certain hour each day. The juice of an orange or an alkaline water must be given before breakfast, or stewed prunes, and figs, as a dessert. Should these simple remedies fail to relieve the trouble, one of the following prescriptions will be found useful:—

℞. Ex. Belladonnæ gr. ¼.
Pil. Aloës et Myrrh. gr. ix.
Ol. Cari gtt. ij.
M. et ft. pil. No. vi.
Sig. One pill at bedtime for a child of six years. (*Goodhart and Starr.*)

℞. Ex. Cascaræ Sagrad. Fl. f℥j.
Sig. Three drops three times a day, to be increased as necessary for a child of five years.

℞. Pulv. Glycyrrhizæ Comp. ℥j.
Sig. Coffeespoonful at bedtime for a child of six or seven.

℞. Tr. Aloes et Myrrh. f℥iij.
Syr. Zingiber. f℥ss.
Aquæ q. s. ad f℥ij.—M.
Sig. Teaspoonful two or three times daily for a child of six years.

℞. Ex. Belladonnæ gr. j.
Glycerinæ f℥j.
Vini Ferri Amar. q. s. ad f℥iij.—M.
Sig. Teaspoonful three times a day at the age of six years.
(*Goodhart and Starr.*)

Cheadle's formula of twenty to forty grains each of the sulphate of soda and sulphate of magnesia is highly indorsed.

Constipation associated with sickness should always be carefully investigated, and the possible existence of intussusception, peritonitis, and brain disease should be remembered.

When constipation is obstinate from birth, the rectum should be carefully examined. Constipation in young children is not unfrequently associated with small fissures about the anus,

causing severe pain during the act of defecation, and in some cases the pain is so intense that the sphincter contracts tightly and prevents any expulsive effort. The treatment in such cases would be to keep the bowels slightly relaxed, to prevent any stretching of the parts, to keep the fissure and lower inch of the rectum well anointed with the following ointment:—

℞. Ungt. Plumbi Carbonat. ʒj.
Ungt. Hydrarg.,
Ungt. Zinci Oxidi āā ʒij.—M.

Sig. Apply two or three times a day.

If a dry dressing is preferred, equal parts of lycopodium and calomel, or oxide of zinc and calomel may be dusted over the part.

In some cases it may be necessary to paint it with nitrate of silver, or even stretch it forcibly with the fingers, which is usually successful.

Simple Diarrhœa.

What are the synonyms?

Muco-enteritis, catarrhal enteritis.

What is the definition?

Frequent evacuations from the bowels of a thin watery character without tenesmus.

What are the causes?

Unfavorable hygienic conditions, impure milk, summer heat in a crowded city, dentition, improper food, and overfeeding.

What are the symptoms?

The onset may come on with vomiting and purging or with apparently little disturbance of the general health. There is pallor, slight fretfulness, restlessness, and usually a rise in temperature. The mouth is generally dry and the child thirsty; the tongue will be found much redder than natural, and the

papillæ prominent. The motions are of a liquid consistency, and usually green or a yellowish color with a very offensive odor.

What is the treatment?

Careful attention should be given to the diet, and at the beginning of an attack it is well to use a gentle laxative as castor-oil to clear out the intestinal canal before the administration of astringents, then one of the following prescriptions will be found useful:—

℞. Bismuth Subcarb. ʒss–ʒiss.
Spt. Myristicæ ♏xx.
Spt. Vini Gal. fʒiss ʒiij.
Syr. Acaciæ fʒiss.
Aquæ Cinnam. q. s. ad fʒiij.—M.

Sig. (Shake well.) Teaspoonful every two hours.

Or,

℞. Magnesiæ Sulphat. ʒj.
Tr. Opii Deodorat. gtt. xij.
Syr. Simp. fʒss.
Aquæ Cinnam. q. s. ad fʒiss.—M.

Sig. Teaspoonful every two hours for a child of one or two years.
(*Meigs and Pepper.*)

Or,

℞. Tr. Opii Deod. ♏vj.
Bismuth Subcarb. gr. lxxij.
Syr. Acaciæ fʒss.
Mist. Cretæ q. s. ad fʒiij.—M.

Sig. Teaspoonful every two hours.

Should the stools remain green and slimy a course of minute doses of calomel will be useful.

℞. Hydrarg. Chlor. Mit. gr. j.
Sacch. Lact. gr. xij.
Pulv. Aromat. gr. vj.
M. et ft. chart. No. xii.

Sig. One powder every two hours.

Entero-colitis.

What are the synonyms?

Febrile diarrhœa, summer diarrhœa, "summer complaint," inflammatory diarrhœa.

What is the definition?

A catarrhal inflammation of the lower portion of the small intestines and the upper portion of the large, characterized by diarrhœa, nausea, vomiting, pain, swelling of the abdomen, and emaciation.

What are the causes?

Residence in large cities, bad hygienic surroundings, overcrowding, decomposing organic matter, high temperature. The disease is very rare in winter; usually begins about the first of June, and disappears in the early part of September. Hand-fed babies are more prone to it. Impure food, sour milk, farinaceous preparations in excess, over-ripe fruit, etc. It usually occurs between the sixth and eighteenth months of life, after the second year the attacks are less common.

What are the anatomical lesions?

There is hyperæmia of the mucous membrane of the ileum and colon, probably more marked about the ileo-cæcal valve and in the sigmoid flexure. The intestinal glands are enlarged, and the Peyer's patches tumid, elevated, and punctured. The peritoneum over the inflamed glands is injected, and the mesenteric glands are enlarged. The stomach may at times be normal, or the seat of catarrh, the mucous membrane being thickened and inflamed.

If the disease assumes a chronic form, the glands break down and superficial oval ulcers are formed.

What are the symptoms?

The attack is generally preceded by disturbed sleep, restless-

ness, eructations of a sour-smelling liquid, which in some cases is very offensive, an increase in the number of stools, with a decrease of their consistency.

In one or two days diarrhœa and vomiting begin; the latter is very obstinate, and the ejections consisting of sour, undigested food.

Describe the stools.

They may average from six to twenty or even more in the twenty-four hours. They may be semi-solid, of a yellowish color, with a fecal odor; or liquid, green in color, acid in reaction; or they may contain quantities of mucus and blood; or towards the end be almost serous and very offensive.

What other symptoms should be looked for?

The tongue is dry and coated, red at the tip and edges, appetite poor, increased thirst, and distention of the abdomen. The skin is hot and dry. The pulse is weak and may run up to 120 or even 140 to the minute. The urine is high colored, scanty, and passed at long intervals.

As the disease progresses the face becomes pale, the eyes are sunken and dull, the fontanelle is depressed, there is great emaciation. The buttocks and inner surface of the thighs become reddened from the acid stools and concentrated urine.

What is the diagnosis?

The fever, vomiting, the number and appearance of the stools, the age of the child, the season of the year, the locality and general surroundings make the diagnosis of entero-colitis quite easy.

What is the prognosis?

The outlook is usually bad, although a large proportion of cases recover under proper treatment. It is much more fatal among the children of the poor who are unable to have a proper plan of treatment carried out. The disease may prove fatal in a few days.

What is the treatment?

First remove the cause. The child should be taken to the country or sea-coast at once; if this is impracticable it should be kept in public squares where there is a free circulation of air. The heat of the day must be passed in some cool spot. The child should be allowed to lie in a clean cool bed and not fondled too much.

The clothing should be as thin as possible, but it must not be forgotten that flannel should always be worn next to the skin. In the beginning of the attack the body must be carefully sponged with water at 80° F., and gently dried. The diet must be carefully regulated, the quantity as well as the quality. Cracked ice may be given, and where water is used it should always be filtered or boiled. Should the child be hand-fed great stress should be laid upon the care of the milk, the nursing-bottles and tips.

If vomiting occurs all food must be discontinued for at least twelve hours, and the thirst quenched by the use of thin barley gruel, Vichy water, etc., always given cold. In bottle-fed children it is well to stop the use of milk entirely and give chicken or mutton broth (free from fat), wine whey, beef juice (expressed from a rump steak). Mellin's food with barley gruel or raw scraped beef.

The first step in the medical treatment is to empty the bowels, and for this purpose there is nothing better than plain castor oil or the following emulsion of the same:—

℞. Emul. Ricini, 50 % f℥j.
Sig. Teaspoonful for a child of one year.

Should the stomach reject this, an enema may be substituted. This should consist of water that has been previously boiled and when used the temperature must be 65° or 70° F., about one pint for a child of six months, and double the quantity for a child of two years. The injection is best given slowly with a fountain syringe.

To abort decomposition and restore a healthy action to the intestines, calomel, salicylate of sodium or naphthalin may be given.

℞. Hydrarg. Chlor. Mit. gr. j.
Bismuth Subnit. gr. xxxvi–ʒj.
M. et ft. chart. No. xii.
Sig. One powder every two hours.

℞. Sodii Salicylat. gr. xxiv–lxxij.
Aquæ Cinnam. fʒiij.—M.
Sig. Teaspoonful every two hours.

℞. Naphthalin gr. xii–ʒj.
Sacch. Lact. gr. xii–ʒss.
M. et ft. chart. No. xii.
Sig. One powder every three hours.

The bichloride of mercury may be given in doses of $\frac{1}{150}$ to $\frac{1}{100}$ of a grain, but it usually causes vomiting even in these minute doses. The following will be found a very valuable formula.

℞. Bismuth Salicylat. gr. xxiv–lxxij.
Syr. Acaciæ fʒj.
Aquæ Cinnam. q. s. ad fʒiij.—M.
Sig. Teaspoonful every three hours.

Counter-irritation over the abdomen is useful either by the use of weak mustard or the ordinary spice plasters.

Alcohol should be used when indicated to support the system, and during convalescence tonics are required, such as the elixir of calisaya, etc.

Cholera Infantum.

What is the synonym?

"Summer complaint."

What is the definition?

An acute catarrhal inflammation of the mucous membrane

of the stomach and intestines, occurring usually during the first dentition; characterized by severe vomiting and purging, colicky pains, and prostration.

What are the causes?

The same as entero-colitis. It may occur at any age under two years, but is most frequent between the sixth and the twelfth months.

What are the anatomical lesions?

The gastro-intestinal mucous membrane is very much congested, thickened and softened, and the glands are enlarged. The sympathetic system is much disturbed.

What are the symptoms?

The onset is always sudden; the first symptom is the appearance of large watery evacuations which are often so serous that they do not stain the napkin, or they may be of a greenish-yellow or a dirty brown fluid. The first mentioned are usually odorless, but the others have an offensive smell which is not easily forgotten. The number of motions vary from ten to thirty in the twenty-four hours.

Next, the stomach becomes irritable, everything is vomited immediately after being taken, and there is severe retching; the appetite is lost, the thirst intense, the tongue dry and pasty, the abdomen flabby. There is much restlessness, and the temperature may reach 105°, or even 108° F.; the pulse is weak, the breathing irregular, urine almost suppressed; in a few hours the face becomes pale, the eyes are dull and sunken, and the lips parted; the fat of the body seems to melt away, the muscles become flabby, the skin is dry and hangs in loose folds. Next, there is rapid collapse, cold breath, uncountable pulse, irregular breathing, suppression of urine, and at last death.

The attack often proves fatal in from twenty-four to forty-eight hours.

What is the diagnosis?

The character and odor of the stools, the frequent vomiting, intense thirst, high temperature, rapid emaciation, collapse, irregular breathing, etc. This disease is said to resemble sunstroke.

What is the prognosis?

Very unfavorable. The child should be removed to the country or seashore at once, as this offers about the only chance for recovery.

What is the treatment?

Owing to the great strain upon the system from frequent evacuations and vomiting, food should be given to replace the waste.

The first indications for medical treatment should be to arrest the vomiting and purging, for which the following may be given:—

℞. Bismuth Subnit. ʒss–ʒiss.
Spt. Myristicæ ♏xx.
Spt. Vini Gal. fʒiij.
Syr. Acaciæ ʒiss.
Aquæ Cinnam. q. s. ad fʒiij.—M.

Sig. Teaspoonful every two hours.

If this fails, broken doses of calomel with a few grains of subnitrate of bismuth will be found useful.

℞. Hydrarg. Chlor. Mit. gr. ½.
Bismuth Subnit. gr. xxxvj.
M. et ft. chart. No. xii.

Sig. One powder every hour or two.

Or,

℞. Liq. Calcis,
Aquæ Cinnam. āā ʒj.—M.

Sig. Teaspoonful when required.

The child should be allowed to suck ice constantly, and

drink cool, filtered water. To check the purging astringents and opium should be used. Sulphuric acid is often of value.

℞. Acid. Sulphuric. Aromat. ♏xxiv.
Liq. Morphiæ Sulphat. f℥j.
Elix. Curacoæ f℥ij.
Aquæ q. s. ad f℥iij.—M.
Sig. Teaspoonful every three hours for a child one year old.
(*Goodhart and Starr.*)

An enema of two or three drops of laudanum suspended in starch-water may be given every third hour.

Monti highly indorses intestinal irrigation by means of copious enemata of from one to three pints of warm or cool water, allowed to flow from an ordinary fountain syringe into the bowel. Mustard plasters should be applied to the abdomen several times in the twenty-four hours, or a spice plaster, or flax-meal poultice constantly worn, renewing every two hours. The body should be sponged night and morning with tepid water. The child must be kept in a large well-ventilated room, and on a cool, clean bed, if possible, and not held in the lap; the clothing and diapers should be kept clean, and the clothes thoroughly aired before putting on.

Stimulants should be given at the start; from five to twenty drops of good rye whiskey should be given every two hours in a little limewater or Vichy.

In the state of collapse the bodily temperature must be kept up by the use of hot bottles, flannels, etc. In this stage a mustard bath will be found valuable.

Chronic Diarrhœa.

What are the synonyms?

Chronic intestinal catarrh; chronic entero-colitis.

What are the causes?

Neglect among children of the poor, filth, series of attacks of

simple diarrhœa, lack of cleanliness. Usually occurs in infants from six to twenty-four months, and frequently in older children. In children of the well-to-do it generally results from improper feeding.

What are the symptoms?

The stools at first may be abundant although their character is not abnormal; then they may gradually become pale in color and thinner in consistency; the child loses flesh; the stools become lumpy, with at first a small quantity of mucus; in the later stages they are more frequent, and the amount of mucus is increased; their color may be of a dirty brown water containing green particles, which is commonly known as the *spinach stool.* The child continues to waste rapidly; the skin is dark and dry, hanging in folds upon the frame; the face is wrinkled, and much resembles that of an old man; the cry is weak, the tongue red and dry, and the abdomen usually distended. If the diarrhœa is not checked, the child gradually becomes more feeble, and sinks into a semi-comatose state; the temperature falls below normal, the extremities become cold, and the child may succumb to exhaustion, or probably convulsions.

What is the morbid anatomy?

The coats of the stomach and intestines are atrophied, pale and thin. The mucous membrane of the lower part of the small intestine is covered with black specks which are due to altered blood pigment deposited round the ulceration of the solitary glands and follicles. There may be more or less superficial erosion of the mucous membrane, and the mesenteric glands are swollen.

What is the diagnosis?

Chronic diarrhœa is liable to be mistaken for tuberculosis of the intestines. If it begins soon after birth and there be a history of bad feeding, exposure, neglect, with no constant

elevation of temperature, the affection is probably chronic diarrhœa.

Tuberculous diarrhœa usually occurs after the third year, it is attended by pyrexia and enlarged mesenteric glands. There is tenderness on pressure in the right iliac fossa, and the abdominal wall is tense over this region. The evacuations are intensely fetid, brown and liquid when voided, but if left standing a dark sediment settles, composed of flocculent matter with small clots of blood and masses of mucus and pus.

What is the prognosis?

Grave, in children under the age of two years, and when it occurs in syphilitic, rachitic, or feeble children.

What is the treatment?

The hygienic surroundings should be carefully attended to and the child kept perfectly clean. The diet should be liquid and carefully regulated. The following prescription will be found useful for a child of ten years:—

℞. Ferri Sulphat. gr. viij.
Magnesii Sulphat. ʒj.
Acid. Sulphur. dil. f ʒij.
Syr. Zingiber. f ʒss.
Aquæ Cari q. s. ad f ʒiv.—M.

Sig. Teaspoonful in water three times a day. (*Goodhart and Starr.*)

In older children prolapsus ani often occurs; this should be relieved by strapping the buttocks together or using an enema of sulphate of iron (ʒj Oss), a third part to be used every morning.

Any of the following prescriptions will be found useful:—

℞. Tr. Krameriæ,
Tr. Opii Camph. āā ʒij.
Mist. Cretæ q. s. ad f ʒij.—M.

Sig. Teaspoonful every two hours for a child of two years.

℞. Acid. Sulphuric. dil. f℥j–℥iss.
Liq. Morphiæ Sulphat. f℥ij–℥iiss.
Spt. Vini Gallici f℥iij–℥v.
Syr. Zingiber. fℨss.
Aquæ q. s. ad fℨiij.—M.

Sig. Teaspoonful three or four times a day for a child of two or three years.

℞. Acid. Gallici gr. x.
Vini Opii ♏v.
Alcohol f℥iss.
Aquæ Chloroform q. s. ad fℨiss.—M.

Sig. Teaspoonful three times a day.

Nitrate of silver is valuable when the diarrhœa is very obstinate and if aphthæ appear in the mouth, the following is a very useful formula:—

℞. Argenti Nitratis gr. j.
Syr. Acaciæ ℨij.
Aquæ Cinnam. q. s. ad fℨiij.—M.

Sig. Teaspoonful every two hours for a child of two years.

Stimulants should be given to relieve the prostration, whiskey being the best in doses of about ten drops every two hours. Astringent enemata may be used. Nitrate of silver, one grain to five ounces of water is highly recommended by Trousseau, but Goodhart and Starr prefer equal parts of an infusion of ipecacuanha and decoction of starch.

When improvement sets in, strong tonics must be employed to build up the strength.

Dysentery.

What are the synonyms?

Bloody flux. Ulcerative colitis.

What is the definition?

An acute inflammation of the mucous membrane of the

large intestines, characterized by fever, tenesmus, and frequent stools composed largely of mucus and blood.

What are the causes?

Excessive heat, exposure to cold, and bad food. There are two forms, namely the sporadic and epidemic. The epidemic form is said to be both infectious and contagious. The disease is more common in boys than in girls, and usually occurs in the second or third years of life.

What are the symptoms?

The attack is ushered in with nausea, vomiting, fever, and acute abdominal pain. The stools are numerous and small in quantity, ranging from four to forty in the twenty-four hours, and are voided with much straining and discomfort. At first they contain fecal matter, but as the disease progresses they are composed entirely of mucus and blood mixed in a dirty yellowish fluid most offensive to the odor. There is restlessness, sleeplessness, and rapid emaciation. The tongue is red and dry, covered in the centre with a dark coating. There is fever and intense thirst. The abdomen is much distended and painful on pressure over the region of the colon.

As the attack progresses tenesmus occurs without the passage of stools, and often causes prolapse of the rectum. The fever is replaced by a coolness of the surface. The face becomes pinched, the cheeks sunken, and death may either take place from exhaustion or be preceded by slight convulsions.

In grave cases the attack lasts from one to three days; in favorable cases about two weeks.

What is the diagnosis?

High fever, tenesmus, tenderness of the abdomen, and the number and character of the stools.

What is the prognosis?

Favorable in the sporadic form and when there is only a

slight elevation of temperature and a few stools. On the other hand, if the fever be high, and frequent evacuations containing much mucus and blood, great tenesmus; when there is a tendency to collapse, the prognosis is grave.

What is the treatment?

The child must be put to bed in a well-ventilated room, and given only liquid diet. Small pieces of ice may be allowed to be sucked to relieve the intense thirst; the abdomen should be kept covered with a flax-meal or mush poultice, changed every two hours.

If the patient is seen early it is well to clean out the intestines by small doses of castor oil with laudanum (fifteen drops of castor oil with one drop of laudanum, every two or three hours, for a child of three years). After this has been given for twenty-four hours any of the following formulæ will be found useful:—

℞. Pulv. Ipecac. Comp. gr. vj.
Bismuth. Subcarb. ʒj.
Pulv. Aromat. gr. vj.
M. et ft. chart. No. xii.
Sig. One powder every three hours. (*Starr.*)

This should be followed by an enema of laudanum—gtt. iij to ʒss of tepid water every four hours. If this should fail use the following:—

℞. Pulv. Opii gr. ss.
Plumbi Acetat. gr. j.
Ol. Theobromæ ʒj.
M. et ft. sulph. No. vi.
Sig. Use one every four to six hours.

℞. Liq. Ferri Pernitrat.,
Acid. Nitric. dil. āā ʒss.
Syr. Simp. fʒj.
Aquæ Cinnam. q. s. ad fʒiij.—M.
Sig. Teaspoonful every three hours. (*Ellis.*)

Should the above fail, nitrate of silver in doses from $\frac{1}{24}$ to $\frac{1}{16}$ of a grain should be suspended in syrup of acacia, and given every three or four hours.

Stimulants should be employed from the beginning of the attack. When convalescence is reached the diet should still be guarded and the general health kept up with tonics, such as quinine, tincture of nux vomica, etc.

Intussusception.

What is the synonym?

Invagination.

What is the definition?

When one piece of intestine passes into a piece immediately continuous with it, the intussusception being the tumor so formed.

The most common form is when the ileo-cæcal valve and the lower part of the ileum are received into the colon, and the tumor is made up by the colon externally (ensheathing layer), the ileo-cæcal valve and cæcum within this (returning layer), and the lower part of the ileum, internally (entering layer).

What are the symptoms?

Vomiting; expulsion of blood and mucus per anum; the presence of an elongated doughy tumor in the region over the colon; or a polypoid mass of mucous membrane protruding from the anus; pain, sudden collapse, etc. It is important to remember that unless the intussusception be strangulated it may be obscured by symptoms of catarrhal enteritis.

What are the symptoms of strangulation?

A cry of pain, obstinate vomiting, fecal retention, passage of blood with mucus, and even before these symptoms there is an aspect of severe illness, which comes on suddenly, which should be carefully noted as suggestive of serious trouble,

where other more distinctive features are yet in abeyance. Vomiting being so common an affection of infancy is liable to pass without much attention, but when it is accompanied by restlessness and abdominal pain, and the quick onset of extreme pallor, it should always call attention. Death from intussusception may ensue, with no other symptoms than these, within twenty-four or thirty-six hours.

What is the course and duration?

In infants under two years it is almost invariably fatal in a few days, but in older children a spontaneous cure by the sloughing of the invaginated mass may be hoped for.

What is the prognosis?

When acute in very young children the treatment is usually unsuccessful, and the child dies. In older children it is more favorable.

What is the treatment?

The invaginated portion of an acute intussusception must be returned. The deodorized tincture of opium may be given in drop doses as may be required to quiet the action of the bowel; the abdomen should be covered with a mush poultice, constantly changed as it becomes cold, and small doses of belladonna and hydrocyanic acid may also be found of service.

If the symptoms are not relieved, reduction must be attempted without delay by manipulation, inflation, or by a forced enema of water or oil, when an anæsthetic must be given.

How should manipulation be performed?

The legs should be flexed so as to relax the abdominal muscles, then the tumor must be grasped between the fingers and gently squeezed. In this way it may be partially reduced, but complete reduction is rarely effected.

How should inflation be performed?

Attach to a bellows a stout piece of flexible rubber tubing, with a vaginal end which should be carefully inserted into the rectum. The buttocks must be held tightly around it, and air is then pumped into the colon, at the same time the abdomen being manipulated by an assistant. Although there are now many cases that have been treated by this method successfully, distention by water is to be preferred.

How should forced injections be performed?

An ordinary enema apparatus may be employed, and as much tepid water should be thrown into the bowels as possible. The water used should be first boiled and then allowed to cool to a temperature of about 100° F. Dr. Goodhart states that by this method he has been able to reduce an intussusception that was well down into the rectum.

When should laparotomy be performed?

After all the above measures have failed. This operation is usually fatal in children under the age of six years, but as a last resort should always be tried. Early operation gives the best security against finding the intussusception irreducible.

Worms.

How many varieties of worms infest the alimentary canal of children?

Four.

Name them?

The oxyuris vermicularis, the ascaris lumbricoides, the tænia mediocanellata, and the tænia solium.

Where does the oxyuris vermicularis inhabit?

The colon.

Describe it.

It is a whitish worm, the female is a quarter to a half inch

in length, the male being smaller with a marked curve at its blunted tail.

Describe the eggs.

They are oval, with a flattened surface, and usually contain a formed embyro.

How are they introduced into the system?

By the mouth to the stomach when they are hatched and pass onward to the large intestines.

Describe the ascaris lumbricoides.

It is round resembling the common garden worm. The male measures from four to six inches in length, and the female ten or twelve inches.

Describe the eggs.

They are oval in shape, are $\frac{1}{340}$ inch in length having a nodulated shell.

Where do they inhabit?

The small intestines in numbers varying from three to five.

How are they introduced into the system?

They are taken into the stomach by means of unfiltered water and unwashed food.

Describe the tænia solium and tænia mediocanellata.

The tænia solium is from four to twenty feet in length, its head is globular in shape and its slender neck connects its numerous flat segments or joints. The head measures about $\frac{1}{40}$ of an inch and is armed with two circles of hooks, and is also provided with from two to four suckers. The joints are flat, varying from one-eighth to one-half an inch in length, they each contain male and female sexual organs. The ova measures $\frac{1}{1700}$ of an inch in diameter. A tape worm is supposed to contain about five million ova.

The tænia mediocanellata varies from ten to thirty feet in length. The head is oval in shape, has four strong suckers,

but no hooks, and measures about $\frac{1}{10}$ of an inch. The neck is short and thick, and the segments are much thicker and stronger than those of the tænia solium.

What are the symptoms caused by the oxyuris vermicularis?

Intense itching about the anus, frequent desire to stool, the latter containing much mucus, caused by the irritation of the seat worms.

What are the symptoms caused by the ascaris lumbricoides?

Often no characteristic symptoms are present other than gastric and intestinal irritation, such as foulness of the breath, grinding of the teeth during sleep, diarrhœa, nausea and vomiting, picking the nose, etc.

What are the symptoms caused by the tænia solium and tænia mediocanellata?

They frequently produce no symptoms, although in some cases the child is restless and complains of colicky pains, pruritus of the anus and nose. The bowels are usually confined, the appetite is inordinate, indigestion, emaciation, and cardiac palpitation.

What is the treatment for the oxyuris vermicularis?

The lower bowel should first be cleaned by an enema of warm water and soap, then an injection of the infusion of quassia (Oj), to which may be added ferri sulphat. ʒj, a third part to be injected on alternate mornings. Simple salt and water, limewater, or alum and water (ʒj to Oj) may also be employed. While the injections are being used any one of the following may be employed with good results:—

℞. Santonini gr. j–ij.
Hydrarg. Chlor. Mit. gr. j–iij.
Pulv. Aromat. gr. iv.
M. et ft. chart. No. iv.

Sig. One at bedtime to be followed by a dose of castor oil in the morning.

Or,

℞. Hydrarg. Chlor. Mit. gr. j.
Resinæ Jalapæ gr. ij.
Pulv. Scammonii gr. v.
M. et ft. chart. No. i.

Sig. To be taken at bedtime for a child of six years.

(*Goodhart and Starr.*)

What is the treatment for the ascaris lumbricoides?

Santonin is considered the best. It may be given in a powder with calomel as recommended for seat worms, or the officinal santonin chocolates may be used. The dose should be from one-quarter to one grain three times a day, and after it has been given from one to two days it must be followed by a purgative such as castor oil, or one grain of jalap resin in milk. The fluid extract of spigelia and senna will be found useful and convenient as no purgative is required to follow its administration. Any of the following formulæ will be found useful:—

℞. Ol. Chenopodii f℥iiss.
Ol. Ricini f℥v.
Olei Menthæ Pip. ♏vj.
Syr. Acaciæ q. s. ad f℥iij.—M.

Sig. Teaspoonful three times a day for a child of three years.

℞. Ol. Chenopodii f℥j.
Ol. Terebinth. f℥ij.
Emul. Ol. Ricini 50 % q. s. ad f℥ij.—M.

Sig. Teaspoonful twice daily.

What is the treatment for the tænia solium and the tænia mediocanellata?

The oil of male fern is one of the best remedies for children, half teaspoonful may be given to a child of six years, the following makes a very effectual remedy:—

℞. Ol. Filicis Maris f℥iij.
Ol. Chenopodii f℥j.
Ol. Terebinth. f℥ij.
Emul. Ol. Ricini 50 % q. s. ad f℥ij.—M.

Sig. Teaspoonful twice a day

A decoction of pomegranate-root bark may be found useful in doses from one to two tablespoonfuls. Powdered kamala may be used, given with a little syrup, or the tincture may be employed.

℞. Tr. Kamalæ f℥ss.
Syr. Zingiber. f℥j.
Syr. Acaciæ f℥ss.—M.

Sig. Take at one dose at bedtime, followed by a purge in the morning.

Tanret's pelletierine is a most valuable remedy. It is dispensed in bottles containing the proper dose for an adult, for children from nine to twelve years half the adult dose is given.

In using the remedies mentioned the administration of a purgative for one or two days, and a light liquid diet should precede their use.

PART IV.

Diseases of the Liver.

Icterus Neonatorum.

What is the definition?

A jaundice occurring within a few days of birth, and disappearing usually within a week.

What are the causes?

It occurs commonly in infants prematurely born with feeble constitutions, and is dependent on defective respiration and impaired performance of the functions of the skin.

What is the treatment?

Nothing is required beyond keeping the bowels open and the child warm.

Jaundice.

What is the definition?

An acute catarrhal inflammation of the mucous membrane of the bile ducts and of the duodenum.

What are the causes?

Supposed to be due to catarrh of the bile ducts and duodenal catarrh.

What are the symptoms?

Yellow discoloration of the skin, itching, yellowness of the conjunctivæ, dark-colored urine, and clay-colored stools devoid of fecal odor. The other symptoms are headache, vomiting, a yellow furred tongue, indigestion, disturbed sleep, slowness of the pulse, and a decrease of the surface temperature.

What is the diagnosis?

Cannot be mistaken for any other disease when the discoloration of the skin appears.

What is the treatment?

The child should receive a sponge bath daily, followed by a gentle friction to promote the activity of the skin; moderate doses of calomel should be given, followed by some mild laxative, such as licorice powder, syrup of rhubarb, fluid magnesia, or the compound decoction of aloes. The duodenal catarrh is best relieved by alkalies. Kissengen or Vichy water should be drunk with each meal, and the following mixture administered:—

℞. Ammon. Chlor. ʒiss.
Elix. Simp. fʒiij.—M.

Sig. Teaspoonful in water three times a day after eating for a child of five years.

Cirrhosis of the Liver.

What are the synonyms?

Interstitial hepatitis; hob-nailed liver.

What is the definition?

An inflammation of the connective tissue of the liver, resulting in an induration of the organ and atrophy of the secreting cells; characterized by slight jaundice, gastro-intestinal catarrh, emaciation, and ascites.

What are the causes?

Alcoholic excess, the chief cause in adults, is of course out of the question in children, except in very rare cases. Some authorities believe it is caused by intemperate parents. Congenital deficiency of the bile-duct is always accompanied by cirrhosis. Constitutional syphilis and general tuberculosis often precede it. It is more frequent in boys than in girls, and is usually met with between the sixth and twelfth years of life.

What is the morbid anatomy?

There are two forms, atrophic and hypertrophic. The liver is granular and fibrous throughout and may be extensively scarred. The histological changes are those mostly attending the more chronic forms of the disease—that is to say, more fibrous than cellular. The earlier stages of enlargement of the viscus and new growth of cell elements have been described as in adults, and no doubt occur, but are likely to escape notice until the onset of ascites.

What are the symptoms of the atrophic forms?

In atrophic cirrhosis the child is fretful and sleeps badly at night. The bowels are constipated, the complexion is pale with dark circles under the eyes. The muscles grow flabby, the urine is filled with lithates, or is acid in reaction and deposits a sediment of uric acid. After these symptoms have been present for some time, ascites and pain in the region of the liver are developed. The ascites causes a prominence in the abdomen with a marked dilatation of the superficial abdominal veins. The liver and spleen are enlarged; the former soon begins to decrease in size, but the latter continues to increase in size. The patient now becomes weaker and the ascites is more marked; the feet and legs are œdematous, the skin is sallow, tongue coated, and appetite almost lost. The bowels may be confined or relaxed; there is much abdominal pain; hemorrhages may occur from the stomach, bowels, and nose.

Severe diarrhœa, general dropsy, or hemorrhages are usually fatal signs.

What are the symptoms of the hypertrophic form?

The skin, conjunctivæ, and urine are stained by bile, and the stools are clay-colored. The liver and spleen are both enlarged, but there is no distention of the abdominal veins or ascites. The jaundice and enlargement of the liver may increase rapidly; then a moderate fever is present, with intense pain in

the right hypochondrium. As the end approaches the pulse becomes weak and irregular; the tongue is dry and brown; there is rapid wasting; bleeding from the gums, stupor, and at last convulsions.

What is the diagnosis of the atrophic form?

Diminution in the area of liver dulness; enlargement of the spleen; ascites; dilatation of the abdominal veins; a dry sallow skin; gastro-intestinal hemorrhages unaccompanied by fever in a child who has a history of prolonged ill-health.

What is the diagnosis of the hypertrophic form?

Marked enlargement of the liver and spleen, but no ascites; fever, jaundice; pain over the hepatic region. Following these symptoms are malignant jaundice, rapid wasting, the typhoid state, coma and convulsions.

What is the prognosis?

Always unfavorable.

What is the treatment?

Symptoms should be treated as they arise. The imperfect digestion should be corrected with the following:—

℞. Pepsinæ Pulv. gr. xxiv.
Sodii Bicarb. gr. xxxvj.
Pulv. Aromat. gr. xij.
M. et ft. chart. No. xii.
Sig. One powder three times a day after eating.

When the hepatic trouble manifests itself alkalies and tonics are indicated, any of the following will be found useful:—

℞. Sodii Bicarb. ℥ij.
Tr. Nucis Vom. ♏xviij.
Infus. Calumbæ q. s. ad f℥iij.—M.
Sig. Two teaspoonfuls three times daily for a child of ten years.
(*Starr.*)

Or,

℞. Quiniæ Sulphat. gr. viij.
Tr. Ferri Chlor. f℥ss.
Syr. Limonis f℥ij.
Aquæ q. s. ad f℥ij.—M.

Sig. Teaspoonful three times a day.

Or,

℞. Tr. Nucis Vomicæ ♏xij–xxiv.
Elix. Calisayæ q. s. ad f℥iij.—M.

Sig. Teaspoonful three times a day diluted.

The constipation may be relieved by the use of some laxative, as citrate of magnesia—one or two wineglassfuls before breakfast. The diarrhœa should be controlled by the following bismuth mixture:—

℞. Bismuth Subcarb. ℥iss.
Spt. Myristicæ ♏xij.
Spt. Vini Gal. f℥ss.
Syr. Acaciæ ℥j.
Aquæ Cinnam. q. s. ad f℥iij.—M.

Sig. Teaspoonful every two or three hours as required.

The hemorrhages should be treated by gallic acid, Monsell's solution, or aromatic sulphuric acid.

The child should be kept on a diet of milk, eggs, meat broths, etc.

A warm bath may be given daily, followed by gentle rubbing with a moderately coarse towel to keep the skin active.

Should the ascites impede the action of the diaphragm, paracentesis should immediately be performed.

Syphilitic Hepatitis.

What is the morbid anatomy?

The liver is the seat of acute swelling, without showing much change to the naked eye, associated with a diffused

growth of connective tissue throughout the organ, either scattered or gathered into miliary gummata. When jaundice occurs, the bile-ducts are thickened and occluded by epithelial cells, and the organ is brownish-yellow in color and enlarged.

What are the symptoms?

In mild cases they are obscure; in the grave there are jaundice, ascites, ecchymosis of the skin, subnormal temperature, hemorrhage from umbilicus and intestines, emaciation. On palpation the liver and spleen are found to be enlarged.

What is the diagnosis?

Early age, history of hereditary syphilis, enlarged liver with jaundice and ascites.

What is the prognosis?

Usually unfavorable, although Goodhart says that his cases did well on a mercurial course, which, by the way, does not correspond with the experience of American practitioners.

What is the treatment?

Mercurials, with tonics and the iodide of potassium. Any of the following formulæ will be found valuable:—

℞. Hydrarg. cum Cretæ.
Sacch. Lact. āā gr. xij.
M. et ft. chart. No. xii.
Sig. One powder night and morning.

℞. Hydrarg. Chlor. Mit. gr. j.
Sacch. Lact. gr. viij.
Pulv. Aromat. gr. iv.
M. et ft. chart. No. viii.
Sig. One powder night and morning.

℞. Hydrarg. Bichlor. gr. $\frac{1}{4}$–$\frac{1}{2}$.
Potass. Iodid. gr. xvj–xxxij.
Syr. Sarsap. Comp. ℥ss.
Aquæ q. s. ad f℥ij.—M.
Sig. Teaspoonful night and morning.

Another valuable way of giving mercury is by the mercurial ointment. Ten grains of the ointment may be rubbed into the skin once a day.

The syrup of the iodide of iron is useful after the liver has been reduced in size; it may be given in two or three drop-doses in malt extract or water three times a day.

For the splenic enlargement the following should be rubbed in over the splenic region night and morning.

℞. Ungt. Iodini Comp. ʒss.
Vaseline ʒiij.—M.

Sig.

PART V.

Diseases of the Peritoneum.

Peritonitis.

What is the synonym?

Inflammation of the peritoneum.

What is the definition?

A fibrinous inflammation of the peritoneum, characterized by fever, abdominal pain, tenderness, vomiting, and general prostration.

What are the causes?

Fœtal peritonitis is caused by syphilis. The first few days of life it may be due to suppuration or gangrene of the umbilicus.

Later in childhood it is caused by blows or other injuries to the abdomen; sudden chilling of the body, lying on damp ground after violent exercise. It may also occur after scarlatina or other fevers. It is more frequently secondary than primary; *i. e.*, it is usually an extension from some disease of the viscera which the serous membrane envelops.

Chronic peritonitis often follows an acute attack, but it most commonly appears with tuberculosis, and shows the characters of chronicity from the outset.

What are the symptoms?

The attack is ushered in with rigors and vomiting of mucus; intense abdominal pain increased by pressure, coughing, and vomiting. The face is pale and pinched, the knees drawn up. The abdomen is much distended; the tongue is dry and coated, loss of appetite is marked. The bowels are constipated, the temperature much above normal, the pulse frequent, the respiration retarded. In infants usually convulsions, in older children delirium.

In the chronic form the pain lessens, the fever is remittent. Constipation alternates with diarrhœa.

What is the diagnosis?

The child lies on his back with legs flexed, the face is pale and pinched; the pulse is frequent and wiry; temperature from 103° to 104° F. There are distention, tenderness on pressure, and acute pain in the abdomen; and inactivity of the abdominal muscles in respiration.

What is the diagnosis from colic?

Constipation and vomiting, with pain; no abdominal tenderness between the paroxysms, and the pulse is never so wiry, rapid, and small. There is no fear of movement, as in peritonitis.

What is the prognosis?

Usually grave. Perforative peritonitis is always fatal.

What is the treatment?

Rest in bed, hot applications to the abdomen, such as flaxmeal poultices, turpentine stupes, or other hot fomentations. The food should be liquid and iced drinks may be given. Opium should be given freely, either by the mouth, rectum, or hypodermically. Any of the following prescriptions will be found of value:—

℞. Tr. Opii ♏xvj.
Syr. Zingiber. f℥j.
Aquæ q. s. ad f℥ij.—M.

Sig. Teaspoonful every two hours for a child of five years.

℞. Pulv. Opii gr. j–ij.
Sacch. Lact. gr. xij.
M. et ft. chart. No. xii.

Sig. One powder every two hours.

A hypodermic injection of the sulphate of morphia may be employed, starting with one-twentieth of a grain for a child of five years, to be repeated as necessary.

Should the bowels be very much constipated, a simple enema must be given. If the inflammation decreases, the opium may be gradually withdrawn, substituting a tonic treatment with mercury, iodide of potash in alterative doses. If there is evidence of failing strength, whiskey should be given in the milk. After the hot applications have been removed, the abdomen should be rubbed with a weak mercurial ointment.

℞. Ungt. Hydrarg.,
Vaselini āā ℥ss.—M.
Sig. Rub well into the skin over abdomen night and morning.

Ascites.

What are the synonyms?

Abdominal dropsy; dropsy of the peritoneum.

What is the definition?

A collection of serous fluid in the peritoneal cavity; characterized by distention of the abdomen, fluctuation, and dulness on percussion.

What are the causes?

Simple or tubercular inflammation of the peritoneum; diseases of the heart and liver; enlargement of the mesenteric glands, and occasionally disease of the lungs.

What are the symptoms?

If there be much fluid present, the abdominal wall is arched, and fluctuation is present. If the patient is placed on his back, the percussion note over the upper and anterior parts of the abdomen will be tympanitic, but a change in position will alter the areas of dulness and tympany. The umbilicus may protrude, and the superficial veins are prominent. The respiration is labored, the bowels are usually constipated, the urine is scant, containing albumen and blood.

What is the diagnosis?

Only difficult when the amount of fluid is very small.

What is the prognosis?

In children with good constitutions usually favorable.

What is the treatment?

Depends principally upon the cause. The first points to bear in mind are to reduce the amount of fluids given the child, and if the cause is not known, the administration of iron. Diuretics and hydragogue cathartics should be given.

℞. Ferri et Potass. Tart. ʒiss.
Syr. Scillæ fʒj.
Potass. Acetat. ʒiss.
Spt. Æther. Nit. fʒss.
Liq. Ammon. Acetat. q. s. ad fʒiij.—M.

Sig. Teaspoonful every three hours for a child of five years.

℞. Tr. Digitalis ♏lxxij.
Potass. Acetat. ʒiss.
Spt. Æth. Nitro. fʒss.
Liq. Ammon. Acetat. q. s. ad fʒiij.—M.

Sig. Teaspoonful every three hours.

Should the above treatment be tried for some time and the fluid does not diminish, paracentesis should be resorted to. After the fluid is withdrawn the abdomen must be carefully bandaged, and a firm pressure kept up for some time.

PART VI.

Acute Infectious Diseases.

Measles.

What are the synonyms?

Morbilli; rubeola.

What is the definition?

An acute epidemic and contagious disease, ushered in with catarrhal symptoms, fever, and characterized by an eruption on the skin appearing the fourth day.

What is the cause?

A specific poison.

What are the symptoms?

After a period of incubation from twelve to fourteen days, the attack is ushered in by a chill, then fever, quick pulse, pain in the legs, headache, followed by redness of the eyes, coryza, and a hoarse cough. On the fourth day the eruption appears, first about the temples and face in the form of small, dull-red papules, and gradually spreads over the whole body; the spots coalesce, and present a peculiar crescentic appearance, disappearing on pressure. The fever continues during the eruption; the cough increases; the throat is dry; the eyes are red, and in strumous children are apt to remain so.

When the eruption begins to fade, the cough, fever, etc. decline. The temperature reaches its maximum (102° to 104° F.) with the initial fever, then falls; rises again when the eruption appears, and does not fall till the eruption fades.

What are the complications?

Catarrhal or lobar pneumonia; membranous laryngitis; whooping-cough, and diarrhœa.

What is the diagnosis?

Chilliness, coryza, watery eyes, slight cough and fever, followed by a dull-red crescentic eruption on the fourth day.

What is the prognosis?

If uncomplicated, favorable.

What is the treatment?

Mild cases should be given little medicine; the child must be kept in one room of an even temperature of 68° F.; the diet should be regulated and consist of milk and light broths. When the rash appears, the child should be put to bed; if the skin itches, the body may be rubbed with carbolized oil or cosmoline. If the cough is troublesome, the following mixture will be of service:—

℞. Tr. Opii Camp. f℥iss.
Spt. Æth. Nit. f℥ss.
Syr. Ipecac. f℥j.
Syr. Scillæ f℥ss.
Liq. Potass. Citrat. q. s. ad f℥iij.—M.

Sig. Teaspoonful every two hours for a child of four years.

When the temperature rises above 103° F. an antipyretic should be given; one grain of antifibrin, to begin with, may be given to a child of four years, to be repeated as required; or two grains of sulphate of quinia, by the mouth or rectum, every three or four hours. Should symptoms of exhaustion or heart failure appear, alcohol, tincture of digitalis, or carbonate of ammonium, are indicated. During convalescence protect from exposure or draughts of air; keep on tonic treatment for some time after, with proper diet and change of air and scene, if possible.

Scarlet Fever.

What is the synonym?

Scarlatina.

What is the definition?

An acute, infectious, and contagious disease, characterized by a scarlet rash, sore throat, desquamation of the cuticle, and seldom occurring twice in the same person.

What are the causes?

A specific poison. It spreads by infection, and is communicated by means of the exhalations and secretions. It is most contagious during the eruption and desquamative stages. The germs of scarlatina retain their vitality for long periods. It can be conveyed by clothing, books, letters, etc. The incubation is from one to seven days.

What are the varieties?

Simple, anginose, and malignant.

What are the symptoms?

Vomiting, sore throat, headache, fever, rapid pulse (130–170 beats to the minute), flushed face, high temperature (103° to 104° F. the first day), hurried breathing, tongue at first coated, afterwards red, with prominent papillæ, known as the "strawberry tongue;" hot skin, and intense thirst. On the second day the rash appears, first upon the neck and upper part of the chest. It is scarlet, consisting of innumerable red spots, at first separated by natural skin, but soon coalescing and producing a general redness, which is not elevated to the touch. It is most abundant where the papillæ of the skin are the largest. The eruption reaches its height on the third or fourth day, and then begins to gradually fade, disappearing entirely by the eighth.

About the fourth or fifth day the fever subsides; the eruption gradually fades, and desquamation begins about the eighth or ninth day.

Describe the anginose form.

The swelling of the glands and cellular tissue around the neck is enormous; there may be ulceration of the fauces and

pharynx, and post-pharyngeal abscess; the mouth is opened with difficulty, and the inflammation often extends to the ears through the Eustachian tubes, and is followed by a purulent discharge from them.

Describe the malignant form.

The tonsils become the seats of sloughing ulcers, leaving ugly ragged scars; the excitement is great, the delirium violent, followed by extreme exhaustion. In some cases the period of excitement is so short, and so soon followed by the typhoid state, that the disease may prove fatal within forty-eight hours.

What are the complications?

Ulceration and sloughing of the fauces and pharynx; retro-pharyngeal abscess, scarlatina bubo, bronchitis, pneumonia, pleurisy, pericarditis, otorrhœa, diarrhœa, rheumatism, tenderness and swelling about the joints, chorea, and renal dropsy.

What is the diagnosis?

Sore throat, high fever, rapid pulse, the character and early appearance of the eruption followed by desquamation.

From measles—no catarrhal symptoms present, and the early eruption.

From diphtheria—no eruption, great prostration, frequently complicated with scarlet fever.

From smallpox—character of the eruption; appearing on the third day, secondary fever.

What is the prognosis?

Usually favorable in the simple, uncomplicated form; the anginose and malignant forms are grave.

What is the treatment?

The child must be put to bed in a large well-ventilated room, and not covered with a superabundance of bed-clothing.

The whole body should be greased with one of the following ointments night and morning:—

℞. Acid. Carbol. ♏xx.
Vaseline ʒj.—M.

Sig.

℞. Ol. Menthæ pip. ♏xv.
Ol. Olivæ ʒiij.—M.

Sig.

Milk should constitute the diet, and a mild aperient may be administered every few days. Cooling drinks may be given; and should the temperature run very high, tepid sponging must be resorted to. The throat symptoms should be treated with the tincture of the chloride of iron and chlorate of potassium.

℞. Tr. Ferri Chlor. fʒj.
Potass. Chlorat. gr. xlviij.
Glycerinæ fʒj.
Aquæ q. s. ad fʒiij.—M.

Sig. Teaspoonful every two hours for a child of four years.

℞. Acid. Boracic. ʒss.
Potass. Chlor. ʒij.
Tr. Ferri Chlor. fʒij.
Glycerinæ,
Syr. Simp., āā fʒj.
Aquæ fʒij.—M.

Sig. Teaspoonful every two hours for a child of five years.

(*J. Lewis Smith.*)

Hot poultices or compresses should be kept around the neck and frequently renewed.

The throat should be kept clear by the use of a spray of Dobell's solution, if the child be old enough to allow the procedure. Stimulants must be freely given, such as the carbonate of ammonium, alcohol, and the tincture of digitalis. The complications must be treated, excepting the nephritis, on their own merits.

For scarlatinal dropsy the child should be put to bed and kept warm. The diet should be fluid, and the bowels kept freely opened by jalapin (gr. j), or by the daily use of a seidlitz powder. A warm bath must be given daily, temperature of the water being about 100°–110° F. After removing the child, he should be wrapped in warm blankets and put back to bed. Should these measures prove unsuccessful, dry cupping and frequent hot applications may be made to the lumbar region. Digitalis should be used in from one to five drop doses.

℞. Tr. Digitalis f℥ss.
Liq. Ammon. Acetat. f℥iss.
Spt. Æth. Nit. f℥ij.
Syr. Tolu f℥ss.
Aquæ Cari q. s. ad f℥iij.—M.

Sig. Teaspoonful every two hours for a child of six or eight years.
(*Goodhart and Starr.*)

The tincture of digitalis may be given with citrate of potassium.

℞. Tr. Digitalis f℥ss.
Elix. Simp. ℥ss.
Liq. Potass. Citrat. q. s. ad f℥iij.—M.

Sig. Teaspoonful every two hours.

Should suppression of the urine or convulsions manifest themselves, free purgation must be secured, and the bromide and iodide of potassium given internally. Dr. Starr highly recommends the infusion or fluid extract of jaborandi by the mouth in connection with hot packs.

When the acute symptoms have subsided tincture of the chloride of iron or Basham's mixture should be given. During convalescence the child must be kept warm, wearing flannel next to the skin, and the general health should be carefully looked into for some time after. Much attention should be given to the disinfection of the room and the child's clothes, bedding, etc.

Rötheln.

What are the synonyms?

German measles; epidemic roseola; false measles; rubella.

What is the definition?

A contagious eruptive disease, bearing a close resemblance to mild cases of scarlet fever and measles. Characterized by slight fever, watery eyes, slight cough, and a rose-colored eruption, appearing the first day. Incubation nine to fourteen days.

What is the cause?

Usually direct contagion.

What are the symptoms?

Mild fever, watery eyes, sore throat, furred tongue; sometimes enlargement of the cervical glands. The rash at first closely resembles that of measles, is of short duration, usually disappearing in a day. The temperature rarely exceeds 100° F.

What is the diagnosis?

From measles, absence of severe catarrhal symptoms, the character and late appearance of the eruption. From scarlet fever, absence of high fever and rapid pulse, color and character of eruption; severe throat symptoms.

What is the prognosis?

Always favorable.

What is the treatment?

Little is required beyond keeping the child in a moderately warm room, giving mild laxatives, and regulating the diet. When the fever subsides and the eruption fades any itching of the skin may be relieved by using one of the inunctions given in scarlet fever.

Diphtheria.

What are the synonyms?

Membranous angina; putrid sore throat.

What is the definition?

An acute, specific, infectious, and contagious disease, characterized by a local exudation and glandular enlargements; great prostration and albuminuria.

What are the causes?

A specific poison, contagion, bad hygienic surroundings; may occur in the same person more than once. The period of incubation is from two to eight days.

What is the morbid anatomy?

The fauces are much swollen and covered with lymph. In severe cases the uvula and pharynx are sloughy-looking, or the tonsils and adjacent mucous membrane are much thickened from a diffuse inflammation. The mucous membrane of the epiglottis is thickened, and a tough adherent membrane lines the laryngeal surface of the epiglottis and the interior of the larynx above the true vocal cords. A leathery layer may extend from these parts over the edge of the epiglottis to the base of the tongue, and over the ary-epiglottic folds to the mucous membrane of the pharynx, and the reflection of mucous membrane from the pharyngeal aspect of the larynx to the pharynx proper is a favorite seat for the membrane. When the trachea is reached the membrane loses its toughness. The color of the membrane is a grayish-white, or may vary from a slight yellow to a brownish-black. When the membrane is removed a raw, bleeding surface is shown, which is quickly covered with a new deposit.

The glands of the neck are much enlarged; the muscular tissue of the heart becomes soft; the kidneys may undergo a

granular degeneration, and the blood is much altered, being almost black in color.

What are the symptoms?

The onset is usually slow; the child may feel languid, complain of chilliness, pain in the back, headache, thirst, and fever. On inspection the throat will appear red and swollen, with small patches of membrane much resembling milk curds. At this time the glands beneath the angle of the lower jaw are hard, tender, and slightly enlarged. The diphtheritic patches increase in area and coalesce; they adhere firmly to the surface of the palate or tonsil, and when removed a shallow ulcer remains, leaving a bleeding surface. The tongue is coated, the breath fetid, and at times pieces of blood-stained membrane are coughed up. The urine contains albumen and occasionally hyaline and epithelial casts. The pulse is frequent, weak, and easily compressed. Opening the jaws causes considerable pain.

What is the duration?

Uncomplicated cases from four to twelve days.

What are the complications?

Albuminuria and paralysis.

What is the diagnosis?

From croup, inflammation sthenic; inflammation commences in the larynx and extends to the trachea and bronchi; breath not fetid, no swelling of the glands of the neck.

From pharyngitis, absence of exudation, enlargement of the lymphatic glands, and constitutional symptoms.

From scarlet fever by the eruption and absence of membrane in the pharynx, strawberry tongue, and late albuminuria.

What is the prognosis?

Usually grave.

What is the treatment?

The diet should be nutritious, such as animal broths, milk, eggs, etc. If the child is unable to swallow, a nutritious enema may be employed. Alcoholic stimulants should be given in moderate doses every hour if necessary. The throat should be wrapped in flannel moistened in equal parts of turpentine and olive oil. Internally the tincture of the chloride of iron combined with the chlorate of potassium should be given every two hours.

℞. Potass. Chlorat. gr. xxiv.
Tr. Ferri Chlor. ♏xlviij.
Glycerinæ f℥ss.
Aquæ q. s. ad f℥iij.—M.

Sig. Teaspoonful every two hours for a child of two years.

Quinine should be given either by the mouth or rectum.

℞. Quiniæ Sulphat. gr. xij.
Potass. Chlorat. gr. xlviij.
Tr. Ferri Chlor. f℥j.
Syr. Zingiber. f℥j.
Aquæ q. s. ad f℥iij.—M.

Sig. Teaspoonful in water every two hours for a child of six to ten years. (*Goodhart and Starr.*)

℞. Potass. Chlorat. f℥ss.
Acid. Muriat. dil. ♏xvj.
Tr. Cinchonæ Comp. f℥ss.
Mellis f℥j.
Spt. Vini Gal. f℥ss.—M.

Sig. Teaspoonful in water every two or three hours for a child of six years.

Calomel and sodium bicarbonate may be given in small doses until the effect of the calomel is noticed on the breath.

℞. Hydrarg. Chlor. Mit. gr. j.
Sodii Bicarb. gr. xxiv.
Pulv. Aromat. gr. vj.
M. et ft. chart. No. xii.

Sig. One powder every two hours.

Any of the following lotions will be found useful locally.

℞. Potass. Chlorat. ʒj.
Listerine ℥ss.
Aquæ q. s. ad f℥iv.—M.
Sig. Use as gargle every two hours.

℞. Tr. Ferri Chlor. fʒj.–fʒiij.
Glycerinæ q. s. ad f℥j.—M.
Sig. Paint tonsils every four hours.

The following is one of the best solvents of the membrane:

℞. Trypsin (Fairchilds's) ʒj.
Sodii Bicarb. gr. xx.
Aquæ q. s. ad f℥ij.—M.
Sig. Apply with atomizer every hour at first if necessary.

Limewater used as a spray is a very serviceable remedy.

Nasal diphtheria should be treated by syringing out the nasal cavities with Listerine and water, equal parts, and insufflations of boric acid several times in the twenty-four hours.

℞. Acid. Boric. ʒss.
Sodii Borat. ʒss.
Sodii Chlor. gr. xx.
Aquæ Oss.—M.
Sig. Inject ʒj warm in each nostril every two hours.

It is well to keep the air of the room moist by having a kettle of water constantly boiling.

If these measures fail and the child is in danger of suffocating, tracheotomy or intubation should at once be resorted to. For diphtheritic paralysis, iron and strychnia should be used in combination with electricity.

During convalescence much care must be taken to prevent a set-back. The food should be liberal, and the child well tonicked.

Varicella.

What are the synonyms?

Chicken-pox; swine-pox.

What is the definition?

A contagious disease, characterized by slight fever, and a vesicular eruption appearing the second day.

What is the cause?

A peculiar poison; attacks children only. Incubation from eight to sixteen days.

What are the symptoms?

Slight fever, loss of appetite, thirst, anorexia, and constipation; the eruption appearing after twenty-four hours' illness. The eruption is vesicular and rapidly dries and drops off within a week, leaving a slight scar or pit. Fortunately the eruption usually appears on the body and seldom the face.

What is the prognosis?

Always favorable.

What is the treatment?

Seldom requires any; a simple laxative may be given at the onset, and the child kept in an evenly-heated room. A little vaseline or cold cream with glycerine may be smeared over the body, to relieve the local irritation.

Variola.

What is the synonym?

Smallpox.

What is the definition?

An acute epidemic contagious disease, characterized by an acute febrile onset, followed by an eruption on the third day, first papular, afterwards vesicular and pustular.

What are the causes?

A specific poison the nature of which is unknown. The disease is contagious from the initial fever to the end of desquamation. One attack generally protects from a second. Incubation fourteen to sixteen days. Vaccination almost a positive protective.

What are the varieties?

Discrete, confluent, malignant, and modified.

What are the symptoms?

Often ushered in by a convulsion, followed by a chill, fever, coated tongue, nausea and vomiting. Severe frontal headache, and pain in back. Injection of the vascular system of the head and eyes. Pain, due to congestion, in the throat and larynx, which are red and swollen. Ulcers in mouth and fauces; restlessness, dullness, and delirium. This stage may last two days, and the eruption appears the third, when all the symptoms abate. Small, hard red papules appear, slightly raised, occurring in groups of from three to five giving the eruption somewhat of a crescentic form. They are most abundant first on the face, lips, forehead, then on neck, wrist, body, and extremities. On the third day of the eruption vesicles form on each papule, being at first pointed, then flattened, then umbilicated; reaching their full size in three or four days, becoming harder and surrounded by a red margin, merging into pustules. On the eighth or ninth day of the eruption it is at its height, pustules having formed. At the height of the eruption secondary fever occurs. The most dangerous stage, namely that of suppuration, occurs from the ninth to the fourteenth day.

The temperature of smallpox seldom goes above 105° F. It usually reaches 104° F. on the second day, but falls to 100° F., when the eruption appears, only to rise again during the secondary fever. Dessication or drying begins on the face

from the twelfth to the fourteenth day, and follows the course of the eruption reaching the extremities last.

What are the complications?

Suppurating glands, erysipelas; deafness from suppuration of the internal ear; pleurisy. In the modified disease, namely varioloid, these never occur.

What is the diagnosis?

Chills, vomiting, pain in the back, headache, high fever, frequent pulse, all subsiding on the third day, when the eruption appears in the following order: spots, papules, vesicles and pustules, with marked secondary fever.

What is the prognosis?

Always grave except in the modified, *i. e.*, varioloid.

What is the treatment?

The child must be kept in a large well-ventilated room. The diet should be liquid and gentle laxatives given. Cool drinks should be administered, such as nitre, lemonade, or the solution of citrate of potassium may be given in teaspoonful doses every hour or two. It is important that disinfectants should be distributed about the house, especially in the passage leading to the sick-room. For the initial fever the following will be found useful:—

℞. Tr. Aconite Rad. gtt. iv–viij.
Liq. Potass. Citrat. f℥j.—M.

Sig. Teaspoonful every twenty minutes until four doses are taken for children from three to eight years.

Should there be much cerebral congestion the hair must be cut and an ice bag applied to the scalp. For sleeplessness the following may be given:—

℞. Potass. Brom. ℥iss–℥iij.
Elix. Aromat. f℥iij.—M.

Sig. Teaspoonful as required for children from three to eight years.

When the secondary fever appears quinine may be given by the mouth or rectum in appropriate doses. Carbonate of ammonium and whiskey should be employed if the typhoid condition sets in. Cracked ice may be held in the mouth, and the mouth frequently washed with the following solution:—

℞. Acid. Boric. ʒiss.
Glycerinæ f ʒj.
Listerine f ʒij.
Aquæ q. s. ad f ʒvj.—M.

Sig. Mouth-wash.

The throat symptoms may be treated with a mild gargle if the child be old enough, such as chlorate of potassium and water (ʒ to Oss). Tincture of the chloride of iron may be given with good results. The complications must be treated as they arise by appropriate measures. To prevent pitting the following methods are recommended:—

℞. Ungt. Hydrarg.,
Ungt. Aquæ Rosæ āā ʒij.—M.

Sig. Apply on mask night and morning.

The following ointment is used in the Children's Hospital, at Paris:—

℞. Mercurial Ointment 24 parts.
Yellow Wax 10 parts.
Black Pitch 6 parts.—M.

Sig. Apply on mask night and morning.

A sharp pointed stick of silver nitrate inserted into each vesicle after rupture is said to prevent pitting.

External applications of powdered starch, flour, tepid water and vinegar sponged over the body twice daily will relieve the itching.

During convalescence the patient's system should be kept up by the use of suitable tonics and nourishing food.

Vaccinia.

What is the definition?

Inoculation of bovine virus into the system. When a child is properly vaccinated it usually escapes an attack of small-pox.

When should vaccination be performed?

If the child be healthy, before the fourth month.

Describe the operation.

The skin of the arm or leg should be made tense, and the surface scraped with the vaccine point containing the lymph until the true skin is reached, then the lymph should be rubbed in and allowed to dry before being covered by the wearing apparel.

What are the symptoms?

If the vaccination is successful, constitutional symptoms rarely appear before the eighth day. The child becomes fretful, with slight fever, restlessness, and slight anorexia.

What is the course of the sore?

About the third day a small light-red nodule appears at the seat of vaccination; a vesicle is formed which begins to be depressed in the centre on the sixth day, and surrounded by a narrow ring of inflammation; this increases in size and reaches its height by the eighth or ninth day; it then becomes elevated above the surrounding surface, is of a dull white color, and about one-third of an inch in diameter. The inflammatory zone has now become a broad areola from one to two inches in breadth, varying from a rose to a dark red color, gradually fading from the centre to the periphery, where it shades into that of the normal skin. The surrounding tissues become infiltrated, hard, and tender, and reach their height about the tenth day. Now the areola rapidly fades, and the vesicle loses

the pearly appearance—pus taking the place of lymph and giving its characteristic color to the sore. By the fourteenth day all inflammation has subsided, and a crust begins to form, which becomes harder and darker in color, and falls by the end of the third week. The scar left is of a deep red or purplish color, but in the course of a few months to a year becomes smaller in diameter, presenting a smooth shining surface with slight pin-point depressions.

Parotitis.

What is the synonym?

Mumps.

What is the definition?

An acute, contagious, specific inflammation of one or both parotid glands, occurring but once in a lifetime, and usually in children over the age of five years.

What are the causes?

A specific poison; contagion. Occurs in epidemics. More prone to attack males than females.

What are the symptoms?

Chill, fever, quick pulse; then pain is felt and swelling is noticed about the angle of the jaw, which is exceedingly hard and painful, and may extend from beneath the ear along the neck to the chin. There is pain in mastication, articulation, and swallowing. It usually reaches its height in three or four days and then declines in severity, and gradually disappears, provided metastasis does not occur, which may be either to the brain, mammæ, or testis, when the latter parts become painful and swollen. Suppuration rarely occurs in this disease.

What is the diagnosis?

Almost impossible to mistake.

What is the prognosis?

In uncomplicated cases favorable; metastasis to the brain always fatal.

What is the treatment?

The child must be kept in one room and given a light diet. Hot fomentations should be applied to the neck and frequently changed. The bowels must be opened by laxatives. If the fever is high a course of aconite may be given, from one-half to one drop every twenty minutes until four doses are taken. Should suppuration occur, which is very rare, the iodide of potassium may be used. If orchitis appears, hot fomentations should be applied and the child at once put to bed. After the swelling has subsided the child should remain indoors for at least two weeks.

Pertussis.

What is the synonym?

Whooping-cough.

What is the definition?

A specific, contagious disease, characterized by a hard, paroxysmal cough; a number of expiratory efforts being followed by a long, noisy inspiration or whoop.

What are the causes?

Occurs generally in children and is contagious; the result of an unknown poison; one attack usually guards against another.

What are the symptoms?

They are divided into three stages, namely the catarrhal, spasmodic, and terminal.

The catarrhal stage generally lasts from three to ten days. It is accompanied by coryza, a slight cough, the child is restless and fretful, with great nervous excitability, and sometimes delirium at night.

In the spasmodic stage the cough is paroxysmal, the expiratory efforts may be so strained as to cause the child's face to become cyanosed, the veins of the head and neck swollen, the nose bleeding, and occasionally the contents of the bladder and rectum are involuntarily discharged. The paroxysms, which usually occur at night, last from one-half to two minutes, returning at regular intervals; they may be brought on by overeating, by taking any food, or by cold. All spasmodic attacks, except hysterical ones, are apt to occur at night. If the paroxysms are not too severe the child will return to its play, or it may become exhausted and gradually grow weaker.

In the terminal stage or stage of decline the paroxysms gradually become less severe and at longer intervals, the cough becomes loose, and expectoration freer.

What are the complications?

Pneumonia, capillary bronchitis, emphysema, pleurisy, meningitis, deafness, etc.

What is the diagnosis?

The disease can only be detected when the characteristic "*whoop*" is heard.

What is the prognosis?

Quite serious in children under six months; more favorable as age progresses.

What is the treatment?

During the catarrhal stage a simple expectorant, as the following, should be given:—

℞. Tr. Opii Camp.,
Syr. Ipecac. āā f ℥j.
Syr. Scillæ f ℥iij.
Syr. Tolu f ℥ss.
Liq. Potass. Citrat. q. s. ad f ℥iij.—M.

Sig. Teaspoonful every two or three hours for a child of one year.

The strength should be kept up with nourishing food and small doses of quinine to prepare the system for the spasmodic stage.

It is well at the beginning to give an occasional emetic, as it clears the bronchial tubes of their contained mucus and allows the lungs free play.

In this stage the most valuable drugs are belladonna, alum, antipyrine, inhalations of sulphur, bromide of potassium and ammonium, quinia sulphate, and chloral.

Any of the following formulæ will be found suitable:—

℞. Ex. Belladonnæ gr. ½.
Pulv. Aluminis gr. xxiv.
Syr. Zingiber.,
Aquæ āā f℥iss.—M.

Sig. One teaspoonful every two hours for a child of one year.

(*Goodhart and Starr.*)

Antipyrine may be given to children in doses of from one-quarter of a grain to three or five grains, according to age. It is best administered in the form of a powder, in sweetened water. The plan to be carried out for sulphur inhalation is as follows:—

Have the patient's clothing changed and removed from the sick-room in the morning. All the clothes and the toys to be subsequently used are brought into this room, and then sulphur is burnt upon live coals in the centre of the apartment. In the evening the child is brought back.

Monti's treatment by nasal insufflation is very efficient. Two or three grains of powdered benzoin or boric acid are blown up the nose by an insufflator every three hours during the day and once or twice at night.

℞. Ammon. Brom.,
Potass. Brom. āā ℥j.
Tr. Belladonnæ f℥j.
Glycerinæ f℥j.
Aquæ Rosæ q. s. ad f℥iv.—M.

Sig. Use as spray from four to six times daily. (*Keating.*)

The diet and regimen of the patient should be carefully regulated, flannel should always be worn next to the skin, and the child kept out of doors, weather permitting, as much as possible.

Typhoid Fever.

What are the syncnyms?

Enteric fever; nervous fever; abdominal typhus; infantile remittent.

What is the definition?

An acute, specific disease, infectious and contagious, associated with a peculiar eruption on the skin, and disease of the solitary and agminated glands of the intestines. The period of incubation is from two days to three weeks.

What are the predisposing causes?

Seldom occurs in children under the age of five years; most frequent in autumn; least so in spring.

What are the exciting causes?

The typhoid germ (the bacillus typhosus). Lead pipes carrying decomposing matter are apt to corrode and permit the escape of gases. Water and milk may carry the poison into the system. Fermentation of water and stagnation of effluvia are the most favorable conditions for its development. The germ may be destroyed by disinfecting the stools with a solution of the bichloride of mercury and the sputum by heat.

What is the morbid anatomy?

The ulceration of the Peyer's patches and of the solitary gland is less frequent and less extensive than found in the adult. Many cases have no ulceration of any kind; in others one or two small ulcers in parts of the agminated glands. As in adults the large intestine may be the chief seat of ulceration. Dr. Goodhart has in one case seen death from the after-result

of hemorrhage from typhoid ulceration of the colon. The spleen is commonly found enlarged, and its structure is softer and more friable than is natural. The liver is enlarged and often softened.

What are the symptoms?

The disease is usually milder in children than in adults. The child will complain of headache and lie about the room, fretting and refusing to play; loss of appetite and sometimes vomiting, accompanied by slight fever, quick pulse, and dry skin, are noticed during the day. At night the face becomes flushed, the lips red, and the tongue dry; the sleep is restless and frequently disturbed by delirium. The symptoms all subside on the following morning to appear again at night. Day after day these symptoms continue, and now the abdomen is tumid, the spleen enlarged; diarrhœa is present and rose spots may appear; there is considerable cough, and the child rapidly becomes emaciated. The evacuations from the bowel are often ochrey and pasty in character, having a very offensive smell. The tongue is dry, red at the tip, and fissured. The urine is high-colored and scanty. The pulse is usually variable, rising or falling without affecting the heat of the skin. The temperature is usually characteristic, that of the morning being a degree or so less than that of the evening.

From the eighth to the twelfth day of the disease the eruption appears, which consists of rose-colored spots, slightly elevated above the skin and disappearing on pressure. Each spot lasts from two to five days, then disappears, while fresh ones continue coming out; they occur on the abdomen, chest, and back, and their number may vary from one or two up to forty. The more severe symptoms may now manifest themselves, such as obstinate vomiting and profuse diarrhœa, and occasionally the opposite condition, constipation, may exist. There may be tenderness over the abdomen in the region of

the right iliac fossa, where gurgling may be distinctly heard. The child loses flesh; the face is worn and anxious; the cough increases, with marked dyspnœa and harshness of breathing. Epistaxis and bleeding of the gums occasionally occur.

The symptoms may either gradually improve in the third week or the disease goes on, and may terminate in hemorrhage or perforation of the bowels. Hemorrhage rarely occurs after the fourth week, but perforation may occur up to the sixth. Muscular tremor; pulse of 150 to the minute or over are grave signs.

What are the complications?

Intestinal hemorrhage and perforation are uncommon in children. Meningitis, pneumonia, severe bronchitis, and heart failure occasionally occur.

What is the diagnosis?

In mild cases among the poor the disease may escape the notice of the parents. It should be remembered that typhoid fever rarely occurs before the fifth year, and should not be confounded with the slight gastric disorders during dentition. The presence of fever, delirium, diarrhœa, and rose colored spots with typhoid tongue, will usually aid in the diagnosis.

In tubercular peritonitis the tongue is usually clean and moist and there is no eruption.

From acute tuberculosis the diagnosis is most difficult, and is almost impossible during life, there being only the absence of the eruption and diarrhœa to guide us.

What is the prognosis?

Not so grave as in adults.

What is the treatment?

The child must be kept in bed in a well-ventilated room. The diet should be entirely liquid, such as milk, beef-tea, mutton or chicken broth. Should these be rejected milk alone with limewater may be given. The urine and stools should

be disinfected and immediately removed from the sick-room. If the case be mild, the child will do perfectly well on a few drops of dilute muriatic acid in water three or four times a day, and from one to two grains of quinine at the same intervals. In cases where the symptoms are severe and the fever runs high stimulants should be administered, such as wine or brandy, from two to four ounces of the former and from one to two ounces of the latter in the twenty-four hours. If constipation is present, it should be treated by a simple enemata or a small dose of castor-oil. In more severe cases where noisy delirium is present, small doses of Dover's powder or bromide of potassium will be found beneficial. If the temperature remains over 103° F., tepid sponging, cold sponging, or the tepid or even cold bath will be of service. Antipyrin may be given to children, between six and ten years, in doses of three to five grains. It lowers the temperature and usually produces profuse sweating. Although a valuable drug it may produce severe depression, and even collapse, consequently its administration should be carefully watched. The sulphate of thalline may be used in doses of one to three grains as an antipyretic.

For abdominal distention, turpentine or terebine should be given. Five drops of the former or two or three drops of the latter may be dropped upon a lump of sugar and administered.

For the diarrhœa, five drops of laudanum in an ounce of starch water should be given by enema. Should the diarrhœa be slight, for instance, two or three evacuations in the twenty-four hours, it must not be checked. The following prescription will be found useful :—

℞. Bismuth. Subnit. ʒilj.
Spt. Myristicæ f ʒss.
Spt. Vini Gal. f ʒj.
Syr. Acaciæ f ʒiss.
Aquæ Cinnam. q. s. ad f ʒiij.—M.

Sig. Teaspoonful every two hours for a child of ten years.

The diarrhœa may often be moderated by reducing the quantity of milk and using animal broths only.

For bronchitis the following will be found useful :—

℞. Tr. Opii Camp. f ʒiij.
Syr. Ipecac. f ʒij.
Syr. Tolu f ℥ij.
Aquæ q. s. ad f ℥iij.—M.

Sig. Teaspoonful every three or four hours for a child of ten years.

In cases of cardiac weakness Jacobi prefers caffein to digitalis. It is given in grain doses to children of six or seven years.

During convalescence the child should be carefully watched over and not allowed to eat solid food until all symptoms have disappeared, and then only by the advice of the physician.

PART VII.

General Diseases not Infectious.

Malarial Fever.

What are the synonyms?

Ague; intermittent fever; chills and fever.

What is the definition?

A paroxysmal fever, characterized by a cold, hot, and a sweating stage, not followed by an interval of complete intermission or apyrexia as in adults, the child being feverish and restless between the spells.

What are the causes?

Malaria; conditions such as exposure to cold, over-eating or drinking, violent exercise, etc., are supposed to encourage it.

What is the pathological anatomy?

Blood dark; liver and spleen enlarged.

What are the symptoms?

The cold stage is ushered in with chilliness, shivering, blueness of lips, thirst, anxiety, hurried respiration, and weak pulse. The child is weak, restless, dull, and heavy. This stage is very imperfectly marked in children.

This is followed by the hot stage, in which the skin becomes hot and dry; the temperature rises from 104° to 105° F., which is usually present during the cold stage to 106° to 107° F. Now the patient feels hot and throws the bed-clothes off, the skin becomes red and swollen, and there is thirst, severe headache, and sometimes vomiting; the pulse is quick and hard; respiration more regular. The last stage, sweating, is very short in children, and sometimes altogether absent. The splenic enlargement is well marked in children, and is apt to be more permanent than in adults.

What is the diagnosis?

Not difficult when the chill, fever, and sweat occur.

What is the prognosis?

Difficult to eradicate. The enlargement of the spleen may be slow to disappear.

What is the treatment?

Quinine and arsenic are the best drugs to employ. Quinine may be given in syrup of licorice or syrup of ginger, or the officinal quinine chocolates may be employed. Arsenic should be given in the form of Fowler's solution, in doses of from three to five drops in water, to be gradually increased three times a day. It may also be combined with iron and administered with the syrup of the lacto-phosphate of lime.

Rickets.

What is the synonym?

Rachitis.

What is the definition?

A constitutional disease of childhood, characterized by general cachexia, a peculiar condition of the bones, and often by albuminoid degeneration of some portion of the glandular system.

What are the causes?

It is rarely congenital, and probably not hereditary, although the children of drunken, syphilitic, and scrofulous parents are more liable to develop it. The most frequent causes are improper feeding; a child nursed at a breast of a pregnant woman; bad air; ill-ventilated rooms; overcrowding; improper clothing; want of cleanliness, etc.

At what age does it usually occur?

From ten months to two-and-a-half years.

What are the symptoms?

Somewhat vague in the earlier stages of the disease. Diarrhœa, restlessness, a tendency to throw off the bed-clothes; sweating of the head, neck, and chest; crying when being carried or even moved by the attendant, and a flabby condition of the muscles of the arms and legs are the symptoms which are first observed; later, the ribs become beaded, the wrists, knees, and ankles enlarge, and the shape of the head becomes characteristic. In the latest stage the child is emaciated, the ribs fall in, the long bones and spine curve, the liver and spleen become enlarged, and death may occur from bronchitis, pneumonia, or convulsions. The teeth of rickety children are always backward; when cut, soon decay or drop out.

The head in rickets is characteristic; the veins of the forehead are well filled with blood and stand out; the fontanelle is open and bulging; the head appears flattened in the temporal region, and is elongated from back to front. The forehead is overhanging and square, giving the face a small or pinched look.

The abdomen is always enlarged, also the liver and spleen. There is great loss of muscular power, the perspiration increases, the stools become very offensive, the appetite capricious, and if improvement does not take place by treatment the child sinks from exhaustion or some thoracic or abdominal complication, such as bronchitis, albuminoid infiltration of the spleen or lymphatic glands.

What is the morbid anatomy?

When a section is made lengthwise through the epiphyseal end of a rickety bone and its adjacent cartilage, moderately healthy bone is seen on the one side, healthy cartilage on the other, and between the two a layer of bluish or pearl-gray or translucent cartilage. The margin of this toward the cartilage is regular, but streaked with large vascular lines; toward

the bone it is irregular. The adjacent layer of bone is seen to be paler or yellower than normal, and more porous.

The pearly layer of swollen cartilage causes the enlargement of the ends of the long bones.

Microscopically, excessive activity of the cartilage is observed; the cartilage cells become swollen and largely increased in number; but instead of making good bone, a process of calcification goes on in them, and the interstices between them become filled with a vascular marrow instead of natural bone.

The bone changes in rickets are excessive activity of growth of that cartilage which makes bone, and the production of a large quantity of vascular embryonic tissue, or medulla.

The lymphatic glands probably undergo some change of a fibroid nature. The actual change in the viscera is an increase in the fibroid material, which constitutes the connective tissue of the organs, and it differs in no respect from that of the chronic enlargement of the viscera, met with sometimes in ague, etc.

What is the diagnosis?

Sweating of the head; the general soreness and tenderness of the body when the child is moved. Retarded dentition will often point to the disease before the bones begin to change.

What is the prognosis?

If discovered in time, and the child has good hygienic surroundings, the prognosis is favorable.

What is the treatment?

The child must be given proper food, and kept in a pure atmosphere; a tepid bath should be given night and morning, followed by brisk rubbing of the entire body, should the child be able to stand it; the clothing must be well aired and kept perfectly clean; plenty of out-door exercise should be given, weather permitting.

As regards medical treatment, cod-liver oil and iron are the sheet anchors; the former may be given in doses of from twenty drops to a drachm, three times a day, plain or in the form of an emulsion. The best form of iron to be employed is the syrup of the iodide, which may be given in doses of from three to five or even ten drops, in some preparation of malt; the syrup of the lacto-phosphate of lime and iron is also a valuable remedy, and may be given in half-drachm or drachm doses, well diluted. Any of the following formulæ may be found useful:—

℞. Syr. Ferri Iodid. f ʒj.
Syr. Zingiber. f ʒj.
Aquæ q. s. ad f ʒiij.—M.
Sig. Teaspoonful three times a day for a child of two years.

℞. Syr. Ferri Iodid. f ʒiss.
Mist. Ol. Morrhuæ et Lacto-phos. Calcis q. s. ad f ʒiij.—M.
Sig. From one-half to one teaspoonful three times a day.

The diarrhœa of rickets may first be treated by administering a teaspoonful of castor oil to clear out the intestinal canal, then the diet should be carefully regulated, and all starchy food prohibited; if relief is not obtained chalk mixture with bismuth may be employed, such as is prescribed under Simple Diarrhœa. The bronchitis should never be overlooked being of much importance in these cases. The child should be kept in a warm room, poultices applied to the chest, the bowels kept freely opened, and the muriate or carbonate of ammonia given in a mixture containing the syrup of ipecacuanha:—

℞. Ammon. Chlor. gr. xxiv.
Syr. Ipecac. f ʒiss.
Syr. Tolu f ʒj.
Liq. Potass. Citrat. q. s. ad f ʒiij.—M.
Sig. Teaspoonful every two or three hours for a child of two years.

Convulsions must be kept at bay with bromide of potassium and chloral, the latter is best given in enemata.

The deformities of the limbs are best prevented by keeping the child entirely off its legs until the bones grow stronger.

Acute Rheumatism.

What is the synonym?

Rheumatic fever.

What is the definition?

An affection not very common in young children, characterized by fever, inflammation of the joints and a tendency to inflammation of the endo- or pericardium.

What are the causes?

Early infancy is said to protect to a certain extent; more common among boys than girls. It may be hereditary or complicate scarlet fever. Exposure to cold, chilling of the body, dampness. A first attack is frequently followed by others.

What are the symptoms?

The disease usually sets in with rigors and feverishness, which is followed in a day or two by a swelling about the joints. The fever may run from 101° to 104° F., the latter indicating a grave attack. The tongue is heavily coated, the body is in a profuse acid perspiration emitting a peculiar odor. The quantity of urine is diminished, dark in color, and loaded with lithates. The large joints are usually attacked first, and the disease may wander from ankles and knees to elbows and wrists, the swelling subsiding in one part as another is attacked. The affected joint is reddish in color, tender, and hot. Inflammation of the pericardium occurs in a large percentage of cases. It is first noticed by a tight feeling and a pain in the chest which is often so slight as to be overlooked. Friction

sound is now audible over the whole area of the heart's dulness, but especially at the base. As effusion takes place, the area of dulness is increased, and the sounds of the heart muffled.

What are the complications?

Pericarditis, endocarditis, chorea, meningitis, bronchitis, pleurisy, etc.

What is the duration?

From ten to thirty days.

What is the diagnosis?

Very simple after the articular symptoms have appeared.

What is the prognosis?

When uncomplicated, scarcely ever fatal.

What is the treatment?

The child must be put to bed, and kept between blankets. The diet should be light and farinaceous. The inflamed joints should be wrapped in flannel or cotton batting, moistened with either lead-water and laudanum or chloroform liniment. Internally, salicylate of sodium may be given in doses of from two to ten grains every three or four hours, according to the age of the child:—

℞. Sodii Bicarb. ʒij.
Sodii Salicylat. ʒiss.
Aquæ Menthæ Pip. fʒiij.—M.
Sig. Teaspoonful every three or four hours.

The above formula is very simple and seldom causes any nausea as this drug is apt to do when given in syrup. The soda should be omitted when the urine becomes alkaline. Another pleasant way of administering it is in milk.

Should pericarditis or acute endocarditis be present the chest must be covered with wool or a poultice, and the dose of the salicylate of sodium decreased or even suspended for a time, and small doses of opium in the form of Dover's powder

given three or four times in the twenty-four hours in doses of three or four grains to a child of six or seven years, and belladonna or digitalis must be given when necessary.

Salol and antipyrine may be employed instead of the salicylate of sodium, the dose of the former for a child of six would be two or three grains every four hours, and the latter (should there be no cardiac complications), three to five grains every four hours.

Should the attack follow scarlet fever iron may be combined in the mixture.

For the nervous condition more generally seen in girls either the bromide of potassium or sodium should be employed.

During convalescence the child should receive good nourishing food, a tonic containing quinine and nux vomica and a change of air.

PART VIII.

The Diathetic Diseases.

Scrofula.

What is the definition?

A morbid condition, usually constitutional, and frequently hereditary, characterized by glandular tumors, having a tendency to suppurate.

What are the causes?

May be either constitutional or hereditary; limited to childhood, affecting chiefly the lymphatic glands.

What are the symptoms?

A strumous child usually has a phlegmatic temperament; the mind and body are backward; the child is dull and heavy. The skin is thick and of a muddy appearance; the complexion doughy, the upper lip thick, the nostrils wide, and the alæ of the nose thickened. The cervical glands are most commonly affected. The abdomen is tumid and the ends of the bones thickened.

What are the complications?

Bronchial, gastric, and intestinal catarrh; otorrhœa, ozæna, and strumous ophthalmia.

What is the treatment?

If there be a history of scrofula in either parent, the mother must, during utero-gestation, wear warm clothing, avoid excitement, and take regular out-door exercise. She should not nurse her child but at once procure a healthy wet-nurse. When the child is weaned much care must be taken to exclude improper food. At first, pure cow's milk should be used guarded by a small quantity of limewater; later on light animal broths, free from fat, may be employed. The child

should wear flannel next to the skin all the year round, long stockings and stout shoes. Plenty of open air exercise should be encouraged. A salt bath may be given daily, followed by vigorous rubbing of the body with a moderately coarse towel followed by the hand.

The three principal drugs to be employed are iodine, iron, and cod-liver oil. Five drops of the syrup of the iodide of iron may be given in a teaspoonful of maltine three times a day to a child of four years, gradually increasing the dose of the former. Cod-liver oil may be given plain or with the lacto-phosphate of lime in the form of an emulsion. The bowels should be kept freely opened with some simple saline. The enlarged glands must be painted with the tincture of iodine, or icthyol ointment may be applied. Should an abscess occur it should be opened at once, and the general strength of the child supported during suppuration.

Tabes Mesenterica.

What is the definition?

A tubercular degeneration of the mesenteric glands, resembling chronic or tubercular peritonitis in its symptoms.

What are the symptoms?

Pain in the abdominal region; irregularity of the bowels with clay-like offensive stools. The abdomen is large and tumid, but the rest of the body wastes; nightly temperature slightly elevated.

As the glands enlarge pressure upon the neighboring organs is manifested. Enlargement of the abdominal veins is common. Ascites is frequently present, due either to pressure upon the thoracic duct or vena portæ. Considerable tympanites, vomiting, and diarrhœa may be present.

Towards the close hectic fever sets in, the pulse becomes

rapid, profuse sweats are very common, and the child usually dies from exhaustion, enteritis, or peritonitis.

What is the diagnosis?

Can only be positively made when the enlarged glands are felt.

What is the prognosis?

Usually grave.

What is the treatment?

The food should be of the most nutritious kind, but always given in a small quantity. The juice expressed from raw beef, mutton or chicken broth, eggs lightly boiled, and fresh fish are to be employed. Milk may be given, if after a trial it is found perfectly digested in the evacuations.

As regards drugs, the syrup of the iodide of iron will be found useful. Cod-liver oil may be given in small doses by the mouth, but it is preferably employed by inunction. Chloride of calcium may be given to children three years old in five grain doses, and iodoform in a dose of about half a grain. If lumps are felt near the surface a five per cent. solution of the oleate of mercury may be painted over the abdomen for a few days, and repeated at frequent intervals. Should much abdominal pain be complained of, Dover's powder in two and a half grain doses may be given to a child of four or five years twice daily.

Infantile Syphilis.

How may infantile syphilis be divided?

Into congenital and acquired, the former being derived from the blood of one or both parents, and the latter by contact with a chancre, as in a wet-nurse or any person brought into close connection with the child.

What are the symptoms?

Children born with syphilis are usually very small and puny-looking, their cry is feeble, the skin scaly and copper-colored. The lips are generally thick and fissured, there is ulceration, condylomata about the anus and buttocks, and the soles of the feet will be found red and scaly. In severe cases the entire body is covered with dark, moist crusts or scales and a few scattered blebs containing serum.

In older infants the fontanelle will usually be found open and ossification slow. The teeth are cut early. The voice is hoarse and squeaking; the nails are small; the liver is large and hard. The posterior cervical glands are frequently enlarged. The enlargement of the liver often causes pains in the belly, vomiting, and frequently diarrhœa. The child's face has an old look; the hair, eyebrows, and even eyelashes may have fallen out; the corners of the lips and nose are often ulcerated; the body is covered with a raised, coppery eruption. The nasal mucous membrane is thick and swollen, and the child is constantly snuffling.

In milder cases there may be simply snuffling, with a squamo-tubercular rash, or irregular blotches of coppery roseola.

What is the morbid anatomy?

The liver is enlarged, indurated, and round; gummy tumors are rarely found as in adults. The lungs may be filled with gummy tumors and usually present cheesy degeneration of their central portion; consolidation may also be present, which is known as *white hepatization*. The spleen may be enlarged, dark colored, and hard.

What is the diagnosis?

During the early symptoms the diagnosis is easy. The discoloration of the skin, the eruption appearing a few weeks later, the constant "snuffles," hoarse cry, history, etc. During the later periods of the disease, at or after the age of twelve years,

the diagnosis is more obscure. Now much will depend upon the history and general appearance of the child as compared with other children of the same family. The presence of the peculiar alteration of the teeth described by Hutchinson and interstitial keratitis should be looked for.

What is the prognosis?

Unfavorable if the disease appears soon after birth. If the disease does not manifest itself until the third or fourth week, and if the general nutrition is not greatly impaired and under proper treatment, the prognosis is favorable as regards saving of life.

What is the treatment?

Every care must be taken to support the strength of the child by the most nutritious diet, provided it is unable to suckle the mother. A healthy wet-nurse should not be employed, on account of the danger of her being infected by the child. As to medicinal treatment, mercury in some form should always be used. If the child is nursed at the breast the mercury may be given to the mother, although its action is rather uncertain. Dr. Eustace Smith highly indorses the hydrargyrum cum creta and the liquor hydrargyri perchloridi. The former may be given in grain doses twice daily, combined with bismuth or bicarbonate of sodium, to be increased to two grains if necessary.

℞. Hydrarg. C. Cretæ gr. xii–xxiv.
Sodii Bicarb. gr. xxxvj.
Sacch. Lact. gr. xxiv.
M. et ft. chart. No. xii.
Sig. One powder night and morning.

Should the bowels become too loose the solution of the perchloride should be given in doses of from fifteen drops to half a drachm, which may be increased if necessary.

Daily inunctions of half a drachm of mercurial ointment may

be rubbed upon the abdomen, back, and sides, protecting the parts with a flannel binder. The child should be carefully bathed each day before the inunction is made.

Diarrhœa and vomiting must receive the same treatment as under other circumstances.

Of the local symptoms, the enlargement of the liver frequently subsides under mercurial treatment; that of the spleen is more troublesome, and its continuance should not warrant the long administration of the mercury if the other symptoms have subsided. In pneumonia and bone disease the drug must be continued, and, in addition, stimulants, such as alcohol or carbonate of ammonium, should be given in the former, and cod-liver oil and iron in the latter.

Condylomata must be kept as clean and dry as possible, and dusted with calomel or equal parts of calomel and oxide of zinc twice daily. The patches that appear at the angles of the mouth may be treated in the same way. For the sores that form over the trunk and extremities the ungt. hydrarg. oxid. rub. may be used. After the more definite symptoms have disappeared the child should be given a prolonged course of the iodide of potassium and cod-liver oil.

PART IX.

Diseases of the Spleen and Blood.

How are diseases of the spleen recognized?

By a peculiar pallor of the face and enlargement of the organ.

What are the causes?

Splenic enlargement is a common affection in children, and may be due to one of the following diseases: typhoid fever, rickets, syphilis, tubercle, or ague. Increase in size and alteration of structure are at times found with Hodgkins's disease. Splenic enlargement is often associated with cirrhosis of the liver.

What is the morbid antomy?

The spleen is large, its capsule thick, its substance firm, pale, or dark colored. Microscopically the fibrous septa of the organ are thickened. The tubercular spleen has scattered over the surface of its capsule many gray, miliary tubercles, and similar bodies may be found through its substance.

What are the symptoms?

The peculiar pallor of the face, which in some cases may be of a slightly brownish or greenish tint.

What is the diagnosis?

There are no points which enable one to distinguish one form of enlargement from others. The tubercular and syphilitic spleen are more often associated with enlargement of the liver than are rachitic and simple enlargement of the organ.

The blood, upon microscopical examination, will show a diminution in the red corpuscles.

What is the prognosis?

Usually unfavorable. All splenic enlargements respond very slowly to drugs.

What is the treatment?

A syphilitic spleen will require mercury, and a splenic enlargement associated with malaria, quinia. As all forms are associated with pallor, either arsenic, iron or cod-liver oil should be given.

The enlarged spleen of rickets usually does well upon a diet of good food, plenty of fresh air, and half-drachm doses of the syrup of the lacto-phosphate of iron. Oil or soap liniment may be rubbed over the surface of the organ, but not much success must be looked for.

Purpura.

What is the definition?

An acute disease, characterized by a purplish mottling of the skin, caused by hemorrhages into the upper layers of the cutis and beneath the epidermis.

What are the causes?

Common in children of the lower classes, probably the result of bad feeding, overcrowding, etc. It is a condition which may be associated with many diseases, such as rickets, rheumatism, heart disease, and by the administration of drugs, such as iodide of potassium.

What are the symptoms?

The child may seem languid and fretful for a few days, probably with a tenderness of the mouth. Now the body may be covered with purple spots, the gums bleed and are much swollen. All parts of the body may be covered with small petechiæ. The temperature is a trifle above normal. In severe cases there may be bleeding from the nose, ears, bowels, and kidneys.

What is the pathology?

Nothing is known. The blood has been examined with negative results.

What is the prognosis?

Seldom fatal, except when associated with high fever.

What is the treatment?

If the attack is severe the child should be kept in bed perfectly quiet. The bleeding may be controlled with gallic acid, oil of turpentine, tincture of the chloride of iron, dilute sulphuric acid, etc. The patient should be given a good, nutritious diet, including lime or lemon juice with at least two meals.

Hæmophilia.

What is the synonym?

Hemorrhagic diathesis.

What is the definition?

A hereditary condition, characterized by the habitual occurrence of hemorrhages, said to be more common in males.

What is the cause?

Hereditary.

What are the symptoms?

They usually show themselves within the first year or two of life, by either bleeding from the nose or mouth, or spontaneous ecchymoses in the skin. In very severe cases the bleeding arises spontaneously, or from some trivial cause, and occurs not only in the skin and from mucous surfaces, but large extravasations take place into the subcutaneous tissue and intermuscular septa, and into the cavities of the larger joints.

What is the pathology?

Not known.

What is the diagnosis?

It may be confounded with purpura due to other causes. The family and personal history, and sex of the patient must be carefully noted.

What is the prognosis?

The disease is usually persistent throughout life, and there may be risk of life at any time from profuse hemorrhage.

What is the treatment?

Preventive treatment, such as the avoidance of an injury; residence in a warm, even climate; warm clothes; good, substantial food, etc., is generally of much value. The perchloride of iron is said to be the best remedy, though none can materially influence the disease. Should the hemorrhage be so severe as to endanger life transfusion must be resorted to.

Anæmia.

What is the definition?

A deficiency of red corpuscles in the blood, characterized by general weakness and pallor, common at all ages, from a few months old and upward.

What are the causes?

Insufficient or improper food, bad air, syphilis, rickets, malaria, and unhealthy hygienic surroundings. Frequently noticed in girls of twelve or fourteen years of age employed in mills; growing too fast, violent exercise, and hard work.

What is the pathological anatomy?

The microscope shows a great diminution in the number of the red blood corpuscles, and a slight excess of the white.

What are the symptoms?

Pallor of the face; the conjunctivæ, tongue, and gums are pale; the appetite is poor, and the bowels constipated; the

child is languid and ill-tempered; the heart is irritable, and frequently soft systolic murmurs are heard.

What is the diagnosis?

As an anæmic condition may be associated with so many disorders of childhood, all other diseases must be excluded; the child must be thoroughly examined, and only in the absence of actual structural changes in the viscera, in the absence of syphilis, ague, or malaria, is the diagnosis made.

What is the prognosis?

Some cases of simple anæmia will be found very obstinate, and treatment seems of little avail, whilst others respond more quickly. In all cases, whether slight or severe, the prognosis should be guarded.

What is the treatment?

Before employing drugs the child's mode of living should be carefully looked into; the sleeping-room, the food and clothing, and its general habits must be investigated. If these are found to be thoroughly hygienic, then drugs may be employed. Iron in some form is the most valuable remedy; the lactate of iron may be given in one to three grain doses, as follows:—

℞. Ferri Lactat. gr. xij.
Pepsinæ Sacch. gr. xxxvj.
Pulv. Aromat. gr. vj.
M. et ft. chart. No. xii.

Sig. One powder three times a day for a child of two years.

Another valuable formula is arsenic combined with iron.

℞. Liq. Potass. Arsenitis ♏xvj.
Vini Ferri Amar. f℥ij.—M.

Sig. From one-half to one teaspoonful in water after eating three times for a child of two years.

Iron may be combined with cod-liver oil, malt extract, and quinine.

The following prescription is used at the Children's Hospital of Philadelphia :—

℞. Quiniæ Sulphat. gr. viij.
Syr. Ferri Iodid. f℥iss.
Glycerinæ,
Syr. Simp. āā f℥j.
Ol. Anisi gtt. ij.—M.

Sig. Teaspoonful three times a day for a child of two years.

In addition to the above treatment the child should be allowed plenty of fresh air, good, nutritious food, etc.

PART X.

Diseases of the Nervous System.

Simple Meningitis.

What are the synonyms?

Suppurative meningitis; lepto-meningitis.

What is the definition?

An acute inflammation of the membranes of the brain; characterized by headache, fever, and delirium.

What are the causes?

Disease of the ear and nose, acute fevers, injuries, exposure to intense heat of the sun, dentition, and sudden change of temperature.

What is the pathological anatomy?

The inflammatory changes are said to be developed at the convexity in preference to the base in infants, although basal meningitis is not uncommon.

The dura mater is much injected, and the cerebral veins contain coagulated blood. When the dura mater is opened nearly all of the convex surfaces of both hemispheres are covered with a yellowish or greenish substance, consisting of fluid or concrete pus or false membranes. These deposits are also found at the base of the brain, the upper surface of the cerebellum, and the internal surfaces of the hemispheres. The pia mater is the seat of the inflammatory products, also the cavity of the arachnoid membrane, but in much smaller quantity than in the tissue beneath.

The ventricles seldom contain transparent serum, except at a very early age. They may often contain from one drachm to half an ounce of pus.

What are the symptoms?

The child is pale, appetite poor, intense thirst, retraction of head, and screaming if moved, the bowels are constipated, and the abdomen retracted. There is fever and vomiting, the expression of the face is wild, muttering delirium, grinding of the teeth, subsultus tendinum, convulsive movements, stiffening of the extremities, strabismus, contraction first, and then dilatation of the pupils, and in some cases convulsions, followed by deep coma.

What is the prognosis?

Usually grave, although under careful treatment and nursing patients recover.

What is the diagnosis?

In young children the symptoms are obscure, and when the diagnosis of meningitis is settled upon the question is whether it is tubercular or not. M. Rilliet draws the following distinctions:—

Simple Meningitis.	*Tubercular Meningitis.*
1. Occurs in healthy children.	1. Occurs in weak precocious children.
2. May be epidemic.	2. Always sporadic.
3. May commence with convulsions.	3. Never at onset.
4. The attack is sudden.	4. The disease makes headway insidiously.
5. Headache more intense, vomiting, violent delirium, fever, coma.	5. Obstinate constipation, late vomiting, tranquil delirium, little fever.
6. Progress rapid; duration short.	6. The reverse of this.

Retraction of the neck, pain on movement, pain in the head, rigidity of the muscles, causeless vomiting, flattened abdomen, fever, intolerance of light, irregularity of the pulse, delirium, constipation and weakness. From acute uræmia; in this the temperature is low, casts and albumen in the urine. Previous

history as to ear discharges is always of service in aiding the diagnosis.

What is the treatment?

Iodide of potassium may be given in the hope that it will absorb the inflammatory material. It may be combined with small doses of calomel. Shaving the head and counter-irritation may be employed, although an ice-cap kept constantly to the head is generally all that is necessary.

Should the temperature run high quinine may be given. The constipation may be relieved by an aperient. Any violent delirium must be controlled by the bromide of potassium or sodium, chloral or Dover's powder. The symptoms have often subsided after incising the membrana tympani, discharging a small amount of pus. The child should be kept in a moderately cool room, and the head kept high. The food should consist of milk, milk punch, animal broths, etc.

Tubercular Meningitis.

What is the synonym?

Basilar meningitis.

What is the definition?

An inflammation particularly of the pia mater of the brain, due to the deposit of gray miliary tubercle.

What are the causes?

Scrofulous diathesis; hereditary diathesis; occurs in children from the second to the seventh year.

What is the pathological anatomy?

Tubercle is usually deposited at the base of the brain.

Grayish-white granules are distributed along the vessels of the pia mater, causing inflammation and the exudation of lymph.

The cerebral tissue is seldom involved. The ventricles are distended by a clear or bloody serum.

The tubercular deposits may occur in the lungs, intestines, liver, kidneys, etc.

What are the symptoms?

General wasting, disturbed sleep, bad dreams, grinding the teeth, pain in the head, a short sharp cry and irregularity of the pulse. As the disease matures the cerebral symptoms are more marked. The child sleeps with half closed eyes, and often awakes in alarm. The patient has a pinched, drawn, haggard expression which is very characteristic. The respiration is quickened and irregular, accompanied with sighing and yawning; the temperature is slightly elevated. The child may remain in this condition from three to four days. Now the child wishes to be left alone; at night there is considerable delirium; the pulse is slower and more irregular, there is more stupor and insensibility; the child is constantly frowning, and the face is flushed; the head is hot, and the piercing "*cri hydrocephalique*" is increased. The pupils may be unequally dilated, or strabismus is present. The abdomen is much retracted. Increased stupor now appears, interrupted, however, by convulsions. The pulse becomes smaller and there are clammy sweats. The pupils are widely dilated, the eyes staring and deep in their sockets. Convulsions now are constantly occurring, soon causing death.

What is the diagnosis?

The chief difficulty is to diagnose the disease from typhoid fever. The latter is only common in children above five years of age; there is seldom vomiting, and the bowels are usually relaxed. There is tenderness and gurgling in the right iliac fossa; the abdomen is tumid and flatulence is present. Convulsions and paralysis are rare. Rose spots are usually present.

The "*tache-meningitique*" (a red line remaining on the skin after the finger has been drawn along it), is absent in typhoid fever, and always present in tubercular meningitis. From simple meningitis, see table on page 131.

What is the prognosis?

Very grave, although instances of recovery have been reported.

What is the treatment?

When a child of a family dies of hydrocephalus, the health of the parents should be looked into and improved as far as may be practicable. Should the mother bear another child she must not suckle it, but have it reared by a healthy wet nurse or artificially fed. As it grows older its hygienic surroundings should be carefully watched. His diet must be plain and nourishing; he must wear flannel next to the skin, and constantly kept in the open air. During the winter months it would be well to give him a mixture of cod-liver oil with the lacto-phosphate of lime, or malt-extract with the syrup of the iodide of iron; the bowels should be carefully regulated, and every tendency to illness watched.

The disease runs its course, and nothing will retard it. Symptoms should be treated as they arise. It is well to give the iodide of potassium and mercury at the onset; iodoform is recommended in very young children in doses of one-half increased gradually to one grain.

The child should be kept in bed and not allowed to see visitors. An ice-cap should be kept constantly to his head, and sleeplessness combated with chloral or the bromide of potassium; the diet should be light, consisting of milk, egg, clear soup, etc.

Acute Hydrocephalus.

What is the synonym?

Acquired hydrocephalus.

What is the definition?

An equable enlargement of the cavity of the skull, caused by fluid in the arachnoid spaces, the pia mater, the ventricles, and brain substance.

What are the causes?

Usually occurs in children between the ages of one and six years. Bad hygienic surroundings, tubercular deposits in the pia mater, blows on the head, eruptive fevers, dentition, diseases of the right heart, and Bright's disease.

What is the pathological anatomy?

The effusion is not only limited to the ventricles, but is found in the arachnoid spaces, pia mater, and surrounding portions of the brain.

What are the symptoms?

The child is restless and loses its appetite; there is fever, vertigo, headache, delirium, twitching of the muscles, hyperæsthesia of the skin. These symptoms may continue for three or four days, when convulsions appear, usually causing death.

What is the prognosis?

Unfavorable.

What is the treatment?

No treatment is of much value. Iodide of potassium may be given to promote absorption of the fluid. The convulsions should be controlled with chloral and the bromide of potassium or sodium.

Congenital Hydrocephalus.

What is the synonym?

Chronic hydrocephalus.

What is the definition?

An accumulation of the cerebro-spinal fluid in the ventricles of the brain, which is known as *internal hydrocephalus*, and in the pia mater, which is known as *external hydrocephalus*. When the fluid occurs in both it is known as *mixed hydrocephalus*.

What are the causes?

Arrested development of the brain. Occurs in children of scrofulous, tubercular, and syphilitic parents.

What is the morbid anatomy?

The fluid is found between the dura mater and the cranium; between the dura mater and the arachnoid; in the meshes of the pia mater, and most commonly in the ventricles. The position of the fluid materially affects the other morbid conditions. Compression from without reduces the brain to a small size, and distention from within will render it a thin, membranous bag.

The membranes may be either free from change or show signs of inflammation. It is quite difficult to recognize the difference between the white and gray matter.

What are the symptoms?

The gradual enlargement of the head is first noticed. The child is emaciated, although the appetite is good. There is drowsiness, and some dulling of the intellectual powers. The head appears too large for the small, wrinkled, and pinched face, and too heavy for the child to support. As the size of the head increases it becomes so heavy that the child is unable to hold it erect, and it hangs first on one or the other side.

The face is devoid of expression, and the eyes usually have a downward expression. The voice is feeble and the cry short and shrill. These symptoms increase daily until convulsions occur, which usually end fatally.

The majority of cases of congenital hydrocephalus terminate fatally during the first year of life. Cases have been reported of patients living from ten to fifteen years or more.

What is the diagnosis?

The enlargement of the skull is frequently mistaken for the skull of rachitis, although the latter is quite different. The rachitic skull is long and laterally compressed, the forehead is high and square; the hydrocephalic skull is enlarged in all directions, with an overhanging of the forehead, prominent and divergent eyeballs.

What is the prognosis?

Unfavorable, although cures are reported.

What is the treatment?

Gölis recommends the following plan: Calomel in quarter to half-grain doses twice daily, together with the inunction of one or two drachms of mercurial ointment into the scalp once a day, protecting the head from cold with a flannel cap, which is worn constantly.

Another plan is to strap the head with adhesive plaster, releasing it if symptoms of compression arise.

Paracentesis may be performed by puncturing the skull with a small trocar and canula at the coronal suture, about one inch and a half from the anterior fontanelle, care being taken to avoid the longitudinal sinus. A small portion of the fluid should only be removed at a time, care being taken to maintain even pressure between the tappings.

The child should be given the iodide of potassium and syrup of the iodide of iron and cod-liver oil. The food must consist of animal broths, milk, etc.

Encephalic Tumors.

What is the definition?

Tumors of the brain, seated chiefly in the cerebellum, found principally in tubercular children.

What are the symptoms?

Intense occipital headache and vomiting, congestion, swelling, and neuritis of the optic nerves, followed by white atrophy and blindness. The gait is reeling, and tonic convulsions or rigidity, movements of the eyeballs, enlargement of the occipital segments of the head, hydrocephalus, and craniotabes may be present.

What is the morbid anatomy?

The commonest form of tumor of the brain is solitary tubercle. It is most frequently found in the posterior part of one or other lateral lobe, and occasionally a small mass is found in the opposite lobe. Gliomatous growths, cystic tumors, or simple cysts may also exist.

What is the diagnosis?

The unsteady movements in walking, optic neuritis, rigidity, perverted movements of the eyeballs, screaming spells, etc.

What is the prognosis?

Always grave.

What is the treatment?

The child should have careful nursing and a light but nutritious diet. For the relief of the intense pain opium should be employed, or the bromide of potassium or sodium combined with chloral. Dr. Goodhart thinks it justifiable to trephine.

Cerebral Hemorrhage.

What is the synonym?

Apoplexy.

What is the definition?

An effusion of the blood into the substance of the brain, caused by the sudden rupture of a bloodvessel.

What are the causes?

Usually rare in children; chief cause, disease of the bloodvessels; embolism; cardiac hypertrophy; hereditary tendency, etc.

What are the symptoms?

Heaviness, drowsiness, and headache, passing slowly into stupor; or the attack may be quite sudden, appearing as coma, convulsions, or paralysis.

What is the pathological anatomy?

A clot may be found in the brain, usually in the neighborhood of the corpora striata and optic thalami.

What is the diagnosis?

This depends mostly upon the evidence of heart disease, or of some reason for the formation of clots on the valves or in the cavities, such as rheumatism, chorea, scarlatina, and typhoid fever.

What is the prognosis?

Grave.

What is the treatment?

Absolute rest in bed, ice to the head; the bowels should be kept freely opened and nourishment must be given in small quantities at frequent intervals. As in adults, the child should be frequently changed from side to side to prevent the accumulation of mucus at the base of the lungs.

In cases of apoplexy due to valvular disease, one or two

grains of quinine may be given if pyrexia is present, and the heart's action should be quieted and sustained by the administration of bromide of potassium, belladonna, or digitalis.

Infantile Paralysis.

What is the synonym?

Essential paralysis of children.

What is the definition?

An inflammation of the anterior horns of the gray matter of the cord occurring suddenly in children; characterized by slight fever, muscular tremors, and paralysis of groups of muscles.

What are the causes?

Children of rheumatic parents seem to be more prone to the disease. The exciting causes are exposure to cold, dentition, injuries to the spine. It often follows the acute exanthemata.

What is the pathological anatomy?

Medullary hyperæmia, vascular exudation, and inflammatory softening. Microscopically the anterior horns of the gray matter are inflamed and much softened.

What are the symptoms?

The onset is usually sudden, commencing with a mild fever, which is often remittent and lasting a few days, then subsides, and the child is found to be paralyzed. In rare cases the paralysis may be ushered in with convulsions. Many children go to bed apparently well and are found paralyzed in the morning. Both arms and both legs may be affected, or only one arm and one leg.

The temperature of the paralyzed limbs is always sub-normal, and the muscles slowly waste until all muscular tissue is gone.

What is the diagnosis?

Usually quite easy where the paralysis appears suddenly in

the midst of apparently good health. From pseudo-hypertrophic paralysis: this disease has no stage of fever, and the paralyzed muscles are increased in size.

What is the prognosis?

Rarely threatens life, although complete recovery is rare.

What is the treatment?

The primary fever should be treated with aconite or the solution of the citrate of potassium. When the paralysis appears the child should have complete rest. Half a grain of the iodide of potassium may be given with a drop or two of the tincture of digitalis every three hours. The iodide of potassium may be replaced by a grain of mercury with chalk or by rubbing mercurial ointment over the region of the cord, which corresponds to the paralysis. Ice compresses to the spine, and cool or cold bath followed by brisk rubbing will be found useful. Mild galvanism should be employed, and quinia, belladonna, and ergot given internally.

In applying electricity much care and tact are required, especially if the child be under six years. The weakest currents should be employed at first, gradually increasing the strength as the child becomes used to the sensation. Massage to the paralyzed limb will be found of service. The tincture of nux vomica may be given in the following mixture:—

℞. Tr. Nucis Vomicæ ♏xxiv.
Syr. Simp. ℥ss.
Elix. Calissayæ q. s. ad f℥iij.—M.

Sig. Teaspoonful three times a day for a child of three years.

Hypodermic injections of the sulphate of strychnia in doses of $\frac{1}{120}$ to $\frac{1}{60}$ of a grain two or three times a week, in connection with faradisation to the paralyzed muscles, will be found useful. The affected parts should be kept perfectly warm.

Pseudo-hypertrophic Paralysis.

What are the synonyms?

Pseudo-hypertrophic spinal paralysis; fatty muscular hypertrophy.

What is the definition?

A disease characterized by progressive loss of power appearing in certain groups of muscles, until nearly all the muscles of the body are involved.

What are the causes?

Attacks children almost exclusively, and appears to be hereditary; is most frequent in boys.

What is the morbid anatomy?

The muscles will be found in the early stages to be separated by growths of fat in the interstitial tissues; in the later stages they are almost crowded out by fat.

The spinal cord is seldom found diseased, and the general opinion is that the affection is a local one of muscular origin.

What are the symptoms?

The child will usually begin to walk late, and then walk imperfectly; or children that have been walking for several years will complain of feeling tired, and a peculiarity will soon be noticed in their gait. In a few cases reported, pains in the limbs have been complained of in the early stage. When the disease is established the mode of walking and standing is very characteristic. The child soon discovers that without support these operations become more painful and difficult each day. In order to keep their equilibrium the lower dorsal and lumbar spine is arched forward, while the upper part of the spine, the shoulders, and head, are bent backwards. The legs are widely separated, and in walking the body is inclined laterally towards the leg which rests on the ground;

this produces a characteristic balancing of the body during locomotion, while the legs are advanced in jerks. The calf muscles are usually the first to enlarge, then the glutei follow, and finally other muscles of the thigh, pelvis, trunk, and upper extremities become involved. Niemeyer speaks of his patient as looking "as if he had the body and head of a weak child on the hips and thighs of a strong man."

What is the duration?

May vary from five to fifteen years or even longer.

What is the prognosis?

Patient may live for a number of years. Death usually comes at last from exhaustion.

What is the diagnosis?

The two diseases it needs chiefly to be distinguished from are infantile paralysis and progressive muscular atrophy. The former affection comes on very suddenly, and the latter is quite rare.

What is the treatment?

The results of treatment are very unsatisfactory. The patient's general health should be supported by a nutritious diet. The drugs to be employed are cod-liver oil, iron, the compound syrup of the hypophosphates, and arsenic. The affected muscles should be manipulated and faradised. Benedikt has attained good results in three cases by the use of the direct current, the copper pole being placed over the cervical ganglion, and the zinc pole along the side of the lumbar vertebræ by means of a broad metal plate.

Torticollis.

What are the synonyms?

Wry neck; stiff neck.

What is the definition?

A rheumatic pain involving the muscles of the neck, usually

limited to one side; characterized by great pain in attempting to turn the neck in the opposite direction.

What are the causes?

Cold and exposure; a frequent affection of childhood. It occurs in rheumatic families, in anæmic children, or those run down in health; it may also occur from the reflex irritation of enlarged glands and decayed teeth.

What is the diagnosis?

Cannot well be mistaken; pain on turning head; rarely fever, etc.

What is the treatment?

Local anodynes to relieve pain; hot fomentations to neck; saline laxatives, such as the effervescing citrate of magnesium, and general tonic treatment; hypodermic injections of atropia and morphine into the affected muscle.

Spastic Rigidity.

What is the definition?

An idiopathic muscular contraction of different flexor muscles of the extremities, especially of the fingers and toes, existing independently of any recognizable disease of the cerebro-spinal system.

What are the causes?

Most common between one and three years of age. It is usually sympathetic in its origin. The causes are gastro-intestinal irritation, dentition, etc. It may also be symptomatic of diseases of the brain, as tubercle and meningeal hemorrhage.

What are the symptoms?

When the disease is fully manifested the thumbs are drawn into the palms of the hands, with the fingers flexed and cover-

ing the thumbs. The contraction may extend to the wrists, forearm, and in rare cases to the arms. The toes are also in a state of muscular flexion or extension, and the foot extended upon the leg; it is unusual for the spasm to extend to the knee.

The child complains of pain in the affected parts, and is restless and irritable, but the mind is perfectly clear. Convulsions, strabismus, and other indications of nervous disorder may occasionally occur.

The child may remain in this condition for weeks or even months, the disease either slowly increasing in severity or remaining the same. When improvement appears it is often intermittent, the intermissions becoming longer and longer as restoration to health progresses.

What is the prognosis?

Not very hopeful. When death occurs it is usually from convulsions.

What is the treatment?

The cause must be first discovered and treated. If from gastro-intestinal irritation, the diet should be carefully regulated and appropriate drugs administered. If from difficult dentition, the lancing of the gums will be of much service. The local spasm is best relieved by warm baths; bromide of potassium, belladonna, and oxide of zinc will be found useful.

Infantile Convulsions.

What is the definition?

A paroxysm of variable duration, usually attended with unconsciousness, and followed by stupor.

What are the causes?

Dentition, worms, indigestible food, excited play, brain disease, rickets, and some acute exanthem. Goodhart classes

all convulsions under two years of age as "infantile," and all over that age as epilepsy.

What are the symptoms?

The child becomes pale, the eyes are turned upward, the face gets almost black, and the lips become livid. Infants frequently give a violent scream before becoming convulsed. Some cases lose consciousness only, and suddenly awake with a start. Sometimes the whole body becomes stiff with impeded breathing, twitching of the lips, half-closed eyes, sudden starting, and carpo-pedal contractions; the thumbs are bent across the palms of the hands, the sole of the foot is arched, and the toes flexed. A child may have several convulsions in one day, or they may occur at intervals of weeks.

What is the diagnosis?

If we can by careful questioning exclude brain disease and one of the exanthemata the diagnosis will most likely rest between difficult dentition and indigestion, or perhaps constipation.

What are the results?

Hemiplegia, which may only be of temporary duration. Children frequently stammer and are dull after a fit; and cases of idiocy have been reported where the first note of evil was a convulsion. Strabismus is said to be one of the most common results of a convulsion.

What is the prognosis?

Children frequently die in convulsions at an early period of life. Frequent and very violent convulsions should always be looked upon with much anxiety. The prognosis is always grave when scarlatina or measles are ushered in with a convulsion. When associated with dentition, indigestion, etc., the outlook is not so grave, and by removing the cause and proper treatment few deaths ensue.

What is the treatment?

The child should at once be placed in a hot mustard bath, covering the body well up to the neck, and an ice-bag applied to the head, and an aperient given; two grains of calomel may be given to a child a year old; if the gums are hot and swollen they should be lanced. When the child becomes conscious the bromide of potassium should be given in moderately large doses; for instance, ten grains of the bromide may be given to a child of one year. Chloral may be employed with advantage in doses of from three to five grains by enema. The child, after the convulsion, should be kept perfectly quiet in a darkened room, and given a light diet. It is well to administer the bromide in moderate doses for the next week.

Epilepsy.

What is the definition?

A chronic disease characterized by convulsive attacks and a sudden loss of consciousness.

What are the causes?

Fright, injuries to the head, hereditary, gastro-intestinal disturbance, sun-stroke, worms and dentition.

What is the morbid anatomy?

No characteristic primary anatomical changes known.

What are the symptoms?

So far as the symptoms in the actual fit are concerned, they do not differ from those seen in the adult. Children will sometimes have a violent convulsion, and insensibility succeeded by stupor; but the greatest number simply faint and lose consciousness for a minute or so, and may have several recurrences during the twenty-four hours. The fits of children usually occur at night.

What is the diagnosis?

Usually easy if a careful history of the case is elicited.

What is the prognosis?

About the same as in adults. Many children improve when kept under proper treatment while others are very obstinate. If the fits are very frequent and violent, imbecility may follow.

What is the treatment?

The child's general health, his food, and hygienic surrounding should be carefully looked into. He should be kept upon a good nutritious diet with but little meat. The bromide of potassium will be found the most useful of all drugs for the arrest of the convulsions. It may be given in doses of from five to twenty grains three times a day to children from one to twelve years of age. Goodhart prefers the bromide of sodium to that of potassium in children. Should the child have a neurotic heart digitalis or belladonna may be combined with the bromide of potassium or sodium. Occasionally arsenic or strychnia will be found of much service. Borax is said to be of value.

Night Terror.

What is the synonym?

Night-mare.

What is the definition?

A nervous affection of young children characterized by the child suddenly awaking from a sound sleep and uttering loud and terror stricken cries.

What are the causes?

Indigestion, constipation, and any great mental excitement before retiring. It usually occurs in children who are quick, excitable, and nervous; it is also said to run in rheumatic and choreic families.

What are the symptoms?

The child goes to bed apparently well to all appearances, but in a few hours after he has been asleep he suddenly awakes in great alarm, and utters piercing cries. For some minutes he will not recognize his parents or nurse, and will point to different parts of the room with an expression of great alarm, and will often imagine that some huge animal is about to attack him. Finally he becomes more composed and falls sobbing to sleep in the arms of his mother or nurse.

What is the treatment?

The child should never be allowed to sleep alone; the diet must be of the plainest after the mid-day meal. Bromide of potassium and chloral are the drugs to be employed, and the former should be given daily until the *terrors* cease.

Idiocy.

What is the definition?

"A mental deficiency, or extreme stupidity, depending upon mal-nutrition or disease of the nervous centres, occurring either before birth, or before the evolution of the mental faculties in childhood." (Dr. Ireland.)

What are the causes?

Idiocy may be congenital or acquired; the former cases are usually microcephalic, and the latter are common after convulsions. A long-continued attack of chorea is apt to degenerate into idiocy; scrofula, epilepsy, injury to the brain, a blow or fall on the head, masturbation, and alcoholic excesses of either parent, is one of the causative factors.

What is the morbid anatomy?

In some cases the brain will be found very small, or the convolution may be rudimentary or simple. One part or other may be ill-developed or even absent. In the acquired form

thick membranes, pachymeningitis, cysts, thickening or deformity of the skull, may be found.

What are the symptoms?

The grave cases have no natural sense of any kind; the mind remains in an undeveloped state; the child cannot walk or talk properly; he may often be deaf, and cannot take hold of objects, and is often deformed. The following are the commonest deformities: Hernia, club-foot, peculiar shape of ears, one or two toes of abnormal shortness in each foot, and wad-shaped fingers; the testicles are sometimes absent; the head may be either large or small, the former constituting hydrocephalic and the latter microcephalic idiocy; the lips are thick and everted, the mouth large, the teeth decayed; the gums usually swollen, and more or less dribbling of saliva from the mouth.

What is the treatment?

Much may be accomplished in the education and training of idiots, provided they are put in the hands of some kind person having a superabundance of patience and experience; here the idiot will develop into a being with some intelligence, and with trained and disciplined habits.

Cretinism.

What is the definition?

An arrested development of the nervous system and bodily organization generally, either before or after birth, due to a local cause—as the condition of the soil, water, air, etc.

What are the causes?

Most commonly found in children living in valleys where the air is foul, the soil damp, and the inhabitants poor, dirty, and often insufficiently fed; bad drainage, ill-ventilated houses, deficient light. It is often associated with goître.

What are the symptoms?

The cases of cretinism cease to grow in early infancy, there is so little change from year to year that the child at two or three years looks the same at eight or ten. The skin is yellowish, thick, harsh and wrinkled; the eyelids puffy; the scalp is scaly, and covered with a scant growth of coarse hair; the head is big, flat, and broad; the fontanelles are widely open, and sometimes all the sutures are disjointed, as if by hydrocephalus; the forehead is small and the face large; the limbs are large; the abdomen puffed and pendulous; the tongue is large, and is frequently carried with the point hanging out of the mouth; the teeth are cut irregularly, and are generally stunted and decayed; the thyroid is usually enlarged.

What is the morbid anatomy?

The bones of the skull are thick, the sutures abnormally obliterated. The cartilaginous ends of the long bones are enormously out of proportion to the stunted shafts.

What is the treatment?

The child should at once be removed from its present bad hygienic surroundings and allowed to breathe pure mountain air, and given abundance of milk and a nutritious diet consisting of animal broths, scraped beef, etc. It should be given a cool sponge bath daily followed by vigorous frictions of the skin. The syrup of the iodide of iron may be combined with cod-liver oil in cases of great muscular weakness. The oxide and valerianate of zinc are said to be of service. Electricity is useful where there is much wasting of the limbs.

Congestion of the Brain.

What are the synonyms?

Cerebral congestion; cerebral hyperæmia.

What is the definition?

An abnormal fulness of the bloodvessels of the brain.

What is the meaning of active and passive congestion?

Active congestion is when there is arterial fulness; passive when there is venous fulness.

What are the causes of active congestion?

Difficult dentition, exposure to the sun, falls or blows upon the head, excessive excitement and fatigue.

What are the causes of passive congestion?

Anything that causes an impediment to the reflux of the venous blood from the brain. It may be caused by the pressure of an enlarged thymus gland, or the enlargement of the cervical or bronchial glands. It may also occur in whooping-cough, and in children who are poorly nourished, etc.

What are the symptoms of active congestion?

The child is irritated for a few days and refuses to play. There is fever, and the bowels are generally constipated; there is great heat of the head, and if the child be old enough will complain of headache; intolerance of light and sound, twitching of the muscles and starting during sleep, insomnia, gnashing of the teeth. The pulse is quick and the carotids throb. If these symptoms are not relieved by appropriate treatment the child passes into a state of stupor, or an attack of convulsions may occur.

What are the symptoms of passive congestion?

The symptoms are less suddenly developed, but when marked they resemble those of the active form.

What is the diagnosis?

Between congestion and apoplexy: In congestion consciousness is seldom entirely abolished, there is rarely a one-sided paralysis, the symptoms are brief, and sensation and motion are rarely in one part simultaneously involved.

Between embolism and congestion: In congestion, premonitory symptoms; in embolism, attack sudden. In congestion, transitory paralysis; in embolism, more prolonged paralysis. In embolism, usually have cardiac disease and rapid pulse during attack; in congestion, slow pulse.

From epilepsy congestion is marked by the absence of a cry, by the existence of premonitory symptoms, the absence of pallor of the face, the rarity and irregularity of convulsions, and the absence of biting of the tongue.

In uræmia the bodily condition is important and condition of urine characteristic.

What is the prognosis?

Mild cases rarely prove fatal. On the other hand, if the congestion has lasted sufficiently long as to lead to serous effusions or to minute extravasations of blood, the prognosis is very grave.

What is the treatment?

Cases of active congestion must be kept in a dark room and treated with cathartics, enemata, and calomel, baths, cold applications to the head which should be kept elevated. Full doses of bromide of potassium, ergot, or belladonna may also be employed.

In the treatment of passive congestion attention must be given to the removal of the primary cause, which in many cases is impossible to ascertain. The urgent symptoms should be at once treated by cold applications to the head, by revulsion, and by careful attention to the regulation of the diet and condition of the bowels. If great danger exists mild local depletion may be cautiously employed. If the case is associated with feeble nutrition it may be necessary to employ stimulants and tonics containing quinine, etc.

Chorea.

What is the synonym?

St. Vitus's dance.

What is the definition?

An irregular, convulsive action of the voluntary muscles, of a clonic kind, especially of the face and extremities.

What are the causes?

Rarely occurs in children under five years of age. More common in girls than in boys. Rheumatic subjects are prone to it. It may be reflex from dentition, fright, worms, or masturbation, and is often hereditary.

What is the morbid anatomy?

There is no one lesion of constant standing excepting the fringes of vegetation which form on the edges of the aortic and mitral valves. Endocarditis is found in a great number of cases. The formation of these vegetations on the edges of the valves has led to a direct and simple pathology for chorea in the suggestion that it is due to embolism.

What are the symptoms?

The disease may either set in suddenly or with some gastro-intestinal disorder and irritability of temper. This is followed by slight twitching, convulsive movements of the face or one of the lower extremities; these all gradually increase in severity, extending to the other limbs, and may even reach the tongue. The child cannot walk without a jerking movement and staggering; the tongue cannot be protruded without much effort; he cannot stand still, but constantly fidgets about, and when an attempt is made to grasp anything he misses his aim and makes his efforts with strange grimaces. In the majority of cases the movements cease during sleep. When the cases are long and persistent the intellect may be seriously affected,

and even in mild cases it is usually dulled. The general health is seldom impaired, but constipation is always present, and sometimes loss of appetite.

The specific gravity of the urine is increased at the height of an attack and declines with the disease. The heart's action is rapid and irregular, and frequently a low, blowing, systolic murmur is heard at the base. When the movements are confined to one side of the body it is termed *hemi-chorea.*

What is the duration?

Usually from six to ten weeks.

What is the diagnosis?

Cannot well be mistaken for any other disease.

What is the prognosis?

The majority of cases recover, although relapses are frequent.

What is the treatment?

The child must be put to bed and kept perfectly quiet. The food should be light and nutritious, or, better still, a full milk diet with malt extract may be employed. If the muscular movements are very violent they must be protected by padding the adjacent sides of the cot, or in very severe cases the child may be kept in a hammock. The bowels should be kept freely opened with saline laxatives, and if sleep be disturbed some Dover's powder, chloral, or bromide of potassium may be given at bedtime. The medicinal treatment should consist of small doses of Fowler's solution of arsenic, beginning with three drops three times a day for a child of six or seven, increasing one drop daily until puffing of the eyelids appear showing that the limit of toleration has been reached. The drug should then be withdrawn for a day or two, and afterwards resumed, beginning a little below the maximum dose until a cure is accomplished. The fluid extract of cimicifuga in doses of five to twenty drops will be found useful in

attacks following rheumatism. Antipyrine has been of service in doses of five grains three times daily for a child of eight or ten years, care being taken to watch and alleviate any depression produced. The more sedative drugs, such as the bromide of potassium, chloral, belladonna, hyoscyamus, conium, may be employed during the early days of the attack, but are of little value. When the patient is able to be up and about the house he should be kept as quiet as possible, and restricted from any boisterous play or excitement. The arsenic should be continued, and if anæmia be present it may be combined with iron.

℞. Liq. Potass. Arsenitis f℥iss.
Vini Ferri Amar. q. s. ad f℥iij.—M.
Sig. Teaspoonful three times daily after eating.

PART XI.

Diseases of the Organs of Respiration.

Coryza.

What are the synonyms?

Acute nasal catarrh; cold in the head; "snuffles."

What is the definition?

An acute catarrhal inflammation of the mucous membrane, lining the nose and the cavities communicating with it.

What are the causes?

Atmospheric change, exposure to cold, getting the feet wet, scrofula, and syphilis. Usually present in the initial stage of measles. Irritating gases, dust, and certain powders, which excite an irritation of the mucous membrane. At times it seems to be contagious.

What are the symptoms?

It is ushered in with a slight fever, snuffling sound in breathing and sneezing. At first there is a slight discharge from the nostrils, which soon becomes abundant, acrid, and even mucopurulent. This forms in crusts about the nostrils, and greatly impedes the child's respiration causing it to breathe through the mouth. When the nasal breathing is completely obstructed the child will be unable to nurse, and will be required to be fed with a spoon.

What is the duration?

From three days to a week.

What is the treatment?

The child must be kept in one room, and if the fever be high, in bed. A little fluid magnesia may be given to empty the bowels, and the solution of the citrate of potassium for the

fever. At night bromide of potassium or chloral should be given to procure sleep. The local treatment should consist in keeping the parts perfectly clean, moist, and sweet. The crusts must be kept moist with glycerine and the following antiseptic ointment is recommended by Goodhart and Starr.

℞. Iodoform ʒss.
Ol. Eucalyptus fʒss–fʒj.
Vaseline q. s. ad fʒij or fʒiij.—M.

Sig.

Boracic acid with glycerine will be found useful.

℞. Pulv. Acid. Boracic. ʒss.
Glycerinæ ʒj.—M.

Sig. Drop two drops in each nostril three times a day.

In some cases astrigents will be found of service such as equal parts of glycerine, and the glycerine of tannic acid. In older children the nasal douche may be employed, but it is hardly practical in very young children.

Acute Simple Laryngitis.

What is the definition?

An inflammation of the mucous membrane lining the larynx, without any ulceration or exudation either of serum into the connective tissue or deposit of false membrane, and without spasm.

What are the causes?

Rarely occurs in children. Cold draughts of air; wet feet; inhalation of dust, gas, smoke, or ammonia; extension of inflammation in erysipelas, smallpox, and measles.

What is the pathological anatomy?

Hyperæmia of the mucous membrane of the larynx, with swelling and diminished secretion.

What are the symptoms?

After rigors and a moderately high fever, as prodromata, the symptoms are hoarseness, with burning pain referred to the larynx, a sense of constriction, and if the child be too young to express himself, pulls at his throat and gasps for breath; the voice gradually becomes a faint whisper, and the effort of speaking is painful; the breathing is labored, and there is much difficulty in swallowing; the cough is spasmodic and violent when it occurs; the fever at first runs high, causing hot skin, scanty urine, and quick pulse, soon turns into the asthenic type, from the deficient oxygenization of the blood. The disease lasts from three or four days to a week.

What is the diagnosis?

From laryngismus stridulus, by the presence of fever and the general symptoms.

From croup, by the absence of the peculiar croupy noise and breathing, and by the absence of false membrane.

What is the prognosis?

Always favorable in mild cases.

What is the treatment?

The child must be kept in a room where the atmosphere has been made moist. Hot and moist sponges should be constantly kept to the throat, and a half to one-drop doses of the tincture of aconite should be given in water every fifteen minutes until four doses are taken; calomel should be given in broken doses until the bowels are freely moved.

℞. Hydrarg. Chlor. Mit. gr. ½.
Sodii Bicarb. gr. xij.
Pulv. Aromat. gr. vj.
M. et ft. chart. No. vi.
Sig. One powder every hour.

The above may be followed by—

℞. Tr. Opii Camp. f℥j–℥ij.
Syr. Ipecac. f℥iss–℥ij.
Syr. Scillæ f℥ss.
Syr. Tolu f℥j.
Liq. Potass. Citrat. q. s. ad f℥iij.—M.

Sig. Teaspoonful every two hours.

The diet must be fluid and nutritious.

Chronic Laryngitis.

What is the definition?

A chronic inflammation of the upper portion of the larynx, with thickening of the mucous membrane.

What are the causes?

Usually of syphilitic origin. May follow membranous laryngitis.

What are the symptoms?

The cough is harsh, rough, and tearing in character; the voice is hoarse. At night the cough sounds almost croupy; it is much increased by the horizontal position, because the uvula is generally relaxed in these cases, and tickles the opening of the windpipe, causing a cough, when the child is put to bed, of a tearing character, often lasting for two or three hours. Patients with this disease are very susceptible to cold.

What is the treatment?

The child must wear flannel next to the skin all the year round; violent exercise should be avoided; a generous diet should be given; the paroxysms of coughing may be relieved by the solution of morphia in minute doses. If the uvula be relaxed an astringent gargle may be used, such as—

℞. Acid. Muriat. dil. f℥j.
Aluminis ℥iss.
Mellis f℥j.
Aquæ f℥v.—M.
Sig. Gargle every four hours.

Or it may be touched with solid nitrate of silver, or mopped with a solution of glycerine of tannin. If the uvula still remains long it should be snipped off with a pair of sharp scissors.

Laryngismus Stridulus.

What is the synonym?

Spasm of the glottis.

What is the definition?

A spasm of the muscles of the larynx, without inflammation, cough or fever, characterized by a sudden development of dyspnœa.

What are the causes?

Reflex irritation from the teeth, stomach, and bowels. Rare after twelve months.

What is the pathological anatomy?

Death is so rare that the changes in the larynx are not clearly understood.

What are the symptoms?

The invasion of the disease is sudden, and often comes on during sleep. Sometimes certain prodromata may be observed, as the twitching of the thumb into the palm of the hand, a peculiar movement of the muscles of the mouth, and slight facial twitches. After these symptoms the paroxysm appears, when the head is thrown back, the nostrils are dilated, the veins of the head and neck distended, the eyes staring, and convulsive movements of the muscles of inspiration. This may last from

a few seconds to nearly three-quarters of a minute, during which asphyxia seems imminent, when suddenly the closed glottis relaxes and inspiration takes place with a loud, crowing sound, which gives the name to the disease. These attacks may end in convulsions.

What is the diagnosis?

From croup. In laryngismus there is no cough, fever, or sign of inflammation. The attack is sudden, as well as the recovery; there is no false membrane; croup seldom recurs, while laryngismus does.

From acute laryngitis, which is rare in infants, is gradual in attack, steady in symptoms, and causes fever and quickened respiration.

What is the prognosis?

Favorable. Death may occur from suffocation in very young children, but is rare.

What is the treatment?

The first indication is to remove the cause. Lance the gums when from teething; clear out the bowel and stomach when it is gastric or intestinal. If prodromata occur the child should be given a mustard foot-bath and cold applied to the head. For the actual fit the inhalation of a few drops of chloroform, care being taken not to cause complete anæsthesia. This should be followed by full doses of the bromide of potassium or sodium combined with chloral. Hot alternating with cold packs should be constantly kept to the throat. The following formula will be found useful:—

℞. Potass. Brom.,
Sodii Brom. āā ℥j.
Chloralis gr. xlviij.
Syr. Simp. f℥j.
Aquæ Cinnam. q. s. ad f℥iij.—M.

Sig. Teaspoonful every half or hour as required.

After the paroxysm the bromide of potassium mixture without the chloral should be continued. The child's diet must be looked after and the most nourishing food given.

Spasmodic Laryngitis.

What are the synonyms?

False croup; child crowing.

What is the definition?

A catarrhal inflammation, without pseudo-membranous exudation, of the mucous membrane of the larynx, attended with spasmodic contraction of the glottis, occasioning violent attacks of threatened suffocation.

What are the causes?

Occurs most frequently during the first dentition, being very common during the second year of life, though it is often met with a year or two later. It is more frequent in boys than in girls. It is hereditary in some families. Atmospheric change and enlarged tonsils are the most frequent causes.

What are the symptoms?

The child goes to bed with a slight cold, and is probably feverish and a little hoarseness is present. In a few hours he awakes with more or less spasmodic, noisy dyspnœa, threatening suffocation, much hoarseness, and a harsh cough. In an hour or two the breathing becomes easier, the cough softer, and the child falls asleep. The next morning he may have a loose cough, but the respiration will be about normal.

What is the diagnosis?

The symptoms are so characteristic there is little difficulty in the diagnosis.

What is the prognosis?

Always favorable; fatal cases are rare.

What is the treatment?

During the paroxysm the child must be placed in a hot bath or hot fomentations should be kept about his throat and chest. Fifteen drops of the syrup of ipecacuanha should be administered every ten minutes until emesis is produced. Da Costa recommends the hypodermic injection of apomorphia in one-fortieth of a grain dose. After vomiting has been secured, bromide of potassium should be given and a simple expectorant for the cough.

℞. Syr. Ipecac. f℥iss
Tr. Opii Camp. f℥ij.
Syr. Scillæ f℥j.
Liq. Potass. Citrat. q. s. ad f℥iij.—M.
Sig. Teaspoonful every two hours.

Children who have repeated attacks of croup are very susceptible to cold, and very little exposure is sufficient to produce one of these attacks; consequently the child should be clothed with thin flannel in summer and thick in winter. Long stockings should be used, and stout shoes to keep the feet perfectly dry.

Acute Membranous Laryngitis.

What are the synonyms?

Pseudo-membranous laryngitis; membranous croup; true croup.

What is the definition?

An acute inflammation of the mucous membrane of the larynx, attended with the exudation of false membrane.

What are the causes?

Cold and moisture. It is prone to affect certain families. More prevalent in winter and spring. Usually occurs in robust males.

What is the pathological anatomy?

The mucous membrane of the larynx and trachea is inflamed, red, and vascular, being much thickened, and peals off easily. Microscopically this consists of cells lying in finely fibrillated substances. It is a layer of lymph varying in thickness, white or yellow in color lining the larynx and trachea, and in some cases extending down into the bronchi. This false membrane may be formed in patches or in cylindrical pieces, or present perfect casts of the tubes. Its free surface is smooth and glazed with muco-puriform matter, and is thinner in the larynx than in the trachea, and thinnest in the bronchial tubes. The bronchi show slight traces of inflammation. Lobar and lobular pneumonia often exist, and vesicular emphysema is generally present at some portion of the lung. The right side of the heart is generally gorged with dark blood. Congestion may exist in the brain, liver, spleen, and kidneys.

What are the symptoms?

The onset of this disease is usually slow. Laryngeal symptoms, with fever and hoarseness, last for a few days. The symptoms are worse at night. The child is languid and fretful, refusing to take food. The cough gradually becomes smothered and paroxysmal; the inspiration is hissing and jerking, and later the expiration is affected in the same way. The fever now is increased, the thirst is intense, and the tongue furred; the child is restless and constantly struggling for breath. At first between the paroxysms he may drop into an unquiet sleep from exhaustion; but later on the fits are almost incessant and there is no time for sleep. The face is most anxious, the eyes glassy, the lips livid, and clammy perspiration begins to appear. The child throws back its head to increase the size and capacity of the trachea to receive air, and grasps at its throat. Violent vomiting or coughing may frequently remove a portion of the membrane and give relief.

The symptoms then subside; the pulse becomes slower and stronger; the skin cools, and the child may recover. In some cases, however, this condition is only a truce; the membranes re-deposit thicker and firmer than before; the child becomes exhausted; respiration is stertorous; the respiratory murmur is lost, and coma and death ensue. In those cases in which the membrane is not reformed, recovery is slow; portions of false membrane, pus, and mucus, are coughed up, and the cough and voice remain altered for some time.

What is the duration?

About one week.

What is the diagnosis?

From simple acute laryngitis the diagnosis is sometimes very difficult. It is only certain when the deposit is seen in the larynx, or when a portion of false membrane is coughed up or dislodged by vomiting. Alum used as an emetic may coagulate mucus, and give rise to a false diagnosis of croup, when the disease is simple laryngitis. Distinguished from spasmodic laryngitis the history, prodromes, whispering or extinction of voice, and smothered cough, presence of fever, and duration of many days.

Spasmodic croup has few or no prodromes, sudden onset, distinct paroxysms on successive nights with intermissions, hoarse and shrill voice, ringing cough, wheezing breathing, in paroxysms only, expulsion of mucus, only slight or no fever, and duration seldom more than a few hours.

What is the prognosis?

Under the age of seven years recovery is the exception.

What is the treatment?

The child must be put to bed in a room that is well warmed and the atmosphere kept moist by a kettle of water constantly boiling. An emetic should be given at once; either a teaspoon-

ful of the wine of ipecacuanhæ or powdered alum in drachm doses mixed with syrup of honey. The hypodermic injection of apomorphia (gr. $\frac{1}{40}$) is another very certain method but rather depressing in its action. If the patient is seen early half-drop doses of the tincture of aconite every fifteen minutes until four doses are given. Quinine should be given to support the general system. Bromide of ammonium in full doses will also be found useful alternated with the quinine every three hours. Mercury is probably one of the most reliable drugs we have for this disease. The following formula will be found reliable :—

℞. Hydrarg. Chlor. Mit. gr. ij.
Sodii Bicarb. gr. xxiv.
Pulv. Ipecac. gr. j.
Pulv. Pepsinæ gr. xxiv.
M. et ft. chart. No. xii.
Sig. One powder every two hours.

Morrell Mackenzie recommends the following spray to dissolve false membrane :—

℞. Acid. Lactic. ʒiiiss.
Aquæ Destillat. fʒx.—M.
Sig. Apply frequently with spray or mop.

The inhalation of the vapor of slaked lime is very efficient in detaching the false membrane. The child's strength must be maintained by full doses of alcoholic stimulant, milk and animal broths.

If the exudation increases and there is imminent danger of suffocation, intubation or tracheotomy must be resorted to.

Acute Bronchitis.

What are the synonyms?

Bronchial catarrh ; cold on the chest.

What is the definition?

An acute catarrhal inflammation of the larger bronchial tubes.

What are the causes?

Common in infants during the period of teething. Cold and moisture; inhalations of irritants, as dust, smoke, etc.

What is the pathological anatomy?

Hyperæmia of the mucous membrane of the bronchial tubes; there is generally some thickening and softening of the mucous membrane, which is covered with a muco-purulent secretion.

What are the symptoms?

The respirations are hurried; rigors and fever; temperature of 102° or 103° F.; cough, furred tongue, pain and tightness in the throat; the cough, which at first is hard, becomes in a day or two looser, and in infants especially this greatly increases dyspnœa, because they are unable to expel the phlegm. There may be slight delirium, and in young children the attack is often ushered in with a convulsion.

What is the character of percussion?

Normal in uncomplicated cases.

What is the auscultation?

In the beginning of the attack the respiratory murmur is harsh and sonorous, mucous and sibilant râles are heard. All sounds may be temporarily suppressed by a plug of mucus preventing access of air to a portion of the lung. Coughing will remove the obstruction and develop the râles.

In the later stage, the secretion being increased, the respiration is not so harsh in character, and is associated with large and small bubbling râles.

What is the diagnosis?

The mild form is not likely to be mistaken for anything but the early stage of whooping-cough.

What is the prognosis?

Simple acute bronchitis is rarely fatal excepting in very young infants.

What is the treatment?

The child should be kept in bed and the air of the room must be moistened. The chest should be enveloped in a cotton jacket and rubbed twice daily with the following:—

℞. Ol. Camphorat. f℥iv.

Sig.

Or,

℞. Spt. Terebinth. f℥j.
Ol. Olivæ f℥iv.—M.

Sig.

The food should be light but nutritious, consisting chiefly of milk and broths. The following mixture may be given at the beginning of the attack:—

℞. Liq. Potass. Citrat. f℥iij.

Sig. Teaspoonful in water every two hours.

When the fever subsides the following may be given:—

℞. Ammon. Chlor. gr. xxxvj.
Syr. Ipecac. f℥iss.
Syr. Scillæ f℥ss.
Syr. Tolu f℥j.
Aquæ Menthæ Pip. q. s. ad f℥iij.—M.

Sig. Teaspoonful every two hours for a child of three years.

If the child be greatly prostrated, carbonate of ammonium, alcohol, or quinine should be administered; the latter, in young infants, is best given by suppository.

Chronic Bronchitis.

What is the definition?

A chronic inflammation of the mucous membrane of the bronchial tubes.

What are the causes?

Sometimes a result of an acute attack; exposure to cold and wet, etc. Frequently follows whooping-cough.

What are the symptoms?

A child suffering from chronic bronchitis is usually short of breath; the chest is deep and flattened from side to side, with a prominent sternum. The finger-ends are clubbed, and there is a frequent, moist, short cough.

What is the percussion note?

Normal in uncomplicated cases.

What is the auscultation?

The chest is full of moist râles, both large and small. The inspiratory murmur is shortened and somewhat labored.

What is the prognosis?

Uncomplicated cases usually recover under proper treatment.

What is the treatment?

Much the same as in acute attacks. The child should wear flannel next to the skin all the year round, and be exposed as little as possible to atmospheric changes. The diet should be nutritious, consisting of clear soups, animal broths, raw beef-juice, rare beef scraped or finely minced, milk punch, etc. Expectoration is best promoted by the use of alkalies. In the later stage, when the expectoration is profuse, Goodhart and Starr recommend the following:—

℞. Acid. Gallic. gr. x.
Vini Opii ♏v.
Spt. Vini Gallici f℥iss.
Aquæ Chloroform q. s. ad f℥iss.—M.

Sig. Teaspoonful three times a day.

℞. Alum ℥ss.
Vini Ipecac. f℥iss.
Syr. Tolu f℥ss.
Aquæ q. s. ad f℥iij.—M.

Sig. One or two teaspoonfuls every three hours.

The back and sides of the chest should be rubbed vigorously night and morning with a simple liniment. Quinine may be given in half-grain doses three times a day.

℞. Quiniæ Sulphat. gr. vj.
Acid. Sulphuric. dil. gtt. xij.
Syr. Simp. f℥ss.
Aquæ q. s. ad f℥iij.—M.
Sig. Teaspoonful every two hours. (*Meigs and Pepper.*)

During this stage of the disease tonics containing iron, such as the ferrated tincture of cinchona, are useful. Some preparation of malt combined with cod-liver oil is valuable to improve the general health.

Capillary Bronchitis.

What is the synonym?

Suffocative catarrh.

What is the definition?

An acute catarrhal inflammation of the smaller bronchial tubes, occurring principally in children.

What are the causes?

Exposure to cold, any sudden change of temperature. Frequently complicates the exanthemata.

What is the pathological anatomy?

Inflammation and redness of the lining membrane of the bronchioles; the affected tubes are dilated and filled with tenacious mucus and pus; the air vesicles, which are least obstructed, are dilated and emphysematous. If the secretion completely closes any of the smaller tubes, the air previously drawn into the vesicles will be absorbed, causing collapse.

When the inflammation reaches the alveoli of the lungs it causes broncho-pneumonia.

What are the symptoms?

The pulse is high (120–180); temperature from 102° to 104°, with gradually increasing apnœa; respiration is very frequent, varying from 60 to 80 to the minute, and is whistling and labored; the jugular veins are prominent; the blood is not properly ærated; the face is cyanozed and the lips livid; the cough is violent and paroxysmal, causing great substernal pain; the sputa, which, by the way, is absent during the first two or three days, appears about the third day, consisting of purulent, tenacious mucus, sometimes streaked with blood, and often complete casts of the smaller bronchioles are ejected.

What is the character of percussion?

Normal, except over the portions of the lungs that are collapsed, when dulness rapidly develops.

What is the auscultation?

The breathing is harsh during the first few days, when it is followed by a diminished respiratory murmur with subcrepitant râles.

What is the diagnosis?

The livid expression of the child's face; frequent and labored respiration; violent and paroxysmal coughing spells; diminished respiratory murmur with subcrepitant râles.

What is the prognosis?

Very grave.

What is the treatment?

From the beginning of the attack the child must be kept in a room with an even temperature, with the air moistened by steam. The chest should be enveloped in a cotton jacket or poultice, and should be rubbed night and morning with the turpentine and oil mixture mentioned under Acute Bronchitis.

The diet should consist of milk, animal broths, raw beef juice—the latter in teaspoonful doses every three or four hours—

and stimulants. Quinine should be given in full doses, either by the mouth or rectum. For the cough, any of the mixtures recommended under Acute Bronchitis will be found useful, or the following:—

℞. Ammon. Carbonat. gr. xxiv.
Syr. Tolu f℥vj.
Spt. Vini Gallici f℥iij.
Syr. Senegæ f℥iiiss.
Syr. Acaciæ q. s. ad f℥iij.—M.
Sig. Teaspoonful every two hours.

Should the child become suffocated emetics must be at once administered; either the syrup of ipecacuanha, alum, or the sulphate of zinc may be used.

Catarrhal Pneumonia.

What are the synonyms?

Lobular pneumonia; broncho-pneumonia.

What is the definition?

An acute catarrhal inflammation of the bronchioles and alveoli of the lungs.

What are the causes?

From extension of an old bronchial catarrh; frequently follows measles and whooping-cough; exposure. Rickety and scrofulous children are prone to this disease.

What is the pathological anatomy?

Inflammation of the mucous membrane of the bronchi and bronchioles including the air cells. The tissues are swollen and there is an abnormal secretion, and a production of young cells from the proliferation of the bronchial epithelium, admixed with a yellowish mucous material which blocks up the bronchioles and air cells.

The parts affected are at first of a reddish-gray, changing

to a yellowish-gray color, due to the metamorphosis of the newly developed cells. If the fatty change be complete, absorption takes place, thus removing the consolidation; if it remains incomplete the cells atrophy, and the disease passes into a chronic state. The walls of the bronchial tubes often become thickened and their calibre dilated.

What are the symptoms?

Those first observed are restlessness and slight fever, which increase in severity toward night, then a cough is developed with rapid breathing, great heat of skin, 102°–104°F., vomiting, loss of appetite, thirst, and a furred tongue, red at the tip and edges. If the child be at the breast, the hurried breathing prevents it from sucking properly. Sometimes the attack is more sudden, the child awakes in the night with a hot skin and rapid pulse, flushed face and a severe cough. This form is more common in older children. When the dyspnoea is very great the nostrils work and dilate.

The inspiration is short and the expiration prolonged and noisy; the pulse varies from 150–160, and the breathing from 60–80 per minute. The expectoration is muco-purulent, the urine is scanty and high colored, and the surface of the body is frequently covered with perspiration. In feeble children this disease may prove fatal in a few days.

What is the percussion note?

Dulness is found in patches over both lungs, the intervening healthy points giving a more or less tympanitic note.

What is the auscultation?

The breathing at first is vesiculo-bronchial, associated with small subcrepitant râles. As the disease progresses the râles become larger and more copious.

What is the diagnosis?

From bronchitis it is to be diagnosed by the higher tem-

perature, the breathing less labored, dulness on percussion, subcrepitant râles, and increased vocal fremitus when the sign can be obtained. From pleurisy, vocal fremitus diminished, the cough is drier; percussion dulness varies with the position of the child. Pleurisy is rare under six years.

What is the prognosis?

Very fatal in scrofulous and rachitic children.

What is the treatment?

The child must be placed in a warm bed, in a well-ventilated room. It should be clothed in flannel, and the chest enveloped either in a cotton jacket or poultice. The chest and back may be rubbed night and morning with turpentine and sweet oil or camphorated oil, care being taken to prevent exposure of the parts during this process. The patient must be kept on a liquid diet consisting of milk, animal or clam broth, and raw beef juice. Internally the solution of the citrate of potassium may be given in drachm doses to a child of one year every two or three hours until the cough becomes loose, then the following:—

℞. Ammon. Chlor.,
Ammon. Iodid. āā gr. xxiv.
Syr. Scillæ f℥ss.
Syr. Tolu f℥j.
Aquæ q. s. ad f℥iij.—M.

Sig. Teaspoonful every three hours for a child of two years.

Quinine may be administered by suppository. Should the fever continue high a course of the tincture of aconite may be used or minute doses of antipyrine, care being taken to combat any depression caused by the latter drug. For pleuritic pain in children of six to eight years, a two grain dose of Dover's powder may be given. Brandy and whiskey should be used as required. During convalescence the syrup of the iodide of iron with malt or cod-liver oil should be used.

Croupous Pneumonia.

What are the synonyms?

Lobar pneumonia; fibrinous pneumonia.

What is the definition?

An acute croupous inflammation involving the vesicular structure of the lungs.

What are the causes?

It is not common in winter. Common in children after the third year. It often occurs epidemically, the result of atmospheric changes; exposure to draughts and cold are potent causes.

What is the pathological anatomy?

The first stage is that of inflammatory enlargement of an extended portion of lung; the vessels are full; the capillaries are distended, pressing on the air space in the sacs. In the second stage the engorged vessels relieve themselves by pouring out liquor sanguinis and some corpuscular elements into the air sacs, which become blocked with fibrine, and a condition known as hepatization is the result. In a later stage grey hepatization is present, the lighter color being due to a greater number of corpuscular elements being present.

What are the symptoms?

The onset is sudden. There is high fever, dyspnœa, rapid pulse, headache, pain in the side, short cough, and in some cases vomiting and diarrhœa. In children under three years convulsions are not uncommon at the onset, but are rare in older children; the convulsions may prove fatal before the attack of pneumonia has fully developed. Delirium may be one of the early symptoms if the temperature is very high. The cheeks are flushed, the alæ nasi are working, the respirations may be 40 to the minute or more, the pulse 120 to 140,

temperature in the neighborhood of 104° F.; the tongue is dry and brown, and there may be herpes about the mouth. The urine is dark in color, the cough is dry and hacking, accompanied by pain during the act; the sputa is rusty in color; the fever and dyspnœa continue, the child remaining very ill till the end of a week, when, usually between the sixth and ninth day, the fever suddenly abates, and a marked improvement takes place in all the symptoms, so that it is evident the crisis has come.

What are the physical signs?

Palpation. First stage: Vocal fremitus more distinct than normal.

Second stage: Vocal fremitus very much exaggerated.

Percussion. First stage: Slightly impaired.

Second stage: Dulness over affected parts. The left base and right apex are favorite spots to be attacked.

Auscultation. First stage: Feeble vesicular breathing, associated with crepitant râles, are heard over the affected part, being more distinct during inspiration.

Second stage: Harsh, bronchial breathing; bronchophony.

Third stage: The bronchial breathing changes to vesiculo-bronchial, and the crepitant râles return. During the process of resolution the breath-sounds are associated with large and small, moist, bubbling râles.

What is the diagnosis?

Croupous pneumonia rarely occurs under the age of three years. The physical signs—dulness on percussion, bronchial respiration, bronchophony, and vocal fremitus—will aid in the diagnosis.

What is the prognosis?

Favorable, when it attacks healthy children over three years of age.

What are the complications?

Pleurisy frequently accompanies croupous pneumonia, which is apt to become suppurative in delicate children. Pericarditis sometimes occurs. Meningitis is rare, although it occasionally occurs. Diphtheria may complicate it.

What is the treatment?

See Catarrhal Pneumonia.

Atelectasis.

What is the definition?

A disease in which the lung either remains in a fœtal condition or returns to a state of non-expansion.

What are the causes?

Anything which prevents the expansion of a lung, either in whole or part, will lead to collapse.

What are the symptoms?

When this affection occurs during the first few weeks of life the child is wasted and pinched, with a very weak cry. The movements of the chest are shallow; the child shows difficulty in sucking, and the pulse is weak. The most frequent seat of the trouble is the inferior and posterior portions of the right lung.

What is the morbid antomy?

The lung is dark-red in color, without crepitation, exuding no bubbles, but sanguineous serum; it sinks in water.

What is the diagnosis?

The previous history is particularly important, since, in all such cases, it will be found that the infant was either stillborn and resuscitated with more or less difficulty, or that it was born weak and feeble, and that the respiration had never been completely established.

What is the prognosis?

Usually grave.

What is the treatment?

If there be much accumulation of mucus in the bronchial tubes an emetic must be given. Expectoration should be encouraged by alkaline remedies, as the bicarbonate of potassium, and by stimulating expectorants, as carbonate of ammonium and squills. The child should be kept in bed in a room of an even temperature, with the atmosphere kept moistened by steam. The child's clothing should consist of flannel. If the stomach will stand it, quinine, iron, and cod-liver oil must be given. Stimulants, such as brandy or whiskey, should be constantly employed to keep up the strength and bodily temperature.

Tubercular Phthisis.

What are the synonyms?

Tuberculosis; incipient phthisis.

What is the definition?

The deposition of tubercles in the structure of the lung, which undergoes softening, causing more or less loss of the pulmonary tissue.

What are the causes?

Hereditary in the majority of cases; it is associated with scrofula—said to be contagious under certain conditions; may be secondary to catarrhal pneumonia; bacillus tuberculosis.

What is the pathological anatomy?

The individual granules of miliary tubercle vary much in size, and are sometimes so minute as to escape detection upon superficial examination.

The distribution of tubercular disease is more irregular in the lungs of children than in adults. It is much more fre-

quently found to be distributed throughout the lung than at the apex.

Cheesy bronchial glands of considerable size are far more common in children than in adults.

What are the symptoms?

The disease commences insidiously; the child is weak and wretched, constantly fretting and complaining of pains all over the body. A little, hacking cough appears, with scanty expectoration. There is no hæmoptysis, and seldom diarrhœa, and only occasionally profuse sweats. The dyspnœa is more distressing in children than in adults, and the fever higher and wasting more rapid. The bowels are irregular, alternating often from constipation to diarrhœa, and the stools are commonly clay-colored.

The skin soon becomes wrinkled and the face old-looking.

When the bronchial glands are much affected the attack is marked by a more irritative and spasmodic cough, more catarrh, dyspnœa, and greater general suffering. Hemorrhage may occur from the suppuration of a bronchial gland involving a vessel.

What are the physical signs?

Inspection. Shows slight depressions in the supra-clavicular and, in some cases, in the infra-clavicular regions, but not as marked as in adults.

Palpation. Vocal fremitus slightly increased, but is a sign of less value and reliability in the child than in the adult. When present it shows strong evidence of consolidation, but it may frequently be absent and the latter exist.

Percussion. Very slight impairment of the normal percussion resonance is noticed at first; as the disease progresses the resonance is much impaired and gradually becomes dull, with circumscribed spots of the amphoric or cracked-pot sound.

Auscultation. At the commencement of the deposition of

the tubercles the breathing is weak or bronchial, often imparting a peculiar click at the close of inspiration. Later, moist râles—sibilant, mucous, and subcrepitant—are heard over one or both sides of the chest; and later, after the tissue breaks up and cavities form, bronchial breathing, associated with large and small moist or bubbling râles, will be heard. Rilliet and Barthez consider that harsh and prolonged respiration, with increase in vocal resonance, is the most significant symptom of crude tubercle, particularly when heard over the greater part of the lung, or at any rate not confined to the apex.

What are the complications?

Tubercular disease of the brain and its membranes; pleura, intestines, and peritoneum.

What is the diagnosis?

The early diagnosis rests mainly on the history. The first stages may be taken for malnutrition, anæmia, disease of the heart, etc.

What is the prognosis?

Unfavorable; complete recovery is very doubtful.

What is the treatment?

The child should be given the most nutritious food. Small quantities of stimulants are of value. A small amount of ale or stout may be given with the mid-day meal. Every possible attention should be paid to the child's health. It should be allowed to sleep in a large, well-ventilated room. If the climate be damp the patient should be removed to some dry seaside or mountain resort. Cold, dry weather is very beneficial in early cases, provided the clothes are warm. Of drugs, cod-liver oil is the sheet-anchor. It may be given in the form of a good emulsion, or, if this be not at hand, in water, orange-wine, a little whiskey diluted with water, milk, or coffee.

The following is a very good formula:—

℞. Ol. Morrhuæ f℥iv.
Ex. Malt (dry) ℥j.
Calcii Hypophos.,
Sodii Hypophos. āā gr. xxxij.
Potass. Hypophos. gr. xvj.
Glycerinæ f℥ss.
Pulv. Acaciæ ℥ss.
Aquæ q. s. ad f℥viij.—M.

Sig. Teaspoonful three times a day for a child of three years.

(*Goodhart and Starr.*)

Any digestive disorders should be treated at once by appropriate doses of pepsin, bicarbonate of sodii, etc. If diarrhœa be present it must be checked by the use of chalk, or the bismuth mixture mentioned under the heading of Diarrhœa.

If there are night sweats very minute doses of atropia will be of value varying from $\frac{1}{240}$ to $\frac{1}{100}$ of a grain at bedtime. The chloride of calcium is useful and may be given in doses of five to ten grains three times a day, suspended in some extract of licorice, glycerine and water. Iodoform has been used in half and one grain doses in powder form mixed with sugar, this should be given very cautiously.

Counter irritation should be made by the use of mustard plasters, but preferably stimulating liniments. For the cough, some simple expectorant may be used containing belladonna. Should hæmoptysis appear, a very uncommon occurrence in children, small doses of turpentine should be employed either dropped on a lump of sugar or suspended in syrup.

Pleurisy.

What are the synonyms?

Pleuritis ; stitch in the side.

What is the definition?

A fibrinous inflammation of the pleura, occurring either idiopathically or secondarily.

What are the causes?

Idiopathic pleurisy is due to cold, exposure, and injuries to the chest walls. Rare under five years of age. Secondary pleurisy may occur during an attack of pneumonia, rheumatism, pericarditis, and variola.

What is the pathological anatomy?

In the early stage general redness and vascular injection of the pleura with bands of whitish and more or less translucent or opaque coagulable lymph, causing adhesions of the pulmonary and costal pleura. Later, serous or purulent effusion, in variable quantity; sometimes displacement of the heart, lungs, and liver, and bulging of the ribs and intercostal spaces.

What are the symptoms?

The disease may be ushered in with depression, loss of appetite, and in older children, rigors; then an acute sharp pain; the well-known *pleuritic stitch* aggravated by inspiration, coughing, or lying on the affected side.

Sometimes vomiting, fever, and a short dry hacking cough are the earliest symptoms; the breathing is hurried, the tongue heavily coated, the bowels constipated, the pulse very rapid and hard, the skin hot, the face is flushed, and the urine scanty and high colored. Difficulty in breathing is more marked in young children, and when the effusion forms rapidly, the respirations are from thirty-six to forty-eight to the minute. The pulse for the first few days varies from 130 to 140 per minute, and at this period the temperature frequently runs up to 103° or 104° F., but it drops early, and the disease runs its course with a temperature of from 101° to 102° F.

What are the physical signs?

Inspection. Deficient movement of the affected side which is due to the pain caused by full breathing.

When effusion takes place, the degree of bulging of the affected side is by reason of the comparative elasticity of the

chest walls greater in children than in adults. The respiratory movements of the affected side are almost abolished, and there is bulging of the intercostal spaces.

Palpation. Diminution of vocal fremitus over the site of the effusion and exaggerated above it.

Percussion. During the first stage, slightly impaired; when the effusion has formed, dull or even flat over the site of the fluid, and tympanitic above it.

Auscultation. The friction sound is often absent in young children during the early stages of the disease, to appear during absorption. Bronchial breathing is usually heard at first during inspiration, but afterwards it exists both during inspiration and expiration; as the effusion subsides it is replaced by feeble vesicular breathing, with or without friction sounds, and later by normal respiration. Ægophony can rarely be detected in children less than two years old.

What is the diagnosis?

From pneumonia, the sharpness of the pain in the side, the friction sound, if it be present, and absence of crepitant râles; after effusion has formed, especially by the change of the lines of dulness with change of position; by the bulging, etc.

What is the prognosis?

Fibrinous or serous pleurisy is seldom fatal.

What is the treatment?

The onset is best treated by moderate doses of opium to relieve the pain and cough; salines, such as the nitrate and citrate of potassium, or some effervescing saline, to act as a diuretic and diaphoretic. In the acute stage warm fomentations should be used. In older children the side may be carefully strapped, and warmth can be applied by hot compresses outside the strapping.

After the third or fourth day of the attack the iodide of potassium should be combined with the syrup of the iodide

of iron, keeping the bowels freely moved by some mild aperient. In some cases the general symptoms clear up rapidly; the dulness still remains, due to the large amount of lymph. Under these circumstances it is best to apply counter-irritation externally by means of the following liniment:—

℞. Tr. Iodine f ℥j.
Potass. Iodid. ℥ss.
Camphoræ ℥ij.
Spt. Rect. f ℥x.—M.

Sig.

When the effusion takes place rapidly, and the quantity is very large, with displacement of the heart, high fever, pallor, and puffiness of the face, aspiration should be performed.

If after using the exploring needle the liquid is found to be pus (empyema), it should be at once removed by one of the following methods: Aspiration, tapping by trocar and canula, and by making a free incision and inserting drainage-tube; this is an operation which is not attended by any serious risk, and is very successful.

The after-treatment should consist of plenty of fresh air, a wholesome diet, and a general tonic treatment.

PART XII.

Diseases of the Heart.

What are the chief causes of disease of the heart in children?

Acute rheumatism, chorea, scarlatina, diphtheria, pneumonia, pleurisy, typhoid fever, syphilis, and congenital malformations.

Pericarditis.

What is the definition?

An acute, fibrinous inflammation of the pericardium.

What are the causes?

May be the result of taking cold, but usually secondary to rheumatism, pneumonia, pleurisy, etc.

What is the pathological anatomy?

In the first stage there is redness of the membrane, which may be diffused, punctated, or in patches. Then deposits of lymph form, and sometimes cause local or general adhesion of the two layers of serous membrane, followed by the effusion of a sero-fibrinous fluid, becoming purulent more often in children than in adults.

What are the symptoms?

In some cases the symptoms are obscure, pericarditis occurring with but little pain or uneasiness; on the other hand, in others the disease is manifested by intense pain in the cardiac region, shooting to the shoulders and then down the arms, and much fever. The heart beats irregularly and with a labored impulse; the breathing is rapid, the face anxious, the head aches, the temples throb, and there may be paroxysms of impending suffocation, bleeding at the nose, or hæmoptysis.

What are the physical signs?

Inspection. First stage, cardiac action excited.

When effusion has appeared the impulse is feeble or absent; there may be bulging of the præcordium.

Palpation. First stage, excited; thumping impulse, which may be feeble or even absent when effusion appears.

Percussion. First stage, normal. After the effusion has formed there is an increased area of cardiac dulness proportionate to the quantity of fluid present.

Auscultation. First stage, excited cardiac action, with a friction sound. When the effusion forms these sounds are very feeble and deep-seated, being most distinct at the cardiac base. If the fluid is absorbed the friction sound returns and then gradually disappears.

What is the diagnosis?

From endocarditis, the absence of dulness on percussion, the endocardial sounds are less distinct, and valvular murmurs follow endo- and not pericarditis.

What is the prognosis?

More fatal in children than in adults.

What is the treatment?

The child should be kept in bed, perfectly quiet, all exertion and excitement being guarded against. The diet must consist of milk principally for the first few days. Of the local treatment during the acute stage soothing applications are more desirable than counter-irritants. The extract of belladonna may be moistened with glycerine and spread on lint and applied over the præcordial region, covered with cotton and oiled silk. If much pain is complained of, a light mustard poultice (one part of mustard to four parts of flour) may be applied over the heart and allowed to remain until the skin becomes red. In some cases leeches over the sternum will be found useful. Of drugs, the salicylate of sodium, with the so-

lution of the acetate of ammonia, should be given if the inflammatory lesion is dependent on rheumatism. The iodide of potassium will be found of use in hastening absorption. Tincture of digitalis may be given in three to five drop doses every four hours if there be much dyspnœa or sign of cardiac failure. For relieving the pain and quieting the heart's action one-half to two grains of Dover's powder may be given at night, and repeated if necessary.

Whenever the effusion accumulates so rapidly or in such quantity that it threatens life, aspiration or paracentesis must at once be performed. During convalescence the child should be given plenty of fresh air, good food, and kept on a tonic treatment of quinine, iron, and strychnine.

Endocarditis.

What is the definition?

An inflammation of the lining membrane of the heart.

What are the causes?

Acute articular rheumatism, pneumonia, pleurisy, pericarditis, scarlatina, etc.

What is the pathological anatomy?

In the first stage the endocardial surface is bright red. In the second stage the valves are involved; serum exudes. In the third stage the redness is lessened, the valves are thickened. In the fourth stage the valves are shrunken and rigid.

What are the symptoms?

If the case be severe there is a violent disturbance of the circulation, much dyspnœa, and a dry, hacking cough, without any physical signs of pulmonary disease. The child is very restless and feverish, and when the heart is auscultated, an abnormal bruit is heard attending the heart's action; the valvular murmur is not harsh, as in some forms of valvular

disease, but is very gentle and soft, being heard with difficulty. The murmur is usually systolic in time, attending and more or less obscuring the first sound. In the vast majority of cases the mitral is the affected orifice, although the aortic valves may be the seat of disease.

What is the prognosis?

Unfavorable.

What is the treatment?

Same as for pericarditis.

Valvular Diseases of the Heart.

What is the definition?

Alterations in the orifices or valves of the heart.

What are the causes?

In children usually the result of endocarditis, most frequently affecting the mitral valves.

Mitral Regurgitation.

This is the most frequent form of cardiac disease in children. It depends upon inflammatory alterations in the mitral valve, usually as a result of endocarditis, rendering it insufficient to close that orifice during the systole of the left ventricle.

What are the symptoms?

Shortness of breath on exertion, liability to cough, palpitation of the heart, and irregular pulse.

What are the physical signs?

Inspection. Cardiac impulse lower than normal, owing to the enlargement of the heart.

Palpation. At first, impulse forcible; later, feeble.

Percussion. Cardiac dulness increased.

Auscultation. A blowing murmur is heard with the first sound of the heart; the second sound is accentuated. This murmur is heard at the base, and is transmitted to the apex where it is loudest. It is also transmitted to the axilla and to the back at the angle of the scapula.

What is the prognosis?

Much more favorable in children than in adults.

Mitral Obstruction.

This disease is not so common as mitral regurgitation. It is seldom noticed before the age of seven years.

What are the symptoms?

Attention is usually attracted to the heart by the increased tendency to dyspnœa and palpitation on exertion, and by the readiness with which a bronchial cough is contracted on very slight exertion.

What are the physical signs?

Inspection. Prominence of the præcordia.

Palpation. Frequently a thrill can be felt over the præcordia.

Auscultation. A low, hoarse, presystolic murmur is heard. This murmur follows the second sound and stops just before, or else runs into, the time of the first sound. The seat of greatest intensity is at the apex. It is not transmitted in any direction.

What is the prognosis?

As regards prolongation of life, favorable.

What is the general treatment?

The patient must be kept perfectly quiet; he should be warmly clothed and carefully protected from any exposure. All violent exertion of the body and mind must be avoided.

The diet should be of the most nutritious kind. The drugs of most service to control and regulate the cardiac contractions are digitalis, belladonna, iron, strychnine. Digitalis is of much value, but care must be taken not to give it too long; an intermittency in the pulse beat should at once point to its omission. When dropsy sets in, digitalis, with iodide of potassium, acetate of potash, and squills may be used.

Diseases of the Aortic Valves.

These affections are very rare in children. If the lesion causes obstruction of the aortic orifice, the murmur will be heard with the first sound of the heart; if there be regurgitation through the valve it will be heard with or take the place of the second sound. The lesion may cause obstruction and insufficiency when a double murmur is heard.

What is the character of the pulse?

Receding, known as the "water-hammer" pulse in aortic regurgitation.

What are the physical signs of aortic regurgitation?

Inspection. Cardiac impulse strong.

Palpation. Impulse strong.

Percussion. Cardiac dulness increased, transversely and vertically.

Auscultation. Blowing murmur is heard at the second right costal cartilage, but is probably more distinct at the junction of the sternum and the fourth left costal cartilage.

What is the prognosis?

More favorable in children than adults.

Congenital Heart Disease.

Malformations of the heart are very numerous, and although of interest to the anatomist, are of little practical importance to the physician.

What are the principal causes?

Persistence of fœtal openings, more particularly the foramen ovale, in consequence of the lungs remaining in part in the fœtal state after birth; there is obstruction through the lungs and overfilling of the right heart.

Endocarditis, occurring during fœtal life, affecting the pulmonary, the tricuspid, and less often the aortic or mitral valves, producing stenosis at the valvular orifice. An arrest of development at some period of fœtal life or the results of a false step, as it were, as when a transposition of the aorta and pulmonary artery occurs.

What are the symptoms?

Cyanosis and the presence of a bruit are reliable signs of congenital heart disease. Cyanosis in some cases is only present when the infant cries. Cyanosis is also present in prematurely born infants; if, however, the cyanosis persists for many weeks it is probably due to malformation of the heart. In a certain number of cases murmurs of a rough, rasping character are heard.

What is the prognosis?

Very grave.

What is the treatment?

Infants must be well clothed and kept as much as possible in a uniform temperature. A case of bronchial catarrh in one of these cases would most likely prove fatal. The diet should be carefully regulated and given in small quantities at frequent intervals. If emaciation appears, tonics, cod-liver oil, and malt must be given.

PART XIII.

Diseases of the Genito-Urinary Organs.

Hæmaturia.

What is the definition?

An admixture of blood with the urine.

What are the causes?

Scrofulous disease of the kidney or bladder; renal or vesical calculus; small growths about the urethra; nephritis; renal tumor or cystitis.

What are the symptoms?

In some cases a small quantity of blood will appear in the urine once or twice a day, and frequently disappears and does not return. In other cases blood is passed in large quantities, the urine having the appearance of port-wine.

What is the treatment?

The child must be kept in bed for a few days and given a liquid diet. For the bleeding, gallic acid, tincture of the chloride of iron, alum, or the acetate of lead may be used. Bleeding from the bladder may be treated by the injection through a catheter of a weak solution of alum, sulphate of zinc, or tannic acid. The bowels should be kept freely opened and the general health looked after.

Anuria.

What is the definition?

A temporary suppression of the urine.

What are the causes?

An excess of uric acid in the urine.

What are the symptoms?

It rarely lasts more than a few hours, and the symptoms are pain and much discomfort when micturition takes place. The urine upon examination will be found to be highly acid, and, microscopically, crystals of uric acid will be revealed in enormous quantities.

What is the treatment?

The child should be kept in bed and hot fomentations placed over the lower part of the abdomen. If relief is not obtained by this method, drop doses of the tincture of belladonna may be employed, repeated every fifteen or twenty minutes, care being taken to watch the pupils and face for the physiological effects.

Pyuria.

What is the definition?

Pus in the urine.

What are the causes?

Cystitis; scrofulous disease of the kidney; stone in the kidney or bladder, and from any vaginal or pudendal discharge.

What are the symptoms?

Frequent and straining micturition, causing, in some cases, intense pain. The urine may be faintly alkaline, containing albumen and a large quantity of pus.

What is the treatment?

The child must be kept perfectly quiet, and given a milk diet. The salicylate of sodium, the benzoate of ammonium, and pareira brava, may be given internally.

Scrofulous Kidney.

What are the symptoms?

Pain in the loin; frequency of micturition, and a purulent sediment of pus in the urine, occasionally streaked with blood,

but it may be present also without any characteristic symptoms. The disease usually commences in the renal pyramids, producing gradual erosion and excavation of the kidney; it may also extend along the ureter to the bladder. One kidney is usually much more affected than the other, save in very old cases, when both may be diseased and much enlarged. Patients with this disease are susceptible to an attack of general tuberculosis.

What is the treatment?

The child's health should be improved as much as possible in the early stage. A trip to the mountains or sea-shore will be of benefit. The food should be most nutritious, with a moderate amount of cream daily. The drugs to be employed in the early stage are cod-liver oil, chloride of calcium, and iodoform. In the later stages of the disease, when there is a constant discharge of pus which is uncontrollable, pain, frequent micturition, and anæmia, an exploratory operation should be performed and the kidney drained, or, should it be necessary, removed.

Renal Calculus.

What are the synonyms?

Renal colic; gravel.

What is the definition?

A body formed around a substance from certain salts of the urine.

What are the causes?

Common in children before the fifth year. Seems to exist in certain families. Etiology not known.

What are the symptoms?

In children the pain is described as an abdominal pain, and is pointed out by a child to be in the region of the umbilicus

or front of the abdomen. A simple pyuria, with irritability of the bladder, may be all that points to the existence of stone.

Concretions in the kidneys may occur in two forms, namely, uric acid infarctions, and calculi, varying in size from that of a small shot to that of a large pea.

Uric acid infarctions are frequently found in the kidneys of infants who die soon after birth, and whose respiratory functions have been imperfect during life.

When the urinary excretion is increased the infarctions are often washed into minute red specks, and are found upon the diaper.

Should the concretions be passed into the bladder and retained there, they increase in size. When retained in the pelvis of the kidney they may cause suppurative pyelitis.

What is the treatment?

The child should be given a non-albuminous diet, warm baths, Buffalo lithia or other alkaline waters. Intense pain must be relieved by opium.

Acute Bright's Disease.

What are the synonyms?

Acute desquamative nephritis; acute parenchymatous nephritis.

What is the definition?

An acute inflammation of the epithelium of the uriniferous tubules.

What are the causes?

Cold and exposure; the eruptive fevers, especially scarlatina.

What is the pathological anatomy?

The kidney is enlarged, its capsule is easily stripped off, and the color in the earlier stage is deep red; as the disease progresses it is mottled red and white.

What are the symptoms?

The disease is ushered in suddenly; chilliness, followed by fever, restlessness, pains across the lumbar region and the loins, nausea and vomiting. Dropsy is an early symptom and the face is the first part to be affected; a puffiness is noticed under the eyes, then the body generally becomes swollen, and there may be occasionally effusion in the pleura; the urine becomes scanty, it is dark in color, and loaded with albumen. Microscopically, it is found to be filled with crystals of lithate of ammonia, mucus, casts of the tubules, and blood corpuscles.

What is the diagnosis?

The history, fever, dropsy always beginning in the face; the scanty, dark-colored urine, filled with albumen, makes the diagnosis easy.

What is the prognosis?

Favorable; rarely passes into the chronic form.

What is the treatment?

The child must at once be put to bed. The diet should consist of milk and animal broths. The bowels should be opened once daily with a seidlitz powder. A bath of 100° F. should be given night and morning. Digitalis must be given internally. The following mixture is recommended by Goodhart and Starr:—

℞. Tr. Digitalis f℥ss.
Liq. Ammon. Acetat. f℥iss.
Spt. Æther. Nitro. f℥ij.
Syr. Tolu f℥ss.
Aquæ Cari q. s. ad f℥iij.—M.

Sig. Teaspoonful every two hours for a child of six or eight years.

Or,

℞. Potass. Acetat. ℥iss.
Tr. Digitalis f℥j.
Elix. Simp. ℥ij.
Aquæ q. s. ad f℥iij.—M.

Sig. Teaspoonful every two or three hours.

If there be a tendency to suppression of the urine, or should convulsions be threatened, free purgation must be induced and the bromide of potassium given. After the acute symptoms have subsided, the dropsy diminished, and the flow of urine has increased, iron should be administered in the form of "Basham's mixture."

Nocturnal Incontinence of Urine.

What is the synonym?

Enuresis.

What is the definition?

An involuntary expulsion of urine occurring during sleep.

What are the causes?

Occasionally associated with renal disease, also worms, rheumatism, constipation, and adherent prepuce. It may also be caused by an excessive use of liquids or by lying on the back during sleep.

What is the treatment?

Much stress should be laid upon diet and general regimen. The quantity of drink should be restricted, and no fluid should be allowed after four or five o'clock in the afternoon for some time after the child is considered cured. The child should be taken up to urinate late at night, early in the morning, and, if necessary, once during the night, and should always be thoroughly awakened.

Very little meat should be allowed if the patient shows any rheumatic symptoms; indeed, I think children do better without it, owing to the effect it has of acidifying the urine, which irritates the bladder and provokes expulsion.

The child should be kept in the fresh air as much as possible, provided the weather be fine, and allowed to exercise, care being taken to have flannel next to the skin and the feet

well protected with stout shoes. The child should be given a cool or even cold sponge bath each morning, with a tablespoonful of sea-salt added. The body should then be briskly rubbed with a moderately coarse bath towel, especially in the region of the spine.

Should phimosis be present, circumcision will usually relieve the trouble. If the prepuce be adherent, the adhesions should be broken up and the part kept well greased.

The following drugs are prescribed: Belladonna in the form of the tincture, commencing with minute doses and gradually increasing until the physiological effects are noticed. Bromide of potassium and chloral seem to be of service in some cases. One of the later drugs which has met with flattering success is the fluid extract of rhus aromatica. In carrying out the treatment with this drug it is well to commence with minute doses, gradually increasing a drop or two each day so as to prevent any gastric disturbance. It is best given in a little sweetened water or the aromatic elixir. The following is a very palatable formula for young children:—

℞. Ex. Rhoïs Aromat. Fl. f℥iij.
Elix. Aromat. f℥iss.
Aquæ Cinnam. q. s. ad f℥iij.—M.

Sig. Half teaspoonful, to be increased to one teaspoonful four times a day after eating.

For a child of three or five years the dose should be five drops, increased daily.

PART XIV.

Diseases of the Skin.

Miliaria.

What are the synonyms?

Lichen; miliaria alba; miliaria rubra; prickly heat.

What is the definition?

An acute inflammation of the sweat glands, characterized by the sudden appearance of sharply raised, whitish or reddish rounded papules, covering the cheeks, arms, legs, back, abdomen, often with a translucent centre.

What is the cause?

Excessive heat, most common during dentition.

What are the symptoms?

The eruption appears suddenly in the form of bright-red papules about the size of a pin's head. The child is restless and fretful and often refuses to nurse, and if he does only a part of the bottle will be taken.

What is the duration?

It may last from a few hours to weeks.

What is the treatment?

The child should be kept as cool as possible and the body sponged night and morning with warm water in which has been added a drachm of the bicarbonate of sodium. The clothing should be as light as possible. The solution of the citrate of potassium may be given to a child one year old in drachm doses every two hours, or one of the following:—

℞. Spt. Æth. Nit. f℥j.
Magnesii Sulphat. ℥j.
Olei Cajuput ♏j.
Syr. Tolu f℥ij.
Liq. Magnesii Carb. f℥ij.—M.
Sig. Teaspoonful two or three times a day. (*Goodhart and Starr.*)

℞. Sodii Bicarb. ℥j.
Tr. Nucis Vomicæ ♏vj.
Tr. Cardamom. Comp. f℥ij.
Syrupi f℥ij.
Aquæ Chloroform f℥ss.
Aquæ q. s. ad f℥ij.—M.
Sig. Teaspoonful every six hours. (*Eustace Smith.*)

Externally, equal parts of Goulard's cerate and vaseline will be found of service applied night and morning, or the following dusting powder :—

℞. Hydrarg. Chlor. Mit. gr. xx.
Lycopodii ℥ij.—M.
Sig. Dust parts as required.

Powdered oxide of zinc and starch are also useful.

Acute Urticaria.

What are the synonyms?
Nettlerash ; hives.

What is the definition?
An inflammatory disease of the skin, characterized by the development of wheals of a whitish or reddish color, accompanied by pricking tingling sensation.

What are the causes?
Errors in diet ; the sting of an insect ; idiosyncrasy.

What are the symptoms?
When the wheal appears intense itching, burning, tingling

pricking are present, and the child to relieve the irritation violently scratches the skin.

What is the treatment?

The diet should be carefully looked into, and, if found to be improper, rectified. To relieve the itching, equal parts of glycerine and the bicarbonate of sodium may be rubbed gently into the parts; sponging with vinegar and water will also be found useful. The following lotion is recommended by Duhring:—

℞. Acid. Carbol. f℥j.
Glycerinæ f℥ij.
Alcoholis f℥viij.
Aquæ Amygdal. Amar. f℥viij.—M.

Sig. Bathe parts twice daily.

Eczema.

What are the synonyms?

Tetter; salt rheum.

What is the definition?

A non-contagious inflammation of the skin, characterized by erythema, papules, vesicles, or pustules.

What are the causes?

Improper food, dentition, worms, gastro-intestinal disorders.

What are the symptoms?

Heat, swelling, and redness of the part affected, with itching and at times burning. The commonest places for eczema in infants and young children are the forehead, cheeks, scalp, backs of the ears, flexures of the joints, and backs of the hands. In weakly and scrofulous children less redness, burning, and itching are found, and a greater tendency to pus formation than when the disease occurs in strong and healthy children. The disease is apt to relapse.

What is the diagnosis?

Inflammation, swelling, œdema, thickening, redness, itching and burning, the discharge or moisture followed by crusting; after removing the crust a moist surface is shown.

What is the treatment?

The child's diet should be carefully regulated and all starchy and saccharine foods avoided. If the bowels be constipated an aperient water may be given daily before breakfast, or, what is better still, a small dose of calomel. A powder containing five grains each of the bicarbonate of sodium and sulphur may be given three or four times a day. If the child be scrofulous the syrup of the iodide of iron and cod-liver oil must be used. When there is much itching a dose of chloral may be given at bedtime and occasionally repeated during the day, and Dr. Eustace Smith recommends from one-half to one grain one hour before bedtime in such cases. Locally, any of the following applications will be found useful:—

℞. Acid. Carbol. ♏xij.
Hydrarg. Chlor. Mit. gr. xvj.
Ungt. Zinci Ox.,
Vaseline āā ʒss.—M.
Sig. Use locally.

℞. Vini Opii fʒj.
Liq. Plumbi Subacetat. ♏xxxvj.
Aquæ Rosæ q. s. ad fʒviij.—M.
Sig. Use locally.

℞. Liq. Potass. Arsenitis ♏xij.
Vini Ferri Amar.,
Syr. Tolu āā fʒss.
Aquæ Cinnam. q. s. ad fʒij.—M.
Sig. Teaspoonful three times a day for an anæmic child of two years.

Soap should be avoided as much as possible in eczema, but the parts must be kept perfectly clean by the use of warm

water and carefully dried with a soft towel, especially the folds about the neck, buttocks, etc.

Impetigo.

What is the definition?

An acute, inflammatory disease, characterized by discrete, rounded, and elevated pustules, unattended by itching.

What are the causes?

Usually occurs in well-nourished and healthy children between the ages of three and ten years.

What are the symptoms?

The eruption may be attended with slight constitutional symptoms, as restlessness, loss of appetite, constipation, etc. The pustules come out one or more at a time, being scattered and never tending to coalesce. They are most common on the face and scalp, but may appear on any part of the body.

What is the treatment?

The pustules should be opened as they mature and protected from rubbing and violence by the ammoniated mercurial ointment or an ointment containing bismuth and cold cream.

Ecthyma.

What is the definition?

A disease of the skin characterized by large, flat pustules, situated upon an inflammatory base.

What are the causes?

Improper and insufficient diet; most common among children of the poorer class who are housed in overcrowded dwellings.

What are the symptoms?

The disease is characterized by the appearance of one or

more flat, oval, or round pustules, about the size of a large pea, attended with heat, burning, and pain. The pustules are at first yellow in color, surrounded by a bright-red areola, which is quite sensitive to the touch. The duration of each pustule varies from two to three weeks. It usually appears on the thighs, legs, shoulders, and back.

What is the diagnosis?

Ecthyma and pustular eczema resemble each other, but the clinical history should prevent error.

What is the prognosis?

Recovery is generally prompt.

What is the treatment?

The child should be kept perfectly clean by giving a tepid bath night and morning. The diet should be of the most nutritious kind. Open-air exercise, short of fatigue, should be encouraged.

Locally, the crusts should be softened with olive oil and the following ointment used :—

℞. Ungt. Hydrarg. Ammoniat. gr. xx.
Ungt. Zinci Ox.,
Vaseline āā ℥ss.—M.

Sig. Use locally.

Furunculus.

What are the synonyms?

Furunculosis ; boil.

What is the definition?

An acute affection of the skin, characterized by the appearance of boils or small abscesses.

What are the causes?

The affection occurs chiefly in young children, and especially

in boys of eight or ten years; it usually results from a depraved condition of the system, local friction, or pressure.

What are the symptoms?

Boils may appear singly or in crops; they reach their full development in about one week, they then consist of a raised, round, and pointed swelling, with a yellowish cover, varying in size from a pea to a small walnut. The constitutional symptoms vary with the number of lesions. They appear principally upon the neck, face, back, and buttocks.

What is the prognosis?

If many appear, they impair the general health.

What is the treatment?

Locally the inflammation must be protected from all irritation. In the early stages the removal of the small head and the insertion of a drop of glycerinum acidi carbolici may ease the pain and arrest the extension of the slough. Internally, Easton's syrup, maltine, or good stout may be given. Sulphide of calcium can be used with good effect. The diet should be carefully regulated, and all hygienic faults corrected.

Bromide Eruption.

What is the definition?

A maculo-papular, or pustular eruption, caused by the use of the salts of bromine.

What is the cause?

The use of the salts of bromine.

What are the symptoms?

There are no constitutional symptoms. Large, dryish, red, warty granulations rise sharply from the skin, which is apparently healthy, with scarcely a trace of inflammation surrounding them. The masses are sore to the appearance, yet discharge

but little, and are more like condylomata than any other affection.

What is the treatment?

The drug should be discontinued at once; the eruption treated as any local ulcer.

Herpes.

What is the definition?

An acute inflammation of the skin, characterized by the appearance of groups of vesicles, principally about the face, filled with clear serum.

What are the causes?

Febrile, nervous, and digestive disorders.

What are the symptoms?

The eruption appears in the form of small-sized vesicles, containing fluid, varying from the size of a pin's head to a pea. The disease is rarely attended with constitutional symptoms.

What is the treatment?

Very little treatment is required. A mild, saline laxative may be given for a few days; and if the pain be severe, small doses of opium. The eruption may be treated with zinc ointment, powdered oxide of zinc, rose powder, or flexible collodion.

Pemphigus.

What is the synonym?

Water blisters.

What is the definition?

An inflammatory disease of the skin, characterized by the appearance of round and irregularly shaped blebs, varying in size from a pea to a large walnut.

What are the causes?

Usually associated with a low state of the system, or may be syphilitic in origin.

What are the symptoms?

First a patch of erythema appears upon the healthy skin, which may be bright-red or of a coppery tint. The patch becomes slightly raised and the cuticle becomes partially separated, giving a soft, wrinkled appearance. After this bullæ form upon a slightly vascular base, containing serum or a thin, puriform fluid. These vesicles rupture and dry and form a crust. All parts of the body are liable to be affected. Pemphigus neonatorum appears as scattering bullæ on various parts of the body, and has been found on the gums and mucous membrane of the mouth.

What is the prognosis?

Only grave in young infants.

What is the treatment?

The general health of the child should be looked after. A thorough study of the cause must be made, and, if discovered, removed. Internally, quinine and arsenic are the leading drugs. The blebs should be punctured and evacuated. Starch and oxide of zinc powder or dilute Goulard's cerate should be used locally.

Erythema Simplex.

What is the definition?

An acute affection of the skin, caused by an abnormal quantity of blood in the dermal vessels.

What are the causes?

Heat, cold, contact with irritants. In children it is most frequently caused by gastro-intestinal disorders, and may occur during the eruptive fevers.

What are the symptoms?

A rapidly developed redness of the skin, which disappears upon pressure to rapidly return. There may be slight itching and burning.

What is the treatment?

Causal factors should be removed and the eruption treated with any of the simpler dusting powders, such as lycopodium, oxide of zinc, etc.

Erythema Intertrigo.

What is the definition?

An acute congestion of the skin, characterized by redness, heat, and perspiration of the parts.

What are the causes?

In infants and children the contact of a wet diaper will cause it, also gastro-intestinal disorders.

What are the symptoms?

Frequent, where the folds of skin come in contact, as the nates, perineum, and groin. The parts become red, hot, and very painful, with an increased flow of perspiration, causing the child much discomfort.

What is the treatment?

The parts should be thoroughly washed with pure castile soap or bran-water, and carefully dried with a soft towel and dusted with any of the simple dusting powders, or the following may be used:—

℞. Hydrarg. Chlor. Mit. gr. xv.
Vaseline ℥j.—M.

Sig. Use locally.

Seborrhœa.

What are the synonyms?

Acne; sebacea; dandruff.

What is the definition?

A disorder of the sebaceous glands of the skin, characterized by an abnormal secretion of sebaceous matter.

What are the causes?

Vernix caseosa in newly-born infants; anæmia in older children.

What are the symptoms?

This disease may appear on any part of the body, but it is most frequently seen upon the scalp and face. It appears as a greasy coating upon the skin, unattended with inflammation or itching, leading to a thick caking when the scalp is affected.

What is the treatment?

The crusted material must be softened with soap, an oily application, or poultices, and at once removed; the part should be kept scrupulously clean with warm water and castile soap. In older children the hair must be kept short and frequently washed with soap and water, and the scalp stimulated by being frequently brushed. Carbolized vaseline prevents the accumulation of the natural secretion and produces a healthy condition of the affected glands. Boric acid in glycerine will be found of service.

Psoriasis.

What are the synonyms?

Lepra; dry tetter.

What is the definition?

A chronic, non-contagious disease, characterized by slightly raised red patches covered with scales.

What are the causes?

Not known; may be hereditary. Not very common in children.

What are the symptoms?

The disease may appear on any part of the body, and begins as small, reddish spots, the size of a pin's head, which at once become covered with whitish scales. These spots gradually increase in size, forming patches. There is no discharge, and the skin between the patches is perfectly healthy. There is intense itching.

What is the prognosis?

Relapses are common.

What is the treatment?

The general health should be carefully looked after, and the diet regulated. The bowels must be kept open with saline laxatives. Arsenic should be given in full doses internally; locally the parts may be washed with tar soap to remove the scales, or alkaline baths may be given. In the early stage soothing applications should be used, such as rubbing the parts with olive oil twice daily. In chronic cases the following formulæ will be found of service:—

℞. Acid. Chrysophanic. gr. x.
Adipis Benzoat. f ℥j.—M.
Sig. Use night and morning.

℞. Ungt. Picis Liquidæ,
Ungt. Sulphuris āā ℥ss.—M.
Sig. Use locally.

Scabies.

What is the definition?

A contagious disease, due to a parasitic insect which burrows under the skin.

What are the causes?

The *acaris;* direct contagion.

What are the symptoms?

The disease usually attacks the hands between the fingers, and rarely the face, but no part of the body is exempt. The eruption is in the form of papules, vesicles, and pustules; when the parts are scratched, from the intense itching, fissures, torn vesicles, etc., form.

The burrow is made by the parasite entering beneath the epidermis. Scabies may often be complicated with eczema and ecthyma.

What is the diagnosis?

Only sure after the parasite has been detected.

What is the treatment?

The child should be washed thoroughly in a warm bath, with plenty of common brown soap, and the parts well rubbed with either of the following ointments:—

℞. Sulphur Præcip. ℥ij.
Potass. Bicarb. ℥j.
Adipis ℥j.—M.

Sig.

Or,

℞. Sulphuris ℥ss.
Hydrarg. Ammon. gr. iv.
Creasoti ♏iv.
Ol. Anthemidis ♏x.
Adipis ℥j.—M.

Sig. (*Tilbury Fox.*)

The underclothes should be changed, and the infected ones boiled or baked.

Tinea Carcinata.

What is the synonym?

Ring-worm of the body.

What is the definition?

A contagious disease of the skin, due to the parasite trichophyton fungus.

What are the causes?

The parasite above mentioned; commonly seen in ill-nourished, weakly children.

What are the symptoms?

The disease is usually of a trivial form in children; it begins with a spot of papules, and in the course of a few days assumes a circular form about an inch or more in diameter.

What is the diagnosis?

The circular form of the eruption makes the diagnosis easy.

What is the treatment?

Hyposulphite of sodium used in strength of one drachm to the ounce, boracic acid dissolved in glycerine, the liniment of iodine, the perchloride of iron, citrine ointment, and oleate of mercury are all of value.

Tinea Tonsurans.

What is the definition?

A contagious, parasitic disease of the scalp, caused by the trichophyton fungus.

What are the causes?

The presence of the parasite trichophyton fungus, or direct contagion.

What are the symptoms?

The disease begins in small, circular patches; later on they

become small vesicles or pustules, which desquamate. The patches vary in size from an inch to nearly two in diameter. There may be slight or severe itching.

What is the treatment?

The diseased part of the scalp should have the hair closely shaved and the part washed with sapo viridis and warm water. If the disease is extensive the hair should be cut short all over the head. Dr. Alder Smith recommends the following ointment:—

℞. Acid. Carbol. (Calvert's No. 2),
Ungt. Hydrarg. Nitrat.,
Ungt. Sulphuris, āā ℥j.—M.

Sig. Use for a child of ten years.

In children over the age of ten years a ten-per-cent. solution of the oleate of mercury may be used. Dr. Harrison, of Bristol, recommends the following treatment: The hair must be cut short and the patches painted with a solution of equal parts of liquor potassæ, rectified spirits, and half a drachm of the iodide of potassium. This lotion should only be applied to the patches.

INDEX.

SAUNDERS' SERIES OF MANUALS

FOR

STUDENTS & PRACTITIONERS.

WITH COLORED PLATES.

The great popularity shown by the large and increasing sale of the Question-Compends, together with a demand from Students and others for somewhat larger reference works, has induced the publisher to issue the present series of manuals.

Anatomy and Practical Dissector.

BY

CHAS. B. NANCREDE, A. M., M. D.

Professor of Surgery and Clinical Surgery in the University of Michigan, Ann Arbor; Corresponding Member of the Royal Academy of Medicine, Rome, Italy; Late Surgeon Jefferson Medical College, etc.

Thirty fine Lithographic plates in colors and 175 Wood cuts in the text. Post 8vo, over four hundred pages, cloth or oilcloth for the dissecting-room, $2.00. Medical sheep, $2.50.

IN PREPARATION.

DISEASES OF WOMEN,

BY

HENRY J. GARRIGUES., A.M., M.D.

Professor of Obstetrics in the New York Post-Graduate Medical School and Hospital; Gynæcologist to St. Mark's Hospital in New York City; Gynæcologist to the German Dispensary in the City of New York; Consulting Obstetrician to the New York Infant Asylum; Obstetric Surgeon to the New York Maternity Hospital: Fellow of the American Gynæcological Society; Fellow of the New York Academy of Medicine; President of the German Medical Society of the City of New York, etc., etc.

READY SHORTLY.

DISEASES OF THE EYE.

BY

GEO. E. De SCHWEINITZ, M. D.

Ophthalmic Surgeon to Children's Hospital and to the Philadelphia Hospital; Ophthalmologist to the Orthopædic Hospital and Infirmary for Nervous Diseases, etc.

OTHERS PREPARING.

IN PREPARATION.

A NEW

UNABRIDGED DICTIONARY OF MEDICINE

AND ACCESSORY SCIENCE,

— BY —

JOHN M. KEATING, M. D., (Univ. of Pa.),

FELLOW COLLEGE OF PHYSICIANS OF PHILADELPHIA; VISITING OBSTETRICIAN TO THE PHILADELPHIA HOSPITAL, AND LECTURER ON DISEASES OF WOMEN AND CHILDREN; GYNÆCOLOGIST TO ST. JOSEPH'S HOSPITAL; SURGEON TO THE MATERNITY HOSPITAL, ETC.; EDITOR "CYCLOPÆDIA OF DISEASES OF CHILDREN"; AUTHOR OF "MATERNITY—INFANCY — CHILDHOOD," ETC.

AND

HENRY HAMILTON,

AUTHOR OF "A NEW TRANSLATION OF VIRGIL'S ÆNEID INTO ENGLISH RHYME"; CO-AUTHOR OF "SAUNDERS' MEDICAL LEXICON," ETC.

A voluminous and exhaustive hand-book of Medical, Surgical and Scientific Terminology, containing concise explanations of the various terms used in medicine and the allied sciences, with Accentuation, Etymology, etc. The work, when completed, will form a handsome Royal 8vo. volume of some 1000 pages, beautifully printed from new type on paper especially manufactured for this purpose; it will contain the most recent additions to scientific nomenclature, important tables, etc., under the most convenient system of arrangement—the whole forming the most complete, reliable and valuable dictionary in the market. Indispensible alike to the Student and Practitioner, not only for occasional reference, but for daily use.

SAUNDERS' QUESTION-COMPENDS.

OPINIONS OF THE PRESS.

Extract from Medical Brief, St. Louis, May, 1890.

Semple's Legal Medicine Toxicology and Hygiene. "A fair sample of Saunders' valuable compends for the student and practitioner. It is handsomely printed and illustrated, and concise and clear in its teachings."

Extract from Southern Practitioner, April, 1890.

Stelwagon's Disease of the Skin. "The subject is as tersely and briefly considered as is compatible with learners, and as a means of refreshing the memory or permanently fixing therein the most important facts of Dermatology, it will fill an important place with students of medicine."

Extract from Medical and Surgical Reporter, April, 1890.

Craigin's Essentials of Gynæcology. "This is a most excellent addition to this series of question compends, and properly used will be of great assistance to the student in preparing for examination. Dr. Craigin is to be congratulated upon having produced in compact form the Essentials of Gynæcology. The style is concise, and, at the same time the sentences are well rounded. This renders the book far more easy to read than most compends and adds distinctly to its value."

Extract from the New York Medical Journal, May, 1890.

Stelwagon's Diseases of the Skin. "We are indebted to Philadelphia for another excellent book on Dematology. The little book now before us is well entitled "Essentials of Dermatology," and admirably answers the purpose for which it is written. The experience of the reviewer has taught him that just such a book is needed. We are pleased with the handsome appearance of the book, with its clear type and good paper, and would specially commend the woodcuts that illustrate the text."

Extract from Journal of Cutaneous and Genito-Urinary Diseases, May 1890.

"An examination of the manuals before us cannot fail to convince one that the authors have done their work in a satisfactory manner.

"Dr. Stelwagon's Essentials of Diseases of the Skin is an admirable compend of our knowledge of Dermatology. The author's experience as a teacher has enabled him to formulate questions covering all essential points, while the answers are comprehensive with sufficient accuracy of detail to be thoroughly intelligible. Of especial value and completeness is the therapeutical part of the work.

"Dr. Wolff in the Examination of the Urine, has given an account of the normal and pathological constituents of the urine and a *resumé* of the recent and most improved methods for its chemical and microscopical examination. The importance of a knowledge of urinology and urinalysis to the student of dermatology and genito-urinary diseases cannot too strongly be insisted on."

"Dr. Craigin in his Essentials of Gynæcology embraces many morbid conditions of much interest to the specialist in cutaneous and genito-urinary diseases, as the skin diseases affecting the vulva, new growths of the vulva, the various forms of vulvitis, vaginitis urethritis, endometritis, salpingitis, ovaritis, etc., which occur as seguelæ of gonorrhœal inflammation."

Extract from Boston Medical and Surgical Journal, May 1, 1890.

"Craigin's Gynæcology, a little book that *does* contain the essentials of gynæcology and may be recommended to the student as a safe and useful guide to him in his studies."

MPENDS.

S.

ıe, 1889.

ctitioner, in presenting the ready reference and com- is peculiarly qualified to ı us a work far more exten-

ntents, will certainly have

mprehensively outlined by

stated, and the answers,

unusually satisfactory con-

sentials of its subjects, and

agazine.

of the system of 'Quizzing' ctions to this excellent little n, while avoiding the errors commonly abound. It is a without reservation, as thor- d, so far as Surgery is con- quainted."

rely to remember the names and insertions, their course ept this necessity constantly ttle book in connection with lp for which his tired mem- ory will often sincerely give thanks. The questions have been wisely selected, the answers are accurate and concisely constructed, but still with sufficient detail to free them from the criticism that they are merely lists of names."

Extract from New York Medical Record, May, 1889.

"Saunders' Series of Student's Manuals, arranged in the form of Questions and Answers, are concise, without the omission of any essential facts. Handsome binding, good paper and clear type increase their attractiveness."

Extract from St. Joseph's Medical Herald, March, 1889.

"WOLFF'S CHEMISTRY.—A little book that explains, clearly and simply, the most difficult points in Medical Chemistry, so that this need no longer be the great bugbear of a medical student's efforts."

SAUNDERS' QUESTION-COMPENDS.

OPINIONS OF THE PRESS.

Extract from London Lancet, July 6th, 1889.

"Useful Adjuncts to Systematic Reading.—It is fortunate for the Student that these books should be undertaken—by competent hands, by men who, being themselves engaged in teaching, know where the subjects require most elucidation, and who, moreover, are careful to be accurate in their statements."

Extract from Nashville Journal of Medicine and Surgery, December, 1889.

MORRIS' MATERIA MEDICA.—"A most excellent vade mecum for students; its arrangement in Questions and Answers is a decided advantage."

From College and Clinical Record, September, 1889.

SEMPLE'S PATHOLOGY AND MORBID ANATOMY.—"A small work upon Pathology and Morbid Anatomy, that reduces such complex subjects to the ready comprehension of the student and practitioner, is a very acceptable addition to medical literature. All the more modern topics, such as Bacteria and Bacilli, and the most recent views as to Urinary Pathology, find a place here, and in the hands of a writer and teacher skilled in the art of simplifying abstruse and difficult subjects for easy comprehension, are rendered thoroughly intelligible. Few physicians do more than refer to the more elaborate works for passing information at the time it is absolutely needed, but a book like this of Dr. Semple's can be taken up and perused continuously to the profit and instruction of the reader."

Extract from Buffalo Medical and Surgical Journal, January, 1890.

MORRIS' MATERIA MEDICA.—"Presented in a unique and attractive shape, and cannot fail to impress the mind in a lasting manner. It is a fine specimen of book art."

Extract from Cleveland Medical Gazette, December, 1889.

HARE'S PHYSIOLOGY.—"One of the best works on the subject that has come under our notice; of great help to the earnest student. Such books are ever valuable."

Extract from Southern California Practitioner, March, 1889.

ASHTON'S OBSTETRICS.—"Dr. Ashton's little work is a marvel of condensation and completeness. It will be of unquestionable value to the practitioner in serving to recall some of the multitudinous facts in the obstetrical art, which will frequently escape the most capacious memory."

Extract from Southern Clinic, January, 1890.

MORRIS' MATERIA MEDICA.—"The arrangement and subject-matter of this book leaves nothing to be asked for, either for the student or medical practitioner. It is a valuable substitute for larger and more expensive works."